"THE FARMER IS THE FOUNDER OF CIVILIZATION."—WEBSTER.

THE LANCASTER FARMER

A MONTHLY NEWSPAPER:

DEVOTED TO

AGRICULTURE AND HORTICULTURE, PRACTICAL ENTOMOLOGY, DOMESTIC ECONOMY AND GENERAL MISCELLANY.

EDITED BY PROF. S. S. RATHVON.

VOLUME XV.—1883.
CONTRIBUTIONS.

Our Greetings for 1882... 1
Amends Honorable... 1
Excerpts... 1

EDITORIAL.

The Balance of Trade Controversy... 3
Perrimmons... 3

EYASHS.

The Codling Moth... 4
Our Insect Friends... 5

SELECTIONS.

The "Jamaica Vick Strawberry"... 9
Originated by Samuel Miller—A Surprise—The Points of Merit.

The Best Season for Cutting Wood... 10
Early Tomato Plants... 10

OUR LOCAL ORGANIZATIONS.

Lancaster County Agricultural and Horticultural Society... 11
Corn and Cultivations—Choosing an Occupation—Pennsylvania Dutch—The Subject of Cuttle Fishers—Questions Continued—Election of Officers.

The Fulton Farmers' Club... 11
Questions and Answers.

The Poultry Association... 12

AGRICULTURE.

Classification of Soil... 12
Seeding to Clover... 12
Big Farms... 12
Useful Hints from the Germantown Telegraph... 12

HORTICULTURE.

Bag Small Trees... 12
"Setting Trees"... 12
Keeping Squashes... 13
Preparing Plant Beds... 13
Look to Last Year's Grains... 13
Maturity Trees... 13

DOMESTIC ECONOMY.

How to Tell Good Butter... 13
Something About Specie... 13
Cutting Bacon... 14
Cooking Beef... 14
The Medical Use of Eggs... 14
Putting Saws in Cutting Order... 14
Hard and Soft Water... 14
cheese... 14

HOUSEHOLD RECIPES.

Soup a'Italiane... 14
Breaded Mutton Chops—Baked... 14
Macaroni with Tomato Sauce... 15
Potato Puff... 15
Corn Starch Masty Pudding... 15
Coffee... 15
Boiled Beefsteak... 15

Cabbage salad... 15
Beef Soup... 15
Browned Potatoes... 15
Baked Beans... 15
Apple and Tapioca Pudding... 15
Hard Sauce... 15
Scotch Broth... 15
Chickens Smothered with Oysters... 15
Mashed Potatoes... 15
Sewn Tomatoes... 15
White Mange... 15

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26. We shall be glad to supply seeds at the best prices, and to any country.
PENNSYLVANIA RAILROAD SCHEDULE.

Trains leave the depot in this city, as follows:

<table>
<thead>
<tr>
<th>Route</th>
<th>Arrival</th>
<th>Departure</th>
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<tbody>
<tr>
<td>W. T. WARD</td>
<td>Lancaster</td>
<td>3:00 p.m.</td>
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<tr>
<td>Pacific Express</td>
<td>New York</td>
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<tr>
<td>Way Passenger</td>
<td>London</td>
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<tr>
<td>Niagara Express</td>
<td>Chicago</td>
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<tr>
<td>Hanover Accommodation</td>
<td>Baltimore</td>
<td>3:00 a.m.</td>
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<tr>
<td>Mail train to M. J.</td>
<td>Philadelphia</td>
<td>3:00 a.m.</td>
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<tr>
<td>No. 3 via Columbus</td>
<td>3:00 a.m.</td>
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<tr>
<td>Sunday Mail</td>
<td>3:00 a.m.</td>
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<tr>
<td>Fast Line</td>
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<td>Frederick Accommodation</td>
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<td>Hanover Accommodation</td>
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<td>Harrisburg Express</td>
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<td>Pittsburg Express</td>
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<tr>
<td>Cincinnati Express</td>
<td>3:00 a.m.</td>
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The Hanover Accommodation, west, connects at Lancaster with Niagara Express, west, at 3:05 a.m., and will remain through to Hanover.

The Frederick Accommodation, west, connects at Lancaster with Fast Line, west, at 3:01 a.m., and runs to Frederick.

The Pacific Express, via, on Sunday, when flagged, will stop at McQuiddy, Elizabethtown, Mount Joy, and Lancaster.

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1883-1893

G. SENER & SONS,
Manufacturers and dealers in all kinds of rough and finished LUMBER.
The best Sawed SHINGLES in the country. Also Sash, Doors, Blinds, Mouldings, &c.

PATENT O. C. WEATHERBOARDING and PATENT BLENDS, which are far superior to any other. Also best COAL constantly on hand.

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PRACTICAL ESSAYS ON ENTOMOLOGY,
Embracing the history and habits of NOXIOUS and INNOXIOUS INSECTS,
and the best remedies for their expulsion or extermination.

By S. S. RATHDON, PH. D.
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JOHN A. HISTAND, Proprietor,
No. 9 North Queen St.,
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OUR GREETINGS FOR 1883.

We congratulate our friends and the public on the advent of another New Year. There is no respecter of persons, places, or things, and when he "goes a moving," human intelligence alone cannot divine who or what may be exempt from the fell sweep of his relentless scythe. Looking abroad upon the visible aspect of things, socially, politically, and materially, we find it difficult to realize the philosophical dogma that only the "fittest survive." Abstractly considered, it may be true that infinite wisdom always permits the "survival of the fittest," but to mortal vision the appearance may be very different, simply because mortal vision is circumscribed, very often by its perusal by prejudices and partialities, or by an overwhelming selfhood that confuses no faith in anything that conflicts with the dominancy of self.

During the past year many individuals, both in humble and exalted positions, have passed away. Many enterprises have failed of material realization—many journalistic experiments have succumbed for lack of support. Others of apparently less prominence, less patronage, and less prestige, have drawn their slow and feeble length along, and, under this conflict in current events, who is able to affirm that, in material results, only the fittest have survived? There is a moral ruling, however, in the affairs of the world, which we are both to see, because it is not in harmony with that self-sacrifice which constitutes such a prominent standpoint in the category of human reasoning. But, let no man, no institution, and no enterprise boast that they have survived because they are the fittest; for, under any circumstances, they may only survive so long as infinite Wisdom sees it is best they would. We would inculcate no fatalistic dogma, but rather that all things are amenable to law and rules of invariable order; nevertheless, no man of observation can fail to see that animals, trees, shrubs, and plants, frequently survive and flourish, under the most studied acts of deprivation, violence, and neglect, whilst others wilt and perish under the most elaborate patronage, sympathy and culture. Since these things are so, the fatalistic conclusion would be that effort is useless, "what is to be, will be." This is a monstrous falacy. No farmer can expect to reap if he does not sow; nor to gather fruit if he plants no trees.

We are rather admonished by all this to persevere, to do all that is in our power, under the direction of our highest intelligence; to deal justly, love mercy and walk humbly and whatever our hands find for us to do, to do it with our might, and leave the rest in the keeping of Him who rules the universe. Sooner or later it comes to that in any event, notwithstanding in the pride of temporary—or only apparent—success, one may claim that human sagacity alone has accomplished the end. Although the gathered crops of 1882 in all our land, seem to be the greatest ever gathered before, Viewed comparatively, agricultural success at least, yet between result, and the monetary realization—which is the great motor power of all human effort—there is sometimes a vast area of contingencies never contemplated by our most profound cogitations. The deliver's in the great staples of our country are at this very moment, unusually exercised about a matter that never entered their minds at the beginning of the old year. And yet, there is a way out of this, and perhaps when we pass through it, we may realize that it was not our individual wisdom that led us through. Whatever may occur through intermediate agencies we cannot ignore the fact that the past year has been agriculturally prosperous. The soil and human industry have yielded an ample return. Our abundance, if not rightly used, may be transmuted to ashes. But, under all the evolutions of production and trade, of finance and finesse, the fittest things may survive in the end. A new and a hopeful year has just opened to us, that will wait for no man, but will rush on as have all that preceded it. It behooves us then to take a new "lack," if our previous course has not been the right one. It behooves us to regard, in all our efforts, the public good, and not merely self-aggrandizement alone. We need no special admonition to take care of No. 1; all are doing that without admonition, although many may blunder in their manner of doing it. The year 1883 is now initiated; it expects mankind to be healthier, happier, richer, and wiser at its ending, then they were at its beginning. If this does not transpire it will not be the fault of time. We commit the interests and the destinies of our patrons to the keeping of that Being who existed before the birth of Time, and who, from the throne of His "eternal fatherhood" proclaims that "True shall be no lie." To that ordeal we also commit the destinies of our Fifteenth Volume, and confidently lean upon the sustaining influence of the public.

AMENDE HONORABLE.

The extracts headed "The Coming Fence," p. 152, "Stable Cleaning," p. 153, and "Wheat Growing," p. 156, in the October number of the Farmer, it appears, should have been credited to the Germaneween Telegraph. We are unable to say how this omission occurred, but we suppose we will have to shoulder the responsibility. The fact is, we value the Telegraph so highly that we refrain from mutilating it whenever we can, and hence we cut out of other papers, which do not specially value, articles of merit, which we subsequently discover have been taken from the Telegraph without crediting that paper. Or, a slip may be taken from the Telegraph containing two or three articles belonging to different departments of our journal, and these may be severed and distributed to different compositors, and hence, through a neglect or otherwise, one portion may be credited and the others not. But we never wilfully or professionally permit such an omission, and we do not think our compositors do. On one notable occasion at least, we procured a reporter of a daily paper and asked him if he knew that the whole column which he quoted from a city daily as original, had been written by us and published in a Lancaster county paper three years previous, and that we could show it to him in the Scrap-book of that date? He merely replied, "Is that so? well, there is no use in making any ado about it now, it is a common occurrence; you have the consolation of knowing that your article has sufficient merit to be appropriated by a first-class city paper." Edifying the Farmer is not a special occupation with us, it is only an incidental. All the bread we eat is earned in the exercise of a secular calling that is almost incompatible with the editorial function, or scientific pursuits, and the labor pertaining to these is performed during those hours when the "world is in solemn darkness hung," and the masses of mankind are buried in sleep.

No, we would not be a plagiarist, a literary piffle— and if inadvertently, we happen to pick up a man's shoe, on other premises than his own, we will not hesitate a moment in restoring it.

EXCERPTS.

SEVERAL patent cabinet creameries from Vermont have recently been shipped to Chiln, South America.

Men who change from farming to some petty public position are often delighted to change back again.

The census shows that the average of wheat production in Georgia is less than seven bushels per acre. The State produced 3,159,771 bushels on 475,624 acres.

The Montreal Horticultural Society has some 700 members at 82 a member. This indicates an interest in horticulture in that cold country which one in this region could hardly expect.

The "visible supply" of corn at Chicago about October 27 was about thirty million bushels, which is about twice as much as the average at this season. This is caused by the high prices.

Feed for stock in some parts of Ohio is reported to be as good as in June. But if it should be mostly pastured off before snow comes the rains will not do so much benefit after all to next year's crop.

A MAIN railroad man "gathered" a ripe strawberry in his garden on Friday, October 21. It was of the Sharpless variety, and the plant which bore it had green strawberries in various stages of growth and one blossom.

Professor J. B. Lawes says that the
results of analyses show "that the amount of nitrogen within the range of the deepest roots of our agricultural crops amounts to 10,000 pounds per acre." They ought to thrive on that amount.

Canada is reported to have a good crop of potatoes, and that will aid to keep down extravagant prices this winter. A decreased consumption, which always attends high prices, will also have the same effect. Potatoes are popular, but not particularly nutritious.

Sand is excellent to make good loan out of heavy clay soil, and will last if not exposed to washing. It would cost a good deal for a hundred-acre lot, but for a garden or a flower-bed, or a lawn even, it will often pay well. And so clay mixed with a sandy soil will greatly improve it.

The growth of grass on a narrow strip of land thirty-three years ago still shows a marked good effect on land cultivated by Mr. J. B. Lawes, the famous English farmer. He says that his experiments also show that the effects of mineral manures can be seen for twenty-five years in succession.

Edward Mower, in speaking of the time when he and his brother were the custom of school children as you pass a school-house to make a bow, but in these latter days, as you pass a school-house, you must keep your eye peeled, or you will get a brick bat at the side of your head.

The one great principal of success in preparing cattle, fowls or swine for slaughter, is to keep them growing as rapidly as possible from the start.

Days of Worship.—The following days of the week are set apart for public worship in different nations: Sunday, or Lord's day, by Christians; Monday, by the Greeks; Tuesday, by the Persians; Wednesday, by the Assyrians; Thursday, by the Egyptians; Friday, by the Turks; Saturday, by the Jews.

Who is old?—A wise man will never rust out. As long as he can move and breathe, he will do something for himself, for his neighbor or for his posterity. Almost to the last hour of his life, Wellington was at work. So were Newton, Bacon, Milton and Franklin. The vigor of their lives never decayed. No rust marred their spirits. It is a foolish idea to suppose that we must lie down because we are old. Who is old? Not the man of energy; not the day-laborer in science, art or benevolence; but he only suffers his energies to waste time, and the spring of life to become motionless, on whose hands the hours drag heavily.

When two cows are kept, which give together 300 pounds of butter a year, it is a fair question to consider if one cow couldn't be obtained somewhere that would give as much as both. At the same time it might be well to try whether better treatment of the two cows—full and regular feeding all the year round, soiling and careful milking, will not change the two into the value of four such cows as they were at first.

The Pennsylvania Board of Agriculture has received reports from its 450 official reporters, and makes the following estimate of the crops of 1882: Wheat, 22,425,000 bushels; corn, 30,875,000 bushels; oats, 34,580,-

000 bushels; rye, 5,805,000; potatoes, 13,-

650,000 bushels; tobacco, 28,739,000 pounds. The trouble is that these reports are very loosely gathered. But their errors may balance themselves, and leave reasonably accurate results.

A Letter from Russell, Kan., says that sheep in that part of the country look well, and are going into the winter in good health.

The quotations of gilt-edge butter at $80 cents and $1.00 per pound are merely nominal and misleading. It means that certain makers of really fine fresh dairy butter have succeeded in securing a limited class of wealthy customers who like the flavor of their dairy product, and who are willing to pay a fancy price for the gratification of their palate. No one of the very few butter makers who receive these fancy prices in Boston market could double his present sales without materially reducing his prices. There is but a limited circle of consumers who will pay over 40 to 45 cents for even a choice article of butter.—American Cultivator.

A Mammoth Tree.—A friend has handed us a description of a mammoth water-pitch, or tree, which stands in front of the dwelling of Mr. Jacob Sener, near this city, which may be designated as the mammoth of the county.

It is one hundred and ten feet old, about one hundred and fifty feet high, and measures twenty-three feet around the trunk. One of the lower limbs measures sixty-one feet in length, and five and a half feet in circumference. This tree was planted by Mr. Bacer more than a century ago. He had been out riding on horse-back, and used a twig as a riding whip, when he returned home his stick was in the ground, and the present tree is the product. It looks as though it might live another century, and is a striking illustration of what great results may grow from apparent trifles.

A Pail of milk standing ten minutes where it is exposed to the scent of a strong smelling stable, or any other offensive odor will imbibe a taint which will never leave it.

The Baneful Effects of Nicotine Prevented.—M. Melson has found that tobacco from various countries contain nicotine in very different proportions, in tobacco from some parts of France (e.g., the department of Lot) there is nearly eight or 7.96 per cent. of nicotine, whilst Havana tobacco contains only two per cent. He proposes to smokers a way of preserving them from the harmful effects of the alkaloid, and advises them to put into the tube of the pipe or cigar-holder a little ball of cotton, impregnated with citric and tannic acids; as the smoke passes through the tobacco it will deposit the nicotine therein in the shape of tannate and citrate. M. Melson has made very ingenious experiments which go a great way to show that he is correct.

The average life of a railroad sleeper is seven years. There are 2,311 in a mile. The average cost is 50 cents each. Thus our sleepers are costing us $150 a mile every year for each of the 40,000 miles in the Union. The sleepers on the English roads last on an average fourteen years, and when properly treated with preserving substances, they last for a century. The wooden structures on the farms of this country cost $3,600,000,000 every thirty years, or $100,000,000 each year. By the use of simple and cheap preservatives, the duration of all this wood could at least be doubled.

During leisure hours this month make a simple hot-bed, even if it is no longer than a dry-goods box from which the bottom and top have been removed. This, if saved in a diagonal direction, will make two frames one foot in height on the front side and twenty to twenty-four inches on the rear side when placed in position at the south side of a building or high plank fence. If no old sash are at hand, cotton cloth, saturated with boiled linseed oil, will answer a very good purpose. No manure will be needed within the frames, but fresh stable manure should extend one foot beyond the frames on each side.

As part of the fall work gather up all the vegetable rubbish about the farm and make stock bedding of it, or put it into the chicken-yard for the poultry to pulverize and scratch over. Throw grain among it frequently, and the fowls will pulverize it in due time into an infinity of atoms.

The late Provincial Fair at London, Ontario, was a great success. On some days 40,000 people were present, and that without the aid of any side-shows, horse-races, beer-guzzling stands, or gambling contrivances. If Canada can sustain good fairs without such immoral aids, why cannot the States do as much?

The Brick-county Intelligencer says that "the thinking farmers of this (that) part of the country are beginning to move and more clearly recognize the necessity for better farming than we have yet reached." We suggest that "thinking farmers" have always thought that way, and that the possible change is that more farmers are beginning to think that way than was formerly the case.

An exclusive vegetable diet, no matter how unvarying, seems to answer well for some of the hardest nations and tribes of the world. In the matter of eating generally there are undoubtedly some very crude notions on this, founded on artificial necessities. The fists of Dr. Tanner and others show quite clearly that starvation is not at all imminent on a few "square" meals.

A sweet-corn canning factory at Norwalk, Maine, turns out 20,000 cans a day in the height of the season. This factory takes the product of 700 acres, and the net return to the corn-growers is about $37.50 per acre. J. Winslow Jones & Co., are the leading canners of this article. The Maine Farmer thinks this business is a great boon to Maine, and that it has come to stay. One county has six of these factories.

There is a chance for a "corner" in peanuts if the speculators choose to take hold of that crop. The supply available for consumption for the year commencing October 1, 1881, is estimated by the Cincinnati Price Current at 1,233,000 bushels, against 2,608,000 bushels for the previous year. A falling off of more than fifty per cent. ought to have an effect at circuses, minstrel concerts, and camp-meetings.
THE IMPROVED PLOWS AT THE WEST WILL PLOW FROM TWO AND A-HALF TO THREE ACRES A DAY WITH TWO 1,400-POUND HORSES. THE DRAFT IS LIGHT AND THE FARMERS WHO USE THEM SAY THE PLOW HAS A GOOD COMFORTABLE RIDE. AND YET ANOTHER WRITER THINKS THAT PLOWS MAY BE ENTIRELY SUPERSEDED IN TIME BY SCREW PULVERIZERS, DISC-HARROWS, CURVED-BLADED SCARRIERS, AND SOME OTHER CONTRIVANCES FOR MAKING SOILS MELLOW. THE NEXT GENERATION WILL KNOW MORE ABOUT IT PERHAPS.

BARRIED WIRE FENCES ARE BECOMING WONDERFULLY POPULAR AT THE WEST, AND PROMISE SOON TO SUPERSEDE ALL OTHER KINDS. THE HOE MADE AGAINST THEM IN CERTAIN QUARTERS IS EVIDENTLY THE SAME SORT OF ALARM WHICH ATTENDS MOST NEW INVENTIONS. HOW MANY PEOPLE HAVE CAUSED THE STEAM ENGINE BECAUSE OF ITS EXPLOSIONS AND FAULTS, AND FRICITION MATCHES BECAUSE THEY CAUSED SO MANY FIRES, AND YET EACH ARE MORE AND MORE POPULAR. THE BARRIED WIRE FENCE HAS PROBABLY COME TO STAY UNLESS FENCES ARE NO LONGER WANTED—and that time, except for special purposes, cannot come too soon in the interests of farmers.

HENRY STEWART, OF BERGEN COUNTY, N. J., IS A REGULAR CONTRIBUTOR TO THE NEW YORK WEEKLY TIMES, AND FREQUENTLY TO THE COUNTRY GENTLEMAN, WRITES IN THE LATTER IN FAVOR OF IMPROVING RUN-DOWN LAND BY GREEN CROPS OF CORN AND COTTON. BOTH ARE GOOD, NO DOUBT, BUT THOSE PROPOSING TO TRY THEM SHOULD NOT BE IMPRESSED BY THE RESULTS OF SUCH SPECULATIONS. CORN PLANTED ON WILD FIELDS WILL NOT BE OF ANY VALUE UNLESS THE LAND IS BENEFITED IN ITS SEED YIELD. THE RYE MUST HAVE TIME TO DECAY AND BECOME INCORPORATED WITH THE SOIL. AND THEN, AGAIN, IF IT IS PROPOSED TO FEED GREEN RYE TO CATTLE AS PART OF THE IMPROVING PROCESS, THE RYE SHOULD NOT BE ALLOWED TO BECOME WILD WITHIN THE FIELD, AS MR. STEWART RECOMMENDS. TO MAKE MILK AND BEST MILK AT THAT COST, THE GRASS MUST BE CLEANED AWAY FROM THE FIELDS AND THE CATTLE KEPT OFF THEM.

THERE IS A CATTLE DISEASE IN SALEM COUNTY, NEW JERSEY, WHICH THE STATE AGENT IS UNABLE TO IDENTIFY, BUT HE SAYS IT IS NOT PLEURO-PNEUMONIA. MICHAEL HOGAN, NEAR AETON STATION, HAS LOST EIGHT HEAD, AND THE Y. S. WHO MADE THE POST-MORTEM, PRONOUNCES THE DISEASE A SORT OF TYPHUS FEVER, AND THINKS IT WILL SPREAD. THE STATE AUTHORITIES OUGHT TO LOOK INTO THIS MATTER AT ONCE.

THE VALUE OF CORN-FOLDER DEPENDS, AS IS THE CASE WITH MANY PLANTS, IN ITS GROWTH AND THE MANNER IN WHICH IT IS USED OR CONSUMED. SIMPLY TO STATE THAT CORN-FOLDER IS A VALUABLE PLANT MADE TO EAT IS NOT ENOUGH; IF YOU THINK YOU HAVE PROVEN IT BY YOUR OWN EXPERIENCE IT IS WORTH MORE TO THE PUBLIC TO KNOW HOW IT IS GROWN AND EATEN THAN TO KNOW THAT ANY PERSON THINKS WELL OF IT.

A TENNESSEE SHOPKEEPER REPORTS IN THE COUNTRY GENTLEMAN FOR SEPTEMBER 1, 1883, TO HAVE RECEIVED 16 EYES FOR 75¢ FROM A MAN WHO HAS SINCE SOLD THE SAME FOR $120, AND HAS MORE THAN 100 HEAD OF THE SAME DESCENDANTS LEFT. HIS FIRST YEAR'S EXPERIENCE MUST BE VERY SATISFACTORY.

THE WASSIC MILK COMPANY, A MILK-PURCHASING COMPANY NEAR AMERICA, N. Y., HAS TAKEN A CONTRACT WITH THE NEIGHBORING FARMERS TO TAKE THEIR MILK FOR SIX MONTHS FROM OCTOBER 1 AT THREE AND A-HALF CENTS A QUART. BUT RECENTLY, FOR SOME HONORABLE CAUSE, THEY HAVE RAISED THE PRICE TO FOUR A-HALF CENTS A QUART INSTEAD OF THREE AND A-HALF. SUCH EXTRAORDINARY CONDUCT MERITS, WELL, A NOTICE AT ANY RATE. IT LOOKS AS IF THE PRICE WERE ABOUT TO RETAIN ITS STEADY COURSE.

AN ILLINOIS FARMER WHO KEEPS TWENTY HORSES, SOME OF THEM WORTH $50 EACH, THOUGHT THAT THE FARMERS THUS ENGAGED WERE FLOWERS OF THE FIELDS BLESSED WITH THE GOOD FAVOR OF FATE. BUT HE HAS NO REASON TO BELIEVE IT, AS THE PRICE OF FORAGE HAS INCREASED DURING THE PAST YEAR, AND THE COST OF FEED IS AS HIGH AS IT EVER WAS.

CONTRIBUTIONS.

MR. EDITOR: I HAVE NO DESIRE TO PROLONG THE DISCUSSION ON THE BALANCE OF TRADE BEYOND REASONABLE LIMITS, BUT THERE SEEMS TO BE SOME POINTS IN J. P.'S LAST ARTICLE THAT TEMPT CRITICISM. I WISH TO DISAGREE WITH HIM IN A WAY THAT MAY BE CONSIDERED UNPARLIAMENTARY, AND WILL NOT SAY ANYTHING THAT MAY BE CONSIDERED UNPOLITE. THE BALANCE OF TRADE IS A FACT, AND MUST BE Faced WITH THE FACTS, NOT THE HYPOTHETICALS.


be able to produce something of value while the destruction is going on that makes up, or more than makes up for the loss, and in the other case not; but the loss is precisely the same in both cases. It is the production that makes the gain in one case and the want of it, leaves us the total loss in the other. How about old buildings and articles of furniture that have been in valuable use for centuries, without any consumption going on, and are as good now as when first produced? J. P. will say we can not get all the value out of them, till they are entirely worn out or destroyed. Then break them to pieces or trim them up a bit, and we have the better.

Again, in Webster's definitions of consumption, I find—"waste, decay, destruction, loss." Who can give a better one?

But Daniel Webster is quoted to prove that an excess of imports does not necessarily prove a loss. Who said it did? It is hardly necessary to repeat here, what I said in my last article, that we should buy all necessaries where we can get them the cheapest, even though we go in debt for them; and that the more of such imports we get for a given amount of exports, the better. But because it may be better for a farmer to buy many articles of consumption than to sell them at the better prices for manual labor than they would cost in the open market, it does not follow, that if he can only sell (export) five hundred dollars worth of produce annually from his farm and buys (imports) and consumes one thousand dollars worth of dry goods and groceries, he is not going behind hand. It is very true, that gold is not the only, or even the most valuable thing in the world. But it is also true, that gold, as money, is unconsumable and will purchase, at any time, any article of value, and therefore stands as real wealth, and proves its possessor, either as an individual or a nation, to have been a greater producer than consumer, and therefore must have been growing richer instead of poorer.

But J. P. thinks "Decoration and ornamentation" of as great value as wealth, and therefore the consumption of luxuries are as beneficial as that of necessaries. That has nothing to do with the question. We are not discussing the spiritual benefit of Oscar Wilde's theory of aesthetics. It is only the money value of our possessions with which we have anything to do in this discussion, and if he can show that paintings and articles of sculpture tend indirectly to produce material wealth, as they may to some extent, then, so far, it may be advantageous to import them. But we have nothing whatever to do with the enjoyment or the mental or spiritual improvement we get from them, apart from the money value they directly or indirectly produce. I deny that there is any material wealth, directly or indirectly produced from the importation and consumption of foreign liquors and millions of dollars' worth of other luxuries that are not produced in this country and could not be consumed, were they not imported. Will J. P. pretend to say, that we buy nothing from abroad, but what is either wealth producing or is made in this country, and therefore would be consumed anyhow? As well might he say that all the alcoholic liquors drank in Lancaster, would be consumed all the same, if there was no place for their sale in the city. All our political economists tell us, and I never heard their assertions disputed, that it was our great extravagance in buying and consuming high priced luxuries from abroad in times of our real or imaginary prosperity, that has been the prime cause of nearly all our financial reverses. In fact nothing else could cause them, except a lack of production at home, and that, J. P. thinks of little consequence, as production is loss anyhow, till consumption comes in to save it. He says, "our exports represent consumption, the same as corn fed to the hogs. Of course then, our imports represent production, but consumption is gain and production loss by his axion; and yet he tells us that when our imports (production, alias loss) exceed our exports (consumption, alias gain) we are gaining in wealth and prosperity. That is, when our loss exceeds our gains we are growing rich. Was there ever such a medley of absurdities? I forbear to pursue them further. —S. P., Lin
cola, Del., January 6, 1883.

For the Lancaster Farmer.

Persimmons.

Mr. Editor: This fruit has been discussed pretty freely in your columns heretofore, but I believe it will not be amiss to touch on the subject a little more. Many have an idea that a persimmon is a persimmon, all astrigent, and unfit to eat until ripe, and that it requires frost to ripen them; and that they are about alike good.

There is just as much difference in the quality of this fruit as in any other, and they also differ in size and form, as well as time of ripening. Some are small and at least not fit to eat. Some commence ripening here in September, while others hang upon the trees until February. Some are formed like an acorn while others are flat. Some not larger than a common hickory nut, while others are two inches in diameter. The size of even the larger ones is governed considerably by the number on the tree.

I have now three varieties in bearing, that are large, moderately productive, and of excellent quality. I have also two varieties that are to be seedless, but they have not yet borne fruit. The one is from your city, and belonged to a Mr. Rogers, if I remember correctly. Some of the fruit was sent to me a year or two ago, but there were some that had seeds, and the quality did not impress me very favorably. They are small in size also.

A season like this when apples are very abundant, it does not make so much difference, but some seasons when these fail, the persimmon is quite a treat. I have some in the house just now, as yellow as gold, with flesh melting and almost equal to a green goose. Towards spring I may give you the best mode to graft them successfully. Any of your subscribers can have grafts by sending stamps to prepay postage. Yours truly—Samuel Miller, Bluffton, Mo.

The President is quoted as having declared long ago that he would not live to be older than fifty years. He always seemed to be superstitious about the matter.

Essays.

The Codling Moth* (Carpocapsa pomonella).

The literature on the "Codling Moth" is voluminous and conflicting; possibly it may be viewed from conflicting standpoints. There may already be a superabundance of literature, and not enough of practical observation, nor do I know that I shall be able to throw any new light upon the subject. I cannot recollect a time when there were no Codling Moths—or, at least, "codling worms"—or when people did not know there were. I remember them away back from the period when "small boys" were wont to "beg a bite" of each other's apples; and that bite, on many occasions, would reveal the repulsive little white, or pink colored worm. I did not know, however, that these worms were transformed to motis. Nor did anybody else seem to know anything about it, and perhaps cared but little. The case of this moth is the same as that of many noxious insects; their proliferation and development is facilitated by the improvement of their plant, and fruit-food. Would I discourage the cultivation and the improvement of fruit-trees? Not at all; keep on increasing the quality and quantity, until there is sufficient to satisfy the demands of the human family, and the Codling Moths too, as it was in the "long, long ago." A great difficulty in the way of studying the habits of the Codling Moth is the irregularity of its periods, and its operations within the fruit, the greater part of which is beyond the range of minute observation. It may once have had its regular periods, but the conditions were well defined, but these periods have been broken, and the insect has become demoralized through human progress and improved cultivation. I have found the worm, or larva, of the moth in midsummer, in mid-winter, in the spring and in the autumn. This is not the case with those insects that infest the grape, the peach, and the plum, which only obtain for a short and regular season. Old crops of apples may be kept until the new crops are ready for market, and this facilitates the multiplication and development of the Moth. I feel confident that if we hadn't a Codling Moth in Lancaster county to-day, we soon would have them imported from elsewhere—judging from the great quantity of apples brought into the county annually from other States and neighborhoods. I have placed the worms, with portions of apples, in a tight box from which they could not escape, and in due time they laid the apple, and spun themselves in flat cocoons around the edge of the bottom, in a white paper box almost invisible. Can it be doubted that they would do the same thing, confined in boxes and barrels for exportation.

Notwithstanding the "conflict", of views there is among practical entomologists no difficulty in relating to the general history of the insect, allowing for climatic modifications and local contingencies. The "Apple Worm" or "Codling Moth" (Carpocapsa pomonella) is not a native of the United States, nor yet of the American Con

Foot note: Before the State Horticultural Society at Harrisburg, January 18th, 1883, by Dr. S. S. Kaltwom.
stem cavity at the upper end. The male is supposed to die, very soon after fertilizing the female, and she does not long survive the deposition of her eggs, hence, not one sufferer out of twenty has ever seen the moth, or would recognize it if he did see it; although the worm may be as familiar to him as a common "housefly." Usually also, but one egg is deposited on an apple—at least it is usual for only one worm to enter it—especially when the apples are small, whereas in later and larger apples two, or even three, are occasionally found. Prof. Riley records a case that came under his own observation, where a female, confined in a brooding cage, deposited her whole brood on a single apple, and they all hatched and penetrated it, of course, making short work of it, as well as of themselves. An unrestrained female would not make such a mistake, for it would defeat her end in perpetuating a family. The codling moth belongs to the Tortrix family, allied to the Tortrix family, and although differing very materially in their habits and transformations, yet I think they agree in one thing, and that is they do not seem to feed on any substance, as a moth. After proliferation the females are restless until they have oviposited, and then they die of their own accord. On one occasion I received over a thousand insects captured in wide mouthed bottles, containing sweetened water hung on apple, cherry and plum trees, the larger number of which were moths of different species; but the codling moth and the curculio were

point where the female deposits her egg or eggs. Several eggs have been noticed on this part of the apple at one time, but, as a rule, but one worm enters the fruit, and after two weeks or fifteen days the worm makes its exit through a gallery constructed for that purpose, at the side of the apple, which, although not specifically referred to by latter, yet is clearly shown in the left side of the picture, represents the pupa or chrysalis, which is of a light brown color, and barred along the transverse margins of the segments, by means of which it pushes itself out of the cocoon. It illustrates the worm on the outside of the apple, apparently on the "look out" for a proper place of puptation. This is a regular caterpillar, and when first excluded from the egg, it is very small, and of a whitish color. It is sparsely covered with white bristling hairs, which become less conspicuous the older and larger it grows. The white color also gradually changes to a flesh color, and from that to a deep pink when it is fully matured. The head, first segment, and also the second segment, are dark colored or nearly black, until after the last molt, when they change to a light brown. It represents the moth in repose, and y the same with the wings expanded. The colors of the moth are made up of bronze, gray and brown, with a conspicuous spot near the ends of the anterior wings, surrounded by a reddish or coppery margin. It represents the head and first segment of the worm very much enlarged, i illustrates the cocoon in a cavity. All these figures except h are of the natural size, although there may be some variations from these. Perhaps I should also have stated that the worm, except after the last molt, is regularly covered with small black dots; but this is not a permanent characteristic. The moth of the first brood is usually evolved in July and August, from which it will be seen it must have a short pupal period—only a few days—and the singularity in the insect is that the caterpillar of the second brood remains such, wrapped up in its cocoon for many months—indeed, the first brood, under favorable circumstances has been known to remain in that condition until the following spring, a period of ten months. The damage to the fruit crop, annually, and the losses sustained by fruit-growers and others by this delicate little insect, is almost beyond calculation; therefore, we need not be surprised, nor yet impatient, at their utterances of complaint, however unavoidable such complaints may be. As the codling moth, however abundant it may be, is, perhaps, known in its moth state to proportionately but few of those who ought to be well acquainted with it, it may be well to state, that it belongs to the great "moth family," all of which, including the "Butterfly group," are injurious to vegetation, woolen fabrics, cloth trimmings, grain, bees-wax, and other substances; there will be therefore no harm in destroying all insects of this kind, wherever they may be found, whether codling or other species; and, if in the general destruction, the codling moth is included, it will be all the better. This admonition may be apparent from the very necessities of the case. Many orders and families of insects embrace both noxious and innocuous species—the latter destroying and devouring the
mer—illustrating that the entire order, or family, are not condemnable, but have redeeming qualities. This fact may prevent some people from destroying certain insects, because they do not know to which class they belong. No such exception can be made to the order LEPIOPTERA, which includes the codling moth. They are all perfectly indiscriminate in their feeding habits; but they are all destructive as a larva, or caterpillar; there is no exception. True, many of them live upon wild plants, forest foliage, and other vegetable substances, that do not materially affect the interests of the human family; but there is no knowing what they may do when their natural food, and their natural haunts are displaced by the march of improvement, and a higher state of agricultural manipulation. When a minute insect is destructive, it is a worse foe to contend against than larger species of similar habits, because of their numbers, and their increased prolification. The western "chinch-bug" is a more formidable enemy to the wheat and corn crops than any other individual belonging to its natural order; and because of its small size and immense numbers, it is more difficult to fight against successfully. We have an immense number of minute species of LEPIOPTERA, one group of which are termed micro-lepidae, because they cannot be examined by the naked eye alone, but through the magnifying power of a microscope; but they are feeders on vegetation—many of them "leaf miners"—and hence must be incorporated with the destructive species.

The codlings seem to be a link between these and the larger species, less numerous, less destructive.

As to remedies against the destructions of the codling moth, I know nothing that is new. All the remedies are nearly as old as the moth itself. No known remedy now can be effective without a simultaneous effort. Prof. Koutz, of Michigan, a year or two ago, read a paper before one of our national scientific associations, in which he related his experiments on the moth, eggs and larva, by an application of liquid Paris Green, administered through a force pump, or syringe. He also detailed the beneficial results, but I have not heard that his remedy has had any following at all.

There are, however, other remedies more certain in their results, but they are old, and unsatisfactory if all do not join in them; for, even if one man succeeded in destroying every moth, and worm and egg on his premises, it would amount to little, if his neighbors did not do the same. Young fruit infested by the worm of this moth, is almost certain to prematurely fall; and if it does not fall, it should be picked before the worm leaves it; and all, both that which is picked off, and that which falls of its own accord, should be thrown into sealing water, or fed to pigs and cattle or any thing else that will eat them. It has been recommended to let pigs, sheep, and poultry, run at large in orchards infested by the codling, but this practice should also be general in order to be effective.

Those who have experimented with "traps" to catch the insect after pupation, recommend a hay band around the trunk and larger limbs of the tree, or old rags hung in the forks of the branches; but later experience suggests that these traps should be wrapped entirely around the trunk or branch in order to be successful. These bands are to be taken off and thoroughly examined every ten or twelve days, and the cocoons collected and destroyed.

In order to facilitate this manipulation, and to save labor, one experimenter confidently recommends the wrappings to be strong linen or cotton fabric; and every two weeks these bands should be removed and run through a good clothes wringer, which, of course would "smash," effectually, everything within its folds. Pieces of light board laid on the ground under the trees, will attract those worms that leave the fruit after it falls to the ground, as a proper place for pupation. Stings and laths nailing together with small spaces between, and hung on trees, will form pupating shelters for those that leave the fruit whilst it is yet hanging on the trees—to be examined every ten days or two weeks; but even this device may be deprived of its effects by an indolent neighbor.

All barrels and boxes used for shipping apples from one locality to another, and in which the apples sometimes remain for months, should be "blazed" as soon as they become empty, especially if they have been in the possession of the last holder any length of time. It is true, many of them may harbor no pupas or moths, but then it is equally true that many of them may—indeed there are several records of moths having issued from old apple barrels in the spring; and, I myself, have made at least one such observation. Coding moths have quite frequently been noticed, prematurely, on the windows of warm rooms in the spring, and there is every reason to believe that these were bred from apples kept in the house during winter. They could not have come from without the house at that season of the year, and therefore must have come from within. It would perhaps be too late to blaze the barrels or boxes if we waited until spring—it certainly would be too late after the moths had all escaped from their cocoons.

Apple bins or apple silos, wherein apples have been stored for winter keeping should undergo a thorough examination when the apples are emptied—at least before the first of May—or before the evolutions of the moth. But in "looking them up" you must not expect to find anything very large or conspicuous. Sometimes the cocoon is a little flat oblong, spun in the angle formed by the side and bottom of the box in which they were kept, or in the upright angles at the corners.

The moth does not spin out on an open plane, but in an angle, in a crevice, or in a cavity. Its silk is white, or dirty white, and where the surroundings are of a darker color it is not noticeable; but when in a white background it may be very easily overlooked. But the greater number of them without a doubt pupate in crevices, or under scales of bark on the trees. Scraping off all the loose scales of bark would doubtless carry with it many of the cocoons and pupae; for those that have not been reached, but remain in the fissures, perhaps an alkali liquid, or a strong solution of soap would be necessary to dislodge and destroy them. I have seen it somewhere stated that pieces of strong soap, tied in the forks of the branches of the trees, and left there to slowly dissolve under descending rains, and trickle down over the surface has been successful as a remedy against those insects that lodge in the bark crevices of trees. It is a very simple and inexpensive remedy and can be applied in the way of doing some good, whether it destroys codling moths or not. The fact is, something must be done; and nothing can be done without labor and expense.

It seems hardly necessary to state that codling moths are subject to the attacks of parasites. This fact has been rarely observed, but they certainly have not been much depilated by parasites. A small species of "Telenema-fly" (Pimpla omnivulps) deposits its eggs in the wreath, either while it is yet in the apple, or after it comes out of the apple, or perhaps, while it is in the cocoon. There would be no difficulty in the way of the Pimpla depositing its eggs in the body of a codling worm, if that were all, for there are species of them with ovipositors long enough to reach the body of a wood worm, two or three inches beneath the outer surface of the wood. But then this could have very little effect upon the late brood of the moth, and especially those last that are packed with the apples and sent to remote markets. A coleopterous insect, belonging to the Lampyrid "fire-fly" family, (Chauliognathus penyanus) is said also to have attacked it in its larval state. The larvae of these Lampyris are generally carnivorous, and some of the mature beetles are exceedingly active. Many years ago I have known the garden snail (Helix) to be attacked by large numbers of Telephora colarlis, and allied species, and they never desisted until they had the shell completely cleaned out. They no doubt would destroy a codling worm if they had an opportunity, but all things considered, I do not think the opportunity would be frequent enough to be felt by the fruit-grower, in a diminished number of codlings. In conclusion, from all the observations that have been made, and from all that has been written and published on this subject, little more has been developed than mere experimentation. No quick, effective, and unifying remedy has yet been discovered, and the patient fruit grower is still remanded to manual effort, assisted by common strategy.

It is not a bold and open enemy, but in all its operations, and in all its stages of development, it works under cover. It is more conspicuous for where it has been, and what it has done, than for where it is, and what it is doing. We only recognize its presence after the fruit has fallen from trees infested, or by its excretal yellowing, either around itsaperch or on the surface where it makes its exit. The recommendations and suggestions that from time to time have been made in regard to it, are good only so far as they go, and none of them even approaches a finality. It has passed out of the category of contingencies and has become a permanent fixture, and must be provided for as such. A time may come when it will have run its course, but judging from its antecedents, it would not be wise to prematurely anticipate that time.
OUR INSECT FRIENDS.*

The long persistent and continuous animal—
version of our insect enemies may have lead
many people to suppose that all insects were
the special enemies of the human family, and
all that related to its welfare. This, however,
is a very grave error, and the sooner, and
more thoroughly we apprehend the length,
depth, and breadth of that error, the sooner
and more effectively we will be able to recon-
cile ourselves to their presence, and the inju-
ses we sustain through their occasional depres-
dations. Can it be possible that the teeming
millions of insects, and their almost endless
varieties, in habit, form and local occupation
would have been permitted by creative wis-
dom, had they been an entirely useless factor
in the economy of nature? The importance
and the power of a factor in the economy of
creation, is not to be measured by its size and
the simplicity of its organic form, but the
accumulation and the tangibility of its visible
results. Even in cases where results are
immediately and distinctly apprehended, we
may be able to judge of their character and
extent, by virtue of those anomalous pheno-
mena, through which we approximately reason
from the known to the unknown. Ad-
imitting for the sake of illustration that the
simple polyp whose massed millions are in-
strumental in laying the solid foundations and
building up the vast superstructures of shoals,
reefs, islands and peninsulas, are insects, we
are compelled to recognize their accumulated
labors as ends that could not be accomplished
by any other means; and although their sub-
marine habitations may culminate in high
obstructions that are occasionally disastrous
to human interest, and even to human life,
still, on the whole, we are compelled to ac-
knowledge them as benefactors of the human
family.

We are not to contemplate an insect or
any other animal, no matter how insignificent
it may appear, as an atom isolated from the
general plan of creation, but as an integral part
of a whole, and as being more or less inti-
mately related to some other part or parts for
which it has a natural utility. In discussing
the subject of our insect friends, I do not
mean a friendship based on those utilities
which are the outbirths of fraternal sympathy,
but rather those which are impelled by carnal
proclivity, for the insects that are the most
friendly to the human family are those which
are carnivorous in their habits, and especi-
ally those which prey upon the bodies of their fel-
low insects, and hence are incidentally the
friends of humanity.

It is true that among insects as a whole, there are but few comparatively that are a
direct benefit to the human family, and if we
were altogether ignorant of the manner of
utilizing these, they might become a positive
evil. For instance, there is no insect in the
long catalogue of these animals that is a more
voracious devourer of certain kinds of vegeta-
tion than the Scirrhia urtica, or common
Silkworm.* and yet the aggregate product
of this animal constitutes one of the greatest
factors in the commercial, manufacturing and
domestic interests of our country; and, it
is just possible that amongst most of our
destructive species, there would be more than a
compensation for all the evil they do, if we
knew how to utilize them. Whether the Apis
mellifera, or "Honey-bee," be guilty of the
charged homicide in recent years or
it is very certain that the production of
honey and wax by these industrious little ani-
mals compensates in a single year ten thousand
times the value of all the fruit they destroy.

No man owning a grapey could concentrate
the fruit thereof into a more valuable pro-
duct than honey and wax, and none the uses
of which are involved in less doubt. In its
very worst aspect all, the only legiti-
mate basis of complaint is that one man may
be involuntarily compelled to feed another
man's bees. If the same man owns both the
fruit and the bees, he could not well make
out of both against it.

The insects that produce "Cocchinel,"
"Gum-lac," "Cautarides," and "Nutmulls,"
are not beneficial to the plants and trees upon
which they live and thrive, and yet, they
themselves, or the substances they produce or
cause to be produced, are of great commercial
value, and hence a direct benefit to the human
family. The first two named of these pro-
ducts are exclusively foreign, but within the
limits of the United States, the last two
named are quite abundant in special localities.

Of the cantharides, especially, we have spe-
cies whose vesciourial power is equal, or
nearly equal, to the foreigspecies, and that
they have not become an article of commer-
cial traffic is, perhaps, because they are not
foreign, or, because among the abundance of
other more profitable occupations, the busi-
ness of gathering them would not pay. Even
the destructive Locusts—the allies of our
Rocky Mountain species—are often con-
sidered a God-send to the people where they
most plentifully abound—at least to those
tribes who value the insects more than they
do the plants upon which they feed. It would
not be surprising if the next hundred years
would develop some use for the much dis-
pised "Colorado potato beetle," but specula-
tions aside, real instances of insect utility exist
abundantly.

In the economy of nature there are a large
number of species consisting of millions of in-
dividuals, in the insect world, that are more
than merely indirectly beneficial to the human
family, if they are not directly so; and these
are more or less identified with the sanitary
conditions of the country they inhabit; and
these may appropriately be termed insect
Scavengers. The Carrion-Beetles, Burying-
Beetles, Bone-Beetles, Blow-Flies, House-
Flies, and even the Mosquitoes, are en-
mbraced in more comprehensive terms by
those who only view them from a
noxious, or pedagogical point of stand.

It is true that in communities where dead carcasses and
paternost substrates are required to be
removed, buried, or deodorized, through muni-
cipal regulations, the services of these insect
friends may not be as apparent as in those
districts where such regulations do not exist;
but under any circumstances, there is always
an abundance of decomposing animal and
vegetable substrates, which the eye of official
vigilance either overlooks or does not detect,
that become the prey of scavenging insects.

There are districts of country, especially in
some parts of South America, where the at-
mosphere is so pure, and the sun so hot, that
animal carcasses do not devoured by carnivous
birds, rapidly dry up, and, as it were become
mummified; and hence, the scavenger insects
of those districts are correspondingly limited in
number and species. The reason is, that
the period required for the development of
their larvae is too brief, preventing them from
maturing and undergoing their pupal trans-
formations. Many insects in our own country
are defeated in their development, during a
protracted hot and dry season.

Such as may feel themselves annoyed
by the presence of domestic flies, flesh-
flies, or even the common horse-fly, the func-
tions these animals have performed before
they become flies at all, far transcends any
possible injury they are capable of inflicting
as mere flies. Even the dreaded female mos-
quito, as a purifier of stagnant ponds and
pools, and thus preventing pathal odors that
might arise from them, confers an undoubted
benefit to those who live in proximity to such
localities, which compensates a thousand
times the portion of human blood she ap-
propriates.

Take for instance the order Colopptera
which includes the Shiel-winged or Beetle
tribes—and although it also includes the no-
otorous "Cucurullo, the Apple-tree borer, the
Ehne-leaf beetle, the various Flea-beetles, etc.,
yet it includes in a special sense, many of our
most conspicuous insect friends, and friends
that are not among the minute and almost
invisible tribes. At the head and front of this
order in classification at least, are usually
placed the Cicindelas, commonly called
Tiger Beetles, and many other insects well
known by even this name as they ought to be.
Consider them as both fliers and runners—indepedent of their anatomical
structure, they stand at the head of their
class. They feed altogether on other insects,
both in their larve and mature states, and
like a tiger, they are constantly "watching
and waiting" for the approach of their insect
prey, and when it don't approach they go in
pursuit of it. The larve occupies a perpen-
dicular burrow, its head even with the surface
of the ground, and there it secures its prey by
strategy, being a poor runner. The Colop-
ptera, large and brilliant ground beetles,
many of them of the Burying family, both the
larve and the beetle and its larve are voracious
destroyers of noxious and other insects,
proving at will, and even climbing trees and
shrubs in pursuit of them. The Carbi-
denas generally, the type of which is the genus
Caribae are of a similar character. These
are the insects of which it has been recorded
that they have been colonized by some
French gardeners, with good results. Many
of the Cecinellinae, or Lady-birds, both as larve
and imago, are well-known destroyers of
other insects, especially the Aphis, or plant-
lace, and have been grouped together under
the name of Aphilalopagus.

The order Neuroptera also contains many

*Read before the State Horticultural Society at Harris-
burg, January 19th, 1855, by Dr. S. S. Rathvon.
insect friends, and conspicuously amongst them are the Dragon-flies. These insects are very perfect in their flight, and usually capture their prey "on the wing"—butterflies, day-flying moths, grasshoppers, etc., being their victims. Their larvae inhabit the water, and are voracious feeders on small water insects. Their "wings" or "appendages" are called Alpia destroyers, while they are in the larva state. The Perlaria and Powerspans of this order are also predaceous, especially in the larva state—inhaling the water. In a limited paper on this subject, it would be impossible to enumerate many of our insect friends, or even to describe the few we have cited by way of illustration. Their name is "legion"—enough at all events to preserve an equilibrio, if it were not that the destructive species seem to be more prolific than our friends; the effect perhaps of improved cultivation—we have improved the plant food—they appreciate it and thrive. We must balance this by fostering good friends. But, far outnumbering all the foregoing, both in genera and species, are the great families of insect friends usually denominated parasites. Many of these are solitary in their habits, but perhaps as great a number are gregarious. It would perhaps be quite safe to assert that every single species has an insect parasite that prey upon it, and it is quite certain that even the parasites have other and smaller parasites that prey on them. Few of these parasites have received common, or English names, and to give their Latin names would only complicated the subject, and leave the common reader little the wiser. These parasites are in no wise vegetable feeders, nor do they feed on tainted or putrid flesh. The larva, the pupa or the imago of a living insect is their chosen prey, and their offspring feed alone on that kind of food. As soon as they emerge from their own pupal condition, they are brisk, active, and intelligent, and know exactly what to do and how to do it. Sometimes the most casual observer recognizes the presence of some species of these parasites, although he or she may be entirely ignorant of what they are, or their modes of operation. Perhaps the most familiar example of the good works of these little parasites, is the development of those that infest the common green "Horn-worm" of the tobacco plant, and the tomato and potato vines. As an illustration of the possibilities of the parasites that infest this worm, I have only to mention that in the month of August last I bred over three hundred of these parasites (Microgestor crenogynus) from one horn-worm. Whether the eggs that produced these parasites were all deposited by one female is more than I am able to affirm, but probably they were. This parasite is in the form of a very small—hardly as large as a mosquito—with four round, white, straight wings, covered with a thin, glistening coat sometimes tinged with green or blue. The little parasite, after its evolution from the pupa state, as a perfect fly, seeks a naked caterpillar of some kind—for they do not confine themselves to the "Horn-worm alone; the large grape-worms are also infested by them, and also many other smaller naked species. Having found its host it very adroitly but deliberately proceeds to deposit its eggs in or on the body of the worm, and these eggs when hatched exclude a minute whitish worm which burrows into the body of said caterpillar and feeds on its substance, but touches no vital part. Perhaps the horn-worm would survive the attack if there were only a very small number of the parasites on each caterpillar. But if fifty or sixty of them are distributed to three hundred or more, and the physical depredation caused by these usually destroys the horn-worm, at least some that came under my observation ever survived. When these parasites have completed their larval development, they issue from the body of their host, and each one spins a separate cocoon about the size of a grain of rice, and attached by one end to the skin of the horn; or other worm. In these little cocoons they pass their pupal period, at the end of which each occupant of a cocoon cuts squarely off the upper end and emerges forth a perfect four-winged fly, in all respects like the parent that deposited the eggs. There is nothing spasmodic, nothing contingent or inconsistent in the characteristics of these little parasites; they have been going through this developmental process ever since their first advent into the material world, and they will continue in it from generation to generation as long as the conditions necessary to their development endure. There is no poisonous application, no artificial remedy, no human device or invention that can possibly supersede this balancing provision in the economy of nature. The history of this one species, under various modifications is the history of hundreds or thousands of others belonging to the parasitic tribe. Night and day during the whole summer season these little friends are working in the interest of the human family by restricting the multiplication of noxious insects. Then again, there is a vast family of solitary parasites, known under the names of "Cuckoo-flies," "Ichneumon-flies," "Chalcies-flies," &c., some of which, however, are not strictly solitary. These never construct a nest or cell for themselves, but prowl about watching those who do engage in these provident labors, and cuckoo-like as soon as they find the proprietors absent, they stealthily deposit an egg or more in each cell and when the young grub is hatched out, very deliberately appropriates the larva of the original proprietor. Some of these parasites are as large as the common wasp and are provided with a long ovipositor, by means of which they are enabled to reach the bodies of wood-worms, several inches from the surface, into which they deposit one or more eggs, and by that means arrest their progress in the destruction of trees and timbers. The white "Cabbage-butterfly," and the black "swallow-tail," are very liable to parasitic infestation. The latter has a parasite as large as the common wasp, and the entomological novice has been confused in finding a Trinidad Jew's "Tulipa" in his breeding cage, instead of a Pappus asteria, bred from the black, yellow and green-worms which feeds upon umbelliferous plants. The little Peromus paparon will eventually curtail or destroy the green-cabbage worms, more effectually than any artificial remedy. On one occasion I had chrysalids of the latter insect sent to me, and out of a score of them I only was able to get three but-
being breathed, there are no elements in the catalogue of nature that are more friendly to the human family than fire and water, and yet from the very foundation of the world, these have been the objects of human cultivation, and the falling cycle of ages, down to the present time, there are no two elements that have been more destructive to human life and human property. They have long since been denominated "good servants, but bad masters." This state of things has its parallel in the insect world. If we could keep them within legitimate bounds, as we do fire and water in their ordinary uses, and avoid a redundancy of them, as we would avoid a conflagration or a flood, it would be all that we could rationally hope to achieve. Their total extinction is quite out of the question, and on the whole, not at all necessary, or perhaps not at all desirable. Essays and treatises on destructive insects are as old as Aristotle and Pliny, and Xenophon and Columella. They regarded them as enemies, and treated them as such. Possibly they may have known nothing about them as friends, but under any circumstances, we have the insects still with us, and are likely to have them until the millennium. The conditions of the earth's surface have been changed through what we term improvement and progress, and in making these changes we have had only regard to pleasure and profit, and if in our thought of all, it was only the objects beneath our notice. We must learn to practically know them by the same intelligence and energy that we bring to bear upon any other subject of human knowledge. We must provide for them as we do for any other contingency within the sphere of human effort. And above all, we must learn to what extent they are our friends, and in what manner they befriended us. Of course, when they come in direct conflict with our material interests we must learn how to "fight" them; but this warfare must not be indiscriminate, and perhaps no men in the world have better opportunities to make this discrimination than they have upon the cultivation and whose interest is immediately connected with the cultivation of the soil.

The acquisition of practical entomological knowledge is, however, incompatible with any secular occupation, and the process, slow, tedious and perplexing, in many cases. It seems to be experimentally developed, and in the field rather than in the closet. The scientific description of species and their classification according to their organic structures, is quite a different study from that of their life-habits, and the benefits or injuries they do to us, which may be connected with those habits. But the same is true of the result of either branch of entomology requiring more time than can be devoted to it by one who is compelled to depend upon the precarious profits of a secular occupation. What it really requires to pursue it, and the progress of that pursuit, perhaps, cannot be made manifest, even to a mind that may be intelligent on ordinary subjects; and through this non-appreciation it mainly occurs that those who make it a specialty are so reluctantly and so sparingly compensated, both by government and people. An experiment may, through unforeseen contingencies, be suddenly interrupted, frustrated, or entirely defeated; and thus the same experiment may be for months, or years, or forever, suspended. A well paid monthly or weekly journal needs to be sustained for the diffusion of entomological knowledge, just as other journalistic interests are sustained. As long as we grow wheat, or corn, or cotton, or fruit, we need journals that are the representatives of those interests, and entomological literature is no more an exception than are those of dairying, cheesemaking, and tobacco culture. As every man must be a minute observer of nature, and is not likely to be any farther than he can recognize his immediate interest in observation, it therefore becomes necessary for him to "read up" the observations of others, but this knowledge should come before him frequently, and in such portions as he may be able to understand, appropriate, and digest. Perhaps a knowledge of the insect friends obtained in this way, would be as great a benefit to him as any he could derive from a knowledge of his insect enemies. One great difficulty in the way of obtaining a practical knowledge of our insect friends arises from the fact that the greater number are too small to elicit special observation, and magnified illustrations are often misleading to the masses, because they never recognize such things through natural sight, in the realms of nature. This magnifying power is proper, however, for the sake of illustration, but it cannot make as indelible an impression upon the mind, as seeing, handling and studying the character of the insect in its normal form and size, and under the circumstances in which it is usually found.

Selections.

The "James Vick Strawberry." Originated by Samuel Miller, Bluffton, Mo.

A few Rochester horticulturists were invited to see the new strawberry James Vick, in bearing. The day being rainy we gave up hopes of the coming, but the noon train brought C. Barron, late president of the Nurserymen's Association, P. C. Reynolds, long secretary of Western New York Horticultural society and horticultural editor of the "American Rural Home," the Vick Brothers, representing the firm of James Vick, John Charlton, the disseminator of the Pocklington grape, and the veteran fruit grower and propagator, Josiah Saltz.

They were first shown rows of the new strawberry from plants set into the previous fall growing in the same bed with Manchester and Belville. The new berry showed twice the fruit of either Belville or Manchester, and more view of plant. The party were next shown a plat of about one-fourth acre, not manned for many years, common farm soil in the midst of a field of twenty acres of fruit, on which the new strawberry had been permitted to form wide and thick matted rows for the purpose of multiplying plants, from the whole of which plants had been dug a few months previously, tending and hoeing the roots of those remaining. The soil was packed hard and very weedy, showing evidence of neglected, yet under such adverse circumstances, which would lead one to expect no fruit worth gathering, the plants were thickly studded, and the rows fairly abaze with large, beautifully and evenly colored, firm and simply berries of superior quality, and from which he subsequently picked the largest yield of fruits he had obtained from any variety on our fruit farm. Mr. W. C. Barry said that of all the new strawberries he had tested this was the most promising. He described the color as bright scarlet, turning to crimson, surface glazed, seeds on surface, season medium, quality good. All the party expressed themselves as highly pleased with the display of fruit, and ate it with a good relish. We heard no criticism, and indeed, there could be none. The plant was vigorous, with large glossy dark foliage, the blossoms hermaphrodite (or perfect), the fruit handsome, large berries, firm, and in great abundance. We tasted them under this rough treatment purposely. A nursed plant in a matted heap is no test of a variety, place it under hardships and see what it will accomplish has been my theory.

A Surprise.

The party returned to Rochester and were invited to visit a small plantation there of the "James Vick" fruiting under hill culture, the rows lying betweenbearing grape vines, not the most desirable position as the grape roots must have occupied the entire soil. Here a sight met their eyes that they could not have anticipated, and such a display as probably was never before made by any strawberry on earth. The rows were large and round and around each was a pyramid of ripe berries piled one another like a walled fort, and so thickly together a bug could hardly have crawled into the enclosure made by the fruit without climbing the barricade. Berries on every plant were "uniformly of good size," as was remarked by Secretary P. C. Reynolds. The fruit stems were long and stout, but could not sustain the great burden imposed upon them, (often 12 to 18 ripe berries on one fruit stem) thus the fruit rested one berry on another in a circle about the plant, as is shown in the engraving made by a careful artist. It was spread among the loves of the fruit of the city of Rochester, and early next morning our leading pomologists, many of whom we all delight to honor, came to inspect the newest wonder. After these came the younger enthusiasts, the foreman, and others who desired to see for themselves if all were true that had been told them. It was known that we intended to introduce the "James Vick" this season, but a gentleman who has charge of one of the largest nurseries of the country said we would not have enough plants to supply the demand, as he thought the large firms could sell 100,000 plants of the" James Vick." Vicks and Mr. Charlton also thought the supply that could be obtained would be wholly inadequate, and advised holding up the "James Vick" over until another season. Mr. Charlton said that as soon as the Norfolk (Va.) and other large strawberry planters learned of the value of the "James Vick" for market, and shipment, the demand would be something wonderful. But as our plans had been made we thought it not best to change them.

We received the following from the Geo. A. Stone nursery, Rochester, N. Y. - "Dear Sir: I saw the "James Vick" today at
Rochester. It would certainly seem to possess all desirable qualities. It is very prolific, firm of texture, and of fine flavor.

Geo. S. Wales, the Banockburn nurseryman, said he had seen nothing equal to the "James Vick."

Secretary P. C. Reynolds, of Rochester, N. Y., considers the quality of "James Vick" very good, and well suited to his taste, which I will add, is exceedingly critical. With possibly one exception he has not seen anything to equal it in productiveness. He considers it more productive, larger and of better quality than the Manchester.

The roots indicate great vigor, the largest we have seen on any variety. Mr. Peter B. Mead remarked that they were something unusual. We sent fruit of the "James Vick" to Mr. J. T. Lovett, over 300 miles distant, and he reports that it came in fine condition. As a shipping variety it is particularly desirable.

Marshall P. Wilder writes: "You will be pleased to learn that Mr. Benj. G. Smith, of Cambridge, has succeeded famously with the James Vick." Mr. Wilder sent an order for the "James Vick" by telegraph.

Mr. Peter B. Mead says he has seen enough of the "James Vick," from spring set plants to warrant placing it among the very promising varieties, and that it endures drought remarkably well.

Vick's Magazine says: "Its merits as a prolific and profitable strawberry are now pretty well established."

The Points of Merit of the "James Vick" are briefly:

(1) Fine quality, unusual vigor, and hermaphroditic (or perfect) blossoms.

(2) Color, form and firmness of berry, which approach the ideal. No white tips, no coxcombs.

(3) Ability to stand on the vines a week after ripening, without becoming soft, or rotting, or losing quality or much in size. Instead of softening it shrinks a trifle, and becomes firmer than when first ripe.

(4) Uniformly large size, and productiveness unequalled by any other variety. Two hundred and eighty berries were counted on one average plant, and from one row about 100 feet long nearly two bushels of berries were gathered.

The prices for the "James Vick" are $2.00 per dozen, $10 per 100. For sale by Samuel Miller, Bluffton, Mo.

THE BEST SEASON FOR CUTTING WOOD.

Farmers are usually too busy to cut wood when it is in the best state to season well. When the cold weather comes and the ground is covered with snow, most of the out-door work on the farm is over, excepting that of cutting wood; so it is during the winter season that the principal portion of the wood is cut, but unfortunately this is not the best season. One cord of wood cut in September, is worth one quarter more than a cord cut in September, is worth one quarter more than a cord cut in March. If cut in September, it is comparatively free from sap, and will dry much quicker and at the same time dry harder.

They grey rich, if cut early in September, will dry hard and keep well through the next summer, while if it be cut in March, it will not dry unless sawed in small pieces and split. If left four feet long in the woods over summer, it becomes comparatively worthless. Even maple and oak, is of much less value when cut after the first of January, and before the first of May; it does not dry as quick, nor as hard as if cut early in autumn.

Its bearing is roughly the same from the first of January and the first of May, is not only much as good for firewood, but is sure to be badly eaten by worms if left in the woods over summer, while if cut early in the autumn, it dries harder and is rarely injured much by worms.

Another advantage of cutting wood early in the autumn, if the land is to be kept in wood is, the stumps sprout better, and the growth is larger than if cut late in the winter. When it is desired to clear up the land, it is best to cut the wood in the spring, then the stumps are full of sap which flows from them, in large quantities, thus keeping the stump wet and out of the way for a long time, than if cut when the roots are comparatively free from sap, and if cut at this season, it is much less trouble to keep the stumps down; thus if the land is to be cleared, the gain in keeping the stumps down partially makes up for the loss in the quality of the wood.

When land is to be kept in wood, an effort should be made to cut the wood before the first of January, and it would be better to cut it in October. —Massachusetts Farmer.

EARLY TOMATO PLANTS.

Those who desire only a few plants without wishing to incur the expense and labor of preparing a hotbed, should select boxes for the purpose, into which place good light loam or wood mould. Sow the seeds in March, and when they are six inches high either thin them out or transplant them to other boxes, in order to get room. It is not generally known, however, that tomatoes will sometimes grow from cuttings, and that a large-sized plant will produce several smaller ones. They will grow well from cutting when once rooted, but such a course is not safe in inexperienced hands. Probably the best way to procure plants early is to save all the fruit cans and cut off their tops. Prepare the loan that it to be placed in them by rendering it very fine and light. Let it be rich, but if manure is used it must be fine and well settled. If the weather is extremely cold some fresh manure may be placed near the bottom for the purpose of generating heat, but care must be taken not to use too much. Place the cans on a shelf near a window which faces the South, and have as a covering for each a large paper bag, which should be kept moist. The leaves should be about one-half of an inch deep a dozen tomato seeds, gently pressing the earth on the seeds. Moisten them every morning with tepid water, but do not saturate the earth. As soon as the plants are an inch in height draw out very gently all but the largest, which leaves a single plant to each can. Having the entire can to itself the plant will have room to grow, and will push forward rapidly. If it begins to shoot up faster than desired pinch off the growing tip. This forces the plant to extend itself by way of its branches and laterals instead of growing tall and slender. It become stout, strong, well rooted and vigorous, and when afterward placed in the open ground will be almost ready to do its duty of production. If the season is late and the plants very large the want of space in the can may prompt the growers to transplant them before the danger of frost is over, but the lack of nourishment in the can may be made up for in this manner. To every quart of water add a tablespoonful of sulphate, a teaspoonful of saltpetre (be sure and get the right article), and a good heaping teaspoonful of superphosphate. Water the plants in the evening with this by pouring it around the roots (not too liberally), but not on the plants. After transplanting this fertilizing may be continued, as it will cause them to push ahead rapidly.

The above gives an essay and simple method of getting early plants for a small garden, and opens a way for utilizing old parchment bags and the like used after they are in the ground. When the season is dry water them occasionally very profusely, but not by pouring the water around them, but by first removing the top earth a little, putting in the water, and placing back the dry earth. This prevents scalding from the hot sun and avoids baking. Do not work them deeply, but keep the surface clean. The best fertilizer for tomatoes is well-roasted manure, but a spoonful of guano and a small quantity of superphosphate from time to time, dissolved in water, if preferred to the above, are valuable assistants. On light soils the potato salts should be used where the ground is heavy. Always keep the plants well pinched back and carefully tied to stakes.

Of the varieties the Acme is very popular, but more subject to rot than the others. The Conqueror is the earliest, but small, The Hathaway Excelsior is superb. It may not be as large as some others, but it is solid smooth, free from disease, hardly and of a beautiful color, ripening down to the stem. The General Graut and Paragon are also good varieties, the former a very good keeper. They must be watched for the worm, as a single day or night is sufficient for a worm to ruinously injure a vine. This worm and the tobacco worm are identical. On sandy soils a mulch will be very serviceable. Always let the tomatoes ripen on the vines, instead of pulling them partially green. The tomato is very productive, and, like the orange, it blossoms while the fruit is ripening, continuing to bear right along until frost. The vines also are able to repair damage from loss of limbs, etc.

The Duke of Argyle is enjoying his bridal trip with his young wife on board his steam yacht, in company also with his son, who has recently married Victoria Woodhill's daughter.

A pear tree that has borne fruit for two hundred years is still standing in Everett, Mass., on the Swiss farm.
Our Local Organizations.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular monthly meeting of the Lancaster County Agricultural and Horticultural Society was held at the home of Mr. J. C. Linville, Linville, with the following persons present: M. D. Kendig, Creswell; Cooper Miller, Conestoga; Joseph Miller, Lititz; J. C. Linville, Gap; H. M. Engle, Marietta; J. H. Landis, Millersville; F. E. Diffenderfer, city; G. B. Walz, Harrisburg; S. T. Gasy, city; A. H. Linville, Urbana, Ohio; James Wood, Little Britain; Cyrus Neff, Mountville; C. L. Hunsucker, Manheim; J. M. Johnston, city; Jacob Landis, Millersville; Peter Hershey, city; Wash. L. Hershey, Chickies.

In the absence of the president, the meeting was called to order by Henry M. Engle, vice-president.

On motion the reading of the minutes of the preceding meeting was dispensed with.

The secretary read a letter from Mr. John I. Carter, of Chatham, Pa., accepting an invitation to lecture in his district before the society on the subject of "Creameries," at the February meeting.

On motion the committee was continued in order to make the necessary arrangements with Mr. Carter.

Corn and Its Cultivation.

Cooper Miller exhibited several ears of corn, and in explanation read the following essay:

I may mention a variety that is said to have originated in Russia, for which extreme earliness and great productiveness were claimed. It was grown by Mr. C. H. Landis, at Hershey, on a plot containing 35 acres. The ears, when threshed, were quite larger than those obtained from the ordinary ears of corn, and were at least four feet long, the kernel being very large. The color was a deep yellow, and the flavor was noted as being very good. The corn was sown on the 20th of April, and the corn was reaped on the 27th of September. The crop was sold to neighbors at a price of $1.50 per bushel, the ears being cut and threshed at the same time.

The variety is recommended for early planting, and it is said to have a good winter stand. It is said to be very hardy, and it is a good source of income for early farmers. The character of the ear is well adapted for the production of good quality corn, and it is recommended for general cultivation.

The essay was continued by Mr. Hunsucker for his essay.

Mr. Cooper said he was glad that a good answer had been given to the question, "Is it advisable to use the so-called cattle powders?" Answered by saying he was a firm believer in the use of powders for cattle. There were no known diseases that cattle could get which were not benefited by the use of powders. The use of powders is the best method of disease control.

The Subject of Cattle Powders.

Mr. Engle, to whom had been referred the question, "Is it advisable to use the so-called cattle powders?" Answered by saying he was a firm believer in the use of powders for cattle. He had used them constantly with very good results.

Questions Continued.

Mr. Miller, to whom had been referred the question, "What could the cow be substituted for on the pasture?" Replied that he was not prepared to answer it at present, and asked that the question be referred to the next meeting. On motion this request was granted.

Mr. Miller read a circular from the United States Board of Agriculture, stating that a convention would be held in Washington on the 24th inst., and asking that this society send representatives to the convention.

Mr. Diffenderfer moved that delegates be sent from this society. Carried. Johnson Miller, M. D. Kendig and J. C. Linville were named as the committee.

Election of Officers.

The following persons were unanimously elected officers to serve the society during the ensuing year: President—Henry G. Rash, of New Danville; Vice-President—Jacob B. Garber, Columbus; Henry M. Engle, Marietta.
Agriculture

Classification of Soil.

Prof. Johnson classifies soils, according to their clayey or sandy composition, thus:

First. Pure clay from which no sand can be washed.

Second. Strong clay or brick clay, which contains from five to twenty per cent of sand.

Third. Clay loam, which contains from twenty to forty per cent of sand.

Fourth. Loam, which has from forty to seventy per cent of sand.

Fifth. Sandy loam, which has from seventy to ninety per cent of sand.

Sixth. Light sand, which has less than ten per cent of clay.

Sandy soils, then, are those which consist mainly of grains of sand, or silt, or flint, and is eddied a silicious soil. Nature never bestowed upon man a soil of greater capability of being made lastingly fertile than the sandy light soil of New England.

Gravelly soils need no description, though there are rich gravels and poor gravels, depending upon the rocks of which they are composed, and the substances which are mixed among them. Clay rolls consist largely of alumina; that is, having such an abundance of clay that it is called the "clay metal." Clay itself is a compound of silica (sand), acid, alumina, and water. It also contains potash, soda, and lime. It forms a compact, earthy, soft, to the touch, sticky in a moist state and very hard when dry.

Chalky soils have been formed from rocks in which lime was abundant.

Peaty soils need no description, although they differ very widely.

Alluvial soils are formed by deposits of sand, loam, and gravel brought down by rivers. They are very often rich, being composed of a multitude of thin layers of mud, in which all sorts of fertilizing material is mixed. Loamy soils contain a large portion of decayed matter, humus or muck, as it is called. Woody fibre in a state of decay acquires a dark color, and ultimately becomes mould. Loam contains a variety of ingredients, as clay, sand, lime, in addition to humus. It is a loose, friable descriptible of the clay, and the most desirable description of land for purposes of tillage.

Seed to Clover.

James Clibie, of Quincy, Mich., gives his opinion as follows: "It is always better regard to seedling land with clover. As Mr. Clibie said perfectly at home in this matter his views will be read with interest by the farmers in the West. He says:

"I have been farming for 42 years, and will tell no experience in securing a good field of clover every time. If I want to seed down a field of wheat, I wait until the ground is settled in the spring and the hard frost has passed, then I sow six quarters of clover seed and four quarters of timothy well mixed. I follow by harrowing it in and then roll the ground. Then I sow a pound of plaster on each acre. If a field with oats I sow the same amount of seed, but after the seed oats are dropped in, I omit the drag after the clover seed is sown, but immediately put on the roller, which is beneficial to both oats and clover. I then sow heavily of plaster—on light soil 150 pounds per acre is not too much. The plaster helps the oats on dry land live five times its cost, and what saves clover in dry weather. I sow my seed mixed, so that if the clover does kill out, the timothy will take its place. To get a good catch on sandy land I usually ram, I have observed above rules and always get a splendid stand of clover.

Big Farm.

Daniel Murphy, of San Jose, Cal., who recently died at Haleek, Nevada, is said to have been the largest land owner in the world. He was a native of Quebec, and went to California in 1884. At the time of his death he owned 200,000 acres in Nevada, 6,000,000 in the state of Durango, Mexico, and large tracts in Arizona and California, all of which were devoted to the cattle business. Only a few weeks ago, with small capital purchased the great Don Juan Foster ranch, paying therefore $500,000, and he had almost completed the arrangements to buy the entire vast cattle interests of William Dumpy, of San Francisco. He was the discoverer of Lake Tahoe, and won a great fortune.—Exchange.

We think the policy which allows any one man to hold such an enormous amount of land as this is a very wrong one. Of course a share of it is unprofitably useless except for grazing purposes; but never theless we do not believe in any one man's controlling such a large amount. He cannot possibly utilize it, and in whatever section it may be situated it will be a great drawback to other settlers. While the ordinary farmer, with his few hundreds acres, not only improves its fertility and adds to its value, he at the same time lives by the property of his neighbors. But the big farmer monopolizes a large piece of land, neglects a greater portion of it, and actually decreases the value of the small farms in his vicinity. The land, in place of supporting a thousand or so of families, gives a home to perhaps a hundred men, who have degenerated so that they have lost all enterprise, and spend their days in watching a flock of sheep or a herd of cattle. The big farms are a curse to California and other Western states, and the sooner they are cut up and divided among the people who will own them and make them pay for the country. The government should have a limit beyond which one man cannot purchase wild land. Make that limit, whatever it is, large enough to give every chance for enterprise to develop itself, and refuse to sell another acre. It is contrary to the spirit of the Republic to allow any one man to monopolize a quarter or half a State. Newspapers are eternally bragging about the big farm of this or that man, but we cannot see any thing to brag over because a man owns a number of thousands of acres of land, the greater part of which is useless to himself or the country. Big farmers we regard as big frauds on the small farmer, who is really the basis of the prosperity of the country.—Michigan Farmer, Detroit.

Useful Hints from the Germantown Telegraph.

An anonymous writer in the notice is being reprinted in many of our contemporary papers, relative to the value of liquid manure, the way to gather and save it, and the method of hauling it over the farm. Among the arrangements are the solid built, water tight cistern, the drains leading into it, the drawing-out apparatus, the filling of a large tank upon a drug built especially to carry out, and the method of sprinkling it over the land. The expense of all this is not given, nor the value of the application after it is made. But if the one should be, and the latter could be, the folly of the whole business would soon appear. Some suggestions in regard to liquid m
erous the dry experiments, particularly of wealthy English farmers, as we have already re
ted to, that it would prove a leak to the purse that nothing except its abandonment would ever close up.

Horticulture.

Buy Small Trees.

The average American is in a great hurry to realize on his investments. If he orders a few garden seeds in January, he is anxious to have them sent immediately; and if he forword six cents for a couple of paper books which contains a story of what he has read or heard he does not request to get the publisher send it "by return mail." Patience, which takes the place of quiet waiting, is a virtue which he seems to be totally ignorant. He cannot wait until the fruit is set, but must constantly hurry and feel to order to make nature move a little faster than her wonted pace.

This tendency crops out very plainly when he purchases trees. He finds them described in the catalogue as "second-class," "medium," "first-class," and "extra." The difference in these classes is principally, if not wholly, in the size and height of the trees. The larger the tree the higher the price; but the farmer "don't care anything about that." He wants good trees or none, and
gives his order for those of extra size, and which are
four or five years old. In so doing he thinks that he is
using up the nursery-known and the farmer will find before long, that, with equal care, the
small tree will grow faster and (if a fruit tree) come into bearing condition sooner than the large
one.
In half a dozen years the tree that was small when
planted will be larger and finer than the other. The
reason for this is obvious. The larger the tree the
larger the roots which it has, and the larger the
roots the less fibres there will be upon them. A
tree that has plenty of fibrous roots will grow readily
in transplanting; but no amount of skill can coax a tree to live and flourish which is destitute of these little fibres. The roots of large trees are always more or less mutilated in
the process of taking up, while the small trees sustain
little injury from this source. Dealers in trees
assert that experienced men buy small, thin, gritty trees, while those who are just starting are anxious for
the largest to be had. Those who are to set trees
the coming season will do well to learn from the experience of those who, at considerable loss to
themselves, have tried transplanting small trees are the ones to buy.—New England Farmer.

“Setting Trees.”

In the Phoenian of October 7th, Mr. Daniel T. Curtis gave the readers his method of “Setting Trees,” and as he is very much from mine, would like to give my plan of planting, etc.

1st. Dig for large trees (say twenty inches in diame-
ter and twelve feet high) a hole ten feet in diamete-
ter instead of four to five feet—for the reason that
the roots should be laid straight and at least four
feet in length from the trunk—then the other foot all
around would give the workman an opportunity to
stand in the hole and do his work to advantage, and
when filled with good rich loam would give the tree
food to live on (to have a rich, warm, black loam) for a year or
more or until it had gained strength enough to force
its roots into the harder soil.

2d. I like the idea of depositing in the bottom of the
hole stones for bottom drainage if the land is
clayey or wet. And I also practice putting flat
stones over the roots after digging: a single stone
an inch or two with a loam, the stones then covered with loam;
they steady the tree and prevent the wind from get-
ting them out of position; they also retain moisture
in the summer season.

3d. Always take up as large a proportion of roots as
possible and see that all bruises are removed with
a sharp knife, but my experience has taught me that
we cannot cut the tops to advantage, as we do
in the form and take away the lungs, whereby
we are almost certain to have no growth.

I believe it is very necessary for the first two years at
least after transplanting to keep the ground
thoroughly moist, as it retains the moisture and
keeps the ground light to let in the air and
rain when it is most needed in the summer season—the
past season I have had the beneficial effects of heavy
and wide mulching.

If trees are planted on the streets or sidewalks,
they should always be protected to keep horses from
biting them and children for playing with them or
cutting out the limbs of the tree.
The Malden Improvement Association has adopted
directions for digging and transplanting trees which
meet with my approval, and herewith will find a
copy which if you can afford the space hope you will
print for the benefit of your numerous readers.

If James F. Eaton, in Massachusetts Phoenian.

Keeping Squashes.

A very large proportion of winter squashes decay
before the first frosts as they are unable to afford the
usual, and when they begin to rot badly by the third
of December.

Farmers who raise a few squashes for family use,
give them but little thought and have no particular
place to keep them; they often leave them in the
garden until the weather gets cold and frosty, so
that a portion of them get chilled on one side. If
the farmer is very fond of squash pies, he may be
thoughtful enough, the evening before a cold night,
to go out and gather them, the work being done in
the dark and in haste; they are loaded into the cart
alike care as with experience; the heads are placed
in piles on a heap on the south side of a building, where the sun will shine on
them, and where they can be covered up cold nights.
In such location there is a great change in the tem-
erature every twenty-four hours, even if it is re-
freshed during the daytime; therefore, there is
more constant change of temperature than is
as it is often the case, some of them are pretty sure to
get chilled, if not frozen. When the weather gets
very cold the squashes are removed to a damp cellar
where they soon decay. With such treatment it
would be very strange if they did not.

To have squashes kept well they should be gath-
ered before there is any danger of a frost, and in
the same way they should be handled as
with much care as if they were eggs. It is better to store
them in a dry light building, spreading them on
the floor, never in large heaps where they should lie
undisturbed. One more product of freezing
when they should be carefully removed to some dry
place where there is no danger of freezing during the
winter: a dry room above ground is much better
than a cellar. Squashes, to keep well, need a dry
and temperate atmosphere, and should be kept
not hot, that is to say, not hot enough to cause
decay, that causes premature decay, therefore
if put in a cool room, it is important that the room
should be kept cool all the time, and if in a warm
room, it should not be permitted to get cold.
Squashes are often kept until a year old, in a room
where the temperature is moderate, and if kept
in such place it is important that the atmosphere
should be free from moisture.—Mass. Farmer.

Preparing Plant Beds.

Not beds are usually employed for starting early
vegetable plants, but beds in the open air answers
as well for late kinds, as well for tobacco. In
preparing such beds plenty of fine, rich old manure
should be used, thoroughly mixed with the surface
soil. When the bed is completed, carefully
spread entire distance with dry grass, hay, brush, or some similar material, and set it on fire. The burning of
these materials on the bed will warm the ground, destroy
insects and weed seeds, besides adding a fine coating
of ashes and coal to the surface, both of which
will increase the fertility of the bed, and act as a
preventive of the germination of weeds and insect
pests. Where the common fire beetles are trouble-
some to tomatoes, cabbage and similar plants, this
firing of the bed prior to sowing the seed will
prove very beneficial, if not a certain preventative.

This is the idea of the old and common practice
of American farmers of making their tobacco
and cabbage plant bed on some spot where a
brush heap had been recently burned.—

Look to Last Year’s Grafs.

Now is the time to examine the grafs set last
year. In many cases it will be found that
the stocks, by the growing of the grafs, have split
open, exposing the inner wood, and admitting air
and water. This should at once be tied tightly
with strong twine, and surrounded with fresh
hay, removing any dead leaves from the
spire. This will prevent decay in the spire.
Otherwise the wood will be so cyanosed and the
spire never become firmly attached and make a good
connection, and of course a perfect union.

Frequeintly double the number of colors are set
that the effect is worse. From this it is sure
to fail and discourage. We have now before
us one of those for stimulating the growth of
trees, by boring holes in the ground and pouring in
liquid manure about the roots.—The Lancaster
Farmer.

Managing Trees.

We make frequently outstanding recommendations,
agriculturally and horticulturally, and feel that
we are not free from the charge of enlisting the	
Trees to Men.

Doming Economy.

How To Tell Good Butter.

When butter is properly churned, both as to the
size and temperature, it becomes firm with
very little working, and it is tenacious; but its
desirable state is waxy, when it is easily molded into
any shape, and may be drawn out a considerable
length without breaking. It is then styled "good oil." It is only in this state that butter possesses that rich
yellow color, which imparts so high a degree of
value to it; and its flavor is the more delicate, the finer the
flourish.

The smooth unitedness in rubbing a little between
the finger and thumb expresses at once its rich quality;
and its flavor is given to it by the spiciness of its
fine taste; and the bright golden, glistering, even col-
ored surface shows its height of cleanliness. It may
be necessary at times to use the trier, or even use it
until you become an expert in testing by taste, smell
and rubbing.—Exchange.

Something about Sassafras.

The sassafras shrub or small tree grows from New
England to Mexico. In some places, there are profes-
sors Derby to the American Grocer, it could not be
ricely called a small tree, for it sometimes attains a
height of sixty to seventy feet and ten to twelve
inches in diameter. It is the Lauras sassafras, mostly
found in the eastern United States. The roots of the
bark is the root of the tree which gives it most
to a genus belongs the classic laurel, and from which
the name of the genus was derived. That is the Lauras
nobilis. It grows on the borders of the rivers in Europe, Asia and Africa. Its branches were used to formula
which awarded the victors in the Olympic games and for
crowning poets. In the middle ages it was used to crown
the successful students in the universities, but with the
berries on the branches, hence we have our word
(ornamented) which means crowned. It yields an abundance of essential oil, which gives it a
delightful aromatic color. This oil, especially from the
berries, is used medicinally in Europe, for its
tonic and stimulating properties. It is esteemed
highly in favoring digestion. The fruit yields from
its pericarp a volatile oil and the seed a fixed oil of the consistency of butter, which is employed in medicino. The volatile oil of the lanadel is said to be fatal to all animals. The order Lauracées, as we have seen, affords us some of the most important of active aromatic agents which we employ. Camphor, cinnamon, sassafras oil and the oil of classic laurel. It is pleasing to see, however, that the botanists are coming closer and closer to the structure and constitution, producing materials so widely different in character and properties. We can only refer to the expression of the will of the Creator. He speaks, and it is done. The oil of sassafras is distilled from the roots of the tree. They yield from one to two per cent. of oil. Oil of sassafras, unless most other oils is heavier than water, is of a yellowish color, becoming reddish by age. It has a pungent, agreeable, aromatic taste. It is used medicinally as a stimula-
tive, and its oil is used in the composition of some patent medicines.

The Medical Uses of Eggs.

For burns and scalds there is nothing more soothing than the white of an egg, which may be poured over the wound. It is softer as a varnish for a burn than collodion, and being always on hand, can be applied immediately. It is also more cooling than the "sweet water" as it was formerly supposed to be the surest application to allay the smarting pain. It is the contact with the air which gives the great comfort experienced from ordinary accidents of this kind; and anything which excludes air and prevents inflammation is the thing to be looked for. The point to be remembered is, one of the very best remedies for dysentery. Beaten up lighty, with or without sugar, and swallowed at a gulf, it tends, by its excellent qualities, to lessen the inflammation of the stomach and intestines, and by forming a coherent coating on these organs to enable nature to assume her healthful sway over the diseased body. Two, or at the most three, eggs per day would be all that would be required in ordinary cases; and, since the egg is not merely a medicine, but food as well, the lighter the diet otherwise, and the quicker the passage of the bowels, the more certain and rapid is the recovery.—American Stockman and Farmer.

Putting Saws in Cutting Order.

The grand secret of putting any saw in the best possible cutting condition, consists in filling the teeth at a given angle to cut rapidly, and of a uniform length, so that the points will all touch a straight edge rule without showing a variation of a hundredth part of an inch. Besides this, there should be just enough set in the teeth to cut a kerf as narrow as it can be made, and at the same time allow the blade to work freely without pinching. On the contrary, the kerf must not be so wide as to rate the teeth in motion. The very points of the teeth do the cutting. If one tooth is a twentieth of an inch longer than the other on any side of it, the long tooth will be required to do so much more cutting than it should that the sawing cannot be done well. Hence the saw goes jumping along, working hard and cutting slowly. If one tooth is longer than another on both side of it, the short ones do not cut, although the points may be sharp. When putting a cross-cut saw in order it will pay well to dress the points with a file, and after harden sharpen them with a fine wheel. Much mechanical skill is requisite to put a saw in order. One careless thrust with a file will shorten a tooth so that it will be utterly useless, so far as cutting is concerned. The teeth should be set with much care, and the filing should be done with great accuracy. If the teeth are uneven at the points a large file should be secured to a block of wood, in such a manner that the very points only may be joined, so that the cutting edge may be in a complete line for circle. Every tooth should cut a little as the saw is worked. The teeth of the saw should not be filed down; it should be filed Fleming, or at an angle on the front edge, while the back edges may be filed Fleming, or square across the blade. The best way to file a circular saw for cutting wood across the grain is to dress every fifth tooth square across and about one-twentieth of an inch shorter than the others, which should be filed Fleming at an angle of about forty degrees.—Mechanical News.

Hard and Soft Water.

All housewives may not know how materially the effects of hard and soft water differ in the cooking of various vegetables; while one species of vegetables tables requires hard or soft water, as the case may be, another species becomes sensibly deteriorated by it. For instance peas and beans cooked in hard water, containing lime or gypsum, will not boil tender because these substances harden vegetable casings. In soft water they boil tender, and lose a certain raw, rank taste which they retain in hard water. Many vegetables (as onions) both nearly tasteless in soft water, because all the flavor is dissolved out. The addition of salt often checks this, as in the case of onions, causing the vegetables to retain their peculiar flavoring principles, besides removing the matter which might be lost in soft water. Thus it appears that the salt hardens the water a degree.


CHESHIRE CHEESE.—In Cheshire, England, milk is set for cheese at a temperature of about 80 degrees Fahr. The rennet is commonly made fresh daily, a sufficient quantity added to the milk to cause the curd to set in an hour, or less. The curd is cut with a breaker, great care being taken to keep it from being broken. When the curd begins to mold, it is broken up by pouring in from four to ten pounds of salt to 100 pounds well mixed with the curd. It is afterwards poured through the curd mill and put in a vat, with a weight upon it, for from one to two hours. It is then put in a press or the "churn," provided for the purpose close to the fire of the dairy room, where it remains until the following morning. The warmth of the oven—say 80° to 90°—promotes the separation of the whey, and skimmers are used to pierce the curd through the holes of the vat, to cause the escape of the whey into the sump, and the curd to dry in the churn, and it settles down into a compact mass. The cheeses are turned upside down in the vat with a fresh, dry cloth, and put in the press for about three days, being turned and dried-coated once or twice daily, afterward less frequently, until ready for sale. As a rule, Cheshire cheese ripens quickly, and is sold for consumption from one to three months after it is made.

HOUSEHOLD RECIPES.

SOUP A L'ITALIENNE.—The stock of Sunday's soup strained from the carcasses; half a cup of grated cheese and a cup of milk; two tablespoonfuls of salt; one corn-starch wet up with water; two eggs beaten light.

Put the soup on fifteen minutes before dinner, where it will heat quickly. The moment it boils, draw it to one side, stir in the corn starch and milk, and when thick, bring it to the fire again, and stir it up well, and it is ready for use. This is a delicious and easy and quickly made.

BREADED MUTTON CHOPS.—Trim the chops neatly and put aside the bones and bits of skin for the sauce for maccaroni. Pour a little melted butter over the meat. Do this as early in the day as convenient, cover them, and let them stand until an hour before they are to be served. Then, roll each in beaten egg, next, in fine cracker crust, (you can buy it ready powdered) and lay them in your dripping pan with a very little water in the bottom—just enough to keep them from burning. Bake quickly—cooking the dripping pan with the bottom—other—for half an hour. Then remove the upper, baste the chops with butter and hot water, and let them brown. When done, lay them on a hot dish and set in the open oven to keep warm. Add to the
gravy in the dripping-pans a little hot water, a tea- spoonful of brown flour, a tablespoonful of catsup, a small quantity of minced onion, pepper and salt. Boil up once, strain, and pour over the chops.

MACARONI WITH TOMATO SAUCE.—Break the macaroni into short pieces and set over the fire with cold water. When well boiled, add to its colour, and be sure to let it boil. Stir the beaten eggs into the hot milk. Cook one minute together after they have had a long, slow boil in a covered pot.让我煮沸，直到水变热，但不要让它沸腾。将打好的鸡蛋倒入热牛奶中。煮一分钟，直到它们完全煮熟，然后加入新鲜磨碎的tomato，煮沸后过滤，加入切好的carrots and celery，搅拌均匀，然后将所有食材放入一个冷的地方，搅拌均匀。

Cover and set in a very cold place for some hours.

BEER SOUP.—Three lbs. of lean beef, with a marinade, 1/2 lb. of lean ham, 1 pint of beer, 1 cupful of flour, 3 stalks of celery, 3 cups of water; cold of course; salt and pepper to taste. Cut the meat very fine, and crack the bones well. Put these in a pot with a close cover; cover with a quarter of a pint of hot water; and let it simmer gently for about half an hour. Turn the hot bones into a bowl; pour the custard over it; toss up and about with a wooden or silver fork, until all the ingredients are well mixed. Cover and set in a very cold place for some hours.

COOKED TOMATO.—One quart of fresh milk; one tablespoonful of butter; four tablespoonfuls of corn-starch set up with water; one teaspoonful of salt. Heat the milk to scalding, and stir in the defeated eggs; then it has boiled. Boil this for five minutes and is thick and smooth throughout. Add salt and butter, let the pudding stand in the farinette-kettle in which it has been boiled—the hot water around it—for three minutes before turning it into a deep open dish. Eat with butter and sugar, or with a little brown sugar and cream, with nutmeg grated over it.

CUTLETS.—A French coffee-pot is a convenience on Monday. If you have one, you know how to use it. If not, put a quart of boiling water into your coffee-pot; wet up a cupful of ground coffee with the white of an egg, adding the egg-shell and a little cold water. Boil. When done, add a heaping teaspoonful of salt, and a bit of butter; and let it boil fast ten minutes. Then, add half a cup of cold water, and set it upon the hearth or table "to settle" for five minutes. Pour it off carefully into your metal or china coffee-pot or urn.

ROLLED BEEFSTEAK.—Two good sirloin steaks; bread crumbs; a slice of fat salt pork; seasonings, a little minced onion, pepper and salt. Take out the bones from the steak and throw them into the soup-pot. If your butcher has not already done so, beat the meat flat with the broad side of a hatchet, and cover it with a force-meal made of bread-crumbs, minced pork, and half an onion. Moisten this slightly with water, and season to taste. Roll each steak up, closely enclosing the stuffing; bind with twine into two compact bundles and lay in a dripping-pan. Dash a cupful of boiling water over each, cover with an inverted pan, and bake about 30 minutes in their own steam. At the end of this time remove the cover, baste with butter and dredge with flour to brown the meat. When they are of a fine color, lay up a hot dish. Thicken the gravy with a little browned flour, boil up thoroughly; then strain it, and add to the tapano, whole strings from the rolled beef prior to serving, clip them in several places, that the form of the meat may not be disturbed.

CABBAGE SALAD.—One small head of cabbage, chopped fine, or cut into shreds; 1 cup of boiling milk; three tablespoons of vinegar; 1 tablespoonful of butter; 1 tablespoonful of white sugar; 3 eggs well beaten; 1 teaspoonful essence of celery; pepper and salt. "To two cups of powdered sugar add half a cup of butter, slightly warmed, so that the two can be worked up together. When they are well mixed, beat in half a teaspoonful of nutmeg and the juice of a lemon. Whipp smooth and light, and pour it over the baked potatoes. Roll the potato balls in flour, dip them in this batter, and fry in a deep frying-pan.

SOUP BROTH.—Three pounds of veal and bones finished up with 2 quarts of water; 1 onion; 1 turnip; 3 stalks of celery; 1 cupful pearl barley. Salt and pepper to taste. Crack the bones and nite the meal early in the day, if you dine near midday, and put on with the cold water. Soak the barley in bikewarm water, let it set up on the night, and scald it with a scalding warm bath for two hours, put it in the same over the fire to cook slowly, keeping it covered fully by adding hot water from the kettle. Wash, scrape and chop the vegetables; cover with cold water and chop them about by themselves. When they are very soft, rub them through a colander; add the water in which they were cooked, and keep hot until the meat in the soup-kettle has boiled to rags. For this purpose four hours are better than three. This is boiled out bones and meat; put soup stock, barley (with the water in which it has boiled) vegetable broth, pepper and salt, into one kettle and boil slowly for thirty minutes. A little chopped parsley is an improvement.

CHICKEN SMOTHERED WITH OYSTERS.—One full grown, tender chicken; 1 pint of oysters; 2 tablespoonfuls of flour; 3 tablespoonfuls of cream; 4 tablespoonfuls of corn-starch; 3 hard-boiled eggs; 1 scant cup bread crumbs; pepper, salt and chopped parsley. Prepare the chicken as for roasting. Stuff with a dressing of the oysters chopped pretty fine, and the other ingredients, and tie up with a cord to taste with pepper and salt. Tie the neck secure and place in a pot of cold water. Bring gradually to a boil, that fowl may be heated evenly and thoroughly. Stew steadily—never fast—for an hour and a half after the water in the outer kettle comes to the boil; then open the pall and test with a fork to see if the chicken be tender. If not, recover at once, and stew for half or three-quarters of an hour longer. When the chicken is tender throughout, take it out and lay upon a hot dish, covering immediately. Turn the juices left in the pall and saucepan well with the corn starch, which should first be wet up with the same volume of water; then the chopped parsley, butter, pepper, and salt, and the yolks of the hard-boiled eggs chopped fine. Roll up once; stir in the cream, and take from the fire before it can boil again. Pour a few spoonfuls over the chicken, and serve the rest in a sauce tureen.

MASHED POTATOES.—Fare the potatoes very thin; lay in cold water for an hour and cover well with boiling water. (‘‘Peach-blow’’ is better put down in cold water.) But quickly, and when done drain off every drop of water; throw in a little salt; let it heat up on the stove for two or three minutes. Mash soft with a potato-beatter, or whip to a cream with a fork, adding a little butter and enough milk to make a soft paste. Heap in a smooth mound upon a vegetable dish.

STEAK TOMATOES.—Open a can of tomatoes an hour before cooking them. Leave out the cores and unripe parts. Cook always in tin or porcelain saucepans. Iron injures color and flavor. Stew gently for half an hour. Season to taste with salt, pepper, a little sugar, and a teaspoonful of butter. Cook until thick; serve after ten minutes longer, and turn into a deep dish.

BLANK MANGE.—One liberal quart of milk; 1 oz. Cooper’s gelatine; 1/2 cup of white sugar; 2 teaspoonfuls of vanilla.

Cook the gelatine for two hours in a breakfast cup of cold water in a saucepan simmering in a fat-hot kettle, or in a tin pan set in a pot of hot water.
LIVE STOCK.

Sheep Farming.

Dairy farming is more difficult and laborious than sheep farming. Sheep culture has many advantages, but it does not pay as well as dairy farming.

There is a necessity of sheep husbandry for meat production. The rapid increase of population, the scarcity and increasing price of beef, the inferiority of pork in heat and nutrition, tend to the increase of meat eating. And it is not the result in the economy of meat and wool alone, we may add, but from an economical standpoint in feeding the soil; no factor in its wealth occupies a more prominent position than sheep. This has been tested, and will be found to be most valuable in its application and development.

How to Feed Cornstalks.

The rearing and feeding of animals are receiving, as they should, from farmers and herdsmen in all parts of the country greater attention every year; and over against this labor part of their youthful days, hope of gallo rest in their remaining paying yields from their cows. Cornstalks enter largely into the fall feed of dairy cows, and how to feed them is the important question. The common practice is to feed them in the barns, but the feeders are not able or willing to eat them in the corn machine. The feed is a bundle without any precaution, I am fully satisfied, is very wasteful, as not only are the cuts left, but frequently near the whole stalk.

I have learned from experience that a little brown sprinkled upon stalks once every day before feeding is of material advantage in many respects. The weak brine will cause the cows to consume nearly all, even when fed whole, the flow of milk increases, the condition of the cows improves, and they show greater contentment. Especially is this last remark true on cold, windy and rainy days. I find it much better, as a general rule, when it can be done, to feed salt on food instead of feeding it alone. In no case should more than one day be permitted to pass without drawing the morning's feed. The brine should not be steeped, and it is doubtful, if it is not, the benefit of the cows. Of course the cows should have access to plenty of water; this brine food will cause them to drink more water, and thereby the flow of milk. Let my brothers try this and they will hereafter place a greater value on cornstalks.

LITERARY AND PERSONAL.

WIDE AWAKE.—An illustrated Magazine for young folks. Published by Lothrop & Co., Boston, Mass. A square, embossed paper covers. The Christmas number of this publication, which reached our notice in the last week, is certainly the best of its kind in the country, and is adapted to all conditions, from childhood to old age. Indeed, it is very probable that as many of the aged will receive instruction from it as of the young. In perusing its pages the old and the middle-aged can live again the placid scenes of former times, without the obstruction of those "worse" parts which every progressive soul would gladly have expunged from memory. Although there is a great deal of trashy juvenile literature in the world, and literature for the young, it does not follow the eclectic and liberal trait; it cannot be legitimately included in that category, its tone is moral, plain, and practical.

BABYLON, by the same publishing house, is a more instructive publication, and, like the preceding, is gotten up in the most perfect style of the printer's and engraver's art. It is a fresh, innocent, and jubilant volume, and shows the publisher and all the contributors to the world, are beginning to have a truer conception of babyhood and youthhood than they had when we were a baby and a boy. Babes and Boys and Girls, are being approached with some regard to the fundamental manhood and womanhood, latent in the boy or girl. The years between boyhood and manhood—girlhood and womanhood—and even between manhood and womanhood, is a period when it is very obvious that the world certainly must indulge in many regrets that the true relations between youth and age had not been earlier apprehended. It is feared that in our attitudes towards our children we are, or have been, influenced more by our own personal experiences, than by their ultimate social obligations. Even in impressing our unembodied authority, there is more in the manner of asserting it than in the authority itself, to order its effectivity. The juvenile publications seem to be on that track, or at least in the track, to ever gain the approval of the public. The terms of manhood are embryotic in the bosom of the boy—do not deprecate it, but foster and develop it.

AGRICULTURAL REVIEW, and Journal of the "American Agricultural Association," terms $3.00 a year. Edited by Joseph H. Reall, and published quarterly by the Agricultural Review Co., New York and Chicago. This is a square, octavo of 121 pages of valuable letter press, and 23 pages of illustrated "d's," relating to Agricultural and domestic affairs. Our readers may form some idea of the work, as a whole, but certainly a very inadequate idea of details, from the following pages of the No. 2, in the recent volume 2. A grand section of country; The Stowers Agricultural School; English calf rearing; Carp Culture; Short-horn cattle; Protection; Feed Trade; Blue Hill farm; Notes on parasitic fungi; Mention of domestic crops, especially corn, cotton, and rice; for ensilage; See great oats; What advantage does an American boy possess? Some of the advantages of Dairy farming; the objects and interpretation of Soil analyses; besides interesting and instructive matter relating to the Editor and publisher's diseases, their treatment, and the list of officers and committees of the American Agricultural Association; An index of contents, etc., etc. In another column of this number of the Farmer will be found a paper on the "Orange rust of blackberry," by Prof. T. J. Burrow, extracted from the work, 'Nature, what the farmer must do.'

LANDRETH'S RURAL REGISTER, and Catalogue for 1883—published annually for gratuitous distribution—an octavo of over 100 pages, and beautifully embossed covers, its cartoons of Broomeville Stock farm, with 100 other illustrations of improved vegetables, including magnificent colored pictures of our own varieties of lettuce, cauliflower, turnip, and many other items relative thereto, makes this a useful little publication to have on hand, and to refer to as occasion requires.

THE YOUNG SCIENTIST for January 1883 (vol. 6, No. 1). A practical journal of Home Arts, has reached our table, and is welcomed here. This is an 8vo, of 40 pages, and is well printed, and illustrated, on fine, embossed paper. It is published monthly, 49 Maiden Lane, New York, at the exceeding low price of $1.00 per annum. RULES and Premium List of the Lancaster County Poultry Association, from which we are informed that the 4th annual exhibition will be held in Excelsior Hall, East King street on January 11, 12, 13, 14, 15, 16 and 17, 1883.

REPORT OF THE STATE HORTICULTURAL ASSOCIATION of Pennsylvania (formerly Pennsylvania Fruit growers' Society), for 1882. Prepared by its officers, and printed by the State printer and binder, Harrisburg, Pa. This is an octavo of 80 pages, and an index of contents. Contains the Constitution of the Association; list of members; Officers—Standing Committee, Life Members, Honorary Members, and Annual Members. Two full-page colored illustrations of the "Skeel Pear" and the "Triumph Cumberland Cherry." Also two full-page uncolored illustrations of "Fyle's Red Winter" and "York pippins" apples, and all the addresses, essays, discussions, reports, etc., of the Chambersburg meeting in January, 1882. The work is very creditably executed, and the contents useful and interesting. We received a copy of this report just eleven months after the meeting was held, and probably nobody else received it any sooner. This is decidedly "too bad;" such a report ought to appear within two or three months after the annual sessions of the association. Perhaps it was printed under different auspices things might be different. The State government, like the National government, does not appear to accord as full a recognition of the agricultural and other domestic causes as is thought. They seem to be only "hanging on the ragged edges" of patriotism and patronage. The people should be in possession of these reports about the time they commence the season's work. Some reform is needed.

DEPARTMENT OF AGRICULTURE, Special report, No. 52, Report on the Yield per Acre of Cotton, Corn, Potatoes, and other Field Crops, with comparative products of Fruits; also local freight rates of transportation companies for November, 1882. 100 pages octavo. Contains a large amount of useful statistical information on subjects relating to agriculture, in addition to the usual governmental style on farm calculated paper.

GREEN'S FRUIT GROWER—A medium 8-page folio, printed and published at Rochester, N. Y. Quarterly at 25 cents per year. Charles A. Green, editor. Devoted to the orchard, garden and nursery. Plain and practical. Circulation, 20,000 copies. Ought to be known in every farm and garden by the home owner and in the border land. Occupies a sphere distinctly its own.

THE SOLDIERS' BULLETIN, a monthly journal, devoted to the interests of soldiers and their heirs. Published by Mido B. Stevens, Metropolitan Block, Chicago, Illinois branch office, Lebrott Building, W. A. Welch, Philadelphia, Pa. This journal is about the size of "School Days," somewhat inferior in its physical quality, but perhaps intellectually superior. It contains much interesting and edifying to the civilian, as well as the soldier.

TEXAS SIGHTING, is not only a capital budget of fun, it is also newswy, spicy, and instructive, and is edited with more than ordinary ability. 8-page folio, weekly, Austin, Texas, at $2.00 per year, in advance.

THE RAY, a medium folio of 4 pages, published monthly at 50 cents per annum. Parkes, Cluster, Co., Pennsylvania, office, No. 24 North 10th Street, Philadelphia, Pa. All communications and business communication to be addressed to this office. Changes must be addressed. This appears to be a literary, business, and general news paper, next to its make up, and healthful in its tone, with a leaning towards the useful and the beautiful, and will compare favorably with the country press anywhere.

SCHOOL DAYS for Boys and Girls. Published by Mrs. M. C. Moorthy at 50 cents a copy, Lancaster, Pa. Terms 50 cents per year, in advance, single copy 5 cents. A demilofio of 8 pages.

The third number of this young monthly has been read on our table and there is a brightness about it that most assuredly will not fail to be borne out in favor. Also a very good picture of our High school building, for Boys. This fact, together with the title itself, would naturally lead us to conclude that the advanced pupils of the High schools would be contributors to its columns, and so we suggest, if they are not, they ought to be, and they cannot identify themselves with its interests and its welfare too soon. So far as concerns its material and typography, it can stand up with the best paper published in Lancaster city. It is devoted to literature, art, science, and general information for the young, and it makes a very creditable effort to cater to their intellectual wants. Edited by J. A. Wolfersberger, an "old stager" in the Corps Editorial, as well as that of Publishers, and hence ought to be a success; but whatever its ultimate outcome may be, we greet it cordially and bid it "God speed."
THE PENN HARROW
BEST IN THE WORLD
IT HAS NO EQUAL

THE PENN HARROW MANUFACTURING CO.
CAMDEN, N. J.

A KNIFE IN THE WHITE HOUSE.

There was seen yesterday at Messrs. Knabe & Co.'s factory a magnificent concert grand, just finished by them for the presidential mansion, President Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House decided in favor of the Knabe Piano as his preference, and ordered accordingly the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case, and of superb tone and action—an instrument worthy in every respect of the place it is to occupy. It was shipped to its destination yesterday evening.

COLMAN'S RURAL WORLD.

This sterling Agricultural paper entered its thirty-sixth year on the first of January, and appears in a new dress, and gives evidence of increased prosperity. To the Farmer, Stock Breeder, Fruit Grower and Cultivator of Sorghum for Syrup and Sugar, it is almost indispensable. It should be read by every one owning a farm. It is published weekly, in the best style, at only $1.00 per annum, by Norman J. Coleman, St. Louis, Mo.

COMPLIMENTARY NOTICE.

We desire to call attention to the advertisement in another column of D. M. Ferry & Co., Durod, Mich., the great seedsmen, whose mannnahd establishment is one of the sights of the chief city of Michigan. They do the largest business in their trade in the United States, reaching across the Atlantic and Pacific oceans. The house is entirely efficient, and if you wish to get what you order, you cannot do better than send to them for your seeds, and you may depend upon it you will get the best that the market can supply. Their seeds have become known over the entire civilized world for purity and fertility, and have gained for them an enviable reputation.

Annual Seed Catalogue just issued for 1885, replete with information and beautifully illustrated, will be sent free on application.

SEND FOR SPECIAL PRICES.

On Concord Grapevines, Transplanted Evergreens, Tulips, Poplar, Linden Maple, etc. Tree Seedlings and Trees for Shade Plantations by the 100.

J. JENKINS' NURSERY.

8-2-79

Buyers of the wing and wheel from the original you have a complete one-horse "A" Harrow.

The Penn Harrow
CHANGED TO DOUBLE "A" HARROW.

A

Remove the wheel from the original, reverse the vane, and it makes the most complete double "A" Harrow in the market.

The Penn Harrow
CHANGED TO A SQUARE HARROW.

By removing the wheel from the original you have a Harrow with three come to look for. By adding to B or C you can change it to a harmer, and narrow the borders and both sides, or on a ridge and narrow the pop and both sides, so you can take either thing cannot be done with most other Harrow.

The Penn Harrow
ON ITS SLED,

It always has been a great inconvenience to get the Harrow to and from the field. The Penn Harrow can be moved to use in the combination, it has its own sled to haul it on.

The Penn Harrow
CHANGED TO SINGLE "A" HARROW.

Invaluable for Orchards, as the teeth have sharpened harrows right up to and all around the trees without backing them.

STREES

Fruit, Shade and Ornamental Trees.

Plants Trees raised in this county and talked to this climate. Write for prices to

LOUIS C. LYTE.


 Nurseries at Smoketown, six miles east of Lancaster.

79-1-12

WIDMYER & RICKSECKER, UPHOLSTERERS.

And Manufacturers of

FURNITURE AND CHAIRS.

WAREROOMS:

102 East King St., Cor. of Duke St.
LANCASTER, PA.

79-1-12

Special Inducements at the

NEW FURNITURE STORE

W. A. HEINITSH,
No. 15 1-2 E. KING STREET
(over Hunt's Grocery STORE)
LANCASTER, PA.

153-5 East King Street,
Nov.-Dec.

For Good and Cheap Work go to

F. VOLLMER'S

FURNITURE WARE ROOMS,
No. 509 NORTH QUEEN ST.,
(Opposite Northern Market)
LANCASTER, PA.

Also, all kinds of picture frames.

GREAT BARGAINS.

A large assortment of all kinds of Carpets are still sold at lower rates than ever at the

CARPET HALL OF H. S. SHIRK,
No. 202 West King St.

Call and examine our stock and satisfy yourself that we can show the largest assortment of those Households, three pence and ingrats at all prices—at the lowest Philadelphia prices.

Also on hand a large and complete assortment of Rag Curtains.

Satisfaction guaranteed both as to price and quality.

You are invited to call and see our goods. We reserve the right to keep them for those who are showing them even if you do not want to purchase.

Don't forget this notice. You can save money here if you want to be wise.

Particular attention given to customer work.

Also on hand a full assortment of Comfortapes, Oil Cloths and Blankets of every variety.

C. R. KLINE,
ATTORNEY-AT-LAW,
OFFICE: 15 NORTH DUKE STREET,
LANCASTER, PA.

Nov.-

SILK-WORM EGGS.

Amateur Silk-growers can be supplied with superior silk worm eggs, on reasonable terms, by applying immediately to

GEO. G. HENSSL,
may-Sun.
No. 228 East Orange Street, Lancaster, Pa.

LIGHT BRAHMA EGGS.

For hatching, now ready—from the best strain in the county—at the moderate price of

$1.50 for a setting of 13 Eggs.

L. KATHEM.
No. 9 North Queen st., Examiner Office, Lancaster, Pa.

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LANCASTER WEEKLY NEWS.

In every Township in the County. Good Wages can be made. Inquire at

THE EXAMINER OFFICE,
No. 9 North Queen Street, Lancaster, Pa.
Where To Buy Goods IN LANCASTER.

- **BOOTS AND SHOES.**
  - **MARSHALL & SON.** No. 12 Centre Square, Lancaster, Dealers in Boots, Shoes and Rubbers, requiring promptly attended to.
  - **M' Lvy.** No. 3 East King street. For the best Quality Shoes in Lancaster go to M' Lvy. No. 3 East King street.

- **BOOKS AND STATIONERY.**
  - **John Baer's Son's.** Nos. 15 and 17 North Queen Street, has the largest and best assorted Book and Paper Store in the City.

- **FURNITURE.**
  - **Heintz & Co.** No. 15, East King st., (over China Hall) is the cheapest place in Lancaster to buy Furniture. Picture Frames a specialty.

- **CHINA AND GLASSWARE.**
  - **Hill & Martin.** No. 15 East King st., dealers in China, Glass and Queenware, Fancy Goods, Lamps, Burners, Chimneys, etc.

- **CLOTHING.**
  - **Myers & Rathvon.** Centre Hall, No. 12 East King st. Largest Clothing House in Pennsylvania outside of Philadelphia.

- **DRUGS AND MEDICINES.**
  - **G. W. HULL.** Dealer in Pure Drugs and Medicines. Patent Medicines, Trusses, Shoulder Injurers, Supporters, etc., 10 West King st., Lancaster, Pa.

- **DRY GOODS.**
  - **Givler, Bowers & Hurst.** No. 25 E. King st., Lancaster, Pa., Dealers in Dry Goods, Carpets and Merchandise Catalogue, Prices as low as the lowest.

- **HATS AND CAPS.**
  - **Ch. Amer.** No. 25 West King Street, Dealer in Hatters, Caps, Furs, Bobes, etc. Assortment large. Prices low.

- **JEWELRY AND WATCHES.**
  - **J. W. Touhill & Co.** No. 4 West King st. Watch, Clock and Musical Boxes. Watches and Jewelry Manufactured to order.

- **PRINTING.**

**DISSOLUTION OF PARTNERSHIP.**

The partnership in the merchandising business heretofore existing under the firm of Rathvon & Fisher, is this day dissolved by mutual consent. All persons in any manner indebted to said firm, are respectfully solicited to make immediate payment to S. S. Rathvon, who is hereby authorized to receive the same, and those having claims against such firm, will please present them for settlement.

S. S. RATHVON.

S. FISHER.

10 North Queen Street, Lancaster, Pa.

Until further announcement, the business, without interruption, will be conducted by the undivided, who will continue the patronage heretofore bestowed on them, and which is hereby gratefully acknowledged.

S. S. RATHVON.

PRACTICAL TAILOR.

No. 101 North Queen Street, Lancaster, Pa.

**$60** A week to your own town. Terms and $5 must be received in advance.

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**GLOVES, SHIRTS, UNDERWEAR.**

**SHIRTS MADE TO ORDER, AND WARRANTED TO FIT.**

**E. J. ERISMAN.**

50 North Queen St., Lancaster, Pa.

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**GREGORY'S SEED CATALOGUE.**

**A HOME ORGAN FOR FARMERS.**

**THE LANCASTER FARMER.**

**A MONTHLY JOURNAL,**

Devoted to Agriculture, Horticulture, Domestic Economy and Miscellaneous.

Founded Under the Auspices of the Lancaster County Agricultural and Horticultural Society.

EDITED BY DR. S. S. RATHVON.

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All subscriptions will commence with the January number, unless otherwise ordered.

Dr. S. S. Rathvon, who has so ably managed the editorial department in the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—botanical science—some knowledge of which has become necessary to the successful farmer, are alone worth much more than the price of this publication. He is determined to make "The Farmer" a necessity to all households.

A county that has so wide a reputation as Lancaster county for its agricultural products should certainly be able to support an agricultural paper of its own, for the exchange of the opinions of farmers interested in this matter. We ask the cooperation of all farmers interested in this matter. Working among your friends, The "Farmer" is only one dollar per year. Show them your copy. Try and induce them to subscribe. It is not too much for each subscriber to do but it will greatly assist us.

All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

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**$72** A WEEK. $12 a day at house easily made. Costly Outfit free. Address Tuck & Co., Augusta, Maine.

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In Sheep, Russian and Turkey Endings.

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**GET THE BEST.**

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Most acceptable to Pastor, Priest, Teacher, Child, Friend, for Holiday, Birthday, Wedding, or any other occasion.

It is the best practical English Dictionary extant.—London Quarterly Review.

It is an ever-present and reliable schoolmaster to the whole family.—S. R. Hon. G. & C. Merriam & Co., Publ's, Springfield, Mass.

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**QUEEN OF THE SOUTH FARM MILLS.**

For Stock Feed or Meal for Family use.

1,000 cts. in use.

Two Crops of Potatoes in One Season
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Minute Biscuit
Baked Eggs
Baked Wheat
Very Palatable

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Confectionery

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Rice Cakes

To Cook Potatoes

A Luncheon Menu

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Literary and Personal

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No. 21 & 23 South Sixth Street,
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ALWAYS VARIETY GOOD
SIMPLEST AND BEST

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CONTENTS OF THIS NUMBER.

EDITORIAL.
State and County Fair
Wiggimanus
The Fultz Wheat
Balance of Trade
The James Vick Strawberry
Snow Fleece
State Agricultural and Horticultural Society
State Agricultural Society—The Horticulturists
— The State Horticultural Society—Apple-Orchards—Where to Plant One.

CONTRIBUTIONS.

GRAPE CULTURE

Hydrating Fruits

Lime vs. Modern Fertilizers

Deep or Shallow Planting

Fertilizing Wheat

The Farm—About the Pults.

SELECTIONS.

Tobacco Growing
How it Has Enriched our County—Beginning

Lancaster County Seed Farm
Only Grain-Feed Stock Used.

The Nurse Flea Appears

Pigs Made from Potatoes

Training a Horse to Back and Lead

Observations on Crib-Biting

Covers Cultivation

Care of Horses

The Collie Dog

A Tam-o'-Shanter Woodchuck

OUR LOCAL ORGANIZATIONS.

Lancaster County Agricultural and Horticultural Society
Reports of the Committees—The Condition of Crop—Agriculture Postponed—Cattle Feeding—Shovel Creameries be Established in This County—The Fair Question.

The Cattleman
Reports of Officers—Liquidating the Debt—Election of Officers.

Octodoro Farmers
Inspecting the Farm—The Benefits of Experience—Potatoes Growing.

Linnemann Society
Donation to the Museum—Additions to the Library—Election of Officers—Reports of Committees—Committee Appointed.

The Fulton Farmers’ Club
Questions and Answers.

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Bond Meal Manure

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This work will be highly illustrated, and will be put in
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$5 to $20 per day at home. Samples worth $5 free.

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The Largest Daily Paper in the county.

Published Daily Except Sunday.

THE LANCASTER FARMER.

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Carriage Builders,
COX & CO'S OLD STABLE,
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SIDE-BAR BUGGIES,
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LANCASTER, PA., FEBRUARY, 1883.

Dr. S. S. BATHYON, Editor.

EDITORIAL.

STATE AND COUNTY FAIR.

Now, that the "Main Hall" in Fairmount Park is chronicled with the "things that were," there seems to us to be no more favorable locality for a State or county fair—either separately or combined—than the grounds of our own Park Association. None more conveniently arranged, none more accessible, and none that could be obtained on more reasonable terms. We are glad to see, by the February proceedings of our local society, that it has appointed a committee of inquiry in that direction, and, taking time by the forelock, that committee cannot inquire too vigilantly nor too soon. Surely Lancaster county abounds in all the essential elements that compose a first-class Agricultural, Horticultural, and Industrial Exhibition; and, in intelligence, enterprise, and general progress, she is not behind her sister counties; and yet, she has not for many years been able to manipulate a successful county exhibition, with the local products. Every year the number of these gatherings is multiplying all over the entire country, and from present appearances it does not look as if the general enthusiasm has in the least abated.

It is true that these humble enterprises are not always what are generally regarded as a "financial success," because they do not result in an overflowing Treasury, no matter what may be otherwise developed by them. We think a fair may be eminently successful, without yielding any surplus to its treasury, or profit to its contractors. For instance, the exhibition of the Lancaster County Poultry Association, last month was unquestionably successful, and financially it involved the association in a debt. Unforeseen contingencies sometimes so combine as to produce almost a failure, financially, but in moral, domestic, and industrial results, they may be all that could have been reasonably expected from them. The late poultry show was a credit to the county of Lancaster, and the projectors and conductors of it, merit the commendations of the public. These things must not be estimated by their pecuniary results alone, although sound reason dictates that they should so far compensate those who get them up as to protect them from pecuniary loss. The public has also a duty to perform in enterprises of this kind, and yet the public is often singularly indifferent, and through this indifference the best laid plans of "nice as well as men at gang aglee." No one would presume to say that our late "War for the Union" was a failure, and yet financially it was, or would have been a disaster, had not the wisdom of the nation devised, and compelled the means to sustain the government. By reference to our literary and personal columns, the financial and material success of our old neighbor, Berks, will become apparent to the reader; and what Berks has been doing for the past ten years, ought surely be accomplished by Lancaster. There are no better means of advertising a district, a county, or a State, than through an exhibition of their material and industrial results, and these apply to all large towns and cities. Our Centennial Exposition in 1876 placed our entire country in a position before the world that she never had occupied before that event, and yet financially it was not a success to those who ventured in the enterprise; else they would not be knocking at the door of the American Congress for a reimbursement. Many things in this world "cost more than they come to," and yet the world would be a "three-wheeled wagon" without them. Through these periodical gatherings people come to know each other better than they possibly could otherwise. They are not only social admissions in which every man, by external blandishments, is endeavoring to put the best foot foremost, but they are the congregated ultimations of practical ideas, in living and moving forms. They exhibit to each other outwardly, what men and women have been inwardly thinking about, and they lead all to consider whether they may not be better plans for doing things, than those which have been transmitted to them through an "apple ancestry," thus affording them a practical opportunity to "prove all things, and hold fast that which is good." At the annual meeting of the State Agricultural Society, held in Harrisburg, without definitely adopting any place to hold its next exhibition, yet it seems that Fairmount Park was informally mentioned. "It is true, the State Society held one or two exhibitions there, which were eminently financial successes; but then, it must be remembered, that it was backed by the attractions and the patronage of the "Main Hall," an influence it could not possibly now command. Next to Fairmount Park, the most successful State Fair ever held in Pennsylvania, was the one held in the Park at Lancaster. This ought not only to be an inducement, but also a guarantee to the State Society, justifying a repetition of their enterprise of 1875, in which they may count on a practical co-operation of our local society. But that is not all. Our citizens should rush a neat, earnest co-operation in the event, a thing they have never yet fully and freely done. The nearest approximation, so far as related to the mechanical, domestic and fancy departments, was in the demonstration of the "Fulton Institute," in November, 1859. But notwithstanding the material success of that display, financially it was a failure—perhaps occasioned by the rivalry of two local institutions. We never could, and probably never can, hold two successful fairs of any kind in Lancaster city and county in the same season, perhaps not in the same year. It needs a unity of purpose and energy to succeed in enterprises of this kind. When a local society projects anything of this character its hands ought to be held up by the entire community, and then it must succeed.

WIGGINSANIA.

"Blow gentle muskaton, blow; Let thy duteal strain proceed; Play us Michael Wiggins once again."—

Scientific authority has demonstrated by the usual meteorological data, that no storm was brewing in the United States, that could possibly develop itself on the 9th of February, notwithstanding Mr. Wiggins had predicted months ago that such would certainly be the case. Perhaps Mr. Wiggins may discover the "loose screw" in his meteorological calculations, and blow his blast over again, even at the hazard of demonstrating to the world that his system is based upon mere guess work. The world has been making such immense progress in the physical sciences, that a time must ultimately come, when the changes in the weather can be foretold, with as much certainty and precision, as an eclipse, a transit, or a change in the moon can now be foretold, but neither Mr. Vonnor nor Mr. Wiggins have yet attained to that position as weather prognosticators, and very probably never will.

We cannot exactly say that these prophets become enthused on the subject of meteorology; but, after the manner of the present period, they become sensational, and like the crow listening to the flatteries of the fox, they lose their beef, by opening their mouths and caving too loud. Not satisfied that the grass was always greener, they must be shaken by "fire hundred sanke" therein, or the tale would be too tame to elicit attention.

It is a great pity (on Mr. Wiggins' account) that we did not have a devastating "blizzard" on the 9th of February, 1883, just for the sake of a new epoch in meteorological history, and a world wonder to talk about. All effects are but the manifestations of prior causes, and therefore there is nothing arbitrary, nothing capricious in nature's laws; and, if we can demonstrate that twice two make four, it is because we see the two twos as primitive factors in our calculations. When weather prognostications are based upon suppositions only, they are sure to fail.

THE FULTZ WHEAT.

We call the special attention of our wheat-growing patrons to the communication of Dr. T. C. Porter, of Lafayette College, which puts an entire new face on the origin of the "Fultz wheat," so far as relates to the article of Mr. David Detwiler, published in the N. Y. Tribune of the 16th ult., and so patronizingly smothered by the editor of that journal. We believe that Dr. Porter knows exactly what he is talking about, and if he does, his exposition is not very flattering either to Mr. Detwiler or the editor, and as to Mr. Fultz himself, possibly he may be altogether oblivious of the pretensions set up in his behalf. It would be singular indeed if the originator of such a valuable cereal could content himself in cultivat-}

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ing a stone quarry in the vicinity of "Jack's mountain," a region where, it is said, corn has to be shot into the ground with a musket.
THE JA\$ES VICK STRAWBERRY.

Sufficient has been said about the character and quality of this prolific berry on pp. 9 and 10 of our January number, for 1883, but as our journal went to press before the cut arrived, we were deprived of the opportunity of using it in that issue. As a pictorial illustration of any object conveys a better general idea of the thing illustrated than the most elaborate description, we have thought it not inappropriate to insert the cut in the present number. Whether the picture is overdone or underdone, we have not the means of knowing from personal experience, but from the antecedents of those concerned in its origin and introduction, we are quite willing to take it upon trust. A facetious friend at our elbow suggests that there is only one thing yet needed to stamp it with perfection, and that is to grow a box, a

long are certainly results that go very far towards establishing its character as a prolific bearer, and this is claimed as a usual crop of the James Vick. It is, however, possible, that many people would never realize such a crop as occasionally, having what they term a "good year", they would be apt to let it take care of itself. The improvement of the strawberry, or any other fruit is an aggressive labor, and cannot be "severely let alone." It must be seen to get a crop. It is hardly necessary to admonish the reader that the figure 4 at the beginning of the first line but one, in the article on the "Vick Strawberry," in the January number of the Farmer, should have been a dollar mark thus $, making it 82 per dozen, instead of 42.

The new subscriber to the Farmer for 1883 will receive, in addition, a copy of the "Art of Propagation, a Hand-book for Nurserymen, etc." This is deemed an excellent work and sold readily at 50 cents per copy of the feet, but by a caudal appendage which turns over on the underside of the abdomen, and by suddenly throwing this appendage backward a leap is produced and from this characteristic the family to which they belong are called Poduridae, or "springtails." Some of the species are nearly half an inch in length, but they are less numerous than the stenidea, and are not found on the snow.

The scales that cover these little animals form very popular objects for the microscopist—at least, this is the case in England. The whole family are usually found under cover, in places that are moderately moist and sheltered. They, and allied families, form the order Apheridae or Aphaniptera, based upon the absence of wings. Not much is known about their transformation and their procreative habits, but it is pretty well known that they are very destructive to early garden

THE LANCASTER FARMER.

BALANCE OF TRADE.

The discussions of this question by our esteemed correspondents, "J. P." and "S. P.," which have for some months appeared in the columns of the Farmer, have perhaps been sufficiently prolonged, and, therefore, without the least shadow of disrespect to either of the parties, we would suggest that they be brought to a close. Enough may have been advanced for the digestion of our readers, on this subject, for months to come, if they are in the habit of thinking at all, and that our correspondents are not able to see alike on it, is not at all surprising, since some of the greatest minds in our country have been exercised upon it and kindred topics, from the very foundation of the government, without coming to a unanimous conclusion.

Subscribe for the Farmer Only $1. per annum.

SNOW FLEAS.

The snow, in the neighborhood of What Glen, near Lancaster city, was covered on the 18th of January with countless millions of "snow fleas" (Podura rickardi), small, black, wingless insects, about the size of a grain of common gunpowder. Of course, being without wings, they have not the power of flight, but this is compensated by their leaping powers. Mr. Wm. Roehm, the host of the "North Pole" restaurant, brought me about one thousand of them, which I immersed in alcohol for preservation. Mr. R. informs me that they were so numerous that he verily believes he might have gathered a quart of them without going very far. They seemed to be most numerous under the cedar trees. He was surprised to witness their leaping powers, which they freely exercised, notwithstanding the ground was covered with snow. This leaping is not effected by the use
vegetation, and hence are also called "Garden fleas."

In the spring of 1880 they were particularly destructive to the young tobacco plants in the forcing beds, and who knows but that these may be an advance brigade, come to reconnoitre the tobacco fields. Insects that appear in such vast numbers in midwinter—when the ground is covered with snow—are not likely to be much incommoded by cold weather, and, therefore, it might be well for tobacco growers to be on the lookout for them.

For the benefit of whom it may concern, I here reproduce from page 53, volume 12 of the Farmer, a portion of an article on Tobacco Flea on the result to the depredations of these little insects, and the remedies that have been suggested for their extirpation:

"On one occasion Mr. G. W. M., of Marietta, Pa., sent me half a gill of this species of snow-flies which he found in his garden walk, and of which he stated he could have gathered a quart or more. Mr. M. informed me that he had used "Persian Insect Powder" against the depredations of these snow-flies in his garden successfully, and that his tenant used a mixture of sulphur and ash-leaf with satisfactory results on his tobacco beds.

In the past two seasons our own tobacco growers have been complaining about these little pests under the names of 'Black-fly,' 'Black Spider,' etc. They may prove greater enemies to the tobacco plant than either the 'Flee-beetle,' the 'Tree-cricket,' or the 'Hornworms,' inasmuch as they appear earlier in the season, can stand more cold, and puncture the seed-leaves, and, moreover, are too small to be readily detected, and from their leaping abilities are able to escape or to secrete themselves. These minute insects for many years have been alternately depredating upon different species of vegetation, but there are some people who allege that they are entirely harmless. They appear usually in gardens and tobacco-beds during the months of May and June, and by the 1st or middle of July they all disappear, and nothing is seen of them again until the following winter or spring. They remain, however, long enough to damage the young tobacco plants and other vegetation. In addition to the remedies above referred to, it is stated that flour of sulphur has been used with good effects. They are very delicate in their structure, and cannot be taken by force or by crushing them, therefore, any remedy that would destroy plant-tlle, would also destroy snow-flies. Tobacco seed-beds are usually limited in extent, therefore, for two or three days before the seed is sown, if the beds are saturated with scalding water, it might not only destroy these insects, but also small species of centipedes that infest the young plants."

STATE AGRICULTURAL AND HORTI-CULTURAL SOCIETIES.

Except the two papers read before the State Horticultural Society, published in the January number of the Farmer (of which, of course we possess advance copies) very little has come before us in relation to the proceedings of either of those Societies. Things were quite different when the latter society met at Reading last year. On that occasion the Reading Times and Dispatch published a full report, not only of its regular proceedings, but also all the addresses, essays and other papers read before it. The following slugs from the Examiner of this city, and the Germantown Telegraph, are all that we have yet seen upon the subject, and we give these for the general interest they possess. Had these gatherings been political conventions, no doubt our local papers would have had full reports of them, but being only Agricultural and Horticultural Societies, they were matters of little comparative consequence. If full reports have been published, they have not yet come under our observation.

STATE AGRICULTURAL SOCIETY.

The Pennsylvania State Agricultural Society, met January 18. It is thought the next State Fair will be held at Fairmount Park, Philadelphia, at least efforts are being made in that direction. There is a balance in the treasury of $10,000, which shows pretty good housekeeping. The following well-known "tilers of the soil" were elected officers for the ensuing year:

President—James Miles.


Additional Members Executive Committee—A. Wilhelm, Abner Rutherford, Wm. Taylor, John H. Zeigler, W. B. Culver.

Ex-Presidents Members of the Board—Frederick Watts, D. Taggart, Jacob S. Hahlman, J. B. Eby, W. S. Bissell.

Corresponding Secretary—Elbridge McConkey.

Recording Secretary—D. W. Seiler.

Treasurer—John B. Rutherford.

Chemist and Geologist—A. L. Kennedy.

Librarian—Wm. W. Egle.

THE HORTICULTURISTS.

The State Horticultural Association of Pennsylvania began its session Thursday, Jan. 18th, in the apartment of the State Board of Agriculture, Hon. George D. Stitzel, of Reading, in the chair. There was an unusual large attendance of members, and many ladies were present. The afternoon session was devoted mainly to the reading and consideration of the reports of committees. There was a fine display of apples, pears, and preserved fruits. Mr. Thomas J. Edge, the careful and efficient Secretary of the State Board of Agriculture, informs me that there was only 21 per cent. of an average crop of apples in Pennsylvania during the past season. In the display of to-day 50 per cent. of the apples were from the west. The following officers were elected for the ensuing year:

President—Hon. George D. Stitzel, Reading.

Vice Presidents—H. M. English, Marietta; Josiah Hoopes, West Chester; W. S. Bissell, Pittsburgh.

Recording Secretary—E. B. English, Chambersburg.

Corresponding Secretary—W. P. Brinton, Christiansburg.

Treasurer—George B. Thomas, West Chester.

Professor of Botany—Thomas Mechan, Germantown.

Professor of Entomology—S. S. Rathvon, Lancaster.

Professor of Horticultural Chemistry—B. Heiges, Shippenburg.

The State Horticultural Society.

At the recent annual meeting of the Pennsylvania State Horticultural Society at Harrisburg, the chairman of the general fruit committee, Mr. Edwin Satterthwait, read an interesting report on the fruit crop of this State, of which the following is a synopsis:

Notwithstanding that there was an abundance of blossoms last year, the yield of apples was unusually small. The foliage of the trees presented an unhealthy appearance, and with the exception of the Cider and Ridge Pilip varieties, the fruit generally failed to mature. Reports from different portions of the State say that pears were almost as generally failures as apples, although the crop of Mr. Satterthwait, comprising many varieties, was exceptionally prolific. Mr. S. says he loses thousands of bushels of Bartletts and other pears annually by bees, and the loss thus occasioned he believes greater than the value of all the bees in his county.

Last year's peach crop was very variable; in some instances a total failure is recorded, in others there was a bountiful yield. The "yellows" still affect many orchards and greatly the reduce the crop. The cherry and plum crops were generally reported poor. They did not suffer as much from the curculio as from the moth. Qualities of late years have done better, being less injured by worms than formerly. Small fruits produced an average yield. Currents and gooseberries were much injured by the currant worm. The use of helio bore on the first appearance of the insect, by dusting over the bushes is pronounced an effective remedy. Grape generally yielded well. In regard to the Kieffer pear Mr. S. says that he had last year over one bushel from trees only two and three years grafted. Saplings only one and a half inches in diameter, grafted over two years, produced over a bushel each of perfect fruit. He considers it the most valuable pear he has ever grown.

Certain destructive insects are reported to be on the increase, while others, the curculio for instance, is less numerous than formerly. The tent caterpillar is apparently more numerous, and another variety which makes no web but gathers in clusters on the branches of apple and quince trees, did considerable damage last year. Removal by hand seems to be the most effective means of destroying pests of this kind. The potato beetle and pear slug have almost entirely disappeared. The coiling moth is about as numerous and destructive as ever. The injury inflicted by beetles is very serious in certain localities, and the only means of reducing their depredations is the troublesome remedy of suspending botches of sweetened water to the branches of the trees.

Apple-Orchards—Where to Plant One.

There has been considerable discussion o
late as to the best site for setting out an apple orchard—and we may add a peach orchard, also. From our own knowledge of this subject, and from what we have learned from others, and what we have seen in passing through regions where the apple was a crop of much importance, we should undoubtedly select a northern exposure. Leading apple-growing communities, we are assured, agree not only with what do well in valleys or southern exposures, but not uniformly so well by any means. Any one who does not know and is desirous to be informed, should understand that uniformity of temperature and retardation in building, are almost everything in preserving the health and promoting the productiveness of almost any fruit tree. An orchard planted—say in this latitude—on a hillside with a full northern exposure, always stands the winter and is almost uniformly productive. While, on the other hand, that with a southern exposure, planted in valleys or protected by belts of trees, is liable to constant changes of temperature; but are subject to the distillation of early and late frosts, which generally prevail only in low situations, and to the consequent destruction of the crop. It may be just as well for those who may contemplate the setting out of an orchard the coming spring to bear this in mind. All of us desire to know the surest way to success in the cultivation of any crop, and this is unquestionably the surest way in apple growing, and in peach growing too.—Ger. Telegraph.

CONTRIBUTIONS.

FOR THE LANCASTER FARMER.

GRAPE CULTURE.

As the grape is one of the most useful objects of fruit cultivation, a proper knowledge of its planting and pruning is absolutely necessary in order to succeed well; although some varieties will bring forth abundantly without much care in regard to locality or training. Among those most common are the Concord and the Clinton, which may produce ordinary crops without much cultivation, but in some localities, with a well-prepared ground and proper pruning, their productive qualities are very much increased and improved. Many varieties will do well enough when planted as single vines in pot-barn and gardens, but will fail in vineyards. I have so far succeeded in vineyards only with Concord and Clinton. But I saw the Brighton and Worden’s seedling thrive to perfection in a vineyard last year, on an old piece of ground on the brow of a gravel ridge, sloping a little north, but the owner was an old and well-experienced grape-grower, and an expert in fruit cultivation. It is well known that grapes thrive better among the best of grapes. It is said that the Catawba is in Ohio, what the Concord is in Pennsylvania or in Lancaster county. It is also said of the Concord that in the Clinton County I have seen it and the Delaware come to perfection in Niagara county, N. Y., bordering on the lake. Five years later, when I visited the same place, the people informed me that they still raised the Catawba, but failed with the Delaware. I never succeeded with the Delaware, either in my garden or mine yard, but my neighbor had a healthy vine on the east side of his brick house, with perhaps a bushel of the finest grapes that ever came under my observation. I have experienced the same thing in our place and doing well only a half mile away, so there must be causes and effects in these things not yet discovered. I planted three grape vines 35 years ago at my house and one Isabella. The first vines on the Isabella failed, but the Catawba grew luxuriantly, and ripened a few berries. One was on the same side of the house and the other in my garden on the north side.

These vines stood for years uncared for. At last I cut them off close to the ground. The following year the Catawba, little, but doing well, were neglected. The one in the garden ran at last on the fence, and from there on to a pear tree, and last year it had reached the uppermost branches of the tree. VeryIY) improving all the time. It had over half a bushel of fine grapes last season, and we used them until late in the fall. The Isabella also had some fine clusters, which hung under the porch, and were very perfect. We let them remain until late in the season for ornaments. When I started out on my place, forty years ago, there was not a single fruit or ornamental tree in my whole yard. Now I am surrounded by fruit and other trees, including many evergreens, and as I am now doing better again, is, that the climate or temperature is somewhat changed by the vicinity of its surroundings acting as a shelter. It is true the clusters of grapes for the last three or four years, improving all the time. There will be more or less of a climatic change and an increase of sheltering now, and what is characteristic to “Borers,” “Curculios” and other noxious insects, as I will seek refuge and subsistence on forest trees instead of fruit trees. I failed with the Concord and Clinton varieties, but have lately started in again, and the indications are that I will succeed. If I do I shall inscribe it to the shelter belt composed by surrounding trees.—L. N. B., Oregon, Feb., 1893.

FOR THE LANCASTER FARMER.

WEIGHED IN THE BALANCE.

EDITOR FARMER: Your very belligerent Delaware correspondent, I observe, has another communication in the last number of The Farmer, and after a fashion attempts to answer my article on “The Balance of Trade Delusion” in the December number. How successful he has been, I leave the reader to judge.

As to my statement in The Farmer of April, 1879, which after nearly four years’ waiting he so fiercely attacked and designated “false statistics,” I repeat, that to the best of my belief, the figures were correctly compiled from the Quarterly Report of the Chief of the Bureau of Statistics, issued by the Treasury Department at Washington for the quarter ending March 31, 1878; and from that report it appeared that from 1860 to 1877 there was a large excess of imports over exports. I am confident that the figures I gave were substantially correct, as condensed from that official report. It seems, however, that Nimmo who succeeded Young as Chief of the Bureau, gave quite different figures, for which it would appear that the imports were greater than the exports in that period, as in all other years. We are all aware of this difference in the figures if the two chiefs, it now appears, is, that Young gave the valuation of the exports, as it appeared on the custom-house books, in United States currency (greenbacks) then greatly depreciated, while Nimmo gave the gold valuation. If your Delaware contro-
He had said before that imports, being for consumption, are to be considered as consumption. But it being "axiomatic" that all consumption is loss, of course the imports are all loss, and being so, why make a distinction between imported necessaries and imported luxuries? The latter can be no more lost. And indeed the person who believes that it is what we part with to foreigners that shows us, and what we receive from them in return that impoverishes us, may consistently enough argue that the country would be no greater loser if the merchandise intended to be imported was wrecked at sea, instead of being safely landed to be consumed and therefore lost on shore.

In regard to imported luxuries he says it is not the mental or spiritual enjoyment or improvement we get from them; it is only the money value of our possessions with which we have anything to do in this discussion. Well, the money value of as much coffee, wine, or any other luxury as sells for a dollar is exactly the same as the money value of a dollar's worth of gold or corn, and I don't see that this helps his argument, but directly contradicts it that imported luxuries are "of no account" "in increasing the material wealth of the country." Such articles of luxury as those I mentioned before—tea and coffee, with entertaining or religious books, paintings, silk dresses, pleasure carriages, and a hundred other things that we could live without, not only conduct to the comfort and enjoyment of those who want and can get them, but they are material wealth, and of just the value of the money for which they are exchangeable—and none the less so because it would be imprudent, foolish and wrong for a person to indulge in them until after he or she was provided with theabsolutely necessaries. The money value of an object is determined by the amount of money that those who want it will pay for it, and not by the opinion of what it ought to be valued at by those who do not want it.

And an article is none the less to be valued at the money it costs because it is of a perishable nature, while the coin endures. That circumstance is taken into account and allowed for when the price is fixed. So a man is not cheated because he parts with a dollar for a loaf or mug of coffee or other luxury that he can afford, although those articles will be eaten and consumed in a few moments while the coin will remain unchanged for a lifetime. But the owner cannot use it, and still have it, any more than the possessor of the loaf can.

To the extent and with the limitations mentioned in my former communication, luxuries are undoubtedly conducive to the comfort and happiness of the community. In practice, if not in theory, everybody agrees to this, except here and there a miser or a religious enthusiast; and I can't think the miser, who lives on nothing but the current food and clothes himself in rags in order to hoard money and die rich is the model economist or most valuable citizen—though it is very true that economy and frugality to a reasonable extent are virtues that ought to be encouraged and practiced; and that indulgence in luxuries beyond our means of paying for them is little short of a crime.

8. P. slurs over Daniel Webster's unanswerable argument against the Balance of Trade, but intimates that his own opinion is not different from Webster's. Well, if that is so, he may be congratulated on having got his eyes open and become a little more sensitive to the sound doctrine he so generously attacked when he wrote the address of the at the of the Amer. Soc. for the Promotion of Science and Art, for the December number of The Farmer and point out any conflict or difference between his views and those I have all the time upheld.

I was going to say something about the misconception by 8. P. of my language and meaning in two or three particulars, and then making the perversion an excuse for calling my arguments "ridiculous," "a medley of absurdities," and the like, but it does not matter, and I will conclude by commending to his attention the lucidly maxims of the philosopher of the Limekiln Club, "The man who drags argument for ephipt has no case."


**HYBRIDISING FRUITS.**

Mr. Editor: If I were a young man, which you know I am not, I would take great pleasure in crossing fruits of various kinds, thus originating many new and valuable varieties. As I could not hope to see the results, I wish to urge our young Horticulturists to try what they can do in this branch of experimenting.

We now have some seven or eight hybrid seedlings, of the Chinese pears—the "Shà lêa," or sand pear, and the "suet lêa," or snow pear. They were produced from planting the seeds of these Chinese varieties—evidently crossed by bees, or insects during flowering. The original Chinese varieties, as well as all the hybrids, are remarkably healthy, thrifty, and early and prolific bearers of uniformly large fruit. Now by again crossing these hybrids when in flower with pollen from some of our best pears, they can be still further improved. Thus by operating in this way for several generations there is no doubt in my mind, but years can ultimately be secured equal in quality, if not superior to any we now have; then, too, if their vigor, freedom from disease, and profuse and early bearing can be retained, which is very likely, a race of pears can be secured, far superior to any we now have. Here is a wide field to experiment in for our young horticulturists, and a field of great promise in the originisation of new and valuable fruits.

Many years ago Van Mons, of Belgium, was the originator of many superior pears. His plan was simply to commenced with the seeds of an ordinary pear, plant the seeds, and as soon as they were large enough to furnish a graft, he would cut it and graft it on a bearing tree, thus having it to fruit several years earlier than the seedling on its own roots would fruit. So soon as these grafts bore fruit, he would again plant the seeds, and in this way continued his experiments until he produced fruit from the seventh generation, each generation improving in quality; so by such a simple process he produced many new varieties of pears. Unfortunately for him, the city encroached on his experimental grounds,—cut streets through it, and he had to save what he could of his trees in mid-winter. Thus many valuable varieties were lost. At that time, it is supposed, this fruit was part of the public domain. Now it is known. But it is more than probable, that bees and insects performed the operation unknown to him—on all his fruits.

If I am not mistaken, Mr. Rogers, of Salem, Mass., was the first person who successfully hybridized the grape. The grape is probably the most difficult of all fruits to cross, on account of its very small flowers. Yet Mr. Rogers succeeded in applying the pollen of foreign grapes to the pistil or stigma of a native fox grape, and planting the seed thus impregnated, produced over fifty plants, all of which produced fruit different from either male or female parent, and all of superior quality. Even after all by his many seedlings produced fruit of such good quality many of the best botanists in the country insisted his seedlings were not hybridized, but simply seedlings of a wild fox grape. Even the great botanist of the South, Mr. White, said the grape could not be crossed, though his neighbor, the late Dr. Wylie, was operating in the same way at the very time, and also produced many new varieties by crossing foreign on natives. I am not acquainted with the history or origin of our best apples, but judge they have all originated from seeds that had been crossed by birds and insects. For we have several pears that originated in Manor township, than which there are very few that are superior—such as the "Hosen Shenk," and the Neff pear; the latter was found growing among briers in a fence corner. Mr. Henry Neff dug up the little tree and planted it outside his garden fence; it never blighted, is now a tree of sixty or more feet in height, and bears large crops of fruit every year. The fruit is of medium size, pyriform, of a golden yellow color, and in quality better than one-half of the imported varieties.

The new celebrated strawberry, "James Vick," is an improvement originating at the grounds of Samuel Miller, of Missouri. Evidently this is also a hybrid, the flower of some variety having been crossed by bees, and the seed dropped, and thus are most, if not all our seedling fruits crossed.

The Japan persimmon is a most delicious fruit, but unfortunately is not sufficiently hardy to stand our severe winters; yet by growing the trees in pots, or tubs, and placing them in a cellar in winter, they grow and bear fruit freely. By using the pollen of these exotic trees, and applying it to the stigma of our native varieties, a race of new fruits can no doubt be secured of great value. It will be understood, that by crossing the flowers of any fruit, it will be necessary to cut out the male parts of the flowers to be operated on, before the pollen is ripe, and to apply the pollen of the other to the stigma at the proper time, and then to carefully enclose the impregnated flower in some material so as to prevent bees and insects from spoiling our work.

The Rural New Yorker is now distributing among the subscribers of that paper seeds of the Niagara grape, in the hope of the receivers planting the seeds to produce valuable new varieties.
The LANCASTER FARMER.

February.

The company that have the grape have many tons of the fruit last season. The Niagara grape may be a good one, though there may be better. Yet, as I suppose, their vineyard is exclusively of this variety, and as a consequence all of other varieties can have been introduced, so that the probability is, there is not likely to be much improvement in the seedling. Had there been many varieties growing in the same vineyard there would be much greater promise of improvement.

A very plain case of cross-fertilization I noticed last season. A family in Columbia, who are very fond of growing flowers, especially the Aster, a beautiful annual. They plant them in beds close together, of all colors. Last summer a number of the seedling plants not only produced beautiful double flowers as usual, but among them and none a number of striped flowers of all colors. As I had never before known of these plants having striped flowers, it appeared to me a great novelty. The seeds had been crossed by bees, which is Nature's method of producing new varieties.—J. B. G., Feb. 6th, 1883.

For THE LANCASTER FARMER.

LIME vs. MODERN FERTILIZERS.

My attention was called lately to an article in the August (1882) number of The Lancaster Farmer under the heading of "Lime." I take no exception to the writer's statement that lime, like other manures, is useful, and that it is a fact, as I have been told, that lime has been used with great effect in the vineyard at Niagra Falls. The vineyard is located within 15 miles of the great limestone quarries in London Grove township, that there was 30 years ago; and that within that time the productiveness of the land has increased from 20 to 50 per cent.

The growing crop requires a certain portion of lime; but according to our highest authorities only a small portion, say from 1 to 3 bushels yearly. If we apply as formerly 40 to 80 bushels per acre every time we break a new field, the great need is supplied. Experiments have been made which show that the lime is not wasted. The lime is just as necessary as the fertilizer. The lime is needed in the soil, and the lime is the material which is necessary to the perfect egg and to the mechanical action, making the soil food digestible, but only a limited quantity of such rations is profitable; more than enough is waste.

We think our land now needs bone—by the use of which we are returning to the soil an element as fully essential to plant growth as lime. With the use of bone and acidulated South Carolina planting, I think half the present day in farming commenced, which on many farms is doubling the crops.

The time appears to have gone by when feeding cattle can be counted upon as a paying business; nor is it reasonable that we can compete with the West, where grain can be raised and fed so much more cheaply than here. But in selling hay and straw we have the advantage, for on such cheap and bulky articles the freight is an important item of expense. The raising and selling of these looms up as an interest with which the West cannot successfully deal. The proven theory, that a farm can only be kept in a high state of fertility by feeding the hay and grain upon it, is now being rudely tested by our necessities, and a new departure is inevitable.

Many of our most successful farmers in this county have given up cattle feeding and adopted the practice of selling most of their hay and straw and using bone and other special fertilizers in place of barnyard manure.

My object in this writing is not to advance any new theory, but to encourage farmers to think and experiment for themselves, and to protest against our farmers following blindly established methods. The soil is not half resting satisfied therewith in regard to their manures, any more than they would be with the threshers and weavers of that time.

I believe agriculture should keep pace with the arts and sciences, which have made such tremendous strides since the time Mr. Garber "role in the stage coach from Baltimore to York, sixty years ago."—Howard Preston, Lower Oxford, Chester county.

DEEP OR SHALLOW PLANTING.

Nature's plan in planting her seeds is elaborated in the opinion that then it lies just right. Nuts, from their respective weights, may sink half their size into the ground, before they germinate, but very often they are entirely on the surface when they begin to sprout, and often their roots come forth and penetrate the ground, and form the germinating nucleus of the majestic oak. Other seeds so very light that an ordinary wind will carry them many miles, will eventually drop on the ground and grow. Whole crops are injured by planting the seeds too deep in the ground, and this is especially the case with wheat. Some years ago, I, in connection with a neighboring farmer, worked on a field together. I had sowed half a field in very good loose ground, perhaps three or four inches deep, with the drill. Heavy rains prevailed for a few days—I was at the time "pushed" for a drill, and would have sowed had I possessed a drill of my own. So I commenced to sow on the rather wet ground. The seeds sown seemed too much on the top of the wet soil. The result, however, was, that the wheat came up almost twice as thick, was better from the start, and continued better until harvest time. Last fall I saw two fields of wheat sowed too deep in the ground, They looked discouraging all last fall, and the outlook was not half as promising as from fields sown a few days earlier or later, an inch or two under the surface. Corn should not be planted too deep; in fact I believe altogether in shallow planting, so much so that kinds of seeds you may—plant—I believe we should approximate nature's plan.

I am also opposed to planting fruit and forest trees—as well as ornamental trees—too deep. You can plant small trees very shallow, and all kinds of trees will do better if they are transplanted before they are too large. Of course, the larger the tree the deeper the hole. I have planted trees. I will plant trees with any one in the neighborhood except nurserymen. The question may arise, which is the right or best way to plant trees? when at the same time there seems to be only one way. A writer in the last number of The Farmer recommends holes of 8 to 10 feet in diameter for trees 12 feet high, instead of 4 to 5 feet in diameter for those of the same height. That may be an exception, but when we go to nursery, we don't want fruit trees 12 feet in height; but, we may want a few Maple trees of that height, and they will require holes two and a half feet in diameter, and fifteen inches in depth. The advice may come from a "Book farmer," and he is welcome to his opinion. Well, how do I make holes for apple trees? Why, I make them 30 inches in diameter and 15 inches deep. I place a good stake in the hole, then fill it half full, after which I place the tree in it and fill over all the roots. Shake a little when filled up, and tramp the ground all around the tree; fasten it to the stake with a straw wisp. I planted five orchards and sausboiled two of them. The trees grew very luxurious; have planted a great many trees in my time, and have been reasonably successful. I seldom lose more than one or two in one hundred.—Warwick, Oregon, Feb., 1883.

FOLTZ WHEAT.

EASTON, Pa., Jan. 19, 1883.

MY DEAR SIR: Enclosed you will find a clipping from the agricultural columns of the New York Tribune of the 17th inst. It will furnish you a good example, if you have not seen the like of it before, of the manner in which history is sometimes made. The sapient editor has evidently been fooled by the "Foltz wheat." That poor, worthy, Christian farmer living at the base of that mountain on that wretched stone farm has had his wits sharpened and fabricated a good yarn. It would be cruel to vote him a monument as a public benefactor. Let some society or combination of societies, by all means, send this two-blade-of-grass man the $10,000. He should then move west and extend the acreage of his wheat to some extent; and, having given a suitable reward to the obbliging fraud who had trumpeted him into fame, How can the generous tillers of the soil, who have been so vastly benefited by this humble coworker, resist the appeal?

To speak soberly, such attempts to rob Dr. Foltz of the credit justly due to him for the introduction of the valuable variety of wheat which bears his name, ought to be exposed by every respectable agricultural journal in the land.

Yours respectfully,

THOS. C. PORTER.

The LANCASTER FARMER.
The Facts About the Fultz.

The following carefully verified history of the celebrated Fultz wheat—concerning the origin of which many conflicting accounts are current—is furnished by Mr. David Detweiler, and may be relied upon as exact:

"Twenty years ago, Abraham Fultz or Fultz (pronounced Fust) built for himself a little house near Allentown, Millyan county, Pa., while harvesting for his neighbor, C. Yoder, in Huntingdon county, in a field of Lancaster red wheat, which was much broken down and tangled, noticed three stalks of a different wheat standing straight and bearing beautiful heads. He plucked and stuck them on his horse and took them to C. Yoder, and insisted on him taking care of them and planting them; but Mr. Yoder said that Mr. Fuls should take them along home and see what he could make out of a little, Mr. F. did so, and in '43 he had a little over half a pint. He planted this and had a little over a peck in '44; sowed again and had several bushels in '45, and in '60 he began to plant and distribute it to other farmers for seed, and from that time on it spread fast over our entire wheat-growing belt. It is estimated by men of good judgment that in ten years the land was fertilized by seeds increased to millions of bushels in the United States. Abraham Fultz lives two miles south of Allentown, at the foot of Jack's Mountains; owns 160 acres of farm land. Ten thousand dollars would be a small reward for what he has done for agriculture; 2,000 to 5,000 acres of Government land in the far West would be only a partial compensation of his thoughtful service."

Mr. Detweiler, who is a near neighbor to Mr. Fuls, says the idea of deserved recognition is general in that community. If agricultural societies, or private individuals, who have shared in the benefit, would contribute liberally to the proposed testimonial, such action would doubtless encourage to further observation and patient effort in the same important direction.

**Selections.**

**TOBACCO GROWING.**

How It Has Enriched Our County.

It is about 270 years since tobacco was first grown for commercial purposes. From the few thousand pounds raised in the youthful colony of Virginia in 1615, the culture of this article has extended into almost every country. To-day the production of the world reaches 1,500,000,000 pounds, and 700,000,000 of people, one-half the entire number of the inhabitants of the earth, use it in some form.

There is, perhaps, no other instance on record where an article not absolutely necessary to the needs of the human family has gained such a wide introduction among men in so brief a period. It also seems to indicate that the narcotic is essential to the comfort and enjoyment of mankind. The purpose of this letter, however, is not to moralize over this question, but to give some details concerning the growth of this industry in a single Pennsylvania county, where, during the brief period of fifty years, it has reached a most remarkable development, has become a leading crop, giving employment in season to thousands of persons and enriching a whole community.

**The Beginning.**

Nearly 200 years ago tobacco culture was extensively carried on in the newly founded country of Pennsylvania. In 1667, only 194 vessels sailed from Philadelphia loaded with tobacco. Of course they were small craft compared with the ships of to-day, but the fact nevertheless indicates to what extent the culture of this product was carried on at that early day. It seems to have died out, however, as little is heard of it until the first quarter of the present century, when it was again taken up in a few places, but nowhere so extensively as in Lancaster county. About the years 1825-30 the farmers once more began growing it in a small way. There was not much of a market for the product, and the custom was for the grower to have it made up into cigarette form by himself or others, and the surplus, if any, was sold to the local cigar dealers.

Those were halcyon times for smokers and manufacturers. There was no special license required to deal in the article and no internal revenue tax. The cigars made were principally of two kinds, common and half-Spanish, the former were sold at four for a cent, while the latter and more aristocratic article was smoked by the better-to-do class in the community and retailed at two for a cent. The wholesale price of the former was from 15 to 20 cents per hundred; that of the latter about twice as much. The tobacco grown in the State increased slowly but regularly. The first authentic estimate of the crop was made in 1850, when 3,500 cases or 1,400,000 pounds were produced. The best grade was sold at that time for twelve and fourteen cents, and the inferior ones proportionately lower.

**The Crop in Lancaster County.**

Upon the revival of the industry in 1825, Lancaster county took the lead, a pre-eminence it has maintained to the present hour. The soil seems especially adapted to the growth of this crop. Most of it is limestone, but even where slate and sandstone prevail good tobacco crops are grown. It may be well to remark right here, that all the tobacco raised in the Northern States, from Connecticut to Wisconsin, is known in the market as "seedleaf," and is used almost exclusively in the manufacture of cigars, part for wrappers and the rest for fillers. Tobacco possessing certain inestimable qualities is required for this purpose. The wrapper leaf must be soft, pliant, silky and elastic, not light nor flimsy, but thin and tough, with veins so small as not to show above the level of the leaf, and only a moderate amount of nicotine; and above all it must be handsome in appearance and of pleasant flavor. All the requisites are not met in Lancaster county tobacco, to which may be added the rich, dark brown color so much affected by smokers at the present day, and the adhesive white ash which results when the cigar is smoked. These several qualities have made this tobacco a favorite with manufacturers and have stimulated the production to its present extraordinary extent. There is seedleaf tobacco grown elsewhere in the United States that possesses some or most of the above-mentioned qualities, but none other, perhaps, that possesses them all. Lancaster city is the largest seedleaf market in the country, except New York.

**Cultivation of the Crops.**

Space will not allow of any extended remarks on the cultivation of the crop. As soon as the frost is out of the ground in the spring, the tobacco seed is sown in beds specially prepared for that purpose, in favorable localities. Open-air beds are preferred, as the plants are harder, although cans-covered ones are meeting with favor because they exclude the minute flea-beetles (Haltica) which frequently attack the young plants. When the plants have developed three or four leaves, the largest equal in size to a silver dollar, they are transplanted into the fields prepared to receive them. Here they are set in rows from three and one-half to four feet apart, the plants themselves being placed from twenty to thirty inches from each other in the rows. The richness of the soil and the variety of tobacco govern this matter. No sooner are the plants set out than insect enemies assail them. The cut-worms come first. They cut down the tender plants and the planter must visit his fields every few days to replace. In exceptional years the replanting amounts to more than the original labor.

After a few days the cultivation of the crop must be commenced, and this must be continued at intervals of a few days until the plants have attained such a size that the passage of a horse and shovel plow between the rows is no longer possible without injuring the leaves. Meanwhile another enemy has come along in the shape of the "hawk-moth" (Spizinae quinquenemalata), a nocturnal enemy that lays its numerous eggs upon the leaves, where they are hatched into the formidable "tobacco worms;" these latter, unless at once removed, soon eat large holes in the leaves and render them unfit for cigar wrappers. At a certain stage of its growth the plant must be topped. The upper portion is removed, only as many leaves being left as the plant will be able to mature. The filling of the tobacco has been done suckers or shoots are at once thrown out, which must also be broken off, as they draw to themselves the strength and vigor necessary to the full development of the leaf. When the plants are matured, they are either cut or sawed off, hung upon temporary scaffolds in the fields to wilt for several days, and then carried on specially constructed tobacco wagons to the sheds or barns, where they are finally hung up to cure. After being left there for several months the crop is taken down, stripped from the stalks and prepared for the inspection of buyers.

**Varieties and Profits.**

The two principal varieties of tobacco grown in Lancaster county are the "Pennsylvania seedleaf" and the "Glesner," both attaining a remarkable development of leaf, and producing in favorable seasons very heavy yields to the acre. Leaves from forty-five to fifty inches long, and twenty-two to twenty-eight inches wide, are not unusual in the growing season, and cured ones 20 by 40 inches are not uncommon. Not only the size of the crop but its value also is largely dependent on the
season. When the latter is favorable from 1,500 to 2,500 pounds of tobacco are grown on an acre; 2,000 pounds is by no means an unusual crop. The price varies from season to season, as do all other farm products, being governed however mainly by the quality.

Immensely Profits Realized.

Tobacco is generally assorted into three grades, known as "wrappers," "seconds," and "fillers;" in average years the first-named sells at from 15 to 30 cents, the seconds at from 6 to 12 cents, and the fillers at from 3 to 5 cents. In 1879, a tobacco grower set out 15,800 plants on three acres of ground; he got 7,681 pounds of cured tobacco, slightly more than half a pound per plant, and at the rate of 2,500 pounds to the acre. The crop was sold at 25 cents "through," realizing $1,929.25, or $60.68 per acre. The same man sold in March, 1881, his crop of the previous year, 3,663 pounds, grown on 17,000 plants, which was at the rate of 3,800 pounds to the acre, perhaps the largest authenticated yield ever recorded in the United States. Senator Cameron is an extensive tobacco grower. In 1880 he grew on twenty acres eighty-five cases or 34,000 pounds, an average of 1,700 pounds to the acre, which was sold at 14½ cents, realizing him about $5,000. It was a good average yield for such an acreage, but the price at which it was sold was only moderately good. A farmer residing two miles beyond the city limits sold to a California cigar manufacturing firm the product of nine acres, 18,000 plants, realizing therefor the very handsome sum of $5,553, or at the rate of $317 per acre. Two years ago a wide-awake tobacco grower bought seven acres of land lying on a bluff of the Conestoga creek for $125 per acre. It was steep, stony and rough, and seemed to defy cultivation; but the plucky purchaser removed the largest stones, cleared off the underbrush, and in some way managed to turn the soil and put in a crop of tobacco. He found a place sufficiently level, on which he built a tobacco barn. The season was propitious; he raised a heavy crop, sold it at 24 cents per pound, realizing enough to pay for the land and tobacco barn, and had $700 in his pocket besides as the reward of his thrift and pluck.

Cost of Growing Tobacco.

Lying before me are several estimates by prominent tobacco growers of the cost of growing an acre of this crop. They run from $100 to $160, the principal difference being in the amount of manure used. One, which is about an average, is as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of land (interest on value)</td>
<td>$15</td>
</tr>
<tr>
<td>Making seed bed</td>
<td></td>
</tr>
<tr>
<td>Ploughing one acre twice</td>
<td>$4</td>
</tr>
<tr>
<td>Making earth excursions</td>
<td></td>
</tr>
<tr>
<td>Plancing</td>
<td></td>
</tr>
<tr>
<td>Harvesting</td>
<td></td>
</tr>
<tr>
<td>Toping and cutting out</td>
<td></td>
</tr>
<tr>
<td>Harvesting</td>
<td>$10</td>
</tr>
<tr>
<td>Use of barn, wagon, laths, etc</td>
<td>$12</td>
</tr>
<tr>
<td>Taking down and stripping</td>
<td>$2</td>
</tr>
<tr>
<td>Taking to market</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$100</td>
</tr>
</tbody>
</table>

It is not an easy matter to get at the average money value per acre of the Lancaster county tobacco crop. Perhaps $250 would be near the mark, although there are hundreds of instances every year where $300, $400, and $500 are realized. The net profit per acre seldom falls below $100 in an average year with a careful planter, while very frequently it is two or three times that sum. True, it is in one sense a very precarious crop, liable to destruction by late frosts in spring and early ones in autumn, and to insect destroyers and hail, rain and wind storms between, but on the whole, during the past twenty years the tobacco crop has not been often a failure than the usual ones grown on the farm. The labor in seamen is about constant, but much of it can be done by the juvenile members of the farmer's family, and therefore inexpensively. There is seldom a money outlay; manure is sometimes purchased, but most of the labor is supplied on the farm, while the returns are generally prompt and large. During the last four years the value of the Lancaster county tobacco crop has run from $1,500,000 to $3,500,000. All this money has come into the county from abroad and has remained here. Hundreds of laboring men who have farmed tobacco on shares, is very generally done, have earned comfortable homes as well as a living.

Does It Exhaust the Soil?

The question is frequently asked, if tobacco does not impoverish the soil, and none can be more easily answered. In Virginia thousands of acres have become barren, but careless farming did it. The farms of Lancaster county produce better crops to-day than they did twenty years ago. The land is richer and more productive. Not an acre lies waste. From three to five per cent. of his land is thought as much as a farmer should put in tobacco. It is very heavily manured, and the crop of wheat, which nearly always follows tobacco, is better on tobacco ground than elsewhere on the farm. The manner makes the two crops. Should they observe deterioration in their lands, this crop would at once be given up. But under the present system deterioration seems impossible. Thirty years of tobacco farming has steadily improved their farms.

Tobacco Barns and Their Cost.

In the early days of tobacco growing, before the demand was understood or the farmers prepared to handle their crops properly, the house-garret, the wagon-shed, and even the henry, were laid under contribution for room in which to hang up and cure the tobacco. But experience soon taught the farmers that the handling of the crop was all-important, and that this could only be properly done in buildings specially constructed. Tobacco barns are found on every farm; large, capacious structures, with cellar underneath, and stripping room, where the work of preparing can be done in all weathers. These structures are of all sizes, from those twenty-five feet square to the more imposing ones 40 feet wide and 150 feet long, costing from $400 to $4000. It is estimated that in a single year the cost of tobacco barns built has been as much as $200,000.

Lancaster County's Product.

As nearly as can be ascertained, the tobacco product of this county from 1850 to 1872 was about 225,000 cases, or 90,000,000 pounds. For the last ten years it has been as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1873</td>
<td>25,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td>1874</td>
<td>30,000</td>
<td>12,000,000</td>
</tr>
<tr>
<td>1875</td>
<td>34,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>1876</td>
<td>37,000</td>
<td>14,000,000</td>
</tr>
<tr>
<td>1877</td>
<td>39,000</td>
<td>16,000,000</td>
</tr>
<tr>
<td>1878</td>
<td>38,000</td>
<td>15,200,000</td>
</tr>
<tr>
<td>1879</td>
<td>45,000</td>
<td>18,000,000</td>
</tr>
<tr>
<td>1880</td>
<td>47,000</td>
<td>17,000,000</td>
</tr>
<tr>
<td>1881</td>
<td>35,000</td>
<td>14,000,000</td>
</tr>
<tr>
<td>1882</td>
<td>36,000</td>
<td>12,000,000</td>
</tr>
</tbody>
</table>

Total for the ten years...555,000 142,000,000

Estimating the average value of the crop in the growers' hands at only 10½ cents during the past twenty-two years, they received more than $22,000,000 for this single agricultural product. The crop of 1879 was not only one of the largest but also one of the best ever grown. The average per acre was about 1,500 pounds. Lancaster county grew more than one-half the entire product of the State. If the entire county was planted in tobacco, the product in an average year would be double that which was grown in the whole United States. The 18,000,000 pounds of tobacco of 1879 has never been equaled by any county in the Union. Christian county, Kentucky, approaches most nearly, with 12,571,574 pounds grown on 18,475 acres, while our 18,000,000 pounds were grown on 13,500 acres.

Tobacco Warehouses.

At least 100 firms are engaged in buying and packing tobacco in this county. Not only do they buy and pack the crop of Lancaster county, but three-fourths of all grown in the State is brought here, as well as some from Connecticut, New York, and Wisconsin. To handle such an amount of goods requires great facilities, and these are found here. There are in Lancaster city alone about 75 packing warehouses, some of them immense structures, from two to four stories high and from 50 to 200 feet long, with a capacity of storing from 250 to 5,000 cases of tobacco each. There are many more packing warehouses throughout the county.

Business "high-pressure" Days.

Most packers have certain days of the week for receiving tobacco, known as "receiving" days. On such days Lancaster presents a sight to be seen nowhere else in the world. Wagons of every kind, from the slight one-horse affair to the ponderous Conestoga wagon with its six heavy draught horses, begin to come into town as early as ten o'clock on the previous evening, all anxious to get favorable places that they may unload early on the following day. The streets in the neighborhood of the warehouses, especially where the packers have their warehouses, are absolutely crowded as they are on "Tobacco Avenue," are completely blocked as many as eighty-nine teams of every size have been counted in a single block. 600 wagon loads were delivered on January 10, 1880, and as many more on the 17th of the same month; these delivered 1,500,000 pounds; some were compelled to remain until the following day before they could discharge their cargo. A single firm has received as many as 148,000 pounds in one day; a number of others 100,000 pounds. Tobacco is paid for on delivery. Frequent investigations of the handling of tobacco carried out on the receiving days from 150,000 to 200,000,000 to farmers on the checks of the tobacco buyers. On one of the dates given above the amount reached $250,000—F. H. D., in "Y. Tribune."
THE LANCASTER FARMER.

25

LANCASTER COUNTY VACCINE FARM.

The Practitioner, a new monthly medical journal, published at Lancaster, by H. B. Stehman, M. D., gives the following accurate and interesting account, in the initial number for January, of an industry in this place which is now under fair and prosperous headway, although years of study and arduous labor on the subject have preceded the birth of the project.

What the editor of The Practitioner has said, we, from what we have seen and know, fully endorse as being correct in every particular, and that Dr. H. M. Alexander has the best constructed and most convenient establishment, besides having the best of stock from which to secure vaccine matter, are facts that the profession will deny if they see his establishment and then see those of others in the same business. That the Doctor personally attends to the inoculation of the stock, and looks over every package of virus that leaves his establishment, we also know to be facts.

Thus far the article referred to:

This farm, situated at Marietta, this county, is located in one of the finest sections of the State and besides has the extra advantage of fine railroad and postal facilities. It is not generally known how these farms are conducted or by what method vaccine virus is produced, and therefore, in describing Dr. Alexander’s method, we will give the reader an idea of the system followed, and the reader will become acquainted with not only the finest, but also the most carefully kept farm in the country. For obtaining good virus only heifers from 6 months to 2 years are selected, and this selection is limited to the Aberden and Devonshire breeds.

The cattle are all grain fed during a preparatory period as well as during the time they are developing the virus, and consequently they are nearer, more healthy and cleaner than they would otherwise be. The grain-fed feature is peculiar to the Alexander farm. Every heifer is first selected it is taken to the farm, and is kept at the trough each and every day; after this important preparation, it is taken to the doctor’s stables, which he had erected on his premises in order that the cattle might be under his immediate observation. The stables are a marvel of neatness and cleanliness, as there is hardly a perceptible odor about the entire place. They are erected so that the cattle may have the benefit of an eastern and southwestern exposure, and consists quintly of sunshine.

The stables are also heated, which is also a great improvement over these farms generally. The outside of the stabling, the stable is exceptionally clean, comfortably warm, and well-lighted. On the north side of the room is a cistern, which supplies all the water necessary, and running from this cistern across the room at the foot of the operating tables is a trough with the floor dipping toward it from either side, and consequently all the debris from operating or droppings from the cattle, fall into this trough and are consequently easily washed away. The operating tables are as ingenious as they are practical, and are the exclusive invention of Dr. Alexander. They are thus constructed: A heavy framework is fastened securely to the floor, in which rests a V-shaped table, cushioned in such a manner that when the animal lies on it the spinal column rests perfectly free and its weight rests on that portion on the ribs near the vertebrae; at the end of the table there is a hanger which is covered with a soft cushion, upon which the heifer’s head rests very comfortably during the operation. By an arrangement of rope and pulleys, this table is manipulated by means of a crank, so that it can be carried across and let gently drop on the animal’s back, while it is standing at the side of the table. This manipulation causes no resistance, because it inflicts no pain; then after fastening several straps, one man can raise her delicately off her feet and lay her squarely on her back, which is the most favorable position for operating—the head of course lying on the side.

When she is on the table, the feet are secured by means of cushioned straps, and thus the operation goes on without any interruption. After the operator had finished, the crank is turned again and the heifer hands on her feet. This table works so admirably that when our townsmen, Chas. A. Heinlish, saw it, he said, “I always considered this brutal treatment, but on such an apparatus, it is really a kindness.”

We will now suppose the calf is ready for operation—both sides of the upper and inner parts of the hind legs are thoroughlyathered and cleanly shaved and afterwards carefully washed with sponges and water.

Then this surface is thoroughly slapped with the hand in order to bring the blood to the surface, preparatory to inoculation, which done by previously scaring the parts that is to receive the virus. From 7 to 10 days after the inoculation the vesicles will begin to maturne, and the animal is again brought on the table, and the parts previously shaved are again scrupulously washed and sponged in order that no particles of dust or dirt may come in contact with the virus. The ivory points and quills are then coated with the excising virus, fastened upon racks and placed in a box to dry—afterwards they are coated a second time from another heifer, thus not only hermetically sealing the first coating, but also giving the benefit of the virus from two heifers. This lymph is also put into glass tubes, but for obvious reasons the dry form is preferable.

Crusts are also found scattered over the denuded parts, and they have been quite popular of late; but it is urged against them, that in drying a large surface is exposed rendering them more or less inert, and if the surrounding epithelium, which is valueless, be broken off, the crust does not present a salable appearance.

Dr. Alexander, appreciating the force of this objection, has substituted his patent tablet, though he furnishes crusts if desired. These tablets are simply the crusts deprived of the dried epithelium, and while yet damp well crushed and the mass then moistened with pure lymph, after which they are pressed into tablet form.

This is by far the most desirable form of the virus; this is less liable to become dry, as was proven by experiment.

One of these tablets was exposed to the air for several months, and afterwards the central position was used in vaccination, and the result was a successful taking.

We cannot omit referring to the doctor’s most original and ingenious method of drying and preserving the virus in its different forms. By a peculiar construction and arrangement of air chambers and absorbents he is able to maintain an even temperature, both summer and winter, of 40 to 50 degrees Fahrenheit.

Here the quills, points, etc., are kept, and it is surprising how well the object desired is obtained.

The packing rooms are in harmony with the entire surroundings—bright, airy and comfortable.

The packings are simply and surpass everything in this line we have ever seen.

Everything is put up in glass; the points are inclosed in small test-tubes, well corked and consequently not liable to any metallic virus from external contamination.

The quills are equally protected. The tablets or crusts are first wrapped in tissue and paraffine paper, then tin-foil and afterwards imbedded in cotton and enclosed in an appropriate bottle. Indeed these packings must be seen to be appreciated; they are on exhibition at the drug store of Chas. A. Heinlish, and in our opinion are all that can be desired.

When Dr. Alexander started his farm, in order to be sure that he sent out none but reliable virus, he entered into an arrangement with a hospital in Philadelphia to test the same on every heifer—if it was first-class he sent it out, if not, it was thrown away; he still continues this practice, sending fresh virus to the city every day, and as might be imagined it has been of great service to him.

The profession appreciate a good thing when they see it, as is evident from the demand for these goods.

By actual calculation we find that during the first two weeks of this month the doctor filled orders for 12,220 points, not to speak of tablets and quills which are also greatly sought after. We know Dr. Alexander to be thoroughly conscientious and strictly reliable and consequently we heartily wish him success in his enterprise.

THE SNOW FLEA APPEARS.

A Plague of Siberian Wastes Brought Here

When the lamented Poet-Traveler Bayard Taylor wrote of snow-flakes as “the wild white bees of winter” it is doubtful that he imagined the pretty fancy contained a large amount of truth. Such, however, is the case, and from recent important discoveries made in this city by students and professors of one of the academies it has been shown that the beautiful snow of poetry bids fair to become a provoking reality. About three months ago there arrived in this city a box which on being opened, apparently contained about a pound of snow. A note which accompanied it stated that the contents had been collected from the deck of the British steamship Glencoe, during a snow squall off the Banks of Newfoundland, while on a voyage from Hull to Montreal, and that the Captain, Edward Manning, had been advised to forward the specimens to the Academy to be investigated. The matter was kept quiet, and only within the last day or so has the
result become public, and as it is undoubtedly a matter of considerable importance we print it at length. The examination of the snow-looking stuff under the microscope at once disclosed the fact that it was composed of thousands of very minute insects, covered with silvery scales, and nearly all in a vigorous state of health. A searching investigation was at once set on foot, and strict secrecy enjoined on all concerned, and it was soon proved beyond a doubt that the insects were no less than the dreaded snow fleas of Eastern Siberia, whose habitation has been before been found in a region of the world more than a few hundred miles from that country. A well-known professor of natural history, who formed one of the investigating committee, said yesterday: "The first specimen we received was sent from Montreal by a ship-master named Manning, who discovered them on his ship's deck on the Atlantic Ocean, but we have found large quantities of them about the city during and after all the snow storms of this season. The snow flea, or, to give it its scientific name, the Bistri-Nisus, belongs to the family of Prodrarides, or "springtails," and, although very much smaller than the ordinary black flea, closely resembles it in form and habit, one great difference being that, while it is a joyable of leaping, it does so by means of its tail, and not as the flea does—with his legs. The leap, in the case of the snow-flea, is performed by doubling the tail up under the abdomen and suddenly throwing it backward, which results in a forward movement of the body—in fact, it is from this characteristic that the name "springtails" is derived. They are very tenacious of life, and breed very rapidly, especially where the weather is cold and dry, damp weather seeming to throw them into a stripe. In Eastern Siberia the people have to use every precaution against the pests, and many legends speak of them as the "snow of Hades," and say that the souls of the wicked are being tormented by being exposed to driving storms of them. As yet," continued the Professor, "we have found but few cases in this city where people seem to have been sufferers from the insects, but should a 50 of cold, dry weather set in it will unquestionably be the signal for much complaint. The insects, which can only by the closest scrutiny be distinguished from fine snow, fasten to the clothes of pedestrians and cling there under the mere enters a warm temperature, when they at once begin to bite in the most vicious manner; and, although the bite is not poisonous, it is for a few moments more painful than that of the ordinary flea. As a rule, the bites are mainly confined to the legs, for the snow-flea does not seem to possess the power to climb and wander over the body of its victim. One gentleman, a resident of Frankford, was a few days since much annoyed by them, and his little boy, who was bitten at the same time, suffered great pain for several hours. Correspondence with science, therefore, has been requested for all the cases. The snow fleas have also appeared at those points, and in the former city have created great discomfort. The strangest feature noticeable is the fact that it is never found more than eighteen inches above the ground, and servant girls have been forced to wear rubber boots while sweeping off the sidewalks in front of their masters' residences. Professor James McArchfield, of this city, has prepared a exhaustive article on the subject, which will be read at the next meeting of the Academy.—Philadelphia Record.

We publish the above more as a matter of fancy than of fact. It needs a careful confirmation by science to accord us the privilege of placing it on the outer margin of our belief. It will, however, do our readers no harm to read both papers on the "Snow Flea." It may set them to thinking and observing, exercises people are prone to shone on the shoulders of others, unless they are sure there is "something in it."—[Ed.]

PIPS MADE FROM POTATOES.

According to the Vienna Agricultural Gazette it has been discovered that meerschaum pipes of excellent quality, susceptible of the highest polish, and even more readily colorable than the genuine opium di nuce, may be made of potatoes. The familiar tuber, it seems, is well qualified to compete with the substance known to commerce as "meerschaum clay." Its latent virtues in this direction are developed by the following treatment:

Having been carefully peeled and suffered extraction of its "eyes," the potato is boiled unintermittently for thirty-six hours in a mixture of sulphuric acid and water, after which it must be squeezed in a press until every drop of natural or acquired moisture is extracted from it. The residue of this simple process is a hard block of a delicate creamy white hue, every what as suitable for the manufacture of ornamental and artistically-executed pipes, heads as the finest clay. The potato, moreover, dealt with in the manner above described, promises to prove a formidable rival to the elephant's tusk. It may be converted into billiard-balls as hard, smooth, as endearing as ivory, and can be depended upon for an inexhaustible supply of carved umbrella-handles, chessmen and fans. As potatoes are plentiful all over the world, and likely to remain so, while elephants are, comparatively speaking, rarities, mankind at large may fairly be congratulated upon the discovery of a substitute for ivory, which can be produced in unlimited quantity, and at an almost nominal cost, taking into consideration the difference of price between a pound of the best kidney potatoes and a pound of prime elephant's tusk.—London Daily Telegraph.

TRAINING A HORSE TO BACK AND TO LEAD.

Take him to the top of rather a steep piece of ground, stand his hind feet down the slope, throw the bridle reins over the neck, place yourself in front, and take hold of them on each side of the head close to the bit. Now press the bit against the sides of the mouth and speak gently, "back, back!"—and the horse will soon learn to do this. Next, take him on the top of ground not quite so steep, and pursue the same course. When the horse can be turned up hill he can be taken on to level ground to do it. As soon as this lesson is well taught, harness him to a light, empty wagon and go through the same course. When completed jump into the wagon, take the reins in hand, pull on them, at the same time speaking to him "back, back," and thus keep up the discipline till the animal is perfected in it. If he has a mate, after both are well instructed, they can be harnessed together and drilled till perfect in backing.

Three things, as above stated, must be strictly observed: First, to place the horse with his head down descending ground; second, when harnessed, let it be in a light, empty wagon, which requires the least possible effort to back it; third, be perfectly kind to the horse, speak gently, put it on the neck, stroke down its face with the hand, and on no account strike it. As soon as the horse understands what is wanted of him he will do it with alacrity. It is not from ill-temper or stubbornness that he does not back at once when spoken to; it is from sheer ignorance—he does not know what is wanted or how to do it until gently taught.

A second method is to harness the horse alongside of another well broken to back, and set the hind end of the wagon on a sloping piece of ground and follow the directions above, or jump into the wagon and take the reins in hand, but it is better to discipline alone at first, as above.

To teach a horse to lead, let a man or boy take the end of the bridle in hand and gently pull on it, while another holds out a dish with grain or meal in it. The horse will then advance to it. Now let him nibble a small quantity, then move with a dish a little farther in front, and so on till he is taught to lead well. He can also be taught by putting him alongside another horse which leads easily and moves in the right direction. We have known a fat horse to take to crib-biting by standing next to another affected with it; but a lean horse that is difficult to get fat may do so. This habit, when once acquired, and when the animal is in condition, will seldom or never be left off; but the same diseased action and tendency to fatality will still continue. We do not think that horses inhale the air in crib-biting; we consider it an effort to expel air. We never saw a horse make a gulp, or attempt to swallow air. Whether any air is expelled from the stomach in crib-biting, we cannot determine, but this is most improbable, since the air in the stomach of a horse is sufficient to raise one to the level of an ordinary man and is shut off by the esophageal valve. The fact that the stomach of a horse on being emptied contains a great deal of air is well known.
of which, the hindering a crib-bite from his habit will not always prevent this distention. We all know that many persons of sedentary habits are peculiarly liable to dyspepsia and flatulence, and we must all have experienced the unpleasant sensation attending it. How are we relieved? By exercise, or giving an agent to dispel these gases. So it appears to be with horses; and we have observed that, when crib-bites are on long, slow, regular work, they crib less. We have seen many cases in which crib-bites, being debarked from their habit, have fallen away in flesh, and others, in which the animal has been much more liable to colic; and we think that in many crib-bites the habit is necessary to the health of the animal. We usually see crib-bites thin, but we think that proceeds more from a diseased action of the digestive organs than from the effect of the habit, and their being relieved, proves that crib-biting makes them so. When a crib-biter continues in health and good condition, if he can be kept apart from other horses, we see no reason why he should be debarked from cribbing; and, indeed, we think that, generally speaking, it would prove injurious to him. Any one who will take the trouble to examine one-half of the different contrivances that have been made to prevent it will wonder how it is possible for a horse to crib-bite with some of them; and it will most strongly convince them of the very great difficulty there is to overcome a habit once fully formed in a horse, or any other animal.—Protrix Farmer.

DEEP CULTIVATION.

In answering a correspondent who advocates shallow cultivation for corn the Country Gentleman mentions two conditions of soil which are not benefited by deep plowing; these are such as have a sterile subsoil and those which are porous below. A sterile subsoil does not benefit the richer top soil by intermixture with it, and a porous subsoil does not need loosening. But a soil rich above and poor and impervious below may be much improved for withstand the effects of severe droughts by subsolilng and loosening to some depth to receive like a sponge the heavy rains which fall upon it, and to give out from this reservoir the needed moisture to growing crops when droughts prevail. We have seen some striking instances. A row of potatoes planted over a covered ditch yielded double the crop given from either of the adjacent rows, the quality of the soil being the same; but the loosened earth over the ditch prevented the effects of the severe drought which affected the adjoining rows. In the same way an advocate for manuring with electricity proved his theory, as he thought, by running a wire from a lightning rod under a row of beans, which were never touched with the hoe. The theory, however, was overthrown when it was found that the same increased growth was produced away from the wire by loosening the subsoil as much as was required for burying the wire. The great increase in the potato crop by thorough subsolilng was shown some years ago in a season of unusual drought in a field of several acres, which yielded more than triple the amount per acre obtained from other fields which were plowed after common or shallow plowing, and the

whole crop being sold at 75 cents a bushel, gave over $100 from each acre. These instances occurred where the subsoil possessed no unusual fertilizing quality, the benefit arising from its acting as a sponge or reservoir for moisture, as well as for the deeper extension of the roots. But in very large portions of the country a great positive benefit has been found by bringing up and mixing portions of the subsoil with the earth at the surface. A farmer in one of the western counties of New York, in preparing the land for wheat, set the plow to run two inches deeper than the plowing in previous years. The result was that his wheat crop was increased eight or ten bushels on an average. A still more striking instance occurred on another occasion of the benefit of an intermixture of the subsoil with the surface. An open ditch had been cut through a field to drain a small pond. The earth taken from the ditch was scattered over the surface for a rod or two on each side. The field was then sown to wheat. The subsequent winter was very severe on this crop, and the following summer proved unusually unfavorable. On most of the field the product did not average over five bushels per acre—it was scarcely worth cutting. The two strips (on each side of the ditch) on which the subsoil was spread yielded at the rate of twenty bushels per acre. This contrast was not owing to the drainage effected by the ditch, as the soil sub-soil of much of the field rested on gravel and had a natural drainage.

Farmers must adapt their practice to circumstances. If the subsoil is both sterile and porous there would be no object whatever in deep plowing, unless possibly for gradually deepening the manured top-soil. If sterile but impervious it should be sub-soiled—not trench-plowed—to deepen the reservoir for the absorption and supply of moisture. If it possesses enriching qualities the plowing should be deep enough to bring up a portion to the surface; and, in addition to its fertilizing effects it is imperative to water, the sub-soil plow should be used in addition to running the common plow deeper than before. Soil is hardly ever to add that all impervious subsoils need thorough under-draining as an indispensable requirement in connection with subsolilng. We might offer conjectures as to what the fertilizing substances were in these enriching subsoils, but our present purpose is merely with the established facts.

CARE OF HORSES.

1. Never allow any one to tickle your horse in the stable. The animal only feels the torment and does not understand the joke. Vicious habits are thus easily brought on.

2. Never beat the horse when in the stable. Nothing so soon makes him persistently vicious.

3. Let the horse's litter be dry and clean underneath as well as on top. Standing on hot, fermented manure makes the hoofs soft, and brings on lameness.

4. Change the litter partially in some parts and entirely in others, every morning; and brush out and clean the stall thoroughly.

5. To procure a good coat on your horse, use plenty of rubbing and brushing. Plenty of "elbow grease" opens the pores, softens the coat, and promotes the animal's general health.

6. Never clean a horse in the stable. The dust fouls the crib, and makes him both his foal.

7. Use the curry comb lightly. When used roughly it is a source of great pain.

8. Let the heels be well brushed out every night. Dirt, if allowed to cake in, causes grease and sore heels.

9. Whenever a horse is washed, never leave him till he is rubbed quite dry. He will probably get a chill if neglected.

10. When a horse comes off a journey the first thing is to walk him about till he is cool; if he is brought in hot. This prevents his taking cold.

11. The next thing is to groom him quite dry, first with a whisp of straw, then with a brush. This removes dust, dirt and swet, and allows time for the stomach to recover itself, and the appetite to return.

12. Also let his legs be well rubbed by the hand. Nothing so soon removes a strain. It also detects thorns or splinters, soothes the animal and enables him to feel comfortably.

13. Let the horse have some exercise every day. Otherwise he will be liable to fever or bad feet.

14. Let your horse stand loose, if possible, without being tied up to the manger. Pain and weariness from a continued position, induce bad habits and cause swollen feet and other disorders.

15. Look often at the animal's feet and legs. Diseases or wounds in those parts, if at all neglected, soon become dangerous.

16. Every night look and see if there is any stone between the hoof and the shoe. Standing on it all night the horse will be lame next morning.

17. If the horse remains in the stable his feet must be "steeped." Heat and dryness cause crack hoofs and lameness.

18. The feet should not be "steeped" oftener than twice in the week. It will make the hoofs soft, and bring on corns.

19. Do not urge the animal to drink water which he refuses. It is probably hard and unwholesome.

20. Never allow drugs to be administered to your horse without your knowledge. They are not needed to keep the animal in health, and may do the greatest and most sudden mischief.

THE COLLIE DOG.

In the Kennel department will be found an interesting report of the sheep dog crisis of the Northwestern Counties Association. Eng. land, with a full description of the work of the dogs. We would suggest to the breeder of the collie in this country that an association be formed under the name of the American Collie Club, for the purpose of holding trials and improving the breed of this intelligent and useful animal. Not least among the benefits resulting from the work of such an association would be the wide-spread knowledge gained by the public as to the virtues and intelligence of their favorites, and this would win for them their rightful place—now
THE LANCASTER FARMER.

Mr. Hugh Dalziel, in his "British Dogs," says: "There is no dog that excels the collie in good looks, high intelligence, and unwavering loyalty to his master; and to these qualities does he owe his high position as a general favorite with the public, while his many practical excellences render him indispensable to the shepherd." Istone, in his admirable work on the dog, says of him: "To my mind he is one of the most perfect animals extant." Stonehedge also speaks very highly of their intelligence. "Only those," he says, "who have seen one or more of these public sheep dogs, or who have privately seen these animals at their usual work, can realize the amount of intelligence displayed by them."

Innumerable anecdotes of their wonderful sagacity and intelligence have from time to time appeared in print, and, although many of these tales are almost incredible, we have invariably found that none were so ready to aowr their beliefs in their truthfulness as those who know the collie best. As the assistant of the shepherd and herder he stands without a rival. As the servant of the farmer, a protector of his property, and a companion for his children, he is the peer of any of his kind. As a retriever for the sportsman we believe him to be singularly well adapted. As the pet of the parlor, his great beauty and affectionate disposition, combined with his almost human intelligence, eminently qualify him for the place. In the British Islands the collie has long been an especial favorite among nearly all classes, and we are pleased to notice that within the past few years he has rapidly gained in public favor in this country. We trust that the day is not far distant that will see him installed in his proper place among the first of canine favorites throughout the land.—Forest and Stream.

A TAME WOOLCHUCK

A correspondent of Our Dumb Animals, writing from Johnsburg, N. Y., says: "At the house of a friend, in Lawrence county, we lately saw a curious household pet—a tame woolchuck named Charley. He was found, alone, in the highway, in the summer of 1873, and was then scarcely larger than an ordinary mouse.

"He soon became accustomed to his new home, and allowed the members of the family to handle him. At first, he was quite playful and domesticated. For a time he took up lodgings in the barn, but subsequently made himself a house in the woodshed, which he furnished with bits of paper, straw and other light material. Being domesticated so young, he never learned to obtain his own food, or seemed to realize that it could be obtained in the garden or the fields, but depended entirely upon what was provided for him at the house, which he visited many times a day.

"He is very fond of milk, sugar, cake or pie, but his favorite dish is boiled potatoes, or green cucumbers, and he does not care to eat bread.

"Whenever he is hungry, he runs to the house, chattering as he goes, and if he fails to find his food in its accustomed place, he "begs" of R. C. Charley at the house, very much in the same manner as a peculiar, chattering noise. If not attended to at once, he takes hold of her dress and endeavors to pull her toward the ladder, where his food is usually kept.

"He retires each evening about sunset, always taking care, however, not to go to bed without his supper. In the latter part of September, 1873, Charley was missing, having left the house as usual the previous evening, and was not seen again until the early part of the following April. When he returned, he came directly to the house, chattering as usual, and seemed quite familiar with the household and family, and very soon took the barn in plain terms that he wanted his breakfast. He ate very sparingly for several days, although very thin when he returned from his winter's nap. Previous to leaving in the fall, he became very dull and sleepy, and at last, being entirely overcome by the disposition to sleep, he sought his winter-quarters, which were afterwards found under the hay-mow, in the barn."

The lumber cut in the Sierras will this season reach 40,000,000, and of this probably 40,000,000 feet sold for about $12 a thousand, footing up about $500,000, and the rest sold as clear lumber for about $35, making over $200,000 more—over $700,000 in earnings for the nine mills that run, some of them only part of the time.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular meeting of the Agricultural and Horticultural Society was held on Monday, Feb. 5th, the following members being present: J. C. Linville, Gip; Casper Hiller, Conestoga; Joseph F. Witmer, Paradise; Calvin Cooper, Bird-in-Hand; W. H. Bromes, Drumore; Peter S. Keudig, the county; W. T. Gries, city; F. R. Dissenruff, city; C. A. Gast, city; J. M. Johnston, city; James Collins, Colerain; John H. Landis, Manor; Levi S. Reist, Manheim; Abram Brubaker, Drumore; G. Oram Phillips, Drumore; Christ Kepor, Lancaster township; Em's Fresh, Bird-in-Hand; John L. Davis, M. D. Kendall, Crewe; H. M. Eagle, Marietta.

In the absence of the President, Calvin Cooper was, on motion, elected President pro tem.

On motion, the reading of the minutes of previous meeting was dispensed with.

Mr. Franklin Denegal, was elected a member of the society.

Reports of the Committees.

Johnson Miller, who was one of the committee appointed to the Washington Convention, reported that he visited the convention and had been admitted to a seat in the body. The United States Agricultural Society was reorganized at the convention, and it is proposed to hold a great national fair during the coming summer in one of the Western States.

The Condition of Crops.

Mr. Witmer, in reporting on the condition of the crops, was under snow at present, and but little is known of the prospects. Tobacco stripping is going on vigorously, but he had not heard of any sales being made.

Johnson Miller said the crops looked pretty well, so far as he was able to judge.

Mr. Linville said the wheat looked rather poor, and some of it was reported to have been injured by the snow; but it has been a good winter for feeding cattle. Some wacoco has been sold to his neighborhood.

Lecture Postponed.

Mr. Linville reported that he had corresponded with John I. Carter, in reference to a lecture on Cereals, and received a promise from the gentleman that he would lecture at a winter meeting, but since that time he had not heard from him, and the gentleman would probably not be present.

Cattle Feeding.

"At the present prices of corn and bran, what constitutes a profitable ration for beef cattle?"

eDinner was opened by Mr. Witmer, who said if he was the intention to feed only corn and bran, he would advise feeding two-thirds corn and one-third bran. He would give his cattle all they would eat. Some persons claim to be able to fatten faster on oil cake than on cotton seed meal, but he did not know what a proper ration would be.

Mr. Cooper said the ration fed would vary according to the weather, more being fed in cold than in warm weather.

Mr. Linville said in feeding cattle we must look to the animal and not to the manufacturer. He would not increase the value of the latter and at the same time fatten our cattle fast by feeding either corn or bran or oil cake.

Casper Hiller was no feeder, but drew the attention of the society to the value of the different kinds of feed. For his own use, in the summer, he feeds 1/20 of winter's pile for corn, bran $14 and corn $6. If this is so, it will be to our advantage to feed cotton seed cake. We should devote more attention to this matter.

Peter S. Reist favored feeding in cattle of all kinds as much as they could eat. He believed corn was as good and as cheap to feed to cattle, provided their systems are in good condition.

M. D. Keudig, one of the delegates to Washington, read a written report of his visit, after which the report was received and the committee discharged.

On motion of Mr. Witmer the traveling expenses of Messrs. Johnson and Keudig to and from Washington were ordered to be paid.

Should Creameries be Established in This County?

Joseph F. Witmer answered this question by saying that in a community like ours there is so much grain grown and so many cattle fed as in Lancaster co., creameries should be profitable. Among tobacco growers, the great object appears to make as much manure as possible; and they buy cattle to feed during the winter. He thought it would be just as profitable to the farmers to buy cows and sell their milk to the creameries. One objection to this is the scarcity of pasture land, without which cows will not thrive; but he did not know why more time should not be devoted to the matter and cows retained over the summer. If this were done, he was of the opinion that the farmers would prove profitable.

Mr. Cooper said there was a creamery close to his place, and in a conversation with a farmer he learned that it paid better to sell his milk to the creamery than to make it into butter. Persons who patronize the creamery can easily test the quality of various kinds of feed, as a pure product is weighed every morning.

Mr. Miller did not think creameries would pay in sections of the country where land was worth $300 per acre; but where land was not worth much for crops it would be a different matter, and here creameries would prove profitable.

The question was discussed at some length by other members of the society, the general impression appearing to be that creameries would pay in almost any section of the country.

J. Williams Thorne, of New Carolina, spoke in favor of creameries, and said he was glad to see that efforts were being made to establish them in all parts of the country, as they would do no doubt prove beneficial. In regard to feed for cattle, he knew
not something better than the pure cotton-seed, which can be bought in his State for about ten cents per bushel.

The Fair Question. Mr. Witmer said he had a conversation with a gentleman recently, in the course of which this learned man was led to believe that in case the society determined to hold a fair next fall, it would be able to secure the park grounds on the condition that if any money was made a reasonable rent should be paid, while if nothing was made the grounds would be given rent free.

Mr. Engel hoped the members of the society would have backbone enough to hold a fair next fall.

Mr. Cooper was of the opinion that if it was the intention of the society to hold a fair definite action should be taken, and a committee appointed to make the necessary arrangements.

On motion, a committee of three, with Mr. Cooper as chairman, was appointed to confer with Mr. Mc-Grann in reference to the matter.

The committee as named is composed of Messrs. Calhoun Cooper, Joseph F. Witmer and J. M. John-

Mr. Engel reported the rainfall for December to be 2.13 inches; January, 2.21 inches.

The following questions were referred to: "Prepare a genealogical history of the society," to J. B. Engel; "Is there any benefit derived from hammering wheat in spring?" to M. D. Kemig. "What is the feeling of cotton cob choppers?" to John C. Linville.

Adjourned.

THE FOULTRYMEN.

The regular monthly meeting of the Lancaster County Turkey Society was held Monday evening, February 5.


The minutes of last meeting were read and approved.

Reports of Officers.

Secretary Lichty made the following report:

The association held eleven stated meetings during the year, with an average attendance of ten members. There are now fifty members in good standing.

Amount received for advertisements in catalogue: $194.15

Portage, etc. $1.92

Profit on catalogue: $112.22

Cash received at door: 290.30

Miscellaneous expenses: 292.50

Receipts as entertainment fees: 742.83

Premium paid: 439.39

Expenses of judging, etc: 470.84

Bills unpaid: 132.94

Premiums due members: 142.50

Balance due J. E. Schum: 35.90

By reason of the large number of entries the association was compelled to make twenty more boxes to accommodate the increases of four each, and ten new sections of six each box, with sufficient material to make additional ones.

Liquidating the Debt.

J. B. Long offered a resolution authorizing the society to purchase two shares of Building Association stock from J. F. Lioy, and then borrow therein the money required to satisfy all the outstanding indebtedness of the society. In this way the money due home exhibitors can be paid and everybody will be satisfied and encouraged to lend their assistance to the society in the future.

This plan was discussed at great length. The general feeling seemed adverse to contracting obligations running through a series of years, and many suggestions were made as to the best way of liquidating the debt of the association.

Charles E. Long then moved that a committee of five members be appointed, all residing in Lancaster, to receive subscriptions to raise money to pay all bills due by the society, and report at an adjourned meeting to be held on Friday, the 8th of February, at 10:30 A.M., and that the society be authorized to hold a fair during the latter part of the society to attend said meeting without fail.

The following were named as the committee: John E. Schum, Charles E. Long, Charles Lippold, J. B. Lichty and J. B. Long.

In order to secure better attendance, Charles E. Long offered to pay the members of the society to the By Laws changing the time of meeting from the first Monday in the month to the first Friday, at 10:30 A.M.

Electors of Officers.

A vote for officers having been taken, George A. Geyer was re-elected President of the society for the present year, Vice Presidents, T. Frank Evans, M. L. Gribler; Corresponding Secretary, Jos. E. Tommy; Recording Secretary, J. B. Lichty; Treasurer, John E. Schum. The Executive Committee elected consists of Charles Lippold, Peter Bruner, W. A. Shoenberger, Dr. E. H. Witmer and A. S. Flowers.

The meeting then adjourned.

OCTORARO FARMERS.

The Octoraro Farmers' Club met at the residence of James Jackson on Jan. 26. Most of the members were present, and the following visiters were present: Lewis Seabu, Abraham Donnels, Henry Powell and Harvey Scott, with families. The minutes of the previous meeting were read and approved.

Specimens being called for, James Jackson and Henry Powell exhibited some Gourard seed corn, good, though slightly mixed. The former also a fine plate of cotton-seed.

Under miscellaneous subject the matter of trimming hedges was brought up: the best manner and proper time to do it. Most of the members thought the time of year did not matter much, though close previous to the heat of summer, and such hedges as were more exposed in case of severe winter, and the best mode of trimming would depend on the condition of the hedge; if overgrown and open, they should be trimmed up to single stem and layered, thereafter trimming once or twice each season regularly in order to have a close and compact hedge. When neglected or left untrimmed they become more rank like trees, thus an unnecessarily robbing the soil for their support and causing the under-shaded branches to die and decay, leaving it more open to the smaller domestic animals, such as sheep and hog.

J. C. Brosius presented a printed report from Thos. J. Edge, Secretary State Board of Agriculture, in regard to pieuro-penumus, an account of the disease in this State for the past four years.

Inspecting the Farm.

After partaking of dinner, the buildings and stock were inspected. The following consists of seventeen cattle, five horses, six oxen and nineteen pigs, were found generally in thrifty condition, with the exception of two shotes that were stunted and in an unhealthy condition from some cause the host could not give. Some suggested that it was from being kept too much. Some of those considered injurious to young pigs; it was recommended to feed them on bran and milk with some ground corn.

On returning to the house the host read an essay pertaining to farm labor and labor saving machinery. While making too much was considered injurious to the agriculturist, it had not been the means of making farm laborers more plentiful, as it was thought that the case on the introduction of agricultural machinery.

On the opposite, help had become scarce and wages higher, though some farmers were more content with some of those seeking professions or other branches of industry. It was just that the farmer and his help, who produce the first necessities of life, toiling harder and longer, should be less compensated than those having lighter employment and pursuing what are considered the higher occupations of life.

Thomas Baker read a communication, not on agriculture, but appealing to those concerned, and others, to do their utmost toward discontinuing the prevailing and pernicious habit of correcting firearms with fatal results, referring to the Uniontown murder, and others as disgraceful, all over the country.

The Benefits of Experience.

The question was discussed: "Are farmers benefited more from reading than experience?" While the importance and necessity of reading are undeniable, though farmers cared little for reading, and were told by smooth-tongued tree-agents of the fine qualities and productiveness of the Baldwin and other apples, experience demonstrated that they could not be relied on for this locality. Hence it was decided best to rely on experience, rather than de- cease to a certain extent, and to learn by experience.

The topic of stock feeding was also thoroughly discussed; the time, the quantity and best kind and most profitable grain feed for steers, cows and young cattle. Most of the members fed grain twice, a few were trying three meals, while one more liberal fed them a fourth, if they looked hungry.

Potato Growing.

The question was asked whether any one could give an explanation of potatoes tallow to come up? This ailment has been prevalent among growers of late years. Some thought the defect could be traced to a disease, or species of fungi that affected the young sprouts, while others gave their opinion to the effect that the seed had been improperly selected, or injured by cold, or had been kept in a good place during winter. These suggested burying in ground or some other means of keeping them at as low a temperature as possible to prevent sprouting before planting. Others thought the sprouting ones were caused by not a sprouting seed, but would grow. That did not injure them any, nor did they lose their vitality by so doing. Some had experienced failures the past season, caused by heavy casting of under-composed barrenyard manure, while in the same patch the same kind of potatoes treated to well rotted manure or commercial fertilizers came up nicely and produced well.

Adjourned to meet at Samuel Whitton's next month.

LINNIEAN SOCIETY.

The Linnean Society met in their room on Saturday, January 27th, 1882, at 3 o'clock, P. M.; the President being Prof. J. B. Shair, in the chair, and eleven members present.

Donations to the Museum.

After dispensing with reading the minutes the monthly dues were collected, and the following donations to the museum were then made: Dr. H. E. Muhlenberg, of our city, presented a small volume of about 30 species of Hipphan and Moss, which were rejected by the learned botanist, Henry Ernst Muhlenberg.

A battle containing about a thousand specimens of the common "Snow Flea" (Pteroistra nivea) from Mr. Wm. Roehm. The most prominent feature in this collection was the large shell of the mollusks of the present year, was the abundance of those little apterus insects, in several localities near this city. I published some remarks on those obtained from Mr. Roehm in the New Era of the 223rd int., and on the same day Mr. George Steinman and Mr. was acknowledged upon exhibiting a number from a different locality. When Mr. Roehm took those now before us (on the 18th) the temperature was comparatively mild, and under the influence of the sun a rapid thaw was in process; but on the 22d, when Messrs. Steinman and Landis called, the President being Prof. J. B. Shair, in the chair, and eleven members present.
through a fissure in a garden walk, in hundreds of thousands, if not in millions. From this we may infer that those now appearing will survive the winter, however cold it may be. They have been known to seed of leaves of tobacco, cabbage, radishes, peas and other vegetation, under the names of "black fly," "black spider," and perhaps, other names.

Additions to the Library.

The donations to the Library consist of a volume entitled "Correspondence of Dr. Baldwin," compiled by Wm. Darlington, M.D. This is quite a rare book, and was presented by Miss Emma Mason; No. 23 of volume 22 Patent Office Gazette: Proc. of Academy of Natural Sciences, of Philadelphia, from May to October, 1883; F.W.S. Report, and Journal of the Commissioners of Ed- and 3 of Bureau of Education, and three other pamphlets on education; lot of pamphlets from effects of Dr. A. P. Garber, deceased; 6 circulars and 20 envelopes of scraps.

The Librarian then reported a petition showing condition of the Library, and the Treasurer also presented a short showing financial condition of the society. The following bills were then ordered to be paid: Taxtelden's bill, $8.80; Proc. Academy of Natural Science, $5.00, and four years' subscription to the Farmer was ordered to be paid and continued.

On motion, the treasurer was ordered to procure keys for officers.

Election of Officers.

The following officers were elected for the ensuing year:

President—H. J. P. Wickersham.

Vice Presidents—Dr. J. H. Duhieh and Dr. T. R. Baker.

Recording Secretary—Dr. M. L. Davis.

Assistant Recording Secretary—S. M. Sener.

Corresponding Secretary—Dr. H. L. Knight.

Treasurer—Dr. S. S. Rathvon.

Librarian—Mrs. L. D. Zell.

Curators—Prof. J. S. Stahr, Dr. S. S. Rathvon, S. M. Sener and Charles A. Heilshott.

Report of the Curator.

The following are some of the treasures of the Linnian Society for the year ending December 31, 1882, presented and ordered to be entered on the minutes:

The year 1882 has not been as prolific in material results as some that have preceded it; still it has not been altogether idle. In canvassing the proceedings of the ten meetings held during the year we find there have been added to the museum six vetrinaires, over three hundred articulate insects—mainly insects, twenty archeological specks, five other eggs, insects, five fossils, and three miscellaneous objects. To the library have been added eighty-six books, serials and pamphlets, fifty-five catalogues and circulars, and to the historical department thirty envelopes containing twenty-two and seventeen biographical, historical and miscellaneous scraps, many of which are of local value.

Twenty papers have been read before the society during the year, which have been either published in detail, or a synopsis of them published in the proceedings of the association. It would be useless to indulge in any complaints that we are not permitted to do more, or in regrets that we have done so little. Our highest wisdom is to reconcile ourselves to the inevitable, and patiently wait; one thing we can assuredly do, of the Linnian Society does not belong to things imponderable. It is a living, growing, tangible and visible fact, which cannot be historically obliterated, even if it should be materially disintegrated. Its record will descend to posterity. It has maintained its vitality throughout the year, in spite of systematic neglect. It is, perhaps, the only living organization in Lancaster city, about which the public has never exercised itself, and whether it survives or perishes, the small number which have thus far sustained it has nothing to reproach themselves with.

Committee Appointed.

A committee, consisting of the retiring president, recording secretary and assistant secretary, was then appointed to collate the amendments which have from time to time been made to the constitution and by laws and report the same to the society. The evening meetings not having been carried on with any regularity, on motion, it was then resolved to discontinue the same, and the society then adjourned to meet in the museum, on Saturday, February 24, 1883, at 2 o'clock P.M.

FULTON FARMERS' CLUB.

The Fulton Farmers' Club met at the residence of Josiah Brown, near New Texas, on Saturday, February 3.

Wm. King exhibited a sample of eleocarmargine on a plate along with four samples of better. The plate was passed around the company, and each one was requested to state as much as to which sample was the counterfeit butter, and after a great deal of tasting and smelling, four out of twenty-one persons guessed right.

Questions and Answers.

Day Wood asked: "Is it advisable to sell wheat now? No one present seemed to have faith in any great advance in price soon, but as the price is low now it was thought safe to hold it a while longer, and several expressed a determination to do so.

S. L. Gregg asked: "What kind of commercial fertilizer is best on corn last season?" With but few exceptions all had used dissolved South Carolina rock and it had done well, and by nearly all it was considered the cheapest manure in market.

Monticell Brown asked what is to be doing cows and read a selected article in favor of Ayshires for cheese.

J. K. Blackburn and Lewis Brown thought that the Jerseys stand foremost.

S. L. Gregg and Josiah Brown thought there is an excitement about Jerseys now and that they are being overrated, but finally they will have to stand on their real merits.

Day Wood thought that the Jersey will not be the coming stock, but that they will deteriorate in our climate. He believes a cross of the Jerseys with common stock will be preferable to the full blood.

E. H. Haines said he would prefer Jersey cows, even if they did not make more butter than other cows; there was not so much milk to handle for the same amount of butter. He found that from his Jersey cows he could make a pound of butter from 15 or 16 pounds milk, from ordinary cows it was from 25 to 30 pounds of milk to make a pound of butter. He had been told by a person, who had a creamery that taking the milk from the run of the cows in his neighborhood that it required from 30 to 37 pounds of milk to make a pound of butter. The butter from Jersey cows was firmer, better colored and stands marketing better than ordinary butter.

Wm. King expressed a preference for the Guernsey cows; he thinks they give a richer milk and make a higher colored butter than the Jerseys, and read a letter from his friend, Mr. John West Grove, in support of this view of the matter.

J. P. Hutton asked "Is it better to cut timothy while it is in bloom, or not until it gets ripe?"

Day Wood said if the hay is for home use, he preferred to cut it while in bloom or even before, but if the hay is to be sold, he would let it get ripe.

S. L. Gregg and Josiah Brown said that when they have fields all timothy, they let them stand until after wheat harvest. The hay was then easily cured, often being ready to be hauled in the same day that it is cut.

Several others said they had been in the practice of cutting it while in bloom, but were undecided about it being the best time. The ripe hay sells as well, if not better, than the green, and weighs more.

After assembling for the last meeting held at this place was read, and some unimportant criticisms made on the appearance of the farm and condition of the stock.

M. Brown read a receipt for making butter gather, which is to add a gallon of weak brine at a temperature of sixty-five degrees, churn, a little and let it stand several hours before adding to the buttermilk, disturbing the buttermilk as little as possible, then put the butter in another weak brine and there will be no trouble in gathering the butter.

After the reading of several selections by different members of the club the following question was adopted for consideration at the next meeting: "Does it pay farmers in this section to take up their land with orchards or would it be better to farm the land and buy their fruit?"

The next meeting will be held at the residence of Jos. R. Blackburn, on the second Saturday in March.

Agriculture.

A Two-Story Milking-Stool.

The Agriculturist tells how to make a two-story milking-stool that presents a number of conveniences.

A board the width of an ordinary stool seat and twice the length, forms the first floor and rests upon four stout legs. The two rear legs pass through the long board and furnish two legs for a short stool seat; the front legs being placed in the stool. A cleat is placed on the front edge of the long board to keep the pail, which is set on the front half of the first floor. From falling off during the process of milking. This arrangement prevents any necessity for the women to walk all over the ground and brings it nearer to the udler.

Small Farms.

One of the most marked and striking features of present conditions throughout the country is the tendency towards small farms. Things have been taking this direction in New England the more thickly-settled States of the North for a long time but it is only within a few years that this has come to be the case in the South. There, under the slavery system, large plantations were the rule, but this is rapidly becoming changed. In Florida, for instance, a large portion of the land is becoming utilized for truck farms and the raising of fruits. This business already demands very extensive transportation facilities, and the "Land of Flowers" expects bye-and-bye to be able to supply the Northern market with an almost unlimited amount of early vegetables and fruits. Last year tomatoes, green peas, cucumbers, and other delicate vegetables were received here earlier as the 1st of February, and strawberries at fabulous prices began to appear very soon afterward. In portions of Florida vegetables may be grown for the market the entire year. Whether in Florida or upon Long Island, the best returns are found to be derived from a small area highly cultivated. Year by year the number of farmers who own very much more land than they can properly cultivate, and upon which they are hard pushed to make any taxes, is diminishing, and the number who have small farms, and better still, who own them free and clear, is increasing. It is a good omen for the future of this country, and there is wisdom in the old and homely lines that describe as the best possession of all.


Meat Bone Meal.

Last year we gave ground bone meal a pretty thorough trial, and throughout the whole we are better satisfied with it than with any other commercial fertilizers we have ever had. Its effects are not so immediate as those of the superphosphates and guano, but it has staying qualities far beyond any of them, and when properly applied gives very satisfactory results. We prepared it by mixing one part bone with two of wood ashes and then wetting the mixture, after which it was shoveled over several times at intervals of four or five days, when the bone was thoroughly reduced and incorporated.
in the ashes. In this shape we count the mixture as good for head top dressing as the best commercial form, and for mulching where the ashes of some of the hardier garden vegetables it is superior. It has a wonderful effect when used in a flower bed, especially in preserving the freshness of the plants through the season, and grape vines feed and thrive upon it better than upon anything else we ever gave them. We tried it in a large garden near Boston Harbor for tillage, and got quite as good crops with it last season, while last spring it showed much better advantage than the imported article.—Mirror and Farmer.

Two Crops of Potatoes in One Season.

It has been discovered that two crops of Early Rose potatoes can be grown on the same land in a single season, and is worth testing in this section. Take your potatoes of this year’s growth and dry for a few days in the shade; then put them in a trench or cold frame, throw water over them, cover with a few inches of dirt, and then place straw over the frame to prevent too much evaporation. At sunn understanding place over them a glass sash and remove it the next morning. In four or five days the potatoes will sprout, when they can be cut two or eyes and planted.

Whole potatoes do not answer as well as those that are cut. Plant in checks two and one-half feet apart, or in drills three feet by eighteen inches, and cover lightly. From the digging of early potatoes to the milking of cows, the boys are kept working from morning to night. The potatoes furnish a clean, and not hill.

The points to be observed are to use plenty of fertilizer, as two crops exhaust the land; select good seed, be sure that the tubers are sprouted before planting; plant shallow, and endeavor to take advantage of the season. Or, to give a more economical method, the smaller potatoes, provided they are good, together with large ones, if desired, may be cut and fed like sweet potato, and when they are well sprouted can be taken up in the same manner, removing all but the most vigorous sprout, and replanting them. In this way it is well, in early potatoes, to take up the plant entire, with the earth and decay potato adhering. The above is recommended by a fruit growers’ and farmers’ association, and it appears to be a good method for growing early potatoes as well as late ones.—Phila. Record.

Relative Values of Different Woods.

The Forestry Bulletin sent out from the Census Office gives the specific gravity, weight per cubic foot, and the full value of the well-known woods of the United States. The woods of the South are of great value, as they are the strongest of those of the North and consequently rank higher in burning value, but there is more difficulty attending their preparation as fuel than with the northern growths.

The iron wood of Florida gives the greatest specific gravity of all the woods tested; next comes the lignum, of west Texas, then the mahogany of the Gulf Coast, and following this, the lignum, rather generally considered (erroneously, according to the Bulletin) the heaviest of our woods.

In a table giving the approximate relative fuel value we find, lignum, hickory pig iron second, hickory shell-bark third, peresimmon fourth, white oak next, then locust, oak elm and black oak. For building purposes, woods of light gravity, as white pine and white wood, are much employed, while these woods having a low fuel value.

Ventilators for Corncribs.

Corn can be cribbed in larger quantities and earlier in the season with safety by using ventilators. Make upright flues of slate or four boards nailed together at their edges and bore holes on every side. This flue is to open at the bottom and extend through the corn cribs. The flues are large enough to be a strolling place. The heating that starts up in a crib causes an upward draught through the ventilators which carries off the moisture and reduces the temperature. The cost is trifling, but the device is satisfactory in use. Sometimes rails or blocks of wood are thrown in the crib with damp corn, but unless they are in a perpendicularly position they do little good and these are not then as much inconveniences as might be expected. Even if corn could be damp or green enough to spoil it will materially assist in currying so as to be fit to shell and grind by giving full ventilation and free circulation of air.

For Farm Boys to Learn.

From a Western paper we extract the following practical remarks; these are useful to every one on a farm:

How many of the boys who read this paper could "lay off" an acre of ground exactly, providing one of the dimensions was given? Just now I have taken some pains to make a table, but I wish that I could lay it before the farm boys here. There are 160 square rods in an acre, and therefore 3014 square yards in one rod. This gives 4,304 square yards in one acre:

-3 yards wide by 86 yards long is 1 acre.
-10 yards wide by 84 yards long is 1 acre.
-20 yards wide by 82 yards long is 1 acre.
-40 yards wide by 72 yards long is 1 acre.
-80 yards wide by 50 yards long is 1 acre.
-70 yards wide by 63 yards long is 1 acre.
-60 yards wide by 56 yards long is 1 acre.

Again, allowing 9 square feet to the yard, 272 2 square feet to the rod, 14,520 square feet to the acre, and we have another table:

110 feet by 90 feet = 1 acre.
120 feet by 83 feet = 1 acre.
220 feet by 98 feet = 1 acre.
240 feet by 101 feet = 1 acre.
440 feet by 91 feet = 1 acre.

HOUSEHOLD RECIPES.

MINUTE BISCUIT.—One pint sour or buttermilk, one teaspoonful soda, two teaspoonfuls melted butter.

Flour to make soft dough—just stiff enough to handle—mix, roll and cut rapidly, with as little kneading as possible. Let stand five minutes.

BAKED EGG.—Break six or seven eggs into a buttered dish, taking care that each is whole, and does not separate upon the others so much as to mix or disturb the yolks. Sprinkle with pepper and salt, and put a bit of butter upon each. Put into an oven and bake until the whites are well set. Serve very hot, with rounds of buttered toast or sandwich-

BAKED WHEAT.—Cracked wheat is a very nice dish if baked with plenty of water added from time to time as it is needed, to allow the wheat to expand. It should be baked in a tight pan, and it will then be found to be remarkably sweet and wholesome. It is delicious if baked with milk instead of water, but will then need more attention when in the oven to prevent burning.

VERY PALATABLE.—The Germantown Telegraph gives the following recipe for making squash cakes:

These cakes, to be fried in hot lard like griddle cakes, are made of one part of sour milk, one egg, a little salt, half a teaspoonful of soda, flour enough to make a light batter and one cupful of squash, which has been cooked tender and then rubbed through a colander. Beat all well together and the cakes will be very light and tender.

INK.—While the stains are yet wet upon the carpet, sponge them with skim milk thoroughly. Then wash out the milk with a clean sponge dipped again and again in cold, cold water. Exchange this presently for warm; then rub dry with a cloth. If the stain is on a piece of clothing, or table cloth, drop the bed linen, wash well in the milk, afterward in the water. Dry ink stains can be removed from white cloth by oxalic acid or lemon juice and salt.

PICKLED CHICKENS.—Boil four chickens till tender enough for use, like stew, or pour over it three plats of cold cold cider vinegar and a pint and a half of the water in which the chickens were boiled; add spices, if preferred, and it will be ready for use in two days. This is a popular Sunday evening dish; it is good for luncheon at any time.

CONFECTIONERY.—Maple walnuts are made thus:

Beat the white of one egg to a stiff froth, stir in enough powdered sugar to make it like hard frosting, stir in the walnuts (which you have taken care to remove from the shell without breaking) in a strip made by boiling for two or three minutes two table-spoonfuls of maple sugar in one of water, or in this proportion. Press some of the hard frosting between the halves of the walnut, and let it harden. Dates may be prepared in this way, and Butternuts and English walnuts also.

PUDDINGS WITH LITTLE PEA.S.—Tease the pigeons, put them over the fire with fat pork and butter, let them brown slowly, add small green peas, and sear them with but little salt and pepper. Wet a tureen with flour four with brandy or wine sauce, or any sauce that may be preferred. This makes a showy as well as a light and wholesome dessert, and has the merit of simplicity and cheapness.

ROSE CAKES.—Rice cakes are a nice side-dish for dinners, or may be served as a dessert or a tea-cake. Boil some rice until it is soft, then roll it in your hands in cakes; dip them in beaten eggs, and then in Indian meal; see that you are covered with the meal. Then fry them in a little very hot. If to be served with meat, lay them around the edge of the plate; if for dessert, make sauce with sour cream, and flour, and flavor it with Madeira wine and a very little grated nutmeg. Serve warm.

In a column of the Chicago Herald devoted to the interests of the "cooking school," we find this recipe:

The excellence of potatoes cooked this way is dependent upon slow baking to evaporate the milk without burning it. Cut enough potatoes in thin slices to half fill a two quart pan or dish. Drop in the butter the size of an egg, in little bits, a teaspoonful of salt, and a teaspoonful of chopped parsley, then fill up the pan with milk and bake for two hours. The milk remaining in the pan should by that time be as thick as cream, and the dish should be light brown on top.

A LUNCHROOM MENUS.—A sensible fashion for lunch parties in the afternoon is gaining ground and growing in popularity in both city and country. Young idlers who wish to spend a few hours together, and have no escort upon whom they can lean, are filling out these early morning recitals. At a very successful one last week the bill of fare was as follows: Two kinds of bread, two kinds of cold meat, chicken salad, when appeared to be the work of an artist, so delicate and perfectly blended were the several ingredients: potato cream—that is mashed potatoes mixed with the well-beaten whites of several eggs, and then put into the oven until it is very hot; pickles and celery, esculated oysters; two kinds of cake, with chocolate and lemon ice, concluded the feast. All was served with exquisite perfection. The table was beautifully carpeted with fresh flowers and with quaint pieces of china, the chocolate being served in shell-like cups of brown and white or cream color.

THE FARM.

Weed out your stock and get rid of the poor milch and butter cows. The profit in a dairy comes from the good cows, while the poor ones not only do not pay their keep, but they draw, or spoil, quant ity by the others.

For a general purpose fowl for farmers the Plymouth Rock is probably the best. They are good layers through the year, and the young chickens are unusually hardly, being the only variety of which a late-hatched setting in the fall is not rather a misfortune.
The Vergennes grape is a novelty because of its long keeping qualities. With ordinary care, in a cool room or dry cellar, the fruit will be as fresh in January as in September. It is also a remarkable grower, and produces a handsome bunch and berry, and of really good quality.

Experiments by careful breeders give some valuable facts for estimating the cost of producing pork. It is conceded that one bushel of corn should produce ten pounds of pork, but everything depends on the management. With good weather, a good breed, sound corn and regular feeding this average may be reached, but not otherwise.

An Illinois farmer gives the following directions for curing called shoulders in horses, and says that it is reliable: Take the leather and burn it to a crisp; rub the bone on the gaited part. A few applications will effect a perfect cure. A new work has been published this spring regarding the effects of gallos on both sheep's and cattle. The burns left the mahogany as sound as if never injured, and no scar is now seen.

The six leading agricultural 'productions' of the United States, according to the census report for 1880, were in the following order: Corn, wheat, hay, cotton, oats and potatoes. The value of the first was $60,965,410,000; hay, $28,000,000,000; wheat, $28,342,000,000; cotton, $342,000,000; oats, $101,000,000; and potatoes, $73,000,000.00.

Literary and Personal.

Eighth Annual Report of the Penn'a Board of Agriculture for September, October and November, 1882. An octavo pamphlet of 49 pages in which is crowded a great deal of interesting and useful information to the farmers and gardeners of the State. The report contains information from almost every county, with proceedings of the annual county fairs, the tabulated statistics of the yield of crops; condition of growing crops; prices of farm products and farm stock; condition of live stock and tabulated analyses of fertilizers, including investigation of diseases among live stock; emulsions, etc., etc. From this report we learn that there are over 750 granges, farm clubs, and similar organizations, together with 102 County Agricultural Societies in the State of Pennsylvania, a few counties being without such organizations, but a number of others having more than one. The report on the granges is of especial interest. Although it is not unqualifiedly condoned, but is rather still regarded as an open question. In response to the enthusiastic seditious, a competent authority asserts that "one thing is certain, viz: Nothing came out of the state that was of value that did not go in, in an equally valuable form." In regard to commercial fertilizers, it is estimated, from the best available data, that the annual consumption of Pennsylvania is 70,000 tons, which at an average price of about $300.00 per ton would amount to $21,000,000, showing that prejudice against this class of manures is gradually diminishing, and the consumption rapidly increasing. Since the enactment of the law regulating the manufacture and sale of these fertilizers, nearly 300 samples selected from all parts of the State, have been analyzed by the chemist of the Board. The yield of crops in Lancaster county, compared with 1881 was 107. At the 1881 crop, 100, were as follows: Wheat, 149; rye, 117; oats 87; corn, 129; hay, 121; straw, 13; potatoes, 197; produce, 113. The condition of growing crops in November were as follows: Wheat of 1882-3, 115; grain wheat tillable, 156; clover tillable 5 years old, 12o; forage grasses, 13; hay, 10; hay, 120; do. artificial grasses, 160; do. artificial grasses, 160; rye and oats, 160; rye, 10; oats, 140. Wheat of 1882-3, 115. No allusion is made to tobacco except in the local report, which says, "the tobacco crop has been raised for several years.

Northwestern Farmer. - A semi-monthly journal, devoted to Agriculture, Horticulture, Stock raising, Poultry-breeding, and the Household. Published by the N. W. Farmer Co., Fargo, Dakota. A royal quartio of 8 pages in tinted covers. Fine colored paper, beautifully typographic, and excellent general "make-up." $1.00 a year, payable in advance. J. P. Dalrymple, and H. J. Man. This journal comes out in "cassowary" style and is looked upon as "a bond between Dakota into the Union as a State: but advocates the division of the territory into two territorial governments, on the ground that "nature divided Dakota long ago," that it is "certainly apparent that North and South Dakota have very little in common," and that it is "too large for a single government. But it is that "yet here neither nor there" to us. The N. W. Farmer is a credit to that far off territory, and worthy of a liberal patronage.

The Merchant and Salesman. - A 10 pp. Royal octavo, published monthly, for the advancement of the Merchant's and Salesman's Association of Philadelphia (of which it is the official organ) by the M. and S. Association. Consists of valuable and interesting and useful to the class of men whom it so ably represents. Among the officers of the M. and S. Association we recognize the name of our genial and worthy friend, Mr. James P. Maliseed, of the house of Maliseed, Hawkins & Co., as the presiding officer, which alone is a sufficient guarantee of its standing.

Address of the Hon. G. B. Learing, U. S. Commissioner of Agriculture, before the Nevada Valley Canes Growers' Association, December 14, 1882, St. Louis. Special Report.-No. 34 of the Department of Agriculture, Washington, D. C., 20 pp. 8vo., discussing the Sorghum Sugar Industry. Kansas far outfits all the other States put together, in this largest crop of the century. In 1880 she bad that year 50,643 acres in sorghum, and produced 1,800,000 pounds of sugar, and 1,414,404 gallons of molasses. In all the States participating 509,751,367 acres of corn, 12,988,695 acres of cotton, 37,969,641 acres of oats and 1,144,404 gallons of molasses. Of the I. A. F. T. Society, "Sorghum Sugar is approaching a solution in these United States, and only requires time and patience to make it an established fact."

Southern Cultivator for January. - The January number of this standard Agricultural publication is on our table. It is, perhaps ahead of any other number is general interest. In its pages are treated all matters pertaining to the success, comfort and happiness of the farmer. The publishers are doing what nearly all the proprietors of Southern publications have failed to do, namely: employing the best writers in the South to contribute to its columns. And they are thus making the most effective advertisement of the publication to the Southern people. The January number has the usual able contributions from Dr. Jones—the "Thoughts for the Month;" and the entertaining "Inquiry Department;" articles on Preparing Cotton for Market, Uproot Lion Law, Railroads and Rights of Way, a letter from a Farmer in the South, The Sugar Case, Stock and Dairy Department, Bills Arps Immovable Letter, four full pages of Correspondence directly from the Farmers' Biographical Sketches and Portraits of a New Castle, N. J. Lettner, and England, Wallace, a full Discussion of Fish Culture, and the Patron of Huxhendy Department. The commiserated articles are only a small portion of the contents. It is a paper well worth the price, $1.50 per year, or ten copies one year for $10.00. Address Jas. P. Harri- son, The Southern Cultivator, and the Southern Cultivator for $2.00 a year in ad- vance.

Pennsylvania State College Bulletin 11. — Describing Agricultural Experiments with various fertilizers, on Corn and Oats, together with General Remarks, Examination of Agricultural Seeds, Temperature of the Rainfall, 15 pp. octavo. This college has been very active of late years, and is steadily increasing its numbers. Ten years, but it seems it is still "alike and kicking." Farmers' Institute. — A free lecture course on Farm topics. A 4-page 8 vo. Catalogue and pro- gramme of exercisse, etc., in the College aforesaid. Berkeley County Agricultural Society. — Through the kindness of Cyrus P. Fox, Esq., the obiliing Secretary, we have received a copy of the Reading Times and Dispatch of January 8, 1883, containing a Year's Retrospect of said Society, while we are interested in the agricultural interests of Pennsylvania and the north, we cannot help making the heart glad, and to the citizen of Lancaster county—the farming citizen at least—it must operate as a quiet self-reproach, at the disparaging comparison between two of the most prominent counties in the State.

The Society above named is strong, numerically, prosperous financially, and solid intellectually, having 354 annual members, who pay $2.00 a year, and 359 life members, total membership, 613, and it is in communication with a large number of the oldest, largest and most influential and intellectual agricultural and Live Stock associations in the United States. The last annual report of the Society, which is a report of the balance in the treasury of $1,099.42, besides $1,000.00 in good investments, and other valuables, leaving it entirely free from debt.

The officers for 1882 are James McGowen, President; Joseph L. Sticher, Edward Lewis, William G. Moore, Ezra High and Henry Therre, Vice Presidents; Cyrus T. Fox, Secretary; George B. Learing, Treasurer; William Ritter, Corresponding Secretary; William S. Ritter, Treasurer; Matthias Mengel and Ezra High, Auditors; C. P. Fox, Librarian; Jacob Zerr, Representative in the State Board of Agriculture. We are also authorized to state that we have selected, at the 28th annual exhibition (September, 1882) were 2,723, and the premiums awarded amounted to $1,902.00, and, the exhibition itself was materially and find financially successful. Well done "Alt Berks." Who will go and do likewise during the present year?
A KNABE IN THE WHITE HOUSE.

There was seen yesterday at Messrs. Knabe & Co.'s factory a magnificent concert grand, just finished for the president's mansion. President Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House declined in favor of the Knabe Piano as his preference, and ordered accordingly the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case, and of superb tone and action—an instrument worthy in every respect of the place it is to occupy. It was delivered yesterday to Post Office and more American.

COLMAN'S RURAL WORLD.

This rural Agricultural paper entered its thirty-sixth year on the first of January, and appears in a new dress, and gives evidence of increased prosperity. To the Farmer, Stock Breeder, Fruit Grower and Cultivator of Orichards, for Syrup and Sugar, it is almost indispensable. It should be read by every one owning a farm. It is published weekly, in the best style, at only $1.00 per annum, by Norman J. Coleman. St. Louis, Mo.

THE PENN HARROW

BEST IN THE WORLD

IT HAS NO EQUAL

Pateneted April 13, 1872.

The above is a representation of the Penn Harrow complete, with all its combinations. Fine Harrow and Side Harrow; the most improved made from the Harrow without the least additional expense. By hooking the frame to either point, B or C, the center revolves and gives the ground Two Amours and Two Combs in perfect order over the field, making it the most effective pulverizer in the market.

THE PENN HARROW—THE ONLY TO BE APPRECIATED.

See it before purchasing and you will buy no other.

The Penn Harrow

CHANGED TO A THREE-CORNER ROTARY HARROW.

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THE PENN HARROW

ON ITS SLED.

It has always been a great inconvenience to get the Harrow to and from the field. The Penn Harrow has been designed to meet this necessity and is worked in the most perfect manner. It is the only Harrow that can be worked on the sled or any other hand and save the farmer half his labor, and will be noticed to do it we represent or money refunded. ORDER AT ONCE AND RECEIVE IT.

Price of the Light Draft Combination Penn Harrow, $10.00 direct from Catalogue and see what farmers say.

AGENTS WANTED IN EVERY COUNTY.

PENN HARROW MANUFACTURING CO.
CAMDEN, N. J.

COMPLIMENTARY NOTICE.

We desire to call attention to the advertisement in another column of D. M. Ferry & Co., D.trol, Mich., the great seedsmen, whose magnificent establishment is one of the sights of the chief city of Michigan. They do the largest business in their trade in the United States, reaching across the Atlantic and Pacific Oceans. Their house is entirely reliable, and if you wish to get exactly what you order, you cannot do better than send to them for your seeds, and you may depend upon it you will get the best that the market can supply. Their seeds have become known over the entire civilized world for purity and fertility, and they have gained for them an enviable reputation. Their Annual Seed Catalogue just issued for 1883, replete with information and beautifully illustrated, will be sent free upon application.

Send for Special Prices

On Concord Grapes, Transplanted Evergreens, Tulips, Poplar, Linden Maple, etc. Tree Nursery and Trees for Ornamental Plantations.

J. J. JENKINS, Nurseryman.

6-27-29

BY SENDING THE WING AND WHEEL FROM THE ORIGINAL, YOU HAVE A COMPLETE "A" HARROW.

THE PENN HARROW

CHANGED TO DOUBLE "A" HARROW.

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STREES

Fruit, Shade and Ornamental Trees.

Plant Trees raised in this country and shipped to the customer.

Write for prices to L. J. LYTLE.


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And Manufacturers of

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102 East King St., Cor. of Duke St.
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NEW FURNITURE STORE

W. A. HEINTSH.

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(Over Hurst's Grocer's Store.)

A general assortment of Furniture at all kinds constantly on hand. Don't forget the number.

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(Over Hurts Grocer's Store.)

For Good and Cheap Work go to

F. VOLLMER'S

FURNITURE WARE ROOMS,

No 339 NORTH QUEEN ST.

(Lancaster, Pa.)

Also, all kinds of picture frames.

GREAT BARGAINS.

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CARPET HALL OF H. S. SHIRK,

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Call and examine our stock and satisfy yourself that we can show the largest assortment of three Brunsch, three plus and ingrains at all prices— the lowest Philadelphia prices.

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Satisfaction guaranteed as to size and quality. You are invited to call and see our goods. No trouble in showing them even if you do not want to purchase. Don't forget this notice. You can save money here if you want to buy.

Particular attention given to customer work.

Also on hand a full assortment of Counterparis, Old Chintzes and Blankets at every variety.

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ATTOYRAT-LAW,
OFFICE: 15 NORTH DUKE STREET,
LANCASTER, PA.

SILK-WORM EGGS.

Amateur silkworm-growers can supplied with superior silk-worm eggs, on reasonable terms, by applying immediately to GEO. O. HENSEL,

No. 236 East Gray Street, Lancaster, Pa.

LIGHT BRAHMA EGGS.

For hatching, now ready—best strain in the county—at the moderate price of

$1.50 for a setting of 13 Eggs.

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No. 9 North Queen st., Examiner Office, Lancaster, Pa.

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In Every Township in the County. Good Wages can be made. Inquire at the EXAMINER OFFICE,

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JOHN BAER'S SONS, Nos. 15 and 17 North Queen street, have the largest and best assorted Book and Paper Store in the City.

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H. FINITSIUS, No. 155 East King st., (over China & Glass House), is the cheapest place in Lancaster to buy Furniture. Picture Frames a specialty.

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HIGH & MARTIN, No. 15 East King st., dealers in China, Glass and Queesnware, Fancy Goods, Lamps, Barriers, Chinngeys, etc.

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MAYER & RATHVON, Centre Hall, No. 12 East King street, largest Clothing House in Pennsylvania outside of Philadelphia.

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G. W. HULL, Dealer in Pure Drugs and Medicines, Chemicals, Patent Medicines, Trusses, Shoulder strap, etc., 15 West King st., Lancaster, Pa.

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H. Z. RHOADS & ROY, No. 4 West King st., Watches, Clock and Musical Boxes. Watches and Jewelry Manufacturer to order.

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JOHN A. HIESTAND, 9 North Queen st., Sale Bills, Charters, Posters, Cards, Invitations, Letters and Bill Heads and Envelopes neatly printed. Prices low.

DISOLUTION OF PARTNERSHIP.

The copartnership in the merchant tailoring business, carried on by the firm of Wissen & Fisher, is this day dissolved by mutual consent. All persons in any manner indebted to said firm, are respectfully solicited to make immediate payment to S. R. Rathvon, who is hereby authorized to receive all monies, and receive of said claimant and said firm, will present the same for settlement.

S. R. RATHVON.
M. FISHER.
101 North Queen street, Lancaster, Pa.

Until further announcement, the business, without interruption, will be conducted by the said rivals, who solicit a continuance of the patronage heretofore bestowed upon the firm, and which is hereby greatly acknowledged.

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PRACTICAL FARMER.
No. 101 North Queen Street, LANCASTER, PA.

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EDITED BY DR. S. S. RATHVON.

TERMS OF SUBSCRIPTION:

ONE DOLLAR PER ANNUM, POSTAGE PREPAID BY THE PROPRIETOR.

All subscriptions will commence with the January number, unless otherwise ordered.

Dr. S. S. Rathvon, who has so ably managed the editorial department in the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become necessary to the successful farmer, are alone worth more than the price of this publication. He is determined to make "The Farmer" a necessity to all households.

A county that has so wide a reputation as Lancaster county for its agricultural products should certainly be able to support an agricultural paper of its own, for the exchange of the opinions of farmers interested in this matter. We ask the co-operation of all farmers interested in this matter. Work among your friends. The "Farmer" is only one dollar per year. Show them your copy. Try and induce them to subscribe. It is not worth much to each subscriber to do it but it greatly sustains us.

All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

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CALF WEANERS, etc., etc., etc.
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FROM SMALL TESTS BEGAN IN 1844 THIS PRACTICE HAS EXTENDED TO ACRYLS.

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Each family of vegetables planted the same day and under precisely the same circumstances, will be distinguished by a label bearing specific numbers; these recorded in a book, giving date of planting and origin of sample.

The books of record are volumes of practical observations, and may be seen in the office stacked away, extending far back into the years, ready at all times to testify to the merits or demerits of ever, vegetable known to the trade.

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We keep on hand of our own manufacture,
QUILTS, COVERLETS.
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For active solicitation paid to customers by Carpet and Covering and dressing of all kinds.

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ALWAYS MAKES GOOD SIMPLIEST AND BEST.

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<th>Time</th>
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**Pennsylvania Railroad Schedule**

*Note: Travel time is approximate.*

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*Newest Improved Side-Bar Buggies, Phaetons, Carriages, Etc.*

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Embracing the history and habits of noxious and innoxious insects, and the best remedies for their expulsion or extermination.

By S. S. RATHVON, Ph. D.

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The work will be highly illustrated, and will be put in press as soon after a sufficient number of subscriptions can be obtained to cover the cost as the work can possibly be accomplished.

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No. 9 North Queen St., Lancaster, PA.
The Lancaster Farmer.

Dr. S. S. BATHVON, Editor.

LANCASTER, PA., MARCH, 1883.

Vol. XV. No. 3.

THE CANKER-WORM. (Dendrocterus vonoi.)

Prof. C. V. Riley, Entomologist of the U. S. Department of Agriculture, is desirous of obtaining information from local observers concerning canker-worms, and the Entomological Division of the Department has issued circulars calling the attention of farmers, amateurs, professionals and others to the subject, which is, or may become, one of no little importance. It appears, that until comparatively a recent date, "two entirely distinct species of canker-worms have been confounded in description, seasons of appearances, habits and geographical distribution." We append the circular itself, or the most important portions of it, and respectfully ask our patrons to make careful observations on the matters referred to therein, during the approaching season, and to communicate them to us, or immediately to the Entomologist of the Department, although, we may be allowed to say, that thus far, canker-worms have never been conspicuously among the noxious insects of Lancaster county, and only to a limited extent in Pennsylvania, if at all.

In June, 1865, from an elevation in Mt. Auburn Cemetery, near Boston, Mass., we observed, the apple trees especially, as far as the vision extended in every direction, were brown and crisp, as though a fire-blight had passed over them, and this effect, we were assured by an intelligent conductor, was caused by the presence of devouring hosts of Canker-worms. One tree, of which we had a close view, had its leaves skeletonized from base to apex, but it was near the end of June, and the worms had nearly all disappeared and gone into the ground. We never saw any approximation to such a sight in Pennsylvania and especially not in Lancaster county. Now and then a few struggling individuals, but never an "ecidemic." Still, like many noxious insects, they involve possibilities—if we have ten, we may have ten thousand when all the favorable circumstances combine. That our readers may be able to distinguish between a "canker-worm" and an "army-worm" we would just suggest that the first named is a "Looper" or a "measuring-worm" whilst the last named, belongs to the great family of "cut-worms."

The most widespread and best known species is the Spring Canker-worm (Pselaphocira vonoi), in which the worm rises from the ground chiefly in spring, and secretes its oval and delicate eggs. The second species is Aulacodes ponzius, Harris, and the female dresses in black, and lays her eggs in sorrel and exposed masses. Will you please give such information as you possess, especially upon the following points, in regard to the occurrence of Canker-worms in your locality:

1. Which species, if either, is now found in your locality, or has ever been found?
2. When was it first observed there?
3. During what years has it been especially injurious?
4. During what year has it been entirely unnoticed?
5. Has the appearance of the perfect or parent insect been confined to either season, the fall or the spring? If so, has it occurred both?

Wherever any doubt or does arise in regard to the species observed, it is particularly requested that specimens may be sent to the Department of Entomology, which, packing and postage will be reimbursed to the contributor if a request to that effect is made; or boxes and stamps for the return of specimens will be obtained by the Department of intention to contribute information and specimens.

Observations may be made during all mild weather from the present month (November) until the middle of June. The more frequent and detailed the observations the greater will be their value. If you have not the time or inclination to make these observations personally, you will confer a favor by sending this circular to some person who will be interested.

Should this circular come to the hands of any entomologist familiar with the two species, I would respectfully ask of such any information they may possess that will throw light on the range and preferred food-plants of either.

Respectfully,

C. V. RILEY.

Entomologist.

"NOW IS THE TIME."

Any times, all times, may be proper for the doing of that which is useful and good. In short, now it is still time to go heed to the insect survivors of the past season—that diminished "few" which lay the foundations for the greatly increased multitudes that prove so disastrous to the crops during the summer following their advent. Only two or three days ago an honest yeoman from the country called upon us to enquire, "What must I do to be saved" from the depredations of the "Squash-bug," (Coreus trieida) "for I have tried lime, and soap, and salt and London purple, and Paris-green, all to no effect whatever, and I almost dread the approaching spring and summer." We advised our interlocutor that that had been precisely our experience with this insect more than five and thirty years ago, except that we had not applied the two remedies last named. He seemed astonished that Paris-green would kill a "potato beetle," and not a "Squash-bug." The reason is obvious from the structure of the mouth-parts of these insects, although there may be circumstances under which both would perish or both escape.

The Colorado potato beetle is Mastotribulina, that is, it possesses jaws, masticates its food, and swallows it bodily down, like any other masticating animal; and, if the food has been previously poisoned it is very likely also to eat the potato along with its natural food, and thus become a victim to poison.

The case is different with the squash-bug, which is handotribulina, that is, provided with a sucking apparatus in the form of a piercer, by which it penetrates vegetation and sucks out its substance in a liquid form, just as a horsefly, or a mosquito, sucks the blood of the hosts they prey upon. A squash-bug would have no difficulty in finding a place to enter its beak, for we have known it not only to penetrate the leaves of the vines it infests, but also the leaves of the vines and the yellow fruit. Nevertheless, Paris-green, London-purple or Pyrethrum, we do not think would be healthy for immature squash-bugs or potato-beetles, if applied as a liquid or otherwise, even if they did not eat any of it. Before their maturity, or in the larval state, the breathing spiracles and the pores of the body are more exposed than when they are mature, and hence they may be poisoned by external absorption. We have experienced this in the larva of the potato-beetle. And on one occasion a gentleman from Maryland sent us five mature specimens of the beetle in a bottle half-filled with pulverized Paris-green, which had been confined in the bottle 24 hours before we received them, and four of them died — continued to live 24 hours longer. This may illustrate that poison has little effect upon the hardened integument of an insect, or that the poison is of an inferior quality. Under these circumstances we admonish our readers that "Now is the time" to inaugurate measures of prevention. The squash-bug makes its appearance early in the spring. Some years ago we captured over two hundred of these insects in the middle of March, under a piece of bark about three feet long and one foot wide—all were lively.

We slaughtered them—or most of them—and we found it no very pleasant task; but, pleased or not, we have never heard of a remedy better than what is called "Hand-picking." A pair of wooden forceps with long handles, will obviate the necessity of handling or heating them.

Now also is the time, to anticipate the early broods of a large number of insects—now, before trees, and bushes, and shrubbery are in foliage. Look out for Potato Beetles, Squash-bug, Scurvy-grass (Pieris vespiformis), Cucumber-bug, Canker-worms, Cucumber Beetles, White, Cabbage Butterflies, the Sawflies that breed the Apple, Pear and Rose-slugs; the egg bracelets of the "tent caterpillars," or "Tussock moths," the vapor-moths, and many others. But you must look for them if you desire to find them in their still semi-torpid condition. Some of these insects, notably the Potato-bugs and the Squash-bugs do not deposit all their eggs at one time, but continue this work "here and there" and "now and then" nearly all summer: and if you can succeed in heading off the early broods, you will have less of these vexations after the summer.

The pollines of the "Sack-worm" are now very plentiful from the naked branches of trees and shrubbery, and also on the arboretum, where they are not so conspicuous.

There is no possible excuse for the non-removal and non-destruction of these followies, for they are very visible and accessible. Perhaps four-fifths of these follies are the vaccinated premisses of the males of last year. But
THE GROUND-HOG.

As usual, the ground-hog the present season, comes in for his share of landamint, as a truthful prognosticator, "laying"! Vennor and Wiggins entirely "in the shade," and even denying "Old Probabilities." "Old Artemys," seems just now to have the best of it, and doubtless always will have the best of it. He is a cute old prophet, never says much, by way of prophesying, lays down his expe dicit, and lets time and season work out the problem, and generally comes out as near as the best of them. But, when we reconnit upon it, he really is not much of a prophet after all. His luck consists mainly in leaving his prophecies upon premises that cannot fail well entirely. It does not require much foresight to predict that we shall have six weeks of wintry weather after Candlesmas. Take any ten, fifteen or twenty years together, and it will be found that the spring seldom opens before the middle of March, or St. Patrick's day, and this always occurs about six weeks after Candlesmas. We always expect rough weather about St. Patrick's day, not because it is the anniversary of the birth of Ireland's patron saint, but, because it comes near the vernal equinox, an event that is nearly always accompanied by a greater or a lesser storm. Equinoctial storms are always looked for in March and September, and they are looked for because they so frequently occur about the middle of these months, and that too, without regard to St. Patrick or the ground-hog. And then too, his coming out of his winter lair on the 21st of February is subject to different constructions by different people; one party contending that the sun must shine all day to make it a good ground-hog day, and that the heavens must be clouded all day to make it a good one; another party contending that sufficient sunshine to cast a shadow—if but for a moment—on a cloudy day, to obscure a shadow, are all sufficient. And still another party asserts that six weeks of rough or fine weather, commencing on the 1st of March, and ending in the middle of April, is a sure verification of the prophecy, without regard to the character of the weather in February. Thus the ground-hog is generally jubilant, having the weather-lawyers on his side, Vennor, Wiggins, Ground-hog. Make your choice.

To give relief to a burn apply the white of an egg. The yolk of the egg may be eaten or placed on the skirt bosom, according to the taste of the person. If the burn should occur on a lady, she may omit the last instruction.

EXCERPTS.

Purchase small trees with plenty of roots rather than large ones with few roots, for spring setting.

SOLDER FOR NICKEL.—The following has proved a good formula for making a solder for nickel: For fine or high grade nickel, three parts yellow brass, one part coin silver. For low grade nickel, fifteen parts yellow brass, five parts coin silver, four parts zinc (pure or plate zinc). Melt the brass and silver with borax for a flux, and add the zinc in small pieces, stir with a iron rod, set it in a slab mold, and cool slowly, when it can be rolled thin for cutting.

CEMENT FOR LEATHER BELTS.—According to the English Mechanic, the most valuable cement for leather belts is thus produced: Common glue and American isinglass, equal parts, adding water to cover the whole; after soaking this mixture ten hours, it is to be brought to a boiling heat, and pure tannin added till the whole becomesropy; apply warm—baffing off the grain of the leather which it is to be cemented, rubbing the joints solidly together, and allowing a few hours for drying.

TREATMENT OF DISTEMPER.—It will be interesting to lovers of the canine species to hear of a simple remedy for distemper. At the quarterly meeting of the Scottish Metropolitan Veterinary Medical Society, Mr. Baird mentioned the case of a collie dog, in the last stage of the disease, and which its owner had determined to destroy. Shortly after being treated with doses of strong coffee and a little sweet milk, the animal, however, so far recovered as to be able to stand and walk. The chairman of the meeting said the case seemed almost unique.—London Lancet.

NON-POISONOUS NEW GREEN COLOR.—According to Ad. Carnot, a non-poisonous and permanent new green color may be prepared as follows: A solution of bichromate of potash is mixed with a sufficient amount of phosphate of soda; sodium acetate and sodium thiosulphate are added, and the slightly acidulated mixture is boiled down, for an hour. Fine green precipitate is thrown down, which is not volatile and perfectly fast against air, light, dilute acids, soap, etc., and may be used for painting, calico printing, etc. For dying, the material to be dyed is treated with a mixture of bichromate, phosphate, and acetate of soda, and is then boiled in a slightly acidulated bath of thiosulphate of soda.

RAW starch, applied with a little water, as a paste, will generally remove all stains from bed-ditching.

To clean metal plates, keyholes, etc., of doors, also stairs-rod, use sapoilio; or, if brass, roccastone.

To clean and polish tortoise-shell use a drop or two of sweet oil, and rub it in thoroughly with the ball of the thumb.

Silver in constant use is kept nice and bright by washing it every day in warm soapsuds and drying it with old linen.

Burns and scalds are immediately relieved by an application of dry soda covered with a wet cloth, moist enough to dissolve it.

To clean iron use a lump of beeswax tied in a rag; rub the iron with it when hot, and then scour with a paper or cloth, sprinkling with salt.

To remove spots from furniture, take four ounces of vinegar, two ounces of sweet oil, one ounce of turpentine, mix and apply with a flannel cloth.

Shirts of ammonia, diluted with water, if applied with sponge or flannel to discolored spots of the carpets or garments, will often restore the color.

Soot falling on the carpet from open chimneys or carelessly handled stove-pipes, if thickly covered with salt, can be brushed up without injury to the carpet.

One pound of green copperas dissolved in one quart of boiling water, will destroy foul smell. Powdered borax scattered in their haunts will disperse cockroaches.

A STARCH that will make linen look as good as new, is made of one quart of corn starch, three ounces of gum arabic and two ounces of loaf sugar.

To clean oilcloth, wash with warm milk. Once in six months scour with hot soapsuds; dry thoroughly and apply a coat of varnish. They will last as long again.

When carpets are well cleansed sprinkle with salt and fold. When laid, strew with slightly moistened bran before sweeping. This with salt will freshen up wonderfully.

To give glass great brilliancy, wash with damp sponge dipped in spirits, then dust with powdered blue or whitew (tied in a muslin bag), and polish with a chamois skin.

A PASTE made of whiting and benzoin will clean marble; and one made of whiting and chloride of soda, spread and left to dry (in the sun if possible) on the marble, will remove spots.

SULFUR handkerchiefs washed in clear water with pure white castile soap look new. Do not iron, but soap between the fingers until almost dry, and then press under a weight.

To care carvings, take a pinch of black pepper, put it on a piece of cotton batting dipped in sweet oil, and place it in the ear, and tie a bandage around the head, and it will give almost instant relief.

To clean oil or grease spots from carpets, use fuller's earth and water, spread thickly, cover with paper, and let it remain two days; brush off, and if not removed, make another application. If haste is required, use benzine.

GILDED frames of mirrors and pictures are beautifully cleansed by applying the white of eggs with a cannel's hair brush. To prevent flies settling upon them, wash in garlic or onion water. Do not fear the odor, as it soon dies away, and brightens the gilt.

CHINA of any color, excepting white, may be easily and quickly mended with shellac. Place a little shellac on the broken pieces, and keeping them close together, hold them to a lighted candle. When the shellac is melted sufficiently, let it cool and harden, and it forms a strong cement.

HOT ALUM-WATER is the best insect-destroyer known. Put the alum into hot water and let it boil till it is all dissolved; then apply
the solution hot to all cracks, closets, bedsteads and other places, where any insects are found. Ants, bedbugs, cockroaches and creeping things are killed by it; while there is no danger of poisoning the family or injuring property.

To find the number of bushels in a Hopper.—A convenient rule to find the number of bushels of grain in a hopper, is to multiply the length (in inches) at the top by the breadth and that product by one-third of the depth, measuring to the point; divide the last product by 2100.4 (the number of cubic inches in a bushel), and the quotient will give the number of bushels contained in it.

Bronzing Iron.—Iron has sometimes to be bronzed for domestic use. The following is a very simple way of obtaining a very good bronze: Mix an equal quantity of butter of antimony and oil of olive; put this mixture on the iron which is required to be bronzed with a brush, the iron having been previously brightened with emery and cloth, and leave it for several hours. Then rub with wax and varnish with equal.

Sure Cure for Corns.—A. C., who has tried it, is authority for the following: Take one-fourth cup of strong vinegar, crum-"""" uly into some bread. Let stand half an hour, or until it softens into a good poultice. Then apply on retiring at night. In the morning the soreness will be gone, and the corn can be picked out. If the corn is a very obstinate one, it may require two or more applications to effect a cure.

Metallic Protectors to Boot Heels.—Metallic protectors are now ingeniously applied to light steel and fastened around the outer edge of the heel of the shoe with three screws; they are about one-half an inch in height, and protect the bottom of the heel by a narrow flange, which operates to prevent the edges from wearing away, at the same time imparting strength and stiffness. Their lightness is a special advantage, and its appearance is not at all unsightly.

Contributions.

For The Lancaster Farmer.

APPLE CULTURE.

The cultivation of the apple is supposed by some people to be of very little importance; that in order to be successful in raising apples all that is required is so many plants and large crops of fruit should be forthcoming; without paying any regard to what varieties are planted, or what the nature of the soil may be, or paying any attention to the subsequent cultivation of the orchard or to the trees. Our intention, however, is to refer briefly to varieties and soils, claiming that a proper starting point is the most important to insure success. My experience is that while some varieties upon one soil may be complete failures, the same varieties upon different soils may be a perfect success and vice versa, so we would infer that it was all-important to ascertain the adaptation of the different varieties to the various soils.

I have taken an interest in apple raising for years, having planted upwards of 200 trees in 1856-6, planting in five different orchards in as many different soils, not two miles apart. The different conditions of soil upon which I planted were, a red-sable southern slope, a rich gravel southern slope, a lime stone plot, inclining north, a little west; a sprouty lot consisting of lime stone and gravel, and a sandy lime stone. Red shale was the best soil to be, being the Newtown Pippin, Smoke-house, and other varieties to perfection, when there would have been much trouble in my orchard. My trees blossomed very profusely all over, and I expected the largest apple crop that I ever raised, but only three varieties bore a full crop—namely, the York Imperial, the Russet, and the old Pennsylvania Red streak. Last year the Red streak and the Smith's Cider were the apples above all others. I let it and I think it is a healthy tree. It would have been very profitable, had there been a greater number of those kinds. The Pound Apple and the Baldwin Pippin were about half a crop, and so also were a few other varieties. Among the failures were the Krauner, the Northern Spy, the Huberston Nonsuch, the R. L. Greening, the Monmouth Pippin, the Munson Sweet, the Gilly flower, the Black Cole, and the King of Tonkings County—this last named was a greater failure than any of the others, many of which were only partial failures. Smith's cider only bears in alternate years. 1852 being its regular bearing year, of course I expect nothing from it the present year. I have, however, observed that occasionally these alternating bearers change their years. The York Imperial alternates, whilst the Penna. Red streak bears every year, slightly alternating between good and better. It does best on the south side of running water, where the soil is more or less moist in the spring. Those on the north side, on higher and richer ground, were much inferior in 1850 and 1851. In 1852 there was also a difference, but not so great as in some other years.

My Smokehouse apple fall on ground almost invariably. My object is making these remarks is merely to show, according to my experience—that some soils will never make a bearing orchard. L. S. R.

Oregon, March, 1853.

[The tendency towards alternation is somewhat singular. Even in characteristic annual bearers, the tendency is toward alternation, even should it be between better and best.—Ed.]

For The Lancaster Farmer.

"AND FOR FUND WELSTER." MR. EDITOR: Notwithstanding your pretty bland hint that you do not want any further discussion on "The Balance of Trade," I have ventured to write again, for as J. P.'s last article leaves no doubt that I am entirely right and he entirely wrong, in regard to the disputed statistics, I think I have a right to show it. Surely where plain figures are concerned, there should be no two opinions. I assure my opponent I did not know of the explanation he gives or I certainly would have used it, for it tells conclusively in my favor.

I had no intention nor desire whatever, as he intimates, to charge him with, or convict him of intentional deception. Though if he had only acknowledged in his last, as it seem to me, to be entirely culpable, he should have done, that the statistics he quoted from Young's report, were false and worthless, for any use in our argument, and that Nimmo's were the only true ones, it would have saved you and your readers the infliction of this article.

If, as he says, (and I have no doubt his explanation is the true one) Mr. Young took his estimate of our exports from a paper value when gold was worth in greenbacks, sometimes 250 per cent, and over, and our imports being always estimated at their cost abroad, and hence at their value in gold coin, then, of course, his statistics were entirely false and deceptive, while Nimmo's being estimated on the gold value of both exports and imports, must be the only true ones. We can only compare things by reducing them to the same unit of value. We might just as well say one stick is longer than another because it contains more feet than the other one does yards. A paper dollar during the decade spoken of, did not bear a much greater ratio to a gold one, than a foot does to a yard. What sense is there then, in statistics founded on such different units of value? Mr. Young would have only exaggerated his error, if he had estimated our exports in dollars and our imports in pounds sterling, and then, because every article of the value of five times as many dollars as it is pounds sterling, say our exports were two and one-half times our imports, when in fact, the excess was just as much the other way.

My friend in his last article, misquotes me and misrepresents himself. He says, referring to what I said in the January number, "He says 'J. P. has made the astonishing discovery that consumption is gain and production is loss.' By referring to my article you will see just what I did say, which is quite different. He says, 'I said nothing about production being loss.' Now see he forgets, for in December he writes, "Is the utmost of this alleged Financial proportion," (that is, that production is gain and consumption loss) "nearer the truth, vis. All productions of the earth are or will be lost if they are not consumed." Is not that something about production being loss? Daniel Webster does not say in the speech quoted that the large importation and consumption of extravagant luxuries will advance the material wealth of our country as J. P. does. If he did, his mind must have been under as great a cloud as when he made his celebrated "7th of March" speech, of which his best friends were so much ashamed, and from the eternal disgrace of which, we all know, he never recovered. It seems to me this whole controversy might be settled by a single hypothetical case. Suppose our exports last year were $500,000,000 and our imports $500,000,000, we pay the balance in gold coin. While this year, by some kind of good management, no matter what, we have been able to set all our tramps and previously idle men at work, and thus have increased our productions, so that we have been able to export $500,000,000 and by economy, have only demanded for $500,000,000 of imports, the balance
THE LANCASTER FARMER.

$100,000,000 coming to us in gold coin or bills of exchange. Is it not plain, to the common sense mind, that the second year is the more profitable of the two?

My opponent continually wanders from the subject. We are discussing what policy will most advance the material wealth of our country and not what will most benefit morality, or religion or decorate our galleries of fine arts. This being so, and I think he will not deny it, what sense is there in saying that it is right for the rich man to indulge in luxuries but very wrong, "little short of a crime," for the poor man to do so. Will not the same policy that is good to add to the poor man's means, do the same for the rich one? Is it not just as advantageous to a merchant to Cr. "merchants" by "Bills Receivable" as by "Bills Payable." In other words, will not the same policy that will make a rich man rich, make the rich man richer, or that is good to pay debts, good to accumulate wealth after the debts are paid? J. P. thinks not. It is very true that a thing is worth just what it will bring in the open market to the seller, but to the consumer, it is not always so. It makes a great difference to the consumer, whether in the loss of consumption, he get reproductive value back in its place, or whether, as in the consumption of intoxicating liquors, and many other luxuries, he gets nothing, or less than nothing back.

All his talk about my proposition, that all consumption is loss, is only the most idle kind of hair splitting. Since we both agree that by some kinds of consumption we suffer a total loss, and by others we get back a reproduction that more than makes up for the loss. If a boy loses his knife I call it lost, though in looking for it he finds another of greater value. It makes no kind of difference, to our argument, whether it would, or would not have been better, to say his knife was not lost, since the boy is better off than before. I call the consumption, even of necessaries, loss, because the more we consume of them for a given amount of reproduction, the greater our loss, and the less our profits. This is just why extravagant consumption and waste impoverish, because the consumption or loss, overruns the production, or gain. It seems to me, according to J. P., if Vanderbilt were to buy Lancaster city, set fire to it, and, like Nero, fiddle while it burned up. he and the country would both be richer, because he paid the market price for it, and had some fun looking at the fire.

My esteemed friend appears to stand in continual and mortal terror from "mean axen" and "ethetics," dots on "argument." Your readers will therefore understand his nice little fling at "Delaware," and such sentences as "The Balance of Trade delusion," and a "meaningless," for presuming to disagree with the "God-like Daniel," contain nothing but pure "argument."

I have noticed that your Lancaster correspondent is always saying he is willing to leave his readers to judge between him and his opponents, but never lets them do it, without repeating over and over his arguments, for fear they might decide against him.

I have also noticed that with all his many antagonists in this discussion, running through his six or seven long articles, he was always managed to get the last word and I suppose it will be so with me, for wind and words never seem to fail him, while I confess (and I think you will be glad to learn it) that I am getting tired.—S. P., Lebanon, Del., Feb. 20, 1833.

DEEP OR SHALLOW PLANTING.

Dr. S. S. Batyson—Sir: Your correspondent, Warwick or Oregon, is in favor of shallow planting, but there are generally two sides to a question. When the ground is moist, and no prospect of a draught, shallow planting, at least of seeds, may answer; but, in dry ground, seed very frequently fail to make their appearance above ground; when planted deeper, there is usually more moisture and they can stand a dry spell much longer.

Many years ago, a man in Perry county, Pa., had a corn planter, which he wished me to try planting corn. He sent it to Columbia, where I got it. In the fall it was placed on exhibition near the fair at Lancaster, from where it removed. We planted some twenty rows, the length of the field, and then again resorted to our old plan of furrowing out deep and dropping the corn by hand and covering with a heavy two-horse harrow. That planted with the machine came up before the rest of the field, and grew much faster for a time, but when the weather became more dry, the other part of the field soon caught up, and got ahead. The part planted with the corn-planter, also got more weedy, as the soil was not so much disturbed as with large harrow. At hussking I found considerable difference in yield, in favor of that that was planted deeper.

I also well remember planting an orchard of apple trees, sixty years ago—I dug large holes, three feet in diameter, put the top soil on one side, and dug another spade deep, put that on the other side—then returned the top soil to the bottom, and on that planted the trees, with the yellow clay on top, careful not to plant deeper than the trees stood in the nursery (according to directions in Cox on fruit trees, a work long since out of print.) A neighbor also planted a small orchard about the same time. His plan was to dig post holes; less than a foot square and nearly two feet deep, if the hole was too small to spread the roots, he would force them down with his foot. He told me trees must be planted deep, so that the wind could not sway them about and they would grow much better. Result, my trees grew vigorously for a few years, while my neighbor's trees made very slow growth at first, but after a few, say six years, his trees got even with mine, and I am confident that my neighbor's trees bore twice if not four times as much fruit as mine did. Both orchards have long since been past their prime, I might mention many other cases, where deep planting had the advantage. Another valuable planter here is being strongly advocated, which is to keep the ground level, and not to hill up the plants. I differ with this plan, for the following reasons: It requires more work to keep the weeds down; it is far more liable to be prostrated by gales of wind; it cannot produce so large a crop as the upper roots, or stolons, coming from the stocks, two and three joints above ground fail to reach the earth in dry weather, as these roots if hilled up will at once take hold of the soil, give nourishment to the stock, and as braces to stiffen the stem, thus very much preventing the wind from blowing it down. Thus I am in favor of rather deep planting of either trees or seeds, as we usually get dry spells, sooner or later every season, and when trees or seeds are so near the surface they are very liable to suffer.—J. B. G., Columbus, Feb. 3, 1835.

SELECTIONS.

ARTIFICIAL INCUBATION.

How Some Successful Experiments at Hammonet, N. J., Were Conducted.

In order to thoroughly test the matter of artificial incubation several gentlemen residing at Hammonton, N. J., determined to construct a number of incubators, fill them with eggs, experiment with them at different places, and otherwise manage them in such a manner as to leave no doubt as to their value, and settle conclusively whether they were reliable or inefficient.

The first incubator was constructed by Mr. George W. Pressey, who made several improvements as he progressed, and the result was 155 chicks from 200 fertile eggs, or 77½ per cent. Mr. Denny, however, was not satisfied with so small a percentage—arising from obstacles not contemplated, but which have been rectified—the second lot of eggs showing indications of a larger number when the period of hatching arrives. This incubator holds 300 eggs.

The second incubator, made in the same manner, was constructed by Mr. Ezra Packard, its capacity being 300 eggs. Owing to a false registry of his thermometer Mr. Packard kept the heat two degrees lower than he supposed it was; nevertheless, 175 chicks were hatched from 244 eggs, or about 72 per cent.

The third incubator made on the plan of Mr. Pressey's, but constructed by Mr. John Crowell, holds only 150 eggs, and was filled with that number. Of the eggs, 85 proved to be unfertile and worthless. From the remaining 65 fertile eggs Mr. Crowell secured 60 chicks, or about 91½ per cent.

The fourth incubator was constructed by Mr. Harry Little; but owing to some unknown cause, supposed to be an excess of moisture, only 15 chicks were hatched from 300 eggs. Up to this period, however, the actual figures had not been obtained, but the result was a very small number.

The fifth incubator, constructed by Mr. Pressey for Mr. Frederick S. Robbins, and operated by Mr. Robbins, hatched 160 chicks from 220 eggs, without regard to their fertility. This is 64 per cent. of the gross number, but the percentage is much larger when compared with the above incubators, as the number of fertile eggs was not observed.

The sixth incubator, constructed by Mr. Pressey for Mr. D. B. Berry, and operated by Mr. Berry, is due to hatch the latter part of this week, and the indications are in favor of a good hatch. The seventh, constructed by Mr. Pressey and Mr. P. H. Brown, is also almost due to hatch.
So many incubators being in operation at nearly the same time caused quite a scarcity of eggs, about 3,000 being required. Although this number is easily obtained at times, the demand was rather sudden at a season when they are not plentiful. The operators were compelled to procure eggs from all sources, the consequence being that many of them were unfertile (uninjured) and utterly unfit for the purpose. Not one of the above parties has had any previous experience in constructing or managing an incubator, nor have they had any opportunity, except at exhibitions. They engaged in the work for purposes of experiment, and, as the result has been so satisfactory, other incubators are being constructed for many other citizens of Hammonton, so that in a few weeks, with the experience derived from the first attempt, the sitting hen is liable to perpetual banishment from that locality.

The incubator used by these gentlemen is a very simple affair. The one operated by Mr. Crowell, capacity 130 eggs, derives its heat from one lamp, the larger ones being heated by two lamps. The outer dimensions show Mr. Crowell’s incubator to be about three feet wide and four feet in length, the larger sizes being about four wide and five in length. They can be made, however, of any dimensions desired. The lower part is simply a box with no top, the bottom of which is perforated with twelve one-half inch holes, into which are inserted tin pipes for the purpose of admiting air to the eggs. It is called the ventilator-box. Directly over the ventilator-box is the egg-drawer, the bottom of which is covered by strong paper muslin, tightly drawn, upon which rests the eggs, which are separated into narrow rows by slats, the slats being fastened at the ends by strips on each side. A space of two inches at the front of the incubator drawer allows the slats to be moved backward or forward, which enables eggs to be put in or removed, no drawer being engaged by the heat from the lamp, which is again only a box, but the bottom is constructed of zinc, fastened to the wood by a double row of nails. On the right side, near the front, an elbow, made of tin, projects from the heater and bends directly over a lamp inclosing the globe. The heated air and gaseous impurities from the lamp pass into this tin tube, and turning at the elbow go into the heater, being there diffused by being compelled to pass over the zinc to the opposite side, where they pass out through three tin chimneys placed at a distance of one foot from each other. On the bottom of the ventilator-box, near the heat, is placed an oil lamp, the heat from which is made to pass over the zinc by tin chimneys on the opposite side to the lamp. The small incubator has the lamp at the rear, as only one is required, the chimneys being near the front of the incubator. The incubator is then covered with a larger box, a space of eight inches being allowed all around, which is filled with sawdust—bottom, sides, back, front and top. No boards need necessarily cover the sawdust on the top. The chimneys must be high enough to extend above the sawdust on the top of the incubator, and the pipes at the bottom of the ventilator must be freely free for admission of air, or rather, must extend below the sawdust. The chimneys begin

within one inch of the zinc and extend to the top, passing through the sawdust. The inside of the egg-drawer is six inches in depth: the ventilator underneath, eight inches, and the heater, six inches. The front of the egg-drawer, to a distance of eight inches, is partitioned off and filled with sawdust, the result being that the incubator, when closed, is completely surrounded with a layer of sawdust eight inches thick. Thus we have three boxes—ventilator, drawer and heater—one above the other and fastened on the sides, the whole making a complete box covered by a larger one.

The eggs are unstrung for the first three or four days. At the end of that time they are sorted, or tested, by holding them to a strong light, such as the sun, or lamplight in a darkened room. The eggs, if dark objects appear within, are probably fertile; if the eggs are transparent, or clear, they are probably unfertile. To make sure, the operator waits until the eighth or tenth day, when the difference between the fertile and unfertile eggs will be very marked. They have just tested the whole box and each egg, except that portion through which the light passes. A tester can be made by using a tube of pasteboard, placing the egg at one end and the eye at the other, and directing the egg-end of the tube toward the light. The eggs are springed once a day after the fourth day to the tenth, then twice a day to the fourteenth day, and then three or four times daily till the twentieth-first. The eggs are turned every four hours during the day, and, if convenient, also during the night. Strong chicks (the only ones worth saving) are left to themselves when coming out, no assistance being needed; but a damp cloth is kept over the eggs when about to hatch, and, of course, water is kept on the bottom of the ventilator-box for furnishing moisture. From 80 to 100 degrees is the heat required, the regular temperature to maintain being 103. The eggs are allowed to cool down to 75° at least once a day. The tubes in the ventilator box do not extend up to the eggs, but the air passes in, absorbs moisture from the water, passes through the muslin bottom of the drawer, is there heated, and usually remains until it passes out when the drawer is opened. Five gallons of oil are used during the three weeks to each large heater. About two days are required to get the apparatus thoroughly heated to the requisite temperature; but this slow generation of heat is balanced by a corresponding reluctance in parting with it, which accounts for the even temperature so easily obtained. No regulator of any kind is used. The incubator is merely heated and operated for a few days in order that the handler may become familiar with it, when the eggs are then placed in the drawer. The difficulty is rather too much heat instead of too little. It may injure the eggs to raise the temperature too high, but the danger is less than when the heat is deficient. Two of the above incubators for a short time were heated to 110°, but the results were good.

After the chickens are hatched they receive no food for twenty-four hours. They are then fed on finely-chopped hard-boiled eggs, the refuse ones from testing being good for the purpose. In two or three days the food may be varied so as to consist of fresh milk, oat meal, well moistened with milk, moistened corn meal, screenings, and, as they get older, with chopped cabbage, boiled potatoes and such other food as may be resold. Avoid feeding dry meal or bran. They are cared for by an artificial mother, made on the principle of the incubator, except that the zinc is at the top instead of the bottom of the heater, the heat passing in and finding an outlet through pipes at the side instead of the top. Above the heater a stream of air is blown in its passage over the zinc, and comes out in an inch tube into the brooder, which is a box with a wooden fringe extending all around it, through which the chicks push and pass in or out. The air thus is pure, and, as the tube extends to the top of the brooder, the warming air is above the chicks, and diffuses itself all around them. Some operators intend to experiment with hot water tanks for this purpose. So far Mr. Pressey has not lost a single chick from any cause except accident, and they are nearly four weeks old. The other operators have not had the care of their chicks long enough to give them a fair report from Mr. Crowell was that he had sustained no loss. Mr. Packard, however, lost a few, owing to mistakes in management.

Whether incubators are reliable may perhaps be decided by studying the above results. When comparing these with the work of hens there may be cited the case of Mr. Samuel Draper, of Hammonton, who places eggs under hens, the eggs being procured wherever he could get them, as was done in the case of the incubators. Not a chick came out. The chicks hatched in Mr. Pressey’s incubator have been compared with others hatched under hens, and the incubator chicks are larger, more vigorous and in every respect superior. This is due to freedom from vermin, regularity in feeding and excellent care. They were all active and strong as soon as dried, not a weak chick appearing among the whole lot of 115, and the unanimous conclusion is that the chicks hatched in the incubators can be more easily raised than with the use of hens.

The vitality of eggs has something to do with good hatches. But few people stop to consider what kind of eggs they place under hens, and they are never tested for fertility, the hen being as liable to bring off one chick as a dozen if the hen will lay at all seasons of the year, but the eggs will not always hatch, which is the case by an incubator under a hen.

One of the principal causes of a failure is the mating of too many hens with one cock. The eggs may be fertile, but the result of lack of vigor in either of the parents is that the chick progresses during all the stages of incubation well enough until it is compelled to work its own way out, when it dies it will not get out of the shell from weakness. The hens in a yard may be laying, but the cock may have been frosted during cold weather, especially if he has a large comb and wattles, and many of the eggs from the hens will, through his lack of vigor, be unserviceable for incubation. To get the best from the eggs, not one, but several, to be kept in company with one cock. The hens should not be too fat, but must be well fed and well sheltered. Two cocks must under no circumstances be permitted in company with the
same hen. The eggs must be fresh, collected as often as possible, in order to guard against freezing, and no reliance should be placed on fowls in neighboring yards, it being best for the operator to breed his stock personally, paying strict attention to the variety, and infusing new blood every year by procuring cocks from a distance. The best chickens for market are those from Longshank and Plymouth Rock cocks crossed on large hens of any breed. If the hens are crossed and the cock pure the chickens will be uniform, as well as strong and healthy. Such fowls as Leghorns, Hamburgs, Black Spanish and pure-bred Shelleys are all fitted for quick growth and large size combined, but the Brahams and Cochins do well if the hens of these breeds are mated with cocks of the Langshank, Plymouth Rock, Houdian or American Sebright (not the haurum) breeds. Incubators require careful watching, and so do the chickens; but if any one will take the trouble to figure out the prospective profit from the above hatches, to suit the locality and market, some kind of an estimate can be made of artificial hatching as a profitable investment.—Philadelphia Record.

CONRAD BUCHEr. (*)

By Prof. J. H. BURG, D.D.
(From the Guardians.)

We have read full oft of the heroes grand
Who live in the annals of Switzerland;
Of the courage high and the warlike deed
Of Tell, and Melchital, and Winkelried;
But in rhyme the story has o’er been told
Of the little band of Swissers bold,
Who across the sea, to its Western shore,
The precious faith of their fathers bore.

Names uncoth in the English tongue—
Gothschulz, Schlietter—remain unsung;
But as brave were they as the men who fell
On the fields of Uri or Appenzell.

Have you read the story of one who came
Across the ocean in quest of fame,
From the place where over the rocky wall,
At grand Schaffhausen, the waters fall?
Have you heard how he wielded his valiant sword,
But lend it able to serve the Lord?
It was Conrad Bucher! Let me tell
How he served the king and his Maker well.

In the quiet cloisters of old St. Gall
He had heard in his youth his Master’s call;
He had sat at the feet of godly men
In the schools of Basel and Gottingen.

But, it was said, in the land of the setting sun
There were battles fought and honors won;
And there came a message across the main
That Braddock was beaten at Fort Duquesne.

Could he hear the sound of the rolling drum
That to distant battles bade him come?

—A NEW FRUIT LIST.

Our regularly published list is always more
or less slightly changed, for sufficient reasons, either in taking out or adding to it; but in regard to the list as a whole we can see no just grounds for disturbing it. Indeed, we do not see how much it can be improved for this section of country, or as a general list for all the Middle states. Some of each of the separate selections may not do well under other premises that will succeed admirably on another, even if separated by only a single farm or a line fence. Hence, each grower must find out for himself the particular apples, pears, &c., especially adapted to his soil and location. This can be easily done by inquiries of those who within a reasonable circuit are successful fruit-growers and whose soil is somewhat similar to his own.

According to our present preference, we should select the following for our own planting, and nearly all of which we are now growing more or less successfully:


For those who may desire a smaller number, we should select; 1. Giffard; 2. Early Catharine; 3. Bloodgood; 4. Tyson; 5. Bartlett; 6. Belle Lucretive; 7. Seckel; 8. Lawrence; 9. Reading; 10. Kieffer. They ripen in about the order they are arranged, except as to the third and tenth. The Lawrence, which begins to ripen, or can be made to ripen early in November, will keep until April, if the only winter pear which with us keeps beyond February.

In the above list, from No. 1 to 7 are summer varieties; from 8 to 14 autumn (early and late) and 15 and 16 winter, thus affording a sufficient number for each of the periods of the best known sorts for this region.

We have dropped Kirtland, which, though a constant heavy bearer, rots so rapidly at the core as to interfere with its profitable marketing. We must also drop St. Ghislain, not because it is not most excellent in quality, but because it is a shy bearer and small. We would also add that the Brandywine, Belle Lucretive and Reading are not profitable market pears. As to the Kieffer, opinions differ greatly, but it is no doubt owing to the difference in the nature of the soil; the principal characteristics in its favor, and they are important, are its early and abundant bearing, and its excellence for canning, which make it a profitable pear to grow.


The ripening of the list will range from the earliest to the latest, thus carrying one through the whole cherry season. No one can go amiss in adopting this list.


Although there are so many new raspberries yearly announced, there is not one that has been long enough tested edge upon our list, while the “Philadelphia” has lost its original reputation. There is a number of varieties good in our markets, some of which are very good for canning and preserving, but they have no solid character.


New kinds of strawberries are constantly appearing, but thus far we know of no improvements on the foregoing.

Currents.—1. Black Napoleon; 2. Red Dutch; 3. White Grape. These three varieties are the
best among the different colors. The Red Dutch is a regular bearer and is of better quality than any other. There are others larger, but they are more acid. The white grape is transparent, of good quality, and ought to be more generally grown, but it is not a great bearer, and is not profitable for market.

Gooseberries—1. Houghton; 2. Downing. These are the two best gooseberries grown in this country. They bear every year heavy crops, are free from mildew, and are of excellent quality. They are large enough for all practical purposes. We cannot recommend the giants and their giant prices, and especially those of foreign origin. There is one, however, now grown for some years, that has become free of moldering, and promises well.

Blackberries—1. New Rochelle; 2 Missouri Cluster; 3. Wilson’s Early; 4. Snyder. The Snyder a new Western blackberry, is highly spoken of at distant points, and from the very respectability of itsors which it has we have no doubt of its value, at least in the West. But with ourselves, as well as with a friend with whom we shared some of our plants, we have not yet discovered any superiority over the others named in our list.

It is better that those who intend to cultivate fruit and have to make purchases, should take this list with them to the nursery, and adhere to it as far as possible.

In selecting fruit trees, or any others, be careful to choose with smooth, healthy-looking bark, have entirely shed their leaves, and large plenty of small fibrous roots. Trees on which the leaves remain after frost sets in, and stick to the branches in the spring, may be regarded as not healthy, and in some way lacking stamina.—Germantown Telegraph.

CULTURE OF SMALL FRUITS, OR BERRIES.

Perhaps some remarks upon small fruits, strawberries, currants, and gooseberries, may be useful and interesting to some of the readers of The National Farmer.

I do not think that these delicious and fruitful fruits are sufficiently appreciated, or receive the attention their value deserves, by most of our farmers, which they may soon learn, if they will carefully cultivate them more largely.

They all like a good deal of shade, and moisture in the soil to do their best. In this, to a large degree, nature is a good guide to follow; that is, the locations and conditions in which they are found, in their native habitat, to flourish best, are safe indications, for the most part, to follow in cultivating them.

These berries were early found by the first settlers in the fertile Genesee country to flourish in large quantity and of good size, on the rich, moist, flat land along that river. Best cultivators have found that strawberries thrive and yield the best where the plants are sheltered or mulched in the winter by leaves, straw, chaff, or sawdust; and where lib alrally irrigated by flooding the grounds frequently during the flowering and dry season. There are different opinions as to whether planting in rows or hills gives best results; both modes have been adopted with profitable success.

The Charles Downing, Wilson, Monarch of the West, the Shinga, Seth Boyd’s Jugum and Kentucky will give succession, from early to late, for several weeks of this healthful, delicious fruit. Some prefer one kind, some another—as they like Sweeter or more acid sorts. There are some 20 good sorts.

Mr. T. T. Lyon, a prominent pomologist of Michigan, gives the following in regard to some new varieties:

Miner’s Great Prolific is vigorous and very productive. In fact we are inclined to consider it the most prolific large berry among the 60 or more varieties we have found this year. The fruits are very large, conical or cockscomb shaped, dark crimson, rather soft, moderately juicy, acid: but not rich. We think it very promising for near markets. Ripe, June 15.

Excelsior is vigorous and moderately productive. The fruit is large, ovate conical, often with a slight neck; dark scarlet in color, moderately juicy; mild acid; berry rich. The recent drought caused it to be imperfect, with a hardened tip. We class it among the dessert varieties, along with Victoria, (Golden Queen,) Black Deltaion, Dun can, and Cumberland Triumph; all save the last comparing closely in flavor and texture with Badwell. The last two, however, are far more productive than the others. Ripens June 13.

Centennial Favorite suffered sadly by the winter and has yielded nothing satisfactory. Our own experience and the lack of favorable notices from others, creates the suspicion that its sudden notoriety was due to a favorable concurrence of circumstances, such as may not be often hoped for.

Laurel Leaf is vigorous and productive. Fruit medium to large, conical rounded; color, light crimson; moderately firm, heakt juke; aromatic; slightly acid. It cannot be regarded as very promising. Ripe, June 17.

Frontine—a pistillate—originating with the late Mr. A. Russell, of N. Y., is ripe this year, June 17. It is of fine size and quality, but too unproductive even for amateur uses.

Marvin is yet unripe (June 18) and cannot be expected to mature even its earliest specimens before about the 20th or 23d. It has not come through the winter as well as most others: although quite as well as Shira and Monarch of the West, growing in adjacent rows. Sharpless, in the same vicinity, and under the same circumstances, is in far better condition.

Currants, coming about the time strawberry are done with, are very convenient and wholesome, and capable of being used in a variety of forms, as every housekeeper knows. The bushes may be grown in close hunches, or be cleared of many branches and succors, and trimmed up in tree-form, allowing air and light the better to pass through bushes. The latter mode gives larger and finer berries, though, perhaps, not quite so much fruit from the same space. The long, even, well-bunched clusters of currants, either red or white, present a most beautiful sight, equal to anything in nature. Strings of coral, garnets, or pearls are much liked by more handsome, while currants also furnish wholesome food, which the gems do not.

Among desirable varieties the old Dutch Red stands high: the Cherry Red is the favorite with some; besides, there are some very beautiful, delicious, white or cream-colored currants, greatly esteemed by those who grow them largely. The musky, black, current is prized by many as a very healthy or medicinal fruit. They are delicious to my palate.

A correspondent of the Germantown Telegraph inquires as to the best currant to plant for profit, saying he has been advised to plant the Versailles, and the editor says: ‘‘This variety of current has been before the American people for twenty years, as well as the cherry currant, and yet we do not find it grown anywhere that we know to its great merit. The Red Dutch is yet the current in almost universal use by market men—the oldest of all—and yet, it stands its ground. It may be said that it takes some time for the merits or a new kind to become well known, and therefore it is no argument against its value that it is not found yet in common use in market-gardens; but market men do not usually show such backwardness in taking hold of really good things. They were not long in dropping the many scolding strawberries, the old red raspberries, and many other things when they thought they had something better. It is not their way to hang back when a really good thing is brought before them. The Versailles and the Cherry currants have been persistently advertised, and whatever of merit they have been
continually kept before the public in books and periodicals.

The fruit of both of these varieties are larger than the Red Dutch; and this we take to be the only advantage they have. The cherry is a very sour variety, and it would have been far more characteristic of its qualities if it had been compared with a sour cherry instead of the simple cherry of the whole. Though the berries are large, the bush does not produce the same weight of fruit as a bush of Red Dutch will. The Versailles has a longer bunch than the cherry, and the fruit is rather more acid and perhaps a trifle larger than the Red Dutch; but the flavor is not quite as "currants," and it will not produce the same weight of fruit. Hence, until we can discover a better variety than the old Red Dutch, we shall stick to that.

But Gooseberries, in highest excellence, are rare and less known, in this country, than the other berries named. They are less cultivated, and seldom eaten or seen in this country when fully ripe, being very generally gathered and used in their green state, but when allowed to become perfect, grown under favorable conditions, they become sweet, juicy, and highly flavored, with a delicious aromatic taste.

Being very liable to mildew, they are less grown here than in Europe. This can, in a goodly degree, be avoided by having the bushes thinned out and pruned high, so as to allow the air and wind to circulate freely among them. While they like moist, mulched soil to grow in, they also need to have free, dry air among the bushes and foliage, in order to secure good berries, free from mildew. —By D. S. Curtiss.

BEES ON THE FARM.

We have often heard people say, "I mean to have some bees, and I meant to have had them long before this." Yet these persons live on, year after year, without them, while their fruit bloom is poorly fertilized, and the nectar secreted in the flora of their fields and hedges is lost to waste its sweetness. Bees seem especially designed, in the economy of nature, to gather up the remnants "that nothing beloys." This was forcibly illustrated the past season, by the reports coming in from different parts of the country of the large yields of honey gathered from wheat stubble. When the wheat was cut, before the straw was fully ripened, a sweet juice oozed out of the straw where it was cut; in some instances the juice was so plentiful that a clear drop of juice ran out of every stubble, and some filled the upper joints and ran down the stubble.

It is a very rare season indeed that bees cannot secure enough honey from some source to support themselves. We have many times been despondent, thinking that we would get no surplus, and have to feed our bees their winter store, when, all at once, there would come a descent of nectar from the blooming flowers unlooked for source. A cool, wet spring and summer will produce no honey, although the bloom may be abundant, and yet it may be just the condition suitable to produce many honey-yielding fall flowers. During the last autumn a large amount of surplus honey was gathered from the different varieties of smart

sweet (Polygonum). This honey was beautifully white, and of a fine minty flavor. These plants flourish on overgrown lands, and dappled lands generally, although they are found abundantly in this locality, growing in corn fields, and where early potatoes have raised.

Sweet corn is growing in favor as a honey plant. A sweet syrup is secreted in the axils of the leaves, near the stalk, and bees gather pollen from the tassel.

It is surprising that farmers will go to town and buy miserable glucose syrup, when a heaven-born sweet syrup can be had at their doors, "not for the asking, but for the taking." —Mrs. L. Harrison, in Rocky Mt. Rural.

WHY HEAVY HORSES ARE WANTED.

A careful look into the way the shipping and transfer business of the country is now carried on, and a due consideration of the magnitude of this, will show to any one that the nearer a shipper can get his truck, and the team that hauls this, to approximate to the capacity of a freight car, the nearer the requirement of a heavy load. Corn is the common fuel, almost entirely so in the larger cities, mainly so in places of less size, and on many farms wood has been supplanted by coal. This very heavy article requires to be handled and transferred two or three times before it reaches the consumer, and the heavier and less numerous the loads, the less the expense of transferring. The wages of competent teamsters, especially in the larger cities, is higher than formerly, and a saving in the number of men employed is one source of economy in making these transfers.

Two light teams cannot be advantageously used upon one heavy truck in a crowded city. Business streets upon which wholesale transactions are carried on are, as a rule, narrow, and only one pair of horses can work to advantage to a heavy load. A light team of wheel horses cannot do the backing often required, and in an emergency, growing out of soft going, worn out pavements, or an acclivity to ascend, four horses are not likely to work in such accord as to render the work reasonably easy for all. A team required to move without undue strain the very heavy loads to which they are often hitched, namely, three or four tons, more than double the weight of body that when they lean forward upon the collar, a full truck load can be moved without too great muscular effort being required.

As a heavy locomotive moves a full train of loaded cars with but very little strain upon its parts, so a horse with ample weight, large bones, heavy tendons, and wide hocks, is the only kind of animal suitable to be hitched to a three or four ton load. And as stated above, the absence of power cannot be compensated for by an increase of numbers. This would be bad economy, as much so as to attempt to handle a heavier load by attaching two or three locomotives of moderate power is materially greater than what is needed for one heavy engine, though the latter may have the motive power of the other two. So, also, in the matter of stable room, care by the groom, expense of harness and fixtures, taxes, etc., the one-team rule is the correct one. In the item of stable rent alone, on the basis of $8 a month for a stable for two horses—and this is not a high estimate in a populous city—a fair addition for two teams would make the added rent alone sufficient in amount to furnish a heavy team with the best quality of timothy hay for a year.

A light-made horse is in no wise better adapted to the heavy work referred to than is a high-quality four-horse team of care be expected to compensate for the absence of strong material and plenty of it. It is idle to plead that the finer and harder texture of the bone of the thoroughly fully compensate for the lesser bulk. When it comes to a dead pull, at a four-ton load, up an acclivity, nothing will compensate for the absence of weight and power—that kind of power that comes largely of the ability to move a heavy load by putting the weight forward upon the collar.

On farms where what is termed the skinning process—in other words scarifying the surface of the soil to the depth of three or four inches—is regularly practiced, a light team will answer, but where vigorous tillage is carried on, that vigorous growth and abundant crops may be secured, the heavier these becomes a necessity. If it is required to sink the plow an inch deeper than the year before, this cannot be done with a single pair of light, or even medium horses, without great risk to the team, but with the heavy horse, 1,400 to 1,600, the task is comparatively easy, and is quite likely to be well done. So, it is the conviction in the minds of farmers generally that their tillage must be more thorough, that prompts, in many cases, the rearing of heavier horses than they have heretofore bred. And while they in this way provide their own farms suitable teams, they at the same time place themselves in a position to meet a growing demand for a class of horses more and more required for the purposes referred to above.

The influences that bear upon the question of heavy horses for heavy work, are not of the character that change, but they will increase as the business interests which render the use of horses of the class referred to indispensable, grow in magnitude. It will be observed that it is with draught horses as with beef cattle, the interest grows with the demand, and has not at any time assumed a speculative turn; nor is it likely to do so in the future. Adaptability settles all questions of this kind. Farmers who are back of nearly all questions of supply, as a rule, move a little slow. It may not be quite possible to tell just when a new and useful move with them takes root, but it is now the less sure to do so. In the interest of further consideration "poorly cut no figure.

The heavy draught-horse, as to solidarity and usefulness, occupies the same position as roast beef on the table. It is not a question of sport or luxury with him, but as a plow for use in a tenacious soil, or an axe for felling heavy, hard-wood timber, adaptability to solid business is the question upon which demand finally rests.—Chicago Live Stock Journal.
THE LANCASTER FARMER.

41

SMOKE-HOUSE AT SMALL COST.

Every farm should count among its out-buildings a good smoke-house. The necessity for such a house is too obvious to call for argument in its favor. When the farm is a small one, and the meat produced thereon is for home consumption only, a large and elaborate smoke-house is, however, not required; in fact, a cheap one serves every purpose. When meats are to be smoked in a small way an expensive building is a needless extravagance.

The object in smoking meat is to expose the meats to the action of creosote and the vapors resulting from smoldering wood. This is done not only to gain smoky flavors imparted by the smoke, but to gain the preservative principle given by the creosote. All that is necessary to bring about this effect is space enough in which to hang the meat, that can be filled with smoke and shut up tight, with conveniences for suspending the pieces to be cured. In some smoke-houses the fire is made in the center of the house on a stone slab; in others the fire is placed in a pit in the ground about one foot deep; again the fire oven is built outside the smoke-house.

The very cheapest form of smoke-house is what is termed the hogshead or cask house. This is made, as the name suggests, of a hogshead or large cask. It is familiar to old readers, but is again described for the benefit of beginners who have no dollars to spend on the construction of a regular house. First, dig a small pit; place a flat stone or a brick across it, upon which the edge of the cask can rest. This pit ought to be about one foot deep and nearly one foot wide, and say three feet long. Remove both head and bottom of the cask, Pass two cross-bars through holes bored in the sides of the cask near the top; upon these rest cross sticks from which the hams are suspended. Then replace the head of the cask and cover with ricks to confine the smoke. Set the cask so that half the will be beneath it and half of it outside. Place some live coals in that portion of the pit outside of the cask and feed this fire with damp corn cobs or hardwood chips. The pit must now be covered with a flat stone by which the fire may be regulated and may be removed when necessary to add more fuel. This fire must, of course, burn slowly, so as to produce smoke and not flame.

When a larger house is required than a cask affords, this may be constructed of wood or brick, as best suits the convenience of the builder. A favorite plan is to have fire ovens of brick, built on each side of the house; these are constructed upon the outside, but space left between the bricks on the inside, through which the smoke escapes. The outer part of the oven is open at the front, but may be closed by an iron door or a piece of flat stone. When the fire is kindled in these ovens the doors are closed and the smoke has no means of escape except through the inside spaces. Being so confined, the fire of necessity slowly smolders, making a steady smoke. Smoke-houses with these outside fire-ovens are very clean, there being no ashes inside. The floors to such a house may be of cement or of hard brick laid in cement or mortar. These outside ovens, by the way, can be fitted to any kind of a smoke-house by cutting the necessary openings at the bottom of the walls and protecting the wood work with strips of sheet iron around the bricks.

Meat, to be perfectly smoked, must be continuously surrounded by smoke produced from material that imparts a pleasant odor. Corn-cobs and good hickory wood furnish admirable material. While the smoke ought to be continuous, the smoking process should not be hastened to such a degree as to raise the temperature sufficiently to make the fat ooze out of the meat or prevent the creosote in the smoke from thoroughly permeating it. In a word, the fire must neither be permitted to die out nor blaze up. If it is the slow combustion of the wood that permits the escape of most of the wood acids which impart their flavor and antiseptic properties to the meat. Old smoke-houses should be thoroughly cleansed previous to use, and the contrivances from which meats are suspended, looked after and required to prevent their breaking down and bringing the meat in contact with the fire and ashes.—By the World.

WHY A KEROSENE LAMP BURSTS.

Girls as well as boys need to understand about kerosene explosions. A great many fatal accidents happen from trying to pour a little kerosene on the fire to make it kindle better; also, by pouring kerosene into a lamp while it is lighted. Many persons suppose that it is the kerosene itself that explodes, and that if they are very careful to keep the oil itself from being touched by the fire or the light there will be no danger. But this is not so. If a can or a lamp is left about half full of kerosene oil the oil will dry up—that is, "evaporate"—a little and will form, by mingling with the air in the upper part, a very explosive gas. You cannot see this gas any more than you can see air. But if it is disturbed and driven out, and a blaze reaches it, there will be a terrible explosion, although the lamp did not touch the oil. There are several kinds of liquids used in house and work parlors, which will produce an explosive vapor in this way. Benzine is one; burning fluid is another; and napthia, alcohol, ether, and chloroform, may do the same thing.

In a New York workshop lately there was a can of benzine, or gasoline, standing on the floor. A boy sixteen years old lighted a cigarette, and threw the burning match on the floor close to the can. He did not dream there was any danger, because the liquid was corked up in the can. But there was a great explosion, and he was badly hurt. This seems very mysterious. The probability is that the can had been standing there a good while, and a good deal of vapor had formed, some of which had leaked out around the stopper and was hanging in a sort of invisible cloud over and around the can; and this cloud, when the match struck it, exploded.

Suppose a girl tries to fill a kerosene lamp without first blowing it out. Of course the lamp is nearly empty or she would not care to fill it. This empty space is filled with a cloud of explosive vapor arising from the oil in the lamp. When she pushes the nozzle of the can into the lamp at the top, and begins to pour, the oil, running into the lamp, fills the empty space and pushes the cloud of explosive vapor up; the vapor is obliged to pour out over the edges of the lamp, at the top, into the room; outside of course, if the blazing wick which the girl is holding is by one side. The blaze of the wick sets the invisible cloud of vapor on fire, and there is an explosion which ignites the oil and scatters it over her clothes and over the furniture of the room. This is the way in which a kerosene lamp bursts. The same thing may happen when a girl pours the oil over a fire in the range or stove, if there is a cloud of explosive vapor in the upper part of the can, or if the stove is hot enough to vaporize quickly some of the oil as it falls. Remember, it is not the oil, but the invisible vapors of the oil that explodes. Taking care of the oil will not protect you. There is no safety except in this rule: Never pour oil on a lighted fire, or into a lighted lamp.—By a Civil Engineer, in Christian Advocate.

WHERE TO ECONOMIZE.

A mother who was particularly successful in keeping her children at home of evenings, so much so that it was with difficulty they could be induced to accept an invitation to spend an evening away from home, was asked if she had any particular secret for doing so. She replied that she could think of none, except that she kept her sitting-room and parlors very light. "We always have all the light we want; we put the gas on, full bright, both back and front parlors; then we keep the house comfortably warm all over, and this is the only secret, if it is a secret." To this it was objected that it would be very expensive. She replied, "Oh well, we will economize in something else, if necessary, but a cheerful light at evening we will have."

Her remark was very suggestive, not only of the great difference in the cheerfulness of a well lighted house and the gloom of one when the light is poor and stinted, but of the choice there is in matters of economy. In these times nearly every one has to study economy in some direction, but in finding that light is one which may be spared, rather than the curtailment of family comforts or of the quality and quantity of children's food. Better wear the plainest clothes, better have no extra salt, better put up with old and patched furnishing than to deprive any one of real comfort, especially the children. Warth and light are the most essential of these. Warmth and light are the attractions used by the saloons and other places of like sort to draw our children from us. We must counteract these by providing better of the same kind. We cannot afford to economize too much in these.

So in regard to children's food and clothes. There are two articles of food of which children are very fond, and which are nutritious and wholesome, which are often economized in unwisely. These are milk and sugar. Better to do without desserts all the time and let the children have their milk to drink and plenty of sugar on their oatmeal and stewed apples. Better a dinner's worth of good, pure candy occasionally, than the costly and too often indigestible mince pie. In clothing also the same discrimination should be observed. Plenty of good, warm underclothing, good stockings and stout, well-fitting shoes, will
THE LANCASTER FARMER.

March.

If a farmer has a skillful laborer required to run a creamery profitably. An outlay of $2,000 to $5,000 will be needed, and the equipment required under modern princi- ciples is so well known that a detailed description would be out of place. The creameries and curd factories are few, as the market for the curd is curtailed. They are equipped somewhat like a butter and cheese factory, but without the press and cheese rooms.

They take all the cream out of the milk, and clabber it in a large iron basin and heat it over a stove. This mixture is then strained and shipped to a factory where it is churned out. Dutch hand-milk cheese, weighing from one to two pounds, the curd brings two cents per pound—less freight. One hundred pounds of milk will make about 19/4 pounds of butter and 8 pounds of curd. The advantages over creameries are less, and cheese-makers, and you keep your factories, it is least well remembered that they are probably the most common and most profitable, and he can safely decide, how he shall stock his farm. For instance, in my factory, which was in the hands of the manager at the time I was there, the men who were responsible for the management should be favorable, as good roads, a cheap driver, and to points where there are shops. They had a very large number of customers, and I believe that the price of cream was kept up because of this. If you have a large number of customers, you can make a changeable price, and be sure of getting a good price. But it will only be for that purpose. The remarks bring me to the creamery in Lititz, the most important and most public place accessible by good roads—situated on some stream, with water power, or at least with water power near by. The water should run cold, with no odors, as well as a cleaner, and milk refuse is a very offensive thing. Ice is necessary also, and ice is the most important thing in a good farming district, where good pasture and pure water will make sour milk. There must be cold water, and if there is no cold water, or the ice is too far, then 21/2 miles, to support it. It will not be safe to cool the cream simply by the freezing of the water, and it is the most difficult thing in a dairy. Mic'ed farming will be the rule of Eastern Pennsylvania for many years yet. The creamers are more prompt in the supply of milk.

A cooperative creamery possesses some advantages. Less individual capital is required, and the milk patrons, if stockholders, are interested in keeping up the quality. There is little or no good harm in allowing the creamery to be so tempted to water it. On the other hand cream- ers are interested in keeping the plant in good condition, are likely to have conflict of counsel and troubles in management. An exclusive owner will be likely to give it his full attention; to see all important matters, and to carry out effectively a well-settled line of policy. A good price paid will mostly bring good milk from the farms for the creamery, which is the most important thing. But all factories suffer more or less from adulterated milk. Taking all together I rather favor the plan of an individual enterprise. Whatever plan is adopted, it will perhaps be better to run your creameries as a single business.

Our Local Organizations.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The Lancaster County Agricultural and Horticultural Society met stateatedly on Monday afternoon, March 5th. The following members and visitors were present: G. H. Rush, West Willow; John C. Linthicum, Lititz; Huber; H. W. Risl, Conestoga; Joseph F. Wimmer, Paradise; J. G. Rush, Willow Street; S. G. Engle, Marietta; E. B. Brubaker, Elizabeth; David M. Eyre and wife, Shockey's Mill; Johnson Miller, Lititz; W. B. Paxson, Colerain; F. R. Diffendorfer, city; W. W. Grini, Lititz; J. W. Smith, Lititz; John I. Carter, Chatham, Chester county; John Musser, East Donegal; John Huber, Pequea; S. P. Eby, eqo, city; Levi S. Reit, Warwick; Cyrus Neff, Mountville; M. D. Krug, Crosswell; G. C. Hun- dert, Reit, Menlo, city; G. W. Hunter, city; A. B. Miller, Millerstown; A. B. Bruchart, West Hempfield; Amanda B. R. Smith, Hempfield; E. C. Steern, city; J. S. Eshleman, Wayne county; Ohio; D. B. Kepse, city.

The meeting was called to order by H. M. Engle, who assumed the position of President at the request of the President elect, Mr. Rush.

Our Local Organizations, in most of the counties of the previ- ous meeting was dispensed with.

Mr. J. M. Eaby, of Paradise, was elected a member of the society.

The regular order of business was, on motion, dispensed with, and Mr. John J. Carter, of Chester county, introduced. The gentleman delivered the following address on the subject of the creameries.

The subject assigned me to write upon today, had to be accepted with some little latitude, because I have not had the time to carry out the general investigations of creameries, proper—a creamery, meaning a butter and skim milk cheese factory—and further, I think it will be of great advantage to the reader if, while tracing other classes of dairy product manufacturies, and various systems of cream raising might be equal- ly well described.

The manufacture of butter and cheese, etc., in our own county, is an industry on a large scale, and it is certainly an advance over the old plan, of cream milk farmers making his own butter. The farmer, making it himself, has to take to the market the whole of the kind and quality of things which are calculated to compete much more regular in quality than if made in the 30 or 50 different lots by the farmers themselves.

The opportunities for effecting good sales and securing a steady market are greatly increased when large quantities are to be disposed of, and better terms of shipment, and in fact, all advantages are enhanced by having a large amount of product to dispose of in one transaction. The testimony of our marketmen shows that there has been a rapid advance in the average value of our butter product, since the advent of the creamery system in Eastern Pennsylvania. Butter is now a more regular and satisfactory article, and it is not uncommon to find a reputable price, whereas the butter made in small quantities, is of much less regular quality, and such a price, much of it selling below the cost of production.

The late introduction of imitation butter from Europe, and the fact that the manufacturers here have been unable to supply the market at the price of these cheap butters, and the creameries came in very opportunely, offering an outlet for the milk, and hence, a new and additional market for butter.

Butter making by farmers has also been unsatisfactory from the uncertainty of prices to be realized, with the market for butter. Farmers often hesitate to charge the price of butter due to the next week or two. This uncertainty intimdlates farmers from stock- ing well enough with fresh cream, in expectation of their surplus provender. Creameries and butter factories can buy cream at a price which the farmers cannot, and can give a pretty definite idea of the probable average price of milk for a year or for the varying seasons.

This is, of course, a very safe, a profitable, and a very profitable, and he can safely decide, how he shall stock his farm. For instance, in my factory, which was in the hands of the manager at the time I was there, the men who were responsible for the management should be favorable, as good roads, a cheap driver, and to points where there are shops. They had a very large number of customers, and I believe that the price of cream was kept up because of this. If you have a large number of customers, you can make a changeable price, and be sure of getting a good price. But it will only be for that purpose. The remarks bring me to the creamery in Lititz, the most important and most public place accessible by good roads—situated on some stream, with water power, or at least with water power near by. The water should run cold, with no odors, as well as a cleaner, and milk refuse is a very offensive thing. Ice is necessary also, and ice is the most important thing in a good farming district, where good pasture and pure water will make sour milk. There must be cold water, and if there is no cold water, or the ice is too far, then 21/2 miles, to support it. It will not be safe to cool the cream simply by the freezing of the water, and it is the most difficult thing in a dairy. Mic'ed farming will be the rule of Eastern Pennsylvania for many years yet. The creamers are more prompt in the supply of milk.

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The Credit, is a Thriving Department of Our Local Organizations.

The LANCASTER FARMER.
make their cheese much poorer, with safety to its quality, while the gain, to the butter factory of 10 per cent, more than balanced the loss. As I have already referred so much of this paper beyond its intended limits, you will excuse me if I close the subject abruptly.

Inquiries on the Subject.

In answer to a question by Mr. Witmer in reference to whether there was any demand for milk, Mr. Carter replied that he had been informed that the milk was tested by cream gauges, specific gravity, etc., and if milk did not come up to the standard, the patron would be paid a less amount for his milk than if the milk was good. He said there was a market for "fancy dairy," but he got a better price than the average dairies. The average price throughout the year was 41.5 cents per pound, less freight. There are two sizes of machines, the largest size costing about $350. He advised the use of machinery because there was no doubt that it would save 15 per cent. Milk from the machine, he said, could be procured from the early grass before plowing for corn, and afterwards be compelled to restrict them to dry rations!" to Jos. F. Witmer.

Adjourned to meet on the second Monday in April.

Poultry Association.

The Lancaster Poultry Association met stateated on Monday morning, March 30th, with the following members present, at the Firehouse, site, B. Long, city; F. A. Diffenderfer, city; J. E. Lighty, C. A. Gately, city; H. A. Schruey, city; H. S. Garber, Mt. Joy; A. E. Flowers, Mt. Joy; J. W. Bruchhart, Newburg; H. T. Shultz, Elkharteburg; H. Schmidt, city; J. M. Johnston, city; John F. Schmuhl, city; Charles Lippski, city; Wm. Powell, city.

The minutes of the previous meeting were read and approved.

Mr. J. B. Long, of the committee appointed to devise ways and means for the liquidation of the debt, reported that he had made an effort to procure a deposit with the local banks, which had been refused with the condition that it would be held at $100. As this was far below the sum required, the committee came to the conclusion that it would be necessary to ascertain at the present meeting how many members would take shares in a new association. By-laws were prepared and read, and propositions for the formation of a new society which will take the place of the present one. The committee had only arrived at this opinion after mature deliberation, and they did it for the purpose of awakening more interest in the society. This method, they thought, was the only possible one, and it was also recommended that they draw up a paper to which he asked signatures of persons obligating themselves to take a certain number of chances at a par value of $10, the whole number of shares being kept for sale.

The amendment to the by-laws changing the time of meeting from the first Monday to the first Friday in each month, at 10:30 o'clock A.M., which was offered at the last meeting, was then taken up and lost by a vote of 9 to 3 against the amendment.

After some discussion it was resolved to double the number of shares, and reduce the par value of each share to $5. The paper was then circulated among the members present, and 50 shares were at once subscribed for. Peter B. Goodman, city; Charles J. Rhodes, Safe Harbor; H. A. Schruey, city; F. A. Diffenderfer, city; John F. Schmuhl, city. Mr. Joy, were elected to membership in the society.

On motion of Mr. Long, a committee of seven was appointed to make the necessary arrangements for turning the society into an incorporated stock concern, prepare constitution, by-laws, etc. The meeting was adjourned until the following Monday, April 2.

Linnean Society.

The Linnean Society met in their rooms on Saturday, February 24, 1856, President J. P. Wickersham in the chair. In absence of secretary and assistant secretary, Prof. J. S. Stahr was appointed secretary pro tem. The minutes of previous meetings were read in part and duly collected.

Donations to Museum.

Mr. Dibbel, of North Queen street, Lancaster, through Mr. Wm. Rosem, specimen of an abnormal chicken, subject to withdrawal on one week's previous notice. The specimen is a good one of the kind. These monstrousities may have their scientific value, but somehow they are all more or less revolting to the culinary feeling. They are not of the line of orderly development, and must be the result of organic violation.
TREATMENT OF HEAVY SOIL.

If the Indiana loam's clay land has become "exhausted," I think it is the result of shallow ploughing, for no soil will endure for wheat like a strong clay, under proper treatment. A good sum- mer fellow is what his land first needs, and it should be a thorough work when the plough is down not less than nine inches; plough in June before the soil becomes too dry, but not when so wet as to be adhesive. Very soon after ploughing it should be harrowed, so as to fine the surface; then rolled, and if at all humpy, harrow and roll until it is fine. Then, with a hoe, remove any grass or earth that may have run into the field with a gang-plough, turning the surface about four inches deep, after which harrow again, and if yet coarse, use the roller once more, and afterward, at regular intervals, repeat the work with gang-plough and harrow, thus two or three times over, and if necessary to make the land perfectly fine and mellow to the depth of about four inches use the pulverizing harrow often, until the surface is perfectly fine for a seedbed. Keep the soil under frequent cultivation up to seedtime, but do not plough a second time or work it more than once. Hill it up by bucking clean seed with 500 pounds superphosphate of good quality per acre between September 10 and 15.

Lands treated in this way when thought to be exhausted have not failed to be renewed and produce large crops.

THE MUCK AND PEAT SUPPLY.

With many farmers peat or muck is the cheapest and best addition they can make to home-made manures. We have tried these for many years, even within a short distance of the tide water and the wreck of the seashore, and found them always a paying investment. The fall when the swamps or marshes begin to look dry, is the best season to get out a year's supply. Dig it in broad trenches, six or eight feet wide, and go down at least six feet if there is that depth of muck. In this way you can work with little trouble from the water below the water level in the bog. Thrown out upon the bank, the material will soon become dry, and will be improving under the action of the frosts and the atmosphere all through the winter. Six inches of dry peat covered with leaves or litter of any kind, makes excellent bedding in a stall, and when mixed with straw and dung of the cattle produces a valuable fertilizer. The success of a farmer is generally measured by the length, breadth and height of his compact heaps. Study the arithmetic of your muck and peat beds, and work out the salvation of your soil.—American Agriculturist.

Agriculture.

Effect of Cultivation.

The common potato probably shows the effect of cultivation as much as any plant ever introduced into our gardens or gardens. It is not generally known that the change from its normal to what we may term improved state is quite rapid, requiring only a very few years to produce large tubers of various colors from the wild ous connected with careful culture. Where the wild plants grow abundantly in New England and other parts of the country, I do not know whether the use of peat or muck will ever prove necessary. It is, however, a fact that they never grow as well as in those parts where peat is used. It is especially necessary in sandy and clayey soils to make the soil rich. The tubers at first are about the size of small marbles, or a half inch or a little more in diameter, but the second season after being disturbed they will become nearly or quite double the original size, and the next season still larger, if not killed out in plowing and hoeing. The size of the plants also increases, and the leaves which at first are only about a half inch wide by an inch in length, will be three times longer. The tubers. We have ourselves gathered the tubers from the wild plants in the undisturbed soils of the valleys of New England, as well as from the disturbed or plowed land, and noted the difference in size as claimed by many of the residents of the country.—Y. S. Sta.

The Muck and Peat Supply.

With many farmers peat or muck is the cheapest and best addition they can make to home-made manures. We have tried these for many years, even within a short distance of the tide water and the wreck of the seashore, and found them always a paying investment. The fall when the swamps or marshes begin to look dry, is the best season to get out a year's supply. Dig it in broad trenches, six or eight feet wide, and go down at least six feet if there is that depth of muck. In this way you can work with little trouble from the water below the water level in the bog. Thrown out upon the bank, the material will soon become dry, and will be improving under the action of the frosts and the atmosphere all through the winter. Six inches of dry peat covered with leaves or litter of any kind, makes excellent bedding in a stall, and when mixed with straw and dung of the cattle produces a valuable fertilizer. The success of a farmer is generally measured by the length, breadth and height of his compact heaps. Study the arithmetic of your muck and peat beds, and work out the salvation of your soil.—American Agriculturist.

Increased Culture.

Intelligent men are beginning to see the folly of increasing the size of the farm at the expense of its culture. A few see what railroads could not be brought to realize, that it is better to grow 300 bushels of wheat on ten acres rather than on fifty. The latter is the practice by the majority of farmers in some whole districts, especially where the land is Let to tenants. It is one of the blessings connected with the high price of labor that his manner to economize the time of his men and means by cut- ting the number of acres plowed, harrowed and harvested, and increasing the fertility of the few acres gone over. One man and one team may thus be made to answer when ten acres are put into wheat, where four men and four teams would be necessary to put in fifty acres. By sawing clover on a heavily manured field the product is enormous. The aftermath turned under, and the surface har- rowed and rolled and harrowed, and well coated with manure, will insure a heavy crop of wheat. Seed again with clover and turn under after cutting one crop of clover, and manure again and sow to wheat. Large yields will be certain and sure to increase from year to year, until fifty bushels will be as common to the acre as five are now. A man can afford, perhaps, to thus bring up ten, if not ten, five, or even two or one bushel, but if he is to be thus treated, he is either a bold, wealthy or enter- prising man who will dare attempt it.—Practical Farmer.

The Methods of Farming.

With the wonderful improvement that is going on in all departments of human labor it is safe to infer that progress in agriculture will keep pace with that man. Machinery will take the place of men, just as well as of hands, in the attainment of so desirable a result. By taking advantage of new methods, as published in our agricultural papers and books, we can appropriate the thoughts of others, and by the practical application of these, reap the resulting benefit. Nearly every one of us has at times, in farm life, in order to render it attractive, as it is in other pur- suits. Profit and attractiveness can be made inseparable. In nearly doubling the yield per acre, and by adorning and beautifying the home, we not only make life more profitable and attractive, but success to these directions makes the future appear brighter, the hearts of every member of the house- hold lighter, and the resulting effect is a benefit to the family, the neighborhood, the State and nation. —Rural Record.

Tile Draining.

Do not forget that swales, swamps and any wet land with hard pan near the surface, pays very small interest, if any, in their present condition. If drained three feet for forty feet will pay a very large interest on the original cost, and on the drain- age besides. It is not unusual to get back the cost of drainage in two crops after the tiles are laid. Where tiles can be had near, or at a cost for freight not exceeding three dollars per hundred, tiles are better than stone. Where tiles are not available and stones are upon the ground, use these. Draining will open a new world to the farmer who has never tried it. Put down the "crocker" this fall, and make your capital in land draw a good interest.
Horticulture.

Seasonal Hints.

When fruit trees are grown with root or other crops, it is well known that such root crops will not do without manure. In this operation the trees steal a little intendment for the root crops. Hence trees so grown are very likely to have a green, more vigorous, and neglected trees in grass. It must not be forgotten that trees need as much food as any other crop and that there is no better way to feed them than by applying at this season on the surface give them something, if only ditch cleanings. Pruning of fruit trees that can be completed as soon as possible, and as a general thing the less pruning the better. In apple or pear trees, strong stout saplings are apt to come out along the main branches of the tree. These are best cut out, as in time they take to themselves the food destined for the branches beyond, and in this way injure those branches. At other times a branch for some time bearing becomes weakened by some cause, in which case it is often a benefit to cut off this to back a vigorous spur. This is particularly the case when bark gets what the gardeners call call, and the bark of the branches are bettered by silting the bark longitudinally, or by cutting back a young sprout afresh.

Some have found injury to the trees from silting hide-bound bark. The writer practiced it for years on apple and pear trees, and always with excellent results. He has seen the work where pruning is believed to be at all desirable, even to thinning out the spurs, rather than cut back the strongly vital wood which many do. The grape is very apt, when trained on trellises, to get its bearing wood broken. In this case it is always wise, in pruning, to watch for a chance to get a strong young branch from near the base as a renewal case.

Manuring of grapes should be regulated by the nature of the soil. If it be damp—in most cases a bad condition—considerable quantities of minerals must be supplied. In dry ground, it has a beneficial effect. Many persons of small places have grapes in damp ground, or have none. They must take care to keep the roots near the surface; nor crop the ground about them to destroy the weeds. If this is not done, and even good may often follow, when the vines seems falling, to carefully follow up the roots, lift near the surface and encourage, as much as possible, those remaining there. Wood-ashes, bone-dust, and such like substances are useful in low ground.

In the vegetable garden the work for February will for the most part consist of preparations for future operations, and particularly for dealing with the manure question. All those kinds that are grown for their leaves or stems, require an abundance of nitrogenous manures; and it is useless to attempt vegetable gardening without it. To this class belong cabbage, lettuce, spinach, etc. The other class, which is grown principally for its seeds or pods, as beans, peas, etc., do not require much manure of this character; in fact they are injured by it. It causes the seeds to become fibrous, and the pods hard—such a great evil in vegetable growing—is injuriously affected. Animal manures, as wood ashes, bone dust, etc., are much better for them. For vegetables requiring rich starchy manure, it is best that these operations be delayed. Nothing has yet been found so well suited for the purpose as the old hot-bed dung; though to the smell no trace of "manure" remains in it.

Parancas and Salts.

The same treatment in winter will not answer for all root-crops alike. Beets and carrots are the least hardy of all, and when frozen lose their sweetness to a marked extent. The parsnip is not only injured, but many think it is greatly improved by freezing. If the amount of sugar is not actually increased, its flesh is so modified that it tastes sweeter. The parsnip and salt are our hardest roots (though we should include horse-radish), and may be left without harm in the soil where they grew. But as we cannot depend upon finding the ground open at all times, a sheltered place should be supplied. These may be packed in boxes or barrels, and if they are to be kept in the cellar, should be covered with sand to prevent them from shriveling. They can as well be placed in some shed or other out-building.

Potato Seeds.

It is not a very rare occurrence that potatoes of different seasons, grown from the same parent tuber. When we consider that the potato tuber is but an underground stem, and that its eyes are analogous to the buds of trees and shrubs, it appears not more surprising to find "bad variations" in one case than in the other. Flowers of potatoes have been found on one plant, and several distinct and permanent varieties have originated and been propagated from sporting buds. In roses such sports are not rare. The well-known Bouvardia Hendersonii, a variety with white flowers, is a sport or bad variation from a red variety, and the double B. Alfred Neunier is in the same manner derived from the single variety, Davidsonii. Variegated leaved branches are sometimes found on green leaved shrubs, and when propagated do often perpetuate their special characteristics. Such variations occur also among potatoes, as, for instance, of which the variegated Early Rose, or "Harlequin" may be cited. The Late Rose, Late Snowflake and late Beauty of Hove are notable sports or bad variations. Buds are more nearly related to seeds and possess more individuality and individual character than any other variety of vegetable/flower. Either may produce individual plants which may vary in some features from their parents.

Dr. F. M. Reeser.

A California Tree.

The region around Guerneville, in Sonoma county, is somewhat noted for its remarkable growth of American salsify. This plant, on account of the saw-logs cut from one of the "giants of the forest," recently felled, will not doubt be found especially interesting to our Eastern friends. The details can be relied upon, as they were furnished by Mr. W. L. Doren to the editor of the Petaluma Argus.

This is a strange, tall tree, about 100 feet in height, and its diameter near the ground was 14 feet. In falling, the top was broken off 200 feet distant from the stump, and up to the point of breaking the tree was perfectly sound. From the tree saw-logs were cut of the following lengths and diameters: 1st, 14 feet long, 9 feet diameter; 2nd, 12 feet long, 8 feet diameter; 3rd, 12 feet long, 7 feet 7 inches diameter; 4th, 14 feet long, 7 feet 6 inches diameter; 5th, 16 feet long, 7 feet 6 inches diameter; 6th, 16 feet long, 7 feet diameter; 6th, 16 feet long, 6 feet 10 inches diameter; 7th, 15 feet long, 6 feet 6 inches diameter; 8th, 15 feet long, 6 feet 4 inches diameter; 9th, 16 feet long, 6 feet 3 inches diameter; 10th, 16 feet long, 6 feet 6 inches diameter; 11th, 12 feet long, 5 feet 10 inches diameter; 12th, 18 feet long, 5 feet 6 inches diameter. It will thus be seen that 180 feet of this remarkable plant is the minimum. As the length and diameter of each log is given, the reader can, at leisure, figure out the quantity of inch lumber the tree contains. If, instead of being cut into lumber, it had been worked up into 7 foot pickets, it would have afforded fencing material to inclose a good sized rapeseed field.

Can any of our mill men in the East furnish us with statistics exceeding those of the above-described "giant"?—San Francisco Architect.

The Sweet Brier Hedge.

Sweet briar is found wild on commons and roadsides in many places, and the hips or seed vessels remain on for a long time and are usually numerous and conspicuous, but it is doubtful whether any containing meaty seeds would be found on the bush so late as mid-winter. The plant is quite hardy and grows in any soil, but seems to prefer what is dry without caring much whether it is rich or not. Botanically it is the Rosa rubiginosa (from rustic means red), and its thorns are very sharp. Botanically it is the Oxalis tuberosa. Its numerous stout stems rise crowding to a height of four to eight feet, and are covered with strong hooked prickles. It is safe from cattle even in the most exposed places; the freedom of its leaves, so difficult to eradicate to us, seems offensive to them and they will not browse even its tender young shoots. It does not sucker, and propagates only by seeds, but in that way very readily. The garden roses take it freely by budding, and grow with more than their natural vigor from the old cuttings. The most popular and favorite variety is the Veilchenblau. Plants are quoted in Peter Henderson's catalogue at $10 per 100, which is rather a high price for general hedge plants. In answer to inquiry he says that 1000 plants were ordered in England, but only 500 were shipped as the plant was not then in full flower. A gentleman who had charge of a large farm in Ireland, told many years ago, in the course of some talk about hedging, that he found the sweet briar to be the best plant to fill a gap in a hedge soon, being able to maintain itself and grow even among the already established roots of the other plants. He always kept a little nursery of the plants on hand for use as a means of keeping the lines of his hedges completely filled with strong plants.

Sand in Garden Soil.

A light, sandy, sunny soil, is by far the best for a garden, and especially is this the case for roots. All garden vegetables to be succulent and tender must grow fast, and a rich soil is the main requisite, but moisture is equally essential. So long as we have shown how much water the plant requires in the months of June, July, and August, the vegetables will grow right along, but when the hot, dry weather sets in, the difference in soils becomes apparent. A garden that is ever so rich, with no sand in its composition or other good material to hold moisture will soon dry up, the plants will cease to grow as rapidly as they should, and become hard and tough; of course some plants are able to withstand more drought than others, while others do as well as if some good mulching is put around them that will hold moisture, while often it is a very hard matter to keep growing during dry weather. Sand is indispensable, and is preferable to anything else for retaining moisture. With roots sand is an almost invaluable ingredient. We have found by experience that with all roots crops sandy soil is by far the most preferable.—Farm and Garden.

Few persons know how closely related to the potato are many other well-known plants. Botanists know them all as solanaceous plants, and under the more familiar name as "night shades." In this class of plants is to be found the potato, the toma-

HOUSEHOLD RECIPES.

To Cook Chicken.—The following is highly recom-

 Recommended to housekeepers: Cut the chicken up, put it to pan and cover it with water; let it stew as usual, and when done, make a thickening of cream and flour, adding a piece of butter and pepper and salt; have made small balls of shortening and deep in the sauce; make as for pie crust, rolled thin and cut in small pieces. This is much better than chicken pie and more simple to make. The crust should be laid on a dish, and the chicken gravy put over it while both are hot.
CRANBERRY SAUCE.—Pick over and wash the cranberries and put in the preserving kettle with a half pint of water to one quart of berries; now put the sugar; now put the sugar and the heat—too bad—add lemon and alcohol as often as you have it and you will have a nice flavor.

Ducks STEWED with Red Cabbage.—Cut the cold ducks into convenient pieces, and warm them very gradually in a good clear gravy by the side of the fire. Served some red cabbage very fine; wash it; dry it, and grate it; add a good proportion of butter, and a little pepper and salt, in a stewpan closely covered, shaking it frequently. If it should get too dry, add a spoonful or two of the gravy. When well done and tender, add a small glass of vinegar; lay it on a dish; place the pieces of ducks in the saucepan and pour it upon the duck. Next add the water, drop in the yolk of an egg, and then stir in the cheese. Beat the white of the egg to a stiff froth, and when light mix with the other ingredients. Put in by spoonful into hot hard or charred fat, and cook for three minutes. When they rise toss them over, so as to brown both sides. When done, take out and place first upon a sheet of white paper, then pile on a hot napkin.

Sliced Apple Pie.—Line pie-pan or plate with crust, sprinkle with sugar, fill with tart apples sliced very thin. Sprinkle over them, and add a small cupful of sugar and a tablespoonful of water, or net, as you please—it depends upon the juiciness of the apple—dredge in flour, cover the top crust, and bake about three-quarters of an hour; allow four or five tablespoonfuls of sugar to one apple. Or, line pan with crust, fill with sliced apples, put on top-crust and bake; take off top-crust, put in sugar, bits of butter and saussouling, replace crust and serve warm. It is delicious with sweetened cream. Crab-apple pie, if made of the "Transcendents," will fully equal those made of ordinary apples.

FLOATING ISLAND.—Scald one pint of milk, stir together with the yolks of two eggs, well beaten, three tablespoonfuls of sugar, and one cup starch, dissolved in a little cold milk. Add this carefully to the hot milk, so it will not lump. As soon as it has well thickened pour it into the dish designed for the table, and add a teaspoonful of essence of lemon. Put some water to boil in the spider, then heat up quickly the whites of three eggs until very stiff; put a spoonful at a time into the boiling water until you have what can be cooked at once. A few seconds will be sufficient. Do not stir it but carefully, one at a time, with the skimmer, and lay carefully in the dish of float. Serve in a saucer, or small, deep plate.

FLUMMET.—Boil one quart of new milk, and add to the grated peel of one large lemon, three tablespoonfuls of fine sugar, and six eggs beaten for ten minutes. Let it come up to a boil, and add lemon-juice rapidly, so that the eggs will not curdle. Set the dish in a pan of ice-water, and strain it when nearly cold. Soak two ounces of gelatine in one pint of cold water for half an hour, and add it to one teaspoonful of sugar and half a pinch of salt. Put all the mixture swirling it often. Put the dish of jelly into a pan of ice, and whip it with an egg-beater to a froth. When nearly cold, beat in the custard, a little at a time, and when all is beaten in, turn into a wineglassful of white wine and heat together. Wet two molds in ice-water, line them with paper, and be sure to have the flummery. This should be made the day before it is needed.

GERMAN CHARLOTTE RUSE.—One ounce of gelatine dissolved in half a pint of milk; when well dissolved, add a cupful of white sugar; when the sugar is dissolved put in extract of lemon and vanilla, and when cold add the eggs, after which you may stir it up, and put it on ice, whip it to a stiff froth; then if the gelatine is cool enough, which must not be more than blood warm, stir in the cream gradually. Line molds with sponge cake and fill with the above.

Lemon Pie.—Mix your crust as usual; cover your pie-tins (I use my jelly-cake tins) and bake ex-
Comprehensive Barns Save Food.

A writer in the Christian Union says: "Comfortable barns save fodder and at the same time promote the growth and thrift of the stock. Cattle kept in comfortable barns will have their best chance to develop to their best temperature of their bodies than do those who are kept in cold ones. The temperature of the body must be maintained at its normal position, ninety-eight degrees. If the surrounding temperature is down to zero it will be a great loss of heat from the animal. Every one knows if the animal was killed the temperature would soon fall to nearly the same degree as that of the surrounding air, yet the great change that would then take place is no more rapid than is constantly going on from the body of the animal. This great loss of heat has been supplied by the burning up in the system of some of the food taken in the fat of the body. If the animal is exposed to a very low temperature it will require nearly all the food ordinarily eaten to keep it from freezing. This is a method of keeping cattle warm and able to pay. Farmers are realizing the truth of this, and are making barns warmer than they were accustomed to formerly."

Success with Lambs.

Overfeeding causes lambs to run large, and no exercise has a tendency to make lambs small and weak; if fed heavy on grain, half oats or wheat bran mixed with corn is better than clear corn; clear oats is better still; it is not heating and makes muscle, and is healthier, while corn produces heat and makes meat. The fat lamb will work best when it does well enough. With full feeding on hay and corn fed, (if you have it) with a small grain ration once a day, and plenty of exercise, with plenty of water, and an open shed, well bedded down with straw, to run in and out of at pleasure, and bred to a vigorous ram, and fed more with corn than with wheat it will remain in large flocks, without any trouble. When a ram runs at large in large flocks, the first get is largest and best, and more than ewe lambs. It takes more pains to raise highbred Merino lambs than of common or runny breed.

Last spring I had a good many lambs dropped that were strong enough to get up, but did not know how to find the teat, but after catching the ewe and putting the lamb in a mouth two times or three times while the ewe was standing, the lamb would go along and take care of itself. Most any lamb just dropped that has anything to do with it, will find his teat and nurse; but drooping how much vitally an almost dead lamb possesses. When too far gone to try to suck when chilled, place close to the fire where it is quite warm, feed a little warm milk containing a little hog's head, and it will work on legs breathing; have its dam close by, place the teat in its mouth while the ewe is standing, and it will feed itself. In some cases this may have to be repeated two or three times before the lamb gets a good send off. The lamb in the milk, as everyone skilled in raising lambs well knows, prevents convulsions, which crop up in a young lamb a tendendy to produce.

A lamb that has strength enough to get up and get hold of the teat, will start the milk without any help; but when so weak it can't do this, it may be well with the thumb and finger, after being wet with a little milk, to place them on the teat, and they generally have power enough in the jaws to accomplish the desired result. It is not profitable to breed Merino ewes until they are coming three years old; if brood younger, are apt to run off and leave their lambs. In such cases shoot sheep and lamb in a small flock, and furnish a little milk and mother for the lamb to suck, have the dog in the pen with you, which will in many cases frighten her to her senses, and after keeping her up for a day or two, she will own her lamb. To make a sheep that has lost her lamb own the lamb of another, skin her own dead lamb, and wrap the skin around the lamb you wish her to raise; in this way, it is said, many an old sheep has been fooled.—Carloso Mason, Lake Co., Ohio.

Oil-Cake for Young Stock.

There is probably no food better adapted to forming a healthy, rapid growth of young stock than ground oil-cake, and in fact we might say there is no food better for all kinds of stock. Old broken down horses can work and look strong and fat by feeding oil-cake, while young stock will make a rapid growth to a wonderful extent. Corn and oats are hard for young stock, and often cause disease both in the stomach and mouth. We frequently hear complaints that calves and colts are not doing well, although abundantly supplied of grain, and have invariably found in such cases that the grain was either too coarse or too fine, and either with sour mouth or constipation, or both. The first year's growth on a calf or colt is worth more than the two following, and should be crowded as fast as possible. During the first year the foundation is laid that will last a lifetime, and the secret of success from starvation or neglect, can only make a serious mistake in feeding. The time to make large frames is during the first year, and without large frames the prospect for draft or beef are by no means encouraging.—Lincoln, Nebraska, Farmers.

Corn Feeding—Coarse or Fine.

Professor J. W. Sanborn, now of the Missouri Agricultural College, with year-old pigs gets 20.5 pounds gain in live weight for 100 pounds of whole corn fed, against 21.7 pounds with very much more labor, polish, and 15.5 pounds gain for 100 pounds of corn and meal coarsely ground together. The value of a bushel of each kind of feed in the gain in live weight that was produced was estimated to be at the price paid then for corn and meal, 103.5, 83.5 and 69.8 cents respectively. In two years later in the season and in colder weather, and with meal ground much finer, less profitable results, and somewhat different results, were obtained: 100 pounds of whole corn, 30 cents for corn meal, and of corn-cob meal, 20 cents at the same time. It is a thorough test of each kind of feed was worth, at the same rates as before for pork, 62, 72 and 62 cents respectively. Professor Sanborn results were obtained in New Hampshire with growing pigs, wherein 100 pounds of corn and 25 pounds of corn-cob meal gave nearly the same increase, 28.7 and 28.5 pounds, and states that he has never found the corn-cob meal so productive with fattening as with growing animals. As there is almost no experimental evidence on these points touched by the Professor, his work will be of much useful investigations as promised; and he ought certainly to have the state aid needed for his purposes.

Potatoes for Hogs.

Economy in feeding is one of the first principles. When one kind of grain is kept and another low, the lower priced grain should be substituted, so far as possible. There was never a more favorable opportunity for doing this than at present. Corn in worth 15 cents per bushel, while potatoes are worth 20 to 25 cents; at the same time, it is a thorough test of the demonstrated fact that one bushel of potatoes will make as many pounds of pork as one bushel of corn—
the potatoes to be boiled. This being the case, the saving would be 50 per cent, after allowing fire cost per bushel for boiling the potatoes, while the advantage of cooked food in a sanitary point are very great. If more cooked food and less hard, dry corn were fed, there would be much less of the so-called cholera among hogs.—Literary, Nebraska, Farmer.

POULTRY.

Raising Early Chickens.

One who has a love for the business and who possesses the right disposition, may soon learn the details of raising poultry, by studying the general principles, among which may be named, First, location, which should be warm, dry and sheltered from the cold winds, but at the same time dry and filled with sunshine. Second, the eggs should be from healthy birds that have been kept under the most favorable conditions. Third, the mothers should be not only healthy, but pet birds that are tame and possessing good dispositions. Fourth, the nests should be so located that the air will not draw under them and also where dampness will not be gathered. A great mistake is often made by setting a nest under a corncrib or a grain silo; this gives the air a chance to draw under the nest, to a degree that usually prevents the eggs from hatching, unless dry, earth is drawn up on the outside of the barrel. Fifth, the hen while sitting should be kept as quiet as possible, and provided with a warming box for her comfort. Sixth, when the chicks begin to hatch the temperature of the house should be kept 10 or 15 degrees above the freezing point, and while the air should be kept as pure as possible, no cold blasts should be permitted to reach the chicks until they become strong and old enough to care for themselves.

**Sunflower Seed for Poultry.**

The esthetic craze may be no production of practical results as some other ideas that suddenly take hold of the public mind, but the sunflower being the standard, as it were, of this new idea, may receive the attention it deserves, and become, not only a fashionable, but also a profitable plant. The mammoth Russian is one of the most profitable varieties, and should be cultivated in rows about six feet apart, with the plants four feet in the row. The result will be a yield of seed at the rate of from fifty to 100 bushels per acre, and, for poultry, makes the best feed of anything we have ever tried. They should be fed about three times a week during the last quarter of the growing season. During cold weather the oil in the seed serves the same purpose as in the laup, and furnishes fuel to keep up the animal heat.

For show birds on exhibition a short diet of sunflower seed gives the feathers a extra glossy coat, and clean, bright look to the comb and gills. The advantage off a slight small of sunflowers near the house in warping off malaria is worse than all the trouble of cultivating them, as well as the ornament and development of the esthetic among the young.—American Dairymen.

**Warm the Water.**

Don't forget to put warm drinks in the poultry-house this winter, or the young chicks may have their finest days, or rather, nights, as the case may be, if they are not kept to it cold, but hardly think of the chance will cause intoxication, unless it be ice. If they have the water warm in the morning, with a little cayenne pepper put in to keep it as, it will be very grateful to the birds, and is a beneficial corrective as well, while some overzealous gardener will boil his water so quickly as water will without it, in the coldest weather. The thermometer in a barn in winter, within the chicken-house, is a desideratum, and its value cannot be over estimated in the severe wintry day. Don't forget this. It pays.

**Literary and Personal.**


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Vol. 2, No. 1. Agriculture, horticulture, miscellaneous, commerce, science, manufactures, live stock, poultry, apiary, horticulture, editorials, new publications, and elaborate advertisements; all find ample encouragement in this spirited journal, conducted with more than ordinary ability.

A handsome 16-page royal quarto with a characteristic typeface, and a profusion of advertising illustrations of Florida — in part — the orange groves, the state banks, the cotton, the palm, the fern, the cactus, the swamp, the crane and the alligator, and makes us wish we were domiciled there, at least during this clustering and frigid weather. This journal is printed in very fair type, and, considering the brisk rate at which it is sent out of the press, the articles and advertisements are a treat of the kind. It has an interesting illustration of a species of *Corylopsis*, belonging to the *Hamamelidaceae*, or "Lace wings," a good insect friend but too delicate even in its hard state to contend with the larger mall clad flies of the dangerous orange. We like the place of thisUnit favoring botanical knowledge through the inquiries of intelligent patrons—it is practical, and furnishes just the information that is needed—knowledge reflected from the plane of inquiry, and saves the trouble of inquiring the trouble of infesting subjects, without knowing whether they will be appreciably benefited. The price to subscribers is the same course, but it has only been feebly responded to.

**Scientific and Literary Gossip.** Published by S. E. Cassina & Co., 32 Hawley street, Boston, Mass., Vol. I, No. 5, Jan. 16, 1893. A monthly 16-page quarto, with a profusion of advertising illustrations, the latest scientific and literary literature, at 50 cts. a year. Edited by S. J. Kingsey, Melrose, Mass. A fairly printed, nicely gotten-up, and interesting little journal, and the medium of a fund of literary information on many useful topics. Its chemical, advertisements, lists, and notices of new books is worth more than the subscription price.

**FARMER AND MANUFACTURER,** a journal devoted to the farming and manufacturing interests of the country. Published by the company of the same name, at Cleveland, Ohio, at 50 cts. a year. This is 16 pp. royal quarto issued monthly, and undoubtedly the cheapest and best reading in the country, for as far as quality, quality and variety are concerned, comprising wit, sentiment and general literature, in addition to its leading specialties.

**OSTRICH FARMING in the United States.** Reports from the consuls of the United States at Algiers, Cape Town, and Buenos Ayres, on ostrich raising and ostrich eggs, in Africa, in the Argentine Republic, and in the United States. Published by the Department of State according to Act of Congress. 47 pp. octavo. We are indebted to our Congressman, Hon. A. Herr Smith, for a copy of this interesting report on an industry that is now becoming up in the southern portions of our country, with apparent indications of ultimate success.

**REPORT ON INSECTS FOR THE YEAR 1891 BY J. HENRY COMSTOCK, PROFESSOR OF ENTOMOLOGY AT CORNELL UNIVERSITY, N. Y., WITH SEVEN FULL-PAGE PLATES, CONTAINING 80 FIGURES. A REPORT FROM THE ANNUAL REPORT OF THE DEPARTMENT OF AGRICULTURE FOR THE YEAR 1891, 22 PAGES OCTAVO. WE GRATEFULLY ACKNOWLEDGE THE RECEIPT OF THIS REPORT FROM THE AUTHOR, ALTHOUGH BY REFERENCE TO THE CIRCULARS OF OUR FEBRUARY NUMBER, IT WILL BE PERCEIVED THAT WE HAVE ALREADY RECEIVED THE REPORT OF THE DEPARTMENT OF AGRICULTURE FOR 1889.** INCLUDES PROF. COMSTOCK'S REPORT.

We believe it would be a good plan for the Department to publish pamphlets on all the specialties contained in the General Report separately, and send them to such persons as stand most in need of them. Of many kinds there are.

That, however, may be a small matter, but there are many people who care very little about anything in these reports except the specialty they are interested in.

**THE ACADIAN SCIENTIST.** Published in the interest of the "Acadian Science Club." An 8-page semi-monthly. A. J. Pison, general editor.

Wolfville, Nova Scotia. No. 1, Vol. 1, January, 1891, 20 cts. a year. A new venture in journalism, and one that has poorly compensated. The matter is good and interesting to scientists, the quality of paper and general typography is very ornate.

**THE ROCKY MOUNTAIN RURAL.**—A 16-page quarterly published in the interest of agriculture, horticulture, and kindred subjects. Monthly, at $1.00 a year. Denver, Colorado, D. S. Grimes, editor and publisher. This is a thoroughly competent and edited with ability by one who understands the West. This is also a new enterprise in Agricultural journalism, and ought to succeed.

**SUGAR BEET,** devoted to the cultivation and utilization of the sugar beet. Fourth year, No. 1, February, 1892, illustrated, royal quarto Lewis S. Birkett, editor, and publisher. A thoroughly competent and edited with ability by one who understands the West. This is also a new enterprise in Agricultural journalism, and ought to succeed.

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**FARM, HERD AND HOME.**—A royal quarto of 24 pages, in tinted covers, published by Bowers & Adronnet, No. 15 Batea Block, Indianapolis, Indiana, at $1.00 per year. Six copies, $5.00. Liberally illustrated, and enshrined to solid literature, relating to its specialties. Typography and material unexceptionable.

**BIG SKY RURAL,** a 16-page quarto (of the same publishers) monthly devoted to horticulture and the rural interests of Colorado, Wyoming and New Mexico, 586 Hollidays street, Denver, Colorado, at $1.00 a year, D. S. Grimes, editor and publisher. A valuable auxiliary to the field it occupies. The March number contains 52 good practical articles.

**SILK CULTURE.** A monthly magazine of 32 large pages at $1.00 a year in advance. W. B. Smith & Co., New York publishers, 1,000 silk-worm eggs free to all who subscribe before the 1st of April, 1893. An entirely new enterprise and ought to be liberally sustained—especially by those who propose to engage in the culture of silk.

**Justice comes to us this week illustrated by a double folio map—"showing how the people's hand has been squandered from corporation funds." Something has said—whether wise or otherwise—that the government must own the railroads, or the railroads will ultimately own the government, and looking upon this map, such a contingency seems more than probable. The older States seem free from railroad monopolies, but the newer Western and Southern States seem bound hand and foot. No man can form any conception of the magnitude of these grants in relation to the entire territory of the country; some States and Territories are literally covered with them. Michigan, Kansas, Arkansas, Texas, Washington, etc., are almost literally covered by these grants. Unless they pass entirely out of the possession of the railroads and become the property of independent yeomen, in fifty years they may carry a joke "too grievous to be borne."
THE PENN
HARROW
BEST IN THE WORLD
IT HAS NO EQUAL

A KNABE IN THE WHITE HOUSE.

There was seen yesterday at Messrs. Knafe & Co.'s factory a magnificent concert grand, just finished by them for the presidential mansion, President Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House bestowed in favor of the Knabe Piano as his preference, and ordered accordingly the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case, and of superb tone and action—an instrument worthy in every respect of the place it is to occupy. It was shipped to its destination yesterday. —Balt.
more American.

COLMAN'S RURAL WORLD.

This sterling Agricultural paper entered its thirty-sixth year on the first of January, and appears in a new dress, and gives evidence of increased prosperity. To the Farmer, Stock Breeder, Fruit Grower and Cultivator of Sorghum for Syrup and Sugar, it is almost indispensable. It should be read by every one owning a farm. It is published weekly, in the best style, at only $1.00 per annum, by Norman J. Coleman, St. Louis, Mo. It

COMPLIMENTARY NOTICE.

We desire to call attention to the advertisement in another column of D. M. Ferry & Co., Detroit, Mich., the great seedsmen, whose mammoth establishment is one of the sights of the chief city of Michigan. They do the largest business in their trade in the United States, reaching across the Atlantic and Pacific oceans. The house is entirely reliable, and if you wish to get exactly what you order, you cannot do better than send to them for your seeds, and you may depend upon it you will get the best that the market can supply. Their seeds have become known over the entire civilized world for purity and fertility, and have gained for them an enviable reputation. Their Annual Seed Catalogue just issued for 1888, replete with information and beautifully illustrated, will be sent free on application.

SEND FOR SPECIAL PRICES

On Concord Grapes, Transplanted Evergreens, Tulip, Poplar, Linden, Maple, etc. Two Seedlings and Trees for timber plantations by the 100.

J. JENKINS, WINONA, MICH.

2-2-79

WINONA, ON OHIO.

By removing the wheel and shield from the original you have a complete combination "A" Harrow.

The Penn Harrow
CHANGED TO DOUBLE "A" HARROW.

D

Remove the wheel and shield from the original, reverse the wire, and make the most complete Double "A" Harrow in the market.

The Penn Harrow
CHANGED TO A SQUARE HARBOR.

C

By removing the wheel from the original you have a Harrow with three points to look to. By hooking to B or C you can harrow in a square, and harrow the bottom and both sides, or over a plain and harrow the top and both sides, or you can make either point and have three points on the ground—something that cannot be done with any other harrow.

The Penn Harrow
OX ITS SLEP.

B

It has always been a most convenient to get the Harrow to and from the field. The Penn Harrow contrives this, for in the combination, it has its own sled to haul it on.

The Penn Harrow

A

Indispensable for Orchards, as the revolving wheel hammers right up to and all around the trees without harming them.

The Penn Harrow
CHANGED TO SINGLE "A" HARROW.

Compliments of the Knabe Piano Co.

This piano is made of the best white oak, with steel teeth, well painted in every way first-class, and fully guaranteed to be the most convenient, will do double the work of any other Harrow, or will save half his labor, and is warranted to do all we represent at any price, or money refunded. It will be shipped on receipt of $30. Send for a catalogue and see what farmers say.

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The Lancaster Farmer
CONTENTS OF THIS NUMBER.

EDITORIAL.
The Orange................................. 48
St. Patrick's Day and Bee Pasture...... 50
Charcoal as a Food........................ 50
"Pear-Tree Right!".......................... 50
The Peach Scab............................ 51
In Memorium.............................. 51
Excerpts................................ 53
The President's Address................ 53
Different Classes of Farmers—Value of Farm Lands/ The Grain-Energy System—Change to be Undated Against—Intelligent Discussion Demanded—Value of Agricultural Societies.

CONTRIBUTIONS.
The Balance of Trade Debated............ 55
SELECTIONS.
Fruit Culture—Favorite Varieties in Berks..... 56
Forests, Floods and Droughts.............. 57
Onion Culture—Seeds and Sets............... 58
Require to Succeed with Culture—Worth Preserving...
Table of Legal Weights........................ 65
Quantity per Acre
Herschell's Weather Table................. 58
For Foretelling the Weather, Throughout all the Landmarks of Each Year, Forever.
Harvest Dates of the World................ 59
Birds on the Farm
Clove as a Fertilizer
Clover as a Fertilizer—Clover as a Shelter.

OUR LOCAL ORGANIZATIONS.
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Crop Reports—Short Papers—Early Pasturing for Cattle—Specimens Exhibited,
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An Early Crop of Peas
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Fruit Buds of the Peach
Vegetable Seeds
Chemical Fertilizers in Plants
Cucumbers
Lettuce
Parley
Radishes
Early Potatoes
Grafting the Common Cherry Tree

HOUSEHOLD RECIPES
Prune Whip................................ 62
Cream Cookies............................ 62
Ginger Puffs.............................. 62
A Breakfast Dish........................ 62
Cup Pudding.............................. 63
Lobster Patties........................... 63
Venison Patties........................... 63
Preparing Currents....................... 64
Brobled Sweet Potatoes.................. 64
French Pudding.......................... 65
Broiled French Toast..................... 65
Pickled Tongue.......................... 63
Nile Bread.............................. 68
The Holstein Breeders.................... 68

LIVE STOCK.
A Thick Straw Bed for Breeding Sows... 65
Horses
Cows
Swine

POULTRY.
The Dust Bath................................ 65
The Secret of Raising Turkeys........... 65
Poultry
Hens Busy
Chicken Notes
Library and Personal

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The Lancaster Farmer.

Dr. S. S. RATHBUN, Editor.

LANCASTER, PA., APRIL, 1883.

Vol. XV, No. 4.

EDITORIAL.

THE GRANGE.

"The Grange is a family when the father’s manhood, the mother’s devotion, the brother’s affection, and the sister’s love are so cultivated and developed that they reach out beyond the purlieu of the family circle, and embrace with fraternal kindness every member of the order; practically obeying the injunction of our Saviour when he said: ‘The second commandment is like unto it: Thou shalt love thy neighbor as thyself.’ This is the fellowship to be found in the Grange, and it is the fellowship of the noblest character. Twenty-nine days in the month social differences, moral convictions or political prejudices may estrange patrons of husbandry; but when on the thirtieth day of the month they meet on a common level in the Grange, all these alienating features are dissipated.”

The foregoing is the concluding paragraph of Hon. D. W. Aikens address before the convention of Agriculture, held in Washington City on the 23d of January last, and no doubt it is just as truthful, as any professions for humanity will permit to be. So far as the theory is concerned, there is no substantial difference between the profesed insinuations of the Grange and any other of the awowedly fraternal and benevolent orders that are now thickly dotted over the whole area of our vast country, and the civilized countries everywhere on our globe. Any one, however, who has been a member of any of these institutions for a series of years, and is sufficiently observant to look behind the veil, must be painfully impressed with the great lack there is in the practice of those imbecile virtues. True, this is not the fault of the fundamental doctrines and principles of these various brotherhoods. They appear to be attributed to the brother’s themselves, who, in spite of their fraternal vows, have not forgotten self—have not loved their neighbor as themselves—have not even tried to do unto others as they would that others should do unto them. Why is this so? Is it not because "social differences, moral convictions, and political prejudices, indulged twenty-nine days in one month, cannot be subdued to godly affections, in a few hours, on the thirtieth day? "A long face on Sunday cannot atone for the coarseness and the injustices of a whole week." The true fraternal relations between men cannot be cultivated so long as they are regarded merely as something to be occasionally put off externally, and not as benevolent outgoings, or out flowings from the mind and soul. To be brotherly, we need to live brotherly.

The Grange ought to be a medium of fraternal affiliation in a greater degree, and in a more practical sense, than any other organization existing among men, except, perhaps, the church itself; in that its operations are conducted more immediately upon the domestic plane—a plane of use which has a more universal recognition in the social and material world, than any other of which we can form an intelligent conception. Civilization is unanimous in its recognition of agriculture and agricultural productions, as the basis of human subsistence, and without which there could be no such phenomenon as human existence in a civilized state. Nearly all the beneficent organizations among civilized nations are composed of innumerable different occupations, and different social positions, as well as different domestic interests. This is not so, fundamentally, with the organic structure of the Grange. Farmers, farm owners, or those peculiarly interested in farming, compose its membership, and the more single they are in their occupations, the more free they are their sympathy with the interests of the Grange. There is less apparent ambiguity in its principles, its aims, its objects, and its ends, than usually obtained among other benevolent organizations. It ought, therefore, in its visible manifestations, be able to realize what Mr. Aikin so eloquently and so feelingly claims for it, in the concluding lines of his address, quoted above; or, in view of human weakness, under circumstances, at least a visible approximation to it. Does this harmony, this unalloyed brotherhood then exist in the Grange, or is it in this respect akin to other similar associations? Has it its "wheels within wheels," the inner of which are selfseekers, and foster interests and aspirations, with which the outer are not in fraternal sympathy? If it has, it is not the fault of the Grange as a social and benevolent institution, but rather that of its integral composition, who are but erring human beings at best. Perhaps, the agricultural population of this country possesses more sterling integrity than any other class of citizens; but with all that, they may be lovers of self more than comports with the inclinations of pure Christianity, and this selfishness is the social wall against which the lattering ram of the Grange is intended to be directed, in order to effect a fraternal union.

ST. PATRICK’S DAY AND BEE PASTURE.

We are not intending to couple Erin’s patron saint with bees, but the day on which he is said to have been born—the 17th of March—which has come to be a sort of weather point in this latitude; indeed, in our boyhood, we at least had practical knowledge of one man, who invariably took down all the stoves in the house on St. Patrick’s day, and put them up again on the second Tuesday in October—general election day—no matter how cold or warm it might happen to be, earlier or later than these days. It is only necessary to say that, like Venner and Wiggins, he was often very faulty in his reckoning, if he reckoned on the subject at all.

This year (1883) the 17th of March was bright, blustery, sunshine, and withal bracing, cool, but the following day (18th) was calm, clear and genial all day, and was succeeded by a brilliant moonlight evening and night. We noticed a "struggling bee or two, about moon on the 17th, but on the 18th they came in hundreds, and continued coming and going nearly all day.

We have on our premises growing a “Black Hellebore,” which blooms from the 1st of December until nearly the 1st of May. This season it has about one hundred buds and flowers; these do not all “blow” at the same time; very genial day brings out a few, but when they are out, they stay out, from the beginning to the end of their season, and, like the common Hydrangea, they change color two or three times before their final end.

It was this plant (Helleborus nigra) sometimes called the "Christmas Rose," that attracted the bees. In near proximity were many modest "Snow-drops," with opening blooms, but these were only faintly touched by a few bees; the mass rushed in among the Hellebore flowers, and could not be driven away; they seemed not only fearless but slightly irritable. We, of course, did not wish to drive them away, but were facilitating their access to the flowers, for some of them were covered with the leaves.

It impressed us that the bees must have been very hungry, or that the nectar of this plant must contain some alluring or intoxicating quality, which is specially agreeable to apiarian taste.

It might be worth while to make a chemical analysis of the nectar of this Hellebore, and have its quality determined; for we know that under the name of "White Hellebore," a poison is sold.

Supposing the nectar of the black hellebore to be harmless, what is there to prevent beekeepers from having an enclosure of it for winter, late autumn and early spring pasture. Once permanently raised, it will take care of itself, and any day from the first of December until the first or middle of April, if it is warm enough for bees to fly abroad, they will find ample pastures in the opening bloom of this plant on such days. There is not nearly enough attention paid to bee pastures. Men who keep bees should also provide pasture for them. We are not sure that there should not be some legislation on this subject. Much complaint is made against bees for destroying grapes, peaches, and other fruits, by those who keep no bees, which would not be the case if sufficient pasture was provided for them. Bees are very busy little things; even if there is sufficient in their hives to feed upon, they instinctively fly abroad in search of nectar, as early and as often as the temperature will permit, and this being the case, autumn, winter and early spring-blooming flowers should be provided, and if the Hellebore is harmless, no better flower, for such a purpose can be found during its blooming season. It possesses a singular adaptation to
THE LANCASTER FARMER.

The physical economy of the bee. It will bloom in a temperature much lower than that required to animate a bee; hence when the bees go abroad in search of food or nectar, to store up, they always find it in the flowered black honeycomb. The editor of the American Bee Journal, emphasizing the necessity of bee-pasture, says: “We have just issued a new pamphlet giving our views on this important subject, with suggestions what to plant, and when and how. It is illustrated with twenty-six engravings, and will be sent postpaid to any address for ten cents.”

A writer in the March number of the same journal, says: “For ten years or more I have had fine Virginia grapes in front of and very near my apiary, and to my surprise and deep regret, the bees have discovered the grapes. I wish I could get them to go for grapes, peaches and all other fruits.” This writer doubtless believes in furnishing bee-pasture, but seems to be disappointed that the bees do not appropriate what is so bountifully provided. The italics are ours, and we quote the lines only for their bearing on the question of pasturage. Nevertheless, it does seem queer that one man confounds certain characteristics in bees, which another man as emphatically comments.

CHARCOAL AS A FOOD.

Whatever increases the power of laying on fat or promoting the rapid and healthy production of flesh must be food or equivalent thereto. This pure charcoal does most effectually by taking the live weights of two lots of sheep and separating them by an ordinary net, the artificial food, corn and cake being carefully weighed twice daily. A stock, per cent, one pint of charcoal being added to one of water. When reweighed prior to selling to the butcher, the increase in weight was in favor of charcoal by 40 per cent. Sanitation causes the easy and complete digestion and assimilation, and only can account for these results, which charcoal alone can accomplish. The charcoal should be given to the animal, except in urgent cases, when it may be given as water or thin gruel and given as a drench. The dose is one pint to every twenty-five head daily, and quarter-pint per head for full-grown cattle, horses or pigs; half the quantity for young cattle, and two teaspoonsful to one dessertspoonful for young calves, daily, when suffering from weakness or illness in conditions. To keep in good health and fortify against disease the dose should be given two or three times per week, according to the health of the animal and the state of the atmosphere. The best plan is to wet a quantity of bran, pollard or malt combined; mix the charcoal among it, and then administer the food in the same way. Feeding feed and healthy fatting of cattle should be used daily amongst their food. Charcoal for internal and medicinal purposes must be pure vegetable charcoal, obtained from all iron and injurious foreign matter. The charcoal, when coming into the user’s possession, must be kept perfectly dry and free from any illuminating surroundings, such as the vases of a stable or artificial mantles, etc., or it will absorb them and thus become septic, and of no medicinal value. It is better kept in a close box or tin container, with a closely fitting cover. — Farm and Home.

Our experience in stock-feeding has been very limited—very limited, indeed—very long ago, and confined mainly to swine feeding, but limited as it was, it was still an experience, and one too that seems to be somewhat in harmony with the above paragraph, although not so systematic and precise. A pig of, apparently, a very ordinary breed, had been palmed off on us as a healthy and thrifty animal, but soon caused great anxiety in the household, "disturbed," and afflicted with "black teeth." We were advised to administer charcoal with its food. We did so, in this wise: The swill-barrel was kept in a corner under a shed that had been built over an old-fashioned out-door bake-oven, which was used by two families just twice a week. Every time the oven was used for baking purposes, a showfull or two of the charcoal drawn out in front, was thrown into the swill-barrel, giving it a dark or cloudy color nearly constantly. Those about the house no doubt dumped the charcoal into the swill often as a matter of convenience. Be that as it may, it became a likably habit to throw charcoal into the swill, which was composed of the usual "house-slops," scraps, mixed with bran, or "shippoff" or "chopuff." This sort of swill, together with beads—purshin, hamb-quarter, anathum—six bushes of corn in the dry grain during the month of November, was all that was fed to that skinny pig. Well, what then? Why this? That pig was incar cerated the first week in April, and languished until the first week in May, after which we commenced dosing it with charcoal, and by the first week in June it was "Fair as a lily and bright as a bumm." Its ribs began to arch, its sides began to distend, its buns and shoulders to "round up," and its neck, snout, and legs to shorten (apparently) and its tail to become slender, round, and cadaverous and melancholy, it became contented, somewhat lazy, but always hungry at the ap proach of feed time. It was butchered about the middle of December, and when hung up, haired, scraped and disemboweled, it weighed a little over three hundred pounds, fifty pounds—"better" than the best pig in the litter. A friend told us in confidence, that he would not have taken that pig as a gift, because it was always "left out in the cold," the dam having one pig more than she had teats. We don’t say that charcoal did it, any more than we say that the weeds, or the slops, or the trash, or the scraps, or he that has a mind to apprehend, may make such use of it as he thinks best.

At the annual meeting of the Berks County Agricultural and Horticultural Society, held in Reading, Pa., February 5, 1883, the following officers were elected to serve during the ensuing year:—

President.—James McGowan.


Secretary.—Cyrus T. Fox.

Corresponding Secretary.—Stephen M. Meredith.

Treasurer.—William S. Ritter.

Auditors.—Matthias Mengel, Ezra High.

The twenty-ninth annual exhibition of the Society will be held in the city of Reading, on the 2d, 3d, 4th and 5th of October, 1883.

The office of the Society is at No. 11 North Sixth Street (Times Building), Reading, Pa.

All communications intended for the Society should be addressed to the Secretary.

PEAR-TREE BLIGHT.

Among the many different theories advanced during the past ten or fifteen years, as to the cause and treatment of tree-blight—whether of apple, cherry, pear, quince or plum—such that advanced by Chas. D. Stichter, of Buffalo, N. Y., in a paper read before the Western New York Horticultural Society, and published in the April number of the Gardener’s Monthly, seems to make as near an approach to the true cause of blight as any we have yet seen, and possibly there may be nothing beyond it. But even when the cause is known, the application of a prevention vera cure, may be as unavailable as the knowledge of the skiller who knew that the captain’s skillet was at the bottom of the ocean; because, the "finer span" the subject, the theory, and the remedy, the more expert and delicate the manipulations necessary to make, prevent or counteract the evil. Not even "eternal vigilance and a sharp knife," would avail anything, if they were blindly applied.

Setting aside the frozen-sap, summer, insect, and soil theories, Professor Burrell has announced that the "blight" in apple, pear, and quince trees, is caused by a species of Bacteria, "the smallest of living organisms," and that bacteria may be carried from one tree to another, and an inoculation effected, through the agency of Scurotal Insecta.

Micrococcus oenotherae, Bur, is the species, and so very small that it only becomes visible when it is magnified 500 times, nor does it seem to be fully determined whether the blight parasite is animal or vegetable. Whatever or whichever it may be, it destroys the starch grains and causes a fermentation, leaving the cell structure apparently unharmed. With the poisoned sap B. inoculated healthy trees, of which over sixty per cent, showed signs of "blight," clearly proving that bacteria is the cause and not the effect of the disease. Twenty years ago Dehnell demonstrated that these organisms increase by "division," that is by dividing in the middle, under favorable circumstances of heat and time, and sometimes even of other. This would be, at least, at the rate of sixteen millions five hundred thousand in twenty-four hours. Some species of bacteria also perpetrate themselves by spores, like fungi, and these different modes of perpetuation is, perhaps, the "stumbling-block" involving their animal or vegetable origin—a matter of no vital importance.

It is quite evident that the disease is one of the outer cellular bark, as the bacteria are unable to penetrate through the best cells, and can spread up and down only by working their way through the apparently solid cell walls. Where being no such things as sap vessels in plants, analogous to blood veins in animals, the spread of the disease from the point of attack must be comparatively slow. Soil, situation, exposure, etc., have little or nothing to do with the disease.

Of the different modes of cultivation, the one that produces a moderate, healthy growth, should be preferred to that of excessive growth. It is quite apparent that trees highly stimulated by manure, severe pruning, and clean cultivation, are most subject to "blight."
The essayist then alleges that orchardist's uniformly most exempt from "blight," that have come under his observation, were those well cultivated in grass, that is, in which the grass was kept short by repeated cutting—never allowing the grass to ripen or go to seed—in short, treated like a lawn. Cold does not kill the blight, *animalcula* or *fungi*, as the case may be, but activity ceases at near the freezing point; indeed, Fresenius claims that 123° Fahr, below zero will not kill them. But in the adult state they may be destroyed with water heated to 130° Fahrenheit; spores have been known to survive a short immersion in boiling water.

Mr. Z. states that the poisoned parts may be prevented by cutting off the outer bark with a sharp knife, and applying linseed oil; but this must be done very soon after the appearance of blight. Trees should be examined at least once a month during summer, and especially after every warm rain, or warm dewy night. Any parts showing disease should be removed immediately; if an ordinary-sized limb it should be cut off, but if on the trunk or larger branches, the outer bark should be peeled off and the spot covered with oil, and all the diseased parts removed should be at once consigned to the fire.

As it has been found that bacteria may be cultivated, whereby it loses most of its poisonous qualities in disease; and others so far it is hoped that some genius will contrive a way to cultivate the bacteria under consideration, so that by inoculating pear trees with it, they would become proof against "blight." This, he suggests, "would open a field for a new profession—a tree doctor."

We know there are some experienced fruit growers in Lancaster county who would object to the application of linseed oil to trees for any purpose, whatever, as exceedingly injurious to the health of trees. This no doubt is true when applied to the surface of the whole tree, or to any of its branches, but to a small portion, here and there, it would most likely not injure the tree, and perhaps make but little difference, so far as vegetable respiration is concerned, for it is very likely that that function could be exercised no better under a blighted surface than it could under an oiled one. The objection to linseed oil is that it leaves an impervious coating on anything to which it is applied, when it becomes dry, and this prevents vegetable respiration, and, of course, is very injurious.

"Prof. B. is of the opinion that this kind of bacteria—*Micrococcus mucilaginosus*—is rarely found floating in the air, being extremely vivid, and usually maltreated when met, and in such a condition they would be readily carried about by insects." And also that "the most likely to aid in their dissemination would be the true bugs—*Hemiptera.*"
The theory is that by the introduction of their eggs the suck to the tree, they come in contact with these sticky, poisonous bacteria, and thus carry them from one tree or branch to another.

It is more likely that these tree-sappers and distributors would belong to the order Homoptera than to the one above named, as the species of this order are more commonly "tree-sappers" than the others. The "tree-hoppers," "spittle-hoppers," "frog-hoppers," and aphids, and many others of the order are usually found on the smooth and tender branches of trees and shrubbery, while the "Leuconota*" was frequently found on succulent plants. But, under any circumstances, perhaps sectorial insects of any order would be as likely to distribute diseases, in the manner referred to, as the common house-fly (order *Diptera*) which is known to distribute a similar disease. But we admonish our readers that if they desire to make any advance in this line of discovery, they must "look sharp," wait patiently, and manipulate with skill if they wish to detect objects of which four united only make about the twelve thousandths of an inch in length.

The Peach Scab.

Ig response to Mr. D. S. of Lancaster City, Mr. F. H. Z., and Dr. G., of Columbia, and others, we would say that the peach twigs and branches they sent us, are badly infected by the "Peach Scab," or the *Aureum* or *Pseudosclerotinum* infecting it, and, if they desire to know "what to do about it, we would simply recommend the cutting off all branches that are as badly infected as those they sent us, even should it be necessary to trim them as short as the Indian trimmed his dog's tail, when he cut it off immediately back of his ears: for, if every individual scale or, more or less, reproduces a single young one, the present season, there would not be sufficient surface on the trees and branches to allow them standing room." This is by no means a new enemy to the peach; they have appeared at irregular periods in various parts of Lancaster county during the last ten years, and, two years ago, they were "fatal to the epidemias" in the City of Reading, Pa.

They are very local in their habits and travel very slowly, frequently being confined to a single tree in an enclosure of trees, for several seasons, especially if the neighboring trees are not to the leeward of them; or, one enclosure may be infected throughout, whilst another, only separated by an ordinary closed fence, may be entirely free from them. Of course, the little brown, intensely convexed scales now upon the branches will not move from their present locale; but, when the young are hatched from the eggs, which die or drying, female bodies conceal, the youngsters will travel to new quarters on the same tree or branch; and then too they may be carried to other trees that are to the leeward of them.

Countless numbers of them must perish every season through meteorological contingencies alone; for, if a drenching rain should occur about the period they are excluded from the eggs, millions of them would be carried down to the earth, by such a deluge, from which they never more would rise.

Artificial drenching—ever the water—at such a time produces a similar effect. But after the young have located themselves, introduced their beaks into the young wood, and become degraded to a mere "scale," or "scab," neither "wind or weather' will have any effect upon them. They however succumb to applications of grease, or oily substances. Coal oil, or even linseed oil, are said to be injurious to the trees. But, when a whole orchard is infected, such an application seems impracticable.

**IN MEMORIAM.**

It is not the province of our limited journal—except in very extraordinary cases—to insert the death notices of the many worthy citizens who are almost daily passing over to that "bargain from whence no traveler returns," but we must claim the privilege of advertizing to the departure of the late Joseph Preston, who had been for the past eight years more or less connected with the *Farmer*, as contributor, proofreader, and general supervisor. He died March 29, 1853, in the 73d year of his age.

Mr. Preston was no stranger to us for many years before we formed his personal acquaintance. We first heard of him through our departed friend L. Zabihi (born in this county) as early as the spring of 1837—six and forty years ago. They had been "fellow craftsmen" on the *Prique* in New Orleans, under the employ of "John Gibson, faithful and bold." New Orleans was full of northern printers; who, far removed from their hourest domiciles, burst through all social and family restraint, and enjoyed a high "old time" in that famous city of "Beauty and of Booty." There was one man among them, however, that had no "wild oats" to sow, but was the same man in all the relations of life in the city of New Orleans, as he was in Chester county or in Lancaster counties, and more recently in Lancaster City, and that man was Joseph Preston. That quaker integrity, and those steady habits which he imbied with his mothers milk, served him in the hour of dire temptation, and gave tone to his character as a moral hero and a man. Like Nicodemus of old, the knights of the "stick and rule" were astonished, and asked—"How can these things be?"

Had Joseph Preston a pronouncement of his approaching physical dissolution? If he had, we may be assured it was not a superstitious one, but was rationally founded on cause and effect. We know that he was faithful, and during our last business transaction, he casually remarked with a serene smile, that he thought—"this would be the last time he would need the services of a tailor." We tried to think otherwise, although his appearance was by no means proclivities. He must have known himself better than we did. He was not afraid to live the life he led, and hence he had no occasion to fear to die. "He is gathered to his fathers: may he rest in peace."

**EXCERPTS.**

**JEFFERSON COUNTY (N. Y.) farmers now carry their milk to the limburger cheese factories where they are paid $12 and 12¢ per gallon for it.**

**Parmentier says that the best method of storing the highly dry and clean wheat in is to store it shaded from each other, care being taken to keep a sufficiently low temperature in the granary.**

That "Eastern methods of farming are equally well adapted to the broad prairies of the West" is shown in the experience of Mr. A. Reesor, who thirteen years ago moved from the East to the high prairie land in Marshall county, Kansas. Mr. Reesor farms but eighty
THE LANCASTER FARMER

[April,

A TON of London sewage contains only three pounds of solid matter.

It appears from Pliny's description, that the rhododendron of the ancients, so poisonous to animal life, was what we call oleander.

An Ohio farmer names the Mammoth Pearl as the potato to take the place of the Peach-blow, against which charges of deterioration are made.

The drought has so seriously affected the wheat crop of Australia that farmers of this country need not fear from Australian competition the coming year.

SALT is used to destroy the onion maggot with partial success. About the 1st of July, sow two bushels to the acre; the salt also hastens the maturity of the crop.

Everything points to another period in England of live stock contagion. Both foot and mouth disease and pleuro-pneumonia are appearing in unexpected places.

The tendency of modern practice in managing with commercial fertilizers is to use readily soluble and quick-acting manures, but to use them sparingly at a time. Little and often is the rule.

A good guide for feeding grain to cattle is one pound to each hundred of their weight. Most animals eat in proportion to their weight, and an animal weighing 1000 pounds may receive ten pounds of grain per day.

Martindale Catskin, a discouraged fruit-grower in Western New York, is digging out a fifty acre apple orchard, planted twenty years ago. It has never borne but one full crop, and then the price was too low for paying.

Arthur S. Core, of Mount Vernon, N. Y., grew two crops of potatoes last year on the same land. The second crop was shortened by drought; but in a good season he thinks two crops may be made profitable where land is scarce.

Professor J. L. Biddle says the acorns of Russian apples sent to the Iowa Agricultural College were grown on a piece of land where varieties grown in the latitude of St. Petersburg and Moscow, and he prophesies their future success in this country.

There are almost a score of incubators in operation at Hammonet, N. J., and there will be more chickens hatched there this season than ever before, the climate and soil, as well as location, being specially adapted to the raising of poultry.

Soot contains a small percentage of nitrogen, used alone it makes an excellent top-dressing for spring grain and grass, being quick in its action without being too stimulating. It has also the property of destroying slugs on winter grain.

Many so-called cases of pear blight are due to other causes than blight. Quite often trees are said to be blighted from too much manure, when, in fact, the heavy doses of manure water would have killed an oak or butternut as quickly as it killed the pear.

It is bad policy to wash harness with soap, as the potash injures leather. If the harness becomes rusty rub off the dirt as well as possible with a Soft brush and supply a dressing of grain black, followed with oil or tallow, which will fasten the color and make the leather pliable.

In the Island of Jamaica splendid cattle are raised on Guinea grass, many weighing 2000 pounds or more after being dressed. Thousands of acres in Guinen grass can be seen in some parts of the island stretching for miles of the hillside and plain, and stocked with the finest imported cattle from England.

A shipment of 300 bushels of red-oak acorns has been made to Germany for planting on unfitted hillsides. This tree is found to do well in Europe and its wood is valuable. The acorns were gathered in Missouri at an average cost of $1 per bushel. The same party has also shipped 180 bushels of pigments for similar purposes.

A successful fruit-grower thinks many apple trees are set too near together; two rods apart is near enough. The land for an orchard must be kept in good condition. He top-dresses his orchard once in three years, principally with a thick coating of straw. He allows hogs to run in his orchards, and plows the land until the trees are so large as to interfere with such a practice. Last year he picked forty-five barrels of Greenings from four trees. Orchards thrive best near bodies of water. Trees should be judiciously trimmed while young. Many trees are injured by overpruning. Trees should be grafted when they are from one inch to one and one-half inches in diameter.

Judge Eaton, of Ottawa, III., notes, in an article on the history of the Irish potato, a fact which many farmers have observed, despite the assurance by scientists that "mixing in the hill is impossible;" "A curious fact connected with the growth of the Irish potato, and which most farmers have no doubt observed, is that they will hybridize in the hill. Plant a red and a white potato in the same hill, or so near together that their bearing roots will intervene, and part of the tubers of either plant are liable to be marked with red and white patches, or one-half may be red and the other half white. This is an interesting field for the investigation of some one inclined to the work."

In order to have successive crops of green food for stock small pieces of ground should be sown at intervals for that purpose. Some sections will not produce grass in abundance, but such difficulty may partially be avoided by sowing peas and oats mixed, mustard, radishes, collards, kale, or anything else that comes early. Though the quantity may not be large, the green stuff will answer for a change of diet, and serves an excellent purpose in that respect.

The orchard should be cultivated at least eight years, or till it comes well into bearing in any hoed crop or sown to buckwheat and let fall back on the ground; care should be taken not to plow too near or too deep near the trees; when you seed use red clover. It is advisable to shorten in the branches two-thirds the last year's growth, for the reason that the tree has lost roots in being taken up, and that equalizes the top and root.

A bee never gathers pollen from more than one variety of flowers on the same trip or visit. If so, why is there such perfect same-
ness of color and appearance of both little pellets carried by the bee. We do not assert that all the bees gather and bring in the same kind of pollen at the same time, but that each bee gathers only one kind the same trip, and may collect various kinds during the day.—Camphoracite Bee-Keeping Exchange.

Peter Ivory, who is an experienced cattle raiser, says the following remedy will cure the blackleg or diphtheria. We give it for the benefit of our farmer readers. He says: "When the animal is first taken it will exhibit hematicus in some one of its legs. With a sharp knife cut away the laum more than is necessary for the knee and the hoof, where will be found a lump or a sack filled with a white substance; squeeze all this out, then fill the opening with salt and pepper, and bind the limb up with a rag." This is all that is required, and Mr. Ivory vouches for its good effects. The remedy is certainly cheap and simple, and is worthy a trial.

The Richmond (Va.) Southern Planter, relates thus of one-eighth of an acre of Incense: It has no superior for soilin purposes. On the 11th and 12th of April it was killed down to the ground by a severe frost, when it was fully knee-high, and would have been ready to cut in a few days. On the 22d of May it was first mowed, and again on July 21st and August 14th. The three mowings yielded 4,590 pounds of green food for soiling, from one-eighth of an acre, or at the rate of 36,450 pounds per acre. Feed with a little meal and salt sprinkled over it, it is a wholesome and highly nutritious food for horses and cattle of all kinds.

Sir J. B. Lawyes thus reasons from experiments, as stated in the Country Gentleman: "To obtain maximum crops of grain the proper course to pursue is to precede them with a crop of leguminous plants—that is, peas, clover, vetches, etc., to which the minerals should be applied, and this enables these plants to make an unaltered growth, which renders them capable of storing up a large quantity of nitrogen more than is necessary for the grain crop that follows—and the latter, by this active stimulant, is rendered capable of obtaining all the minerals required from the soil and the decaying vegetation for maximum crops."

The quantity of water which passes through the roots of a plant is enormous. Dr. Lawes, of England, found that an average of 2,000 pounds of water is absorbed by a plant for every pound of mineral matter absorbed by it. At the French Agricultural Observatory, at Montceaux, it was found that 7,792 pounds of water passed through the roots of the wheat crop for 100 pounds of grain produced, or 72.7 pounds for each pound of grain, in a rich soil; while in a very poor soil, 1,016 pounds were passed through the same quantity of wheat for a product of about half a pound of grain, or 2.038 pounds of water for each pound of grain.

To soften water for household purposes, put in an ounce of quick lime in a certain quantity of water. If it is not sufficient use less water or more quicklime. Should the immediate time continue to remain deliberate, lay the water down on a stone and pound it with a base-ball club.

The President’s Address*

The importance of agriculture has been recognized in all the ages of history. That it is the foundation of civilization there is no dispute, and it may safely be added that the civilization of any people or nation is measured by their rank in agriculture. Manufacture and commerce are but the outgrowth of successful agriculture. It is first in the rank of importance among all the industries, and well deserves to be first in the order of desirable employments.

Among heathen nations the social rank of the farmer was not in the least enviable. Where caste was observed, the soldier, the priest, and the artillerer were in esteemed high above the yeoman. A retrospactive glance convinces us that primitive agriculture was conducted in the simplest manner. The wooden plow, which was little more than a sharp stick, (and that drawn by human beings), together with wooden hoes, shovels, knives, &c., constituted almost the entire outfit of the ancient oriental husbandman, and the same is true of the savage tribes to-day. In such cases, indeed, the labor of farming (if such it might be called) was all muscle and brain. But the present advanced system, with its sulky plows and sulky cultivator, self-binding reapers and steam threshers, and it is hardly visionary to say that in the near future the management of the farm will be all brain and no muscle.

No wonder that years ago, when farming required a vast amount of muscle, so many young men quit the farm for the workshop or some other congenial employment. Only the most stupid were content with its drudgery. Fathers then had reason to fear educating their sons, lest they abandon the farm.

It is not pretended that the farm of to-day is free from hard work, nor is it probable that it ever will be, yet improved machinery and devices have aided so much that few of our industries are less tiresome than farming. The period in agriculture is about come when the son is glad for the opportunity of succeeding the father. Children, too, instead of quarrelling as to who should farm, are more likely to dispute as to who shall run it.

Different Classes of Farmers.

Farmers may be divided into two great classes—the imitative and the progressive. The former embrace the bulk of the community and are highly important in their place. They will execute successfully the plans and systems adopted by their fathers, but carefully avoid untried paths. They make good use of what is tested and approved, but they give us nothing new. It is easy to conjecture where agriculture would stand to-day if all were imitators for the last half century. The progressive farmer is not only the tillers of the soil, but also those who devote their time to the invention and improvement of agricultural implements and machinery, and lastly, but by no means leastly, those who by careful analysis of plants, soils and fertilizers promise to give us much-needed light. Science has so far triumphed as to determine the chemical composition of all species of soils and plants, and common sense alone assures us that no soil can produce a plant which does not contain all the elements of that plant. But then, as a body, we are ignorant of the real deficiency, and thus spend much time, labor and money in applying perhaps five elements where only one is wanting, and then most likely that one not among the five. Of those who try the same brand of phosphate, one reports favorably, another indifferently, and a third discouragingly—certainly, not the fault of the fertilizer, but the wants of the different soils. The truly progressive farmer whose motto is with universal favor is that if possesses all the elements of plant life. It seems to be the eure-all of vegetable life, and should be manufactured and applied as extensively as possible; but even then nearly every farmer under our high pressure system of cropping feels the need of a supplement, and just here comes up the important question, is it better to buy manure even at the present high prices or commercial fertilizers? As a rule, one application of manure must suffice for four or five years. At present prices one application, inclusive of labor, will cost $50. I have tried, side by side with soil thus treated, an application of Thayer’s fertilizer mixture, 350 pounds first year (8%), with 25 per cent. more wheat, and 350 pounds second year with 50 per cent. more wheat, and the present indications of last application are no less flattering. More definitely, I have had in two years from one acre, once manured, at expenses of $50—20 and 15—35 bushels of wheat, from one acre; two applications, phosphate, 8—8—8, 25 and 25—50 bushels. Though these figures will not be repeated on every farm, they serve to illustrate the fact that it is not the quantity of applied manure, but the supply of an existing deficiency that benefits the crop.

What would you think of the physician who prescribes for scarlet fever the remedies approved for consumption or what suppose you to be the fate of the patient? Just such ridiculous blunders we farmers annually commit in our efforts to restore depleted soils. But, you may ask, is there a remedy? Certainly; but it requires more skill and knowledge than the farmer is supposed to possess. The triumph is in chemical analysis, and it is possible that the laboratory will do as much for the farm in the near future as inventive genius is doing now. All that we need is skilled agricultural chemistry, with stations in sufficient numbers to supply the wants of the people. One station under State regulation should be petitioned for at once. Fees should be charged for analysis of soil, and there is no doubt the enterprise would soon be self-sustaining. Every farmer would find himself compensated in a short time for the expense of a test, &c, $10 or $20. It would appear to me highly proper that this society should start a petition and solicit support wherever accessible.

The progressive agriculture demands new ideas and new methods, aiming always at some definite end. Brain work has done more for the farm in fifty years than the muscle of many thousand. The exchange of the sickle for the self-binder, the flail for the steam thresher, prove the assertion. Perfection is
the aim of all improvement, which should be
continued until our machinery and methods
are such as to attain the best possible results
at the least possible expense.

Value of Farm Lands.
The value of farm lands depends, firstly, on
the demand for farm products; secondly, on
fertility, and thirdly, on the cost of
cultivation. These propositions are hardly
disputed, and it is only to the last
I shall add a few observations, the object
of which is to show that the producing and the
consuming masses are both financially ben-
fitted by every important advancement in
agriculture. Any one who will do the work of not less than six cradles, costing
no less than five dollars per day, while the
cradles, inclusive of board, cost twelve dollars.
The self-binder, at a cost of about ten dollars,
will do work costing twenty-five dollars by
hand. In this way it is easily seen that the
aggregate of our improvements will save a
large percentage in the cost of production.
Should all this advantage be credited to the
account of the farmer the profits would stimu-
late to over-production, which is sometimes
temporarily the case, but very soon the gain
is divided between the producer, in enhancing the
price of the produce, and the one who
benefits by selling it, in enhancing the
price of the consuming products, in the case of
enlarging farm products. Property of less than
40 acres will be but little benefited by the
use of costly machinery, unless several farm-
en unite in the purchase; for the interest of
money spent for a new reaper equals the cost
of cutting about ten acres of grain, which is
about all that 40 acres will admit. In small
fruits and marketing small farms may have
an advantage over large, but the cultivation
of cereals is certainly most profitable on large
farms.

Admitting that invention benefits producer
and consumer about equally, some idea may
be formed of the enormous gain that results
to the nation by reason of advanced systems.
Say the reaper has been worth ten per cent.,
to all wheat producing farms (and I think the
estimate is not high), so it is also worth ten
per cent. indirectly to the consumer, making twenty per cent.; the thrasher about as
much, making forty per cent. The wire-rake
and grain drills ten per cent., making fifty
per cent. of the actual value of the grain pro-
ducing hands depending upon the successful
operation of half a dozen machines. Seeing
what benefits we derive, it is not enough that
the successful inventor enjoys the royalty of
his patent, but we must reward the masses
to offer inducements in the way of prizes for
great inventions; our wants are not yet nearly
supplied. There is too much hard work in
the cultivating, or particularly in the harvest-
ing, of corn. Machinery that will do for us
in the corn field what the reaper does in
the wheat would meet with a warm reception,
especially on large farms. There has been
no material change in the way of harvesting
corn for fifty years or more. There are efforts,
and it is to be wished they might succeed.

The Creamery System.
From the present indications, the creamery
system of butter making will completely sup-
plant the old. Owing to expenses involved,
it would seem desirable that the enterprise
should be protected against unjust rivalry by
a license for five or ten years. It is quite
evident that too much competition would so
cripple the business as to leave no profit for
any one, while a licensed establishment
would pay both manufacturer and the supply-
ing community.

We need better tactics in our warfare upon
fortunate tribes. The potato beetle is held in successful subjection by the judicious
use of Paris green, but the tobacco worms are
making us great deal of trouble, and all, no
doubt, for want of an intelligent array of our
forces against them. So long as the great
monopoly of Farnsworth continues by
hunting the worms, without paying any atten-
gard to the destruction of the moth, so long
will the insect practice its annual devastations.
We must fight the moth. It is cheaper and
more effectual, but we must all do it. The
slaughter of a single bird is equal to that of
hundreds of worms. This subject should be
thoroughly agitated and experimented upon.
Motives of self-interest will induce the masses
to adopt whatever system is proved most
effectual. Let the people be convinced that
at an expense of five dollars per acre they
will have, practically, no worms, much less
trouble in stripping and a greatly superior
balance (with the help of the Lord) and the
insects will all take arms in the
common defense. Trapping, searching and
poisoning, I believe, are the methods that
have been tested with good local success.
If it were done by all farmers, I think stram-
ium, planted at distances of from ten to
twenty feet entirely around the patch, and
some poison introduced daily (every evening),
would be so effective that but little damage
would be done by worms, and no doubt the
insect force would become very weak in a few
years. The blessings of many little boys are
ready for this new departure.

Things to be Guarded Against.
On the other hand, the farmer, as well as
every other business man, must guard against
undue enthusiasm. Humsins of any de-
scription are gorgeously paraded through the
country every day, and the shrewdest of
men who can get his name in a newspaper
are said to supply an existing want generally furnish
machines that are worth testing, but then a
great number of mechanics are moved only
by an eagerness for gain, thus giving rise to
covetances which are, at best, only ing-
enuous and not useful, or effectivc, but not
durable. Profit is the great consideration in
all farm operations, as, indeed, it is in all
business. No machine is a success, however
good it does its work, when it is not profitable
to use it. Thus a machine may be a success
on one farm and not on another, in one State
and not in another, at one time and not at
another, depending on quite a variety of
causes.
The same is true also of systems of feeding
and of cultivation; we want not only the
best results, but the best for the price. For
this reason the steering of feed has an
unfavorable report, at least, at present. The
preparation and use of ensilage has larger
items of expense against it than the present
prices of land and feed will warrant. Fodder
cutting, in my opinion, is also one of the
practices that people continue to follow with
a decided balance of expense against it. In
our section many have tried and but few con-
tinue. The value of lime as a fertilizer is
giving rise to much discussion to-day, and the
ranks of its defenders are becoming thinner
every year. Liming has been practiced so
long that many are content to continue,
taking for granted that it pays without even
testing. There is no doubt lime tells with
good effect upon land never limed before and
on lands highly charged with crude vegeta-
table matter. We have evidence, however,
that should satisfy the intelligent that only
a limited amount of lime is effective, all the
balance lying in the soil as a costly encum-
braska! Let any one who has not experi-
enced this look at part of the lumber used for
building houses. So long as a decided difference exists in favor
of lime, let him continue for it is evident that
his soil is not yet surcharged. I limed in
this way, ten years in succession, at a cost of
about two thousand dollars in material and
labor. If I had any return for my labors, it
came in such a way as to escape my notice al-
together. Fifteen dollars per acre is rather a
costly application when there is nothing but
faith and practice to sustain it. It was but very
natural that our forefathers would mistake
the chemical action of lime for material
value, but now that science informs us that
time is no plant food, and that its principal
service consists in burying nature, we should
at least encourage an intelligent canvass of
its claims.

Intelligent Discussion Demanded.
These allusions will, no doubt, excite dis-
cussion in the minds of members present, and
it is hoped that topics akin to these may be
brought before this society, and the farm com-
munity in general, for intelligent judgment.
economy, profit or advantage is a safe measure
by which to approve or condemn both old and
new.

Financial prosperity alone, however, will
not advance agriculture to its merited emin-
ence. There has, no doubt, been a marked
improvement in the intelligence of the masses
during the last century, and yet it is feared
there are too few among us to-day who reckon
education at its proper worth on the farm.
Farm society has not kept pace with field
operations. We are not so ready to abandon
false notions of family discipline as to displace
an unprofitable machine by a good one. The
advancement of society is greatly retarded by
false opinions entertained by the adult and
infused into the young. These opinions want
be radically changed. As the siddle bears
comparison with the complicated self-binder,
so does the modern farm implement with the
plow that all knowledge will promote the welfare and efficiency of the
farmer. Teach the latter doctrine instead of the
former just for one generation, and farm
life, farm society, farm homes will be
such as to excite the envy of the
most refined. Let it be manifest to the
rising generation that the largest share of
health, wealth and happiness is found on the
farm, and you need no bribe to induce them
to be farmers.

Another great mistake is that in too many
homes the daily labor of labor is not properly
maintained. There are too many who allow
their children to think that the labor of the
farm and household belongs to subordinates
only. Their uselessness is proverbial and
needs no comment. They think labor is de
the affirn by the his that would now part claim had the I cannot do specie t-ONTRIBUTIONS. is the says leave. and don’t loss the the neces- PLedging correspondent thing see excusing the the is the figures as society the figures, I wish not simply the wish to afford I and shout. perhaps, the society is not as close it and shout. he shouted, he did not shout. with the official document from which I stated at the time they were derived, and that it was Mr. Young, Chief of the Bureau of Statistics that made the error—my fault in the case being that I relied upon and adopted the statistics prepared and published by authority of the U. S. Government, but which S. P., relying on the authority of Mr. Nimmo, Mr. Young’s successor, pronounces “false and worthless.” For my part, I have not a doubt, they were correctly stated exactly as my figures appear on the books of the Treasury Department to this day, and I doubt if anybody has ever pronounced them “false and worthless,” except S. P. If Mr. Nimmo afterwards in preparing his statistics, gave an estimate (and it could only be an estimate) of the specific value of our exports during the period of specie suspension, that is all very well, as an elucidation of the subject, but it is a monstrous perversion of language upon that account to charge Mr. Young or the U. S. Treasury Department with falsification because he or they gave the figures exactly as they appeared on the Treasury books, made up from the returns from all the custom houses in the United States. Further Mr. Nimmo’s statement or correction, I believe, was not published till long after the publication of my article so fiercely attacked; and I never heard of his statement till told of it by S. P., and only know it now upon his authority.

As he now acknowledges, however, that it was the Chief of the Bureau of Statistics, that was guilty of what he calls falsifying statistics, why did he not make his attack upon that officer, instead of upon one whose only fault, if fault there was, was in depending upon official documents? This is an indig- nate love of personal controversy and disputation led him to attack the wrong party.

In the February number I quoted him as saying: “J. P. has made the astounding discovery that consumption is loss.” In reply to this he now says: “By referring to my article you will see just what I did say, which is quite different.” Now, referring to his January article, it will be found he did use those exact words; and if

he claims that the meaning was qualified by the words that followed, and that he does not mean what his words imply, then turn to his November article in which he declared without qualification that “all consumption is loss.” If he is now convinced that he was mistaken and desires to retract, that is well, but he should not do it by intimating that I misunderstood his meaning. He is so strenuously maintained previously to be the last word.

He says “If a boy loses his knife; I call it loss, though in looking for it he finds another of greater value.” If your Delaware econom- mist really thinks that when a boy accidentally loses his knife, and accidentally finds another of greater value, his gain is of the same economic nature as that of the farmer, who purposely feeds his corn to his hogs and thereby produces pork of greater value than the corn, as he intended, I can only say that one or the other of us must be hopelessly bewildered. Which one it is, I leave. If the boy had traded his knife for another of greater value the comparison would hold exactly. But in that case, no one in Pennsylvania would say he lost the first knife.

He correctly quotes me as saying: “I said nothing about production being loss,” and thinks I contradict myself by alleging afterwards that “all productions of the earth will be lost if they are not consumed.” To me the contradiction is not very obvious. There is an if in the case; but it is not worth arguing over.

It is rather amusing to notice his references to Daniel Webster’s speech being apparently so much a supporter of his own views, or to discredit him as of no account by talking about “the eternal disgrace” of “his 7th of March speech.” But he says Webster “does not say in the speech quoted that the large importation and consumption of extravagant luxuries will advance the material wealth of our country, as J. P. does!” Wrong again, both ways. I never said that, or anything like it, while in a part of that same speech that was not quoted by me. Webster speaks of the advantage of our trade with the Island of Madeira; and S. P. knows as well as anybody whether it is the necessaries or luxuries that are exported from that island. Webster evidently thought that the advantage of foreign trade, and all trade, is to enable us to supply our wants in the easiest and cheapest manner, and did not think himself wise enough to decide for the rest of mankind what they ought to buy and consume so long at least as their wants were not injurious to the health of the community, and the consumers were able to pay for them.

For the rest of his last communication, as he seems to think it hard if he cannot have “the last word” (though I don’t see why he is entitled to it) I freely allow him to have it. If what I said in former articles does not suf- ficiently answer what he now argues about the “Balance of Trade,” I am content to let him have the advantage he desires. But I am reminded of a couplet by Pope, the poet, in answer to an opponent who declared he would have the last word:—

Poor Colly, thy reasoning is none of the strongest.

For know the last word is the word that lasts longest.

J. P.
SELECTIONS.

FRUIT CULTURE—FAVORITE VARIETIES IN BERKS.

"What six varieties of apples, four of pears, four of peaches, three of cherries and three of grapes, and what varieties of small fruits, should be recommended for general planting in Berks county?" This subject was discussed at the monthly meeting of the Berks County Agricultural Society, held in the Court House last Saturday afternoon, and elicited some interesting information. The Secretary called attention to some fine varieties of apples on exhibition on his table, which had been brought to the meeting by the President, James McGowan, Esq., of Robeson township, and suggested that each person present write the names of his favorite varieties of fruit upon a slip of paper, naming the number of kinds called for by the resolution.

Dr. Aaron Smith hoped that every member present would give his own experience for the benefit of his fellow-members and the community in general.

John L. Rightmeyer said that of the numerous varieties of apples it was important to know which would succeed best in this section of the State.

S. J. Hill, of Rouscomarbor township, said that he intended to plant trees this spring and hence is interested in the discussion. He suggested that the subject of apples be first disposed of. He found that the Baldwin succeeded best in his township, and believed in the advice given by an old gentleman, that if he had 100 apple trees to plant, 90 of them should be Baldwin. "And pray, what should the one hundredth be," was asked; "And that should be a Baldwin, too," was the answer. The speaker said that in selecting six varieties of apples he would divide them into the three classes of summer, autumn and winter fruit—two trees of each kind—as follows: Tetofsky and Early Harvest for summer bearing; Smoke House and Fall Pippin for autumn, and Baldwin and Kein for winter. This selection would keep him in apples from the middle of July to nearly the same time next year. The trees with careful training can be made to bear every year, especially the Smoke House, Baldwin and Kein.

President McGowan asked if 100 apple trees were to be planted, how many varieties would it be desirable to plant. George F. Winter, of Reading, said six, and Reuben W. Scherer, of Oley, said that four kinds would be sufficient.

Dr. T. S. Gerhart, of Robeson, said that he had the Baldwin, and that it did well with him. In some soils the fruit decays badly. He had been informed that it succeeds best in heavy soil. He recommended the following four varieties: York Imperial, Ben Davis, Wagener and Smith's Cider. To these, he said, could be added the Cramer and Fallwater.

President McGowan inquired as to what apple should be recommended as the most profitable early variety. R. W. Scherer, mentioned the "Red Aachan," and "Spire Stubbblebine" named the "Cushing." Ezra High, of Cumru, said that if he was to plant one hundred trees, seventy-five of them should be Baldwins. The remaining he would make up with the following: York Imperial, Rhode Island, and Grenning, Northern Spy, and a few other kinds for the sake of variety. He did not like the Red Aachan, on account of its being too tart for his taste, but preferred either the Grassstein or Maiden's Blush for summer use.

Reuben W. Scherer, of Oley, said that in planting an orchard he would select the following: Red Aachan, Maiden's Blush, Kein, Krauser and Fallwater. In an orchard of 100 trees, he would plant at least 50 Fallwaters, as this variety does best in the heavy limestone soil of Oley township. The Northern Spy will not succeed at all. He has healthy trees just in their prime, which never bear; nor can he raise Baldwins, yet Daniel Kaufman, residing near Friedensburg, several miles from his farm, in the same township, raises Baldwin apples to his entire satisfaction.

Dr. Smith inquired as to the correct name of the apple which Mr. Scherer termed Fallwater. He understood that it is a native of Berks county, and that it bears the name of Pormwalder, after the man upon whose premises it originated.

E. H. Smeithe, of Bethel, for many years a dealer in nursery stock, said that Downing described it as the Fallwater, and says that it is identical with the Pomeo and Newboken. He continued by saying that as to varieties you cannot find half a dozen men in the same locality who will agree. Here is the Baldwin, for instance, some persons would not take it as a gift, as in their estimation it is no keeper and unprofitable. Others speak well of the Smith's Cider, and this variety is very popular in the lower end of Berks and through Montgomery county. The Pennsylvania Red Streak, Ben Davis and York Imperial are highly thought of, while the Early Harvest and Red Aachan are the leading summer apples. The Maiden's Blush, Summer Rambo and Smoke House are also favored as summer varieties. An alternate bearer, he said, is the best. If you have trees which are supposed to bear every year you frequently have no fruit. He recently had a talk with Levi S. Reist, a prominent fruit grower of Lancaster county, whose four leading apples are the Ben Davis, York Imperial, Smith's Cider and Pennsylvania Red Streak.

John C. Hepler, of this city, said that if he wanted to plant one hundred trees he would take ten kinds, so as to have somewhat of an assortment, as some varieties will not bear so well in certain seasons as in others. With that number you are more likely to have a continuation of fruit, from early in the season until late in the following spring. For summer, the "Early Harvest" is his favorite. The Porter is good, but only bears every other year. Of the Maiden's Blush he would plant ten out of a hundred trees. Of the Northern Spy two or three trees are sufficient. This variety in perfection is the apple par excellence, but it is often affected by rot, or with cracking open at the stem. He would also plant Baldwins, Pippins, Krausers and a few Rambous. These varieties succeed well on his fruit farm in the Sixth Ward, this city, where the soil is a heavy clay, with a limestone bottom.

The subject of apples was then dropped and that of pears taken up. Mr. Hepler said that except in a few favored localities pear culture has proven unprofitable. About the time the trees should be in their most prolific condition, they drop off. Of 200 trees planted, he lost two-thirds.

Dr. Gerhart asked Mr. Hepler in regard to the Keiffer pear, and the latter said that the variety has not been thoroughly tested in this locality, although Edwin Satterthwaite, an extensive pear grower of Jenkintown, Montgomery county, thinks it is the pear of the future, and has some 500 or 600 trees of this variety. He praises it highly. Mr. Hepler then repeated some of Mr. Satterthwaite's remarks in reference to the Keiffer pear at the recent annual meeting of the State Horticultural Association, formerly known as the Pennsylvania Fruit Growers' Society, which have already been published in these columns.

Levi H. Lines said that the Reading Winter is an excellent pear, and in his opinion one of the best.

John C. Hepler said that the pear succeeds well in Reading, where there is a sandy subsoil, but in heavy clay loam and limestone subsoil is not worth two cents.

Dr. T. S. Gerhart, of Robeson, then took up the question of peaches. He said that there are four varieties which he prefers, viz., Late Crawford, Mountain Rose, Snow Free, and Large Early York. The Mountain Rose is a big bearer, while the large Early York clings a little, but still is very salable. In planting an orchard he would select a southern exposure, although trees often do well on a northern hill-side, but the bloom is sometimes caught by frost. The sap does not rise as early in such trees, but the blossoms are frequently affected by high, cold winds.

His neighbor, Moses Escheiman, has an orchard of 1,400 trees, with northern exposure, which last year produced peaches as large as a flat, which commanded $2 per basket.

Moses Escheiman, of Robeson, having been called for said that the four kinds that he wanted to plant are Early and Late Crawford, Old Mixon and Stamp of the World. The frost last spring thinned out the blossoms on his trees, and what was believed at first to have been misfortune proved a blessing in disguise, as the thinning out which his trees received, caused the blossoms which were left to produce fruit of superior quality—74 or 75 peaches filling a basket. He got as high a price for a half peck of his peaches, as others got for an entire basket. Peaches that came before the Early Crawford, he said, are chings. The Old Mixon, Stamp of the World and Late Crawford get large, when the trees are not too far north. The Snow free does not do well, while the Early York is of no account on his premises.

Dr. Gerhart said in regard to the Early Crawford: He thought that it got the yellows quicker almost than any other variety. The Richmond he regarded as a desirable substitute. The Foster is a big peach, a seedling of the Early Crawford, but it is also soon affected with they elbow. As to Stamp of the World, the principal objection is that the peaches drop early. The Old Mixon is a splendid...
peach, but has been a shy bear with him. Where one tree is affected, however, with the "ywolows," the Old Mixon stands out in full vigor.

John Moyer, of Robeson, said that Hale's Early is one of the best varieties. You can make more out of it than out of any other kind that can be planted.

Dr. Gerhart, of Brecknock, said that everybody used to have the earliest peaches. Of the Waterloos, Amsden's June, Alexander and other early kinds which he had grown, he regards the Alexander as the best. Amsden's June is prone to overbear, and a branch will contain 30 peaches, which should not bear more than five. He then made some sensible suggestions in regard to the cultivation of trees. He said that several years ago he prepared a statement which was read before the society, showing that 50,000 peach trees had been planted in a comparatively small district, in the three townships of Onamia, Robeson and Brecknock. Now go over this territory to-day, and find how many trees are in good condition. He did not believe that there are over 10,000 first-class trees at present in the district, four-fifths of the original number being worn out, and next to worthless. This demonstrates the fact that cultivation is necessary to success. Till the soil and you, he holds, the soil and you will receive the blessing; it is the law of nature, otherwise you will have nothing but bears and cures.

John Moyer said that he would make the following selection of trees for his soil and locality: Crawford, Hale's Early, Stump the World, and Old Mixon. Hale's Early, he said, can't be marketed too early. He has had trees in bearing condition for twelve years, but of course it takes labor. During the dry season he hauled water in barrels to his trees on the hill, and gave each a generous supply. This he continued to do regularly during the season, and raised peaches as big as a fist, for which he obtained $2.50 per basket. He believed in cutting his trees back every three years.

Dr. Gerhart said that Henry Wagner in his time sold peaches from his orchards in Brecknock township at $8.00 per basket. He then had 2,800 trees, but after he had increased the number to 4,000 or 5,000, the "ywolows" got in and the orchards were ruined. He believed in giving customers full measure, but would never sell them such rotten stuff as Hale's Early, as he would not be able to face them after such a transaction. Last year nearly all varieties of peaches clunged, owing to the dry weather, and growers had to be ashamed of their fruit in sending it to market.

Dr. Smith, that Stump the World, Early and Late Crawford and Old Mixon are the varieties of peaches which will probably give the most satisfaction, being better for compost and better for the market than any other kind that can be named, and they also bring the best prices. The Susquehanna is a fine peach, but it is a poor bearer. He was sorry to hear from the remarks of the previous speaker that the peach crop is likely to prove a failure in this county. This is not in accordance with the spirit which it was hoped that this society would instil. The far West, he said, will raise the wheat and let the farmers of the East devote their attention to fruit, for they have advantages possessed by no other section of the Union. He related his own experience during a residence of twenty-two years in Lower Heidelberg, where his peach orchard had brought him better returns, in a pecuniary sense, than the practice of his profession. He then departed from the usual order and addressed the meeting in German, inviting the remants to participate in the discussions of the society. It mattered not whether the remarks were made in English or German; it is the ideas which are wanted and the benefit of the practical experience of the farmers of Berks county.

Jeremiah Y. Bechtel inquired as to the most profitable varieties of grapes.

Joseph Shearer said that as to profit and general desirability for the market, no variety in cultivation can compare with the Concord.

President McGowan asked for information, in regard to the new varieties of grapes—Paddockton and Prinziss.

John C. Hepler said that he did not believe that either had been given a fair test in this section of the country. He had fruited each, but the grapes in size and bunch did not compare favorably with those shown him, when the varieties were being introduced. He recommended the Union Village as a desirable variety, and said that out of 1,600 vines he would plant 99% of the large and prolific Union Village.

Dr. Gerhart said that in this county the Concord is the favorite market grape, while the Chinese grape occupies the place as a wine grape. The Martha, which is a seedling of the Concord, is a good white grape. Owing to the lateness of the hour the discussion then closed.—Reading Times.

FORESTS, FLOODS AND DROUGHTS.

Under this title an article in the Springfield Republican explains how it is that cutting away the forests is largely the cause of the floods that have devastated our own and other countries of late years.

Wherever the ground is covered with trees, as is well known, there is formed upon its surface, by the fall and decay of the leaves from year to year, a spongy soil or humus, of a depth proportioned to the age of the forest. When rain falls upon this soil, or the snow resting upon it, it is held by it as the ordinary sponge holds water which comes in contact with it. The water does not run off at once from the wooded hills, as it does from a house roof or down the smooth city street, but oozes out gradually, trickling down the hill sides in numerous little threads at first, which after awhile flow together, forming brooks and rivulets, and then lesser and larger streams, till all the water at length finds its way to the ocean. But some men suggest that these floods have come in the winter, when the ground is frozen so that it cannot take up the water. The suggestion is not an objection to our theory. The forests and the spongy bed of leaves at their base shield the earth from the cold. Every wood-chopper and every traveler knows that it is warmer in the woods in winter than it is in the open fields. The snow serves the purpose of a blanket, so that if the surface of the ground in the forest freezes to a slight depth in the early winter before any considerable amount of snow has fallen, yet when it has become well covered with it the ground is not only prevented from further freezing, but the warmth of the earth below the frost line spreads to the surface gradually, dissolving what frost there may have been.

The snow melts more gradually in the forests than in cleared ground. The trees obstruct the sun's rays and the warm winds, and even intercept the rains to a considerable extent, or absorb them, so that the snow dissolves more slowly than would otherwise be the case. It is a well known fact that snow remains in the woods in spring time long after it has disappeared from the open fields. Where the forests abound, therefore, there is not so great a volume of water, produced by rapid melting of snow, seeking speedy delivery, as where they have been cut off.

When a tract of woodland is cleared, the first effect is that the spongy leaf-mold and the forests thus cleared will not be dried up by the sun and wind, and then is carried off by the rain and the winds, leaving the ground bare and solid, ready, like a house roof, to shed the subsequent rains or melting snows. The necessary effect is, that the rains or dissolving snows flow at once down the hill-sides, converting the former breaks into torrents which speedily raise the lower streams above their banks and flood the adjacent fields, covering them also with the debris which has been brought down from the higher regions. In other words, the water that has been cleared of trees, the more numerous will be the streams starting down the slopes after any considerable rain or melting of the snow, and the greater the amount of water pressing onward for escape to the lower levels. It is the simple and inevitable result, therefore, of the increased cutting of the forests, that floods should correspondingly increase, and the consequent damage to property and destruction of life.

The same cause that produces floods also occasions droughts, paradoxical as to some it may seem. Where the forests remain, the water oozes from the spongy soil, as from a reservoir, in gentle and leisurely way, streams throughout the year. But when the forests are removed, there is no reserved store-house of supply. The water, falling from the clouds or accumulating from the melting snow, flows off at once in floods, and then, the supply being exhausted, the streams just now so swollen beyond their banks, shrink away to mere rivulets, leaving the mill-wheels to stop or to move fitfully for lack of sufficient power, and the navigation of the great rivers to be impeded.

In a small way the benefit of retaining the woods has been illustrated on our Hillside during the past season. When the rain began which caused the overflow of the Ohio River and its tributaries, the ground in our vicinity was covered with a coating of ice, over which the water flowed rapidly into the valley below. It did not occur to us, under these circumstances, that even so copious a rain would have any effect on the springs of our wooded Hillside. We were, therefore, greatly surprised to find after the rain ceased that the streams were everywhere flowing as
in the spring, and that in various places water 
gushed out between the strata of slate rock, 
showing that the forest leaves had protected 
the ground from freezing, and allowed the 
water to soak in. Although at this time in 
exposed places the ground was frozen to 
the depth of two or three feet, in the woods, 
under cover of the leaves, there was very 
little frost, certainly not enough to prevent 
the rain from percolating through it.

On a recent visit to us, a gentleman owning 
lumber mills on the upper Mississippi, said 
in that the course of fifteen years all the 
mills in that region must stop, as the timber 
will by that time have been exhausted.

The Republicans truly says:

The duty of preserving our forests, therefore, 
and of restoring them so far as possible in 
regions from which they have been re - 
moved, is clearly apparent. The forests are a 
treasure much precious than our mines. 
Already their destruction has gone so far as 
to bring manifest evils, and to threaten 
greater in the future. Our State Legisla- 
tures and Congress cannot be too prompt in 
taking the most effective measures to pre- 
save our existing forests, to restore, so far as 
may be, those of which have been removed, 
and to encourage the establishment of new 
places wherever it may be done with advan-
tage. — Fannie B. Johnson, in Laws of Life.

ONION CULTURE—SEEDS AND SETS.

A few years ago no vegetable was subject 
to such marked fluctuations in prices as the 
onion, the price doubling, often quadrupling, 
within a short time. This was due to the 
fact that onions were cultivated in but very 
few localities, and the market could readily 
be controlled by speculators. Onion culture is 
no longer confined to Connecticut and 
Rhode Island. Large areas in New York 
State and in some Western States are devoted 
to the crop, and the Southern States now raise 
large quantities. The general stock is so 
large that a short supply in one place in made 
good by shipments from another point, and 
there is little chance for a “corner.” It was 
supposed that onions could not be raised from 
seeds in localities south of New York City, 
but the experience of the southern growers 
show that this is a mistake. In localities far 
enough south to allow of growth during the 
winter months, there is no difficulty in 
making good crops from the seed. That a 
winter culture is not detrimental to onion 
culture, is shown by the vast quantities sent 
to our markets from Bermuda, where magni-
ficent onions are shipped from Spain and 
Portugal to England, and to a small extent to 
this country. In the Middle States, where 
the winter is too cold for their growth, and 
hot weather comes on before the bulbs have 
made much size, onion sets are preferable to 
seeds.

REQUISITES TO SUCCESS WITH ONIONS.

Onions differ from most other crops in not 
requiring a rotation. In some places the 
land has been in onions annually for half a 
century: if the crop is to be grown for the 
first time, newly cleared land is the best, and 
next to that, soil which has been in corn or 
potatoes. A good, deep, rich loam, is essen-
tial, as is heavy manuring. Fifty loads of 

stable manure to the acre are an ordinary ma-
nering, and may be supplemented by ashes, 
bones, flour, or guano, as a top-dressing. 
The seeds should be sown very early; should be of 
the previous year’s growth, and from a rela-
tively smaller variety. The rows are a foot apart, 
leaving every seventh for a path, and from three to 
six pounds of seed are sown to the acre. On 
land not before in onions, thin sowing is bet-
ter than thick. After sowing, roll the surface. 
Some sow an ounce or two of radish seed with every pound of onion seed. The radishes come up in a few days and mark the rows so that a hand-cultivator or push-loc 
can be run close to the rows even before the 
onions are up.

In some localities the young onions will be 
seen to die without apparent cause. A fly 
has hatched egg and the grub is eating 
the interior of the young bulb. All such onions 
must be taken up, using a knife to make sure of 
removing the bulb with the worm, and 
placed in a bucket, other vessel, and burned. — American Home.

WORTH PRESERVING.

A barrel of flour weighs 196 pounds. 
Barrel of pork, 200 pounds. 
Barrel of rice, 600 pounds. 
Barrel of powder, 25 pounds. 
Firkin of butter, 56 pounds. 
Tub of butter, 84 pounds. 
60 drops make a dram. 
8 drachins make an ounce. 
4 ounces make a gill. 
16 ounces make a pint. 
60 drops, a teaspoonful. 
4 teaspoonfuls, a tablespoonful. 
2 tablespoonfuls, an ounce. 
8 ounces, a gill. 
2 gills, a coffee-cup or tumbler. 
6 fluid ounces, a teacupful. 
4-80 square yards make an acre. 
640 acres make a square mile. 
There are 2,790 languages. 
Two persons die every second. 
A generation is fifteen years. 
Thirty-one years is the average of life.

TABLE OF LEGAL WEIGHTS.

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<tbody>
<tr>
<td>Wheat,</td>
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<td>Shelled Corn,</td>
<td>56 Buckwheat,</td>
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<td>70 Dried Peaches,</td>
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<td>56 Dried Apples,</td>
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<tr>
<td>Hemp Seed,</td>
<td>44 Fine Salt,</td>
<td>55</td>
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<tr>
<td>Millet Seed,</td>
<td>60 Hung Grass Seed,</td>
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<tr>
<td>Peas,</td>
<td>60 Ground Peas,</td>
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Time to Plant the following Seeds, with

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<th>QUANTITY PER ACRE,</th>
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<td>Red Clover—March, April, September, October, 8 to 10 lbs.</td>
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<tr>
<td>Timothy—March, April, September October, 1 to 2 bu.</td>
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<tr>
<td>Red Top—April, May, September, October, 1 to 2 bu.</td>
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<td>Kentucky Blue Grass—April, May, June, July, 3 to 4 bu.</td>
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Rye—April, May, September, October, 1 to 2 bu. 
Wheat—April, August, September, 1 to 2 bu. 
Corn—April, May, June, 4 to 6 quarts. 
Barley—April, May, August, September, 2 bu. 
Oats—April, May, June, 2 to 3 bu. 
Beets—April, May, June, 4 lbs. 
Turnips—May, July, August, 1 bu. 
White Beans—May and June, 1 bu. 
Potatoes—April and May, 10 to 15 bu. 
Onions—May, 2 to 3 bu. 
Hungarian Grass—May and June, 3 to 4 bu.

HERSCHEL'S WEATHER TABLE.

For Foretelling the Weather Throughout all the 
Lunations of Each Year, Forever.

This Table and the accompanying remarks 
are the result of many years' actual observa-
tion, the whole being constructed on a due 
consideration of the attraction of the Sun and 
Moon, in their several positions respecting the 
Earth, and will, by simple inspection, show 
what kind of weather will most probably follow 
the occurrence of the Moon into any of its quarters, and that so 
near the truth as to be seldom or never found.

| TABLE OF WIND AND WEATHER WEATHER.
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IN SUMMER.

Fair, and flowers!

IN WINTER.

Fair and frosty.

Observations—1. The nearer the time of the 
Moon's change, first quarter, full and last 
quarter are to midnight, the fairer will be the 
weather during the next seven days.

2. The space for this calculation occupies 
from 10 at night till 2 next morning.

3. The nearer to midnight or noon the phases 
of the Moon happen, the more foul or wet 
weather may be expected during the next 
seven days.

4. The space for this calculation occupies
from 10 in the forenoon to 2 in the afternoon. These observations refer principally to the main season, though they affect spring and autumn nearly in the same ratio.

5. The moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, i. e., from 4 to 10, may be followed by fair weather; but this is mostly dependent on the wind, as noted in the table.

6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter, and the beginning of spring, yet in the main, the above observations will apply to those periods also.

7. To prognosticate correctly, especially in those cases where the wind is concerned, the observer should be within sight of a good canoe, where the four cardinal points of the heavens are correctly placed.

**Harvest Dates of the World.**

January—Harvest is ended in most districts of Australia, and shipments have been made of the new crop. Chili, New Zealand, Argentine Republic.

February—Upper Egypt, India.

March—Egypt, India.

April—Coast of Egypt, Syria, Cyprus, India, Persia, Asia Minor, Mexico, Cuba.

May—Persia, Asia Minor, Algeria, Syria, Texas, Florida, Morocco, mid-China, Japan.

Central Asia.

June—California, Oregon, Southern United States, Spain, Portugal, Italy, Hungary, Turkey, Roumania, Danube, South Russia, South of France, Danubian, Principalties, Greece, Sicily, Louisiana, Mississippi, Alabama, Georgia, Carolina (North and South) Tennessee, Kentucky, Virginia, Kansas, Arkansas, Utah, Colorado, Missouri.

July—Southern, Eastern, and Island English counties, Oregon, Nebraska, Minnesota, Wisconsin, Iowa, Illinois, Indiana, Michigan, Ohio, New England, New York, Virginia, Upper Canada, France, Germany, Austria, Hungary, Switzerland, Italy, Russia, Poland.

August—United Kingdom, France, Germany, Belgium, Holland, Manitoba, Columbia, (British) Lower Canada, Hudson Bay Territory, Denmark, Poland.


October—Scotland, America—Maize crop, France, Germany—Vintage.

November—Australia (north), Peru, South Africa.

December—Australia (south), Chili, Argentine Republic.

**Birds on the Farm.**

A paper read before the Connecticut State Board of Agriculture, by Prof. W. A. Sterns, of Amherst, Mass.

The crow regulates its food from necessity and not from choice. To him, strictly a grain-eater, not an insect-eating bird, corn is his favorite diet. It is not true, as some have claimed, that it picks out weevil-eaten or imperfect kernels from the hills. He eats all he can get, good or bad, and though he is also a great scavenger, the balance is rather against his being beneficial to the farmer. The robin is an insect-eating bird, and prefers insects in the larval, pupal, and adult stage to any other food. Few persons have any idea of the enormous, the inestimable number of insects that robins eat every year. A young robin in the nest requires a daily supply of food equivalent to considerably more than its own weight. To supply the millions of young birds hatched each year, this requires enormous numbers of insects. The service of these birds, during the time they are engaged in rearing their young alone, would entitle them to protection, as they are more than alone in their work, and the nesting is their exclusive forage. But at this time of the year the old bird is very largely of an animal nature; nor is this the only season during which the destruction of insects goes on. It does not harm to put scree-crows in your trees and gardens to drive off the robins, but it hardly pays to kill them. Yet when killed, they make very delicate eating.

Swallows may generally be found where there are grain fields. The summer range of these birds includes nearly all the central portion and the great grain-growing sections of the Western States. They are more or less migratory, and spend their winters in the South. As pestiferous as the eve and barn swallows are with their chatterings, and the annoyance they give the farmers in various other ways, they are the natural enemies of the midges and similar small insects that prey on grain, and pursue them with unremitting vigilance. It has been estimated that the nesting of a single pair of swallow's will in twenty-one days consume 500,000 insects. Their benefit is simply incalculable.

Blue-birds have largely superseded swallows near houses, and protect fruit trees from insects much better than the swallows do. The martin is too lazy to do much good, and has been largely driven away from New England. The king-bird, or bee-martin, has been voted a terror to bee-keepers; but it has been found that the immense number of insects it destroyed more than balanced this evil. Again, the king-bird drives away other birds from fruit trees, and is useful for this reason. If suitably hatched with scraps of cotton, strings, and other loose material to complete a nest, the king-bird will soon acustom itself to building in and about the orchards, gardens, and even the houses of our farmers, and results thousands of dollars' worth of vegetables and fruits. It is strictly an insectivorous bird, and will not destroy, on the whole, that which conduce to the interests of the farmers. Altogether the king-bird is one of the most valuable species for agriculturists. The legislation in regard to this bird should be of the strictest kind.

Another species doing an immense amount of good in its own quiet way is the yellow-billed as also its ally, the black-billed cuckoo. These birds, whistled in apple and fruit trees. They are strictly an insect-eating bird, and make terrible raids upon the cattle-yard. They should be encouraged in every possible way.

The blue jay does much benefit, but so much direct damage that it is almost absurd to class him as a friend of the farmers. The Baltimore oriole is very destructive to pea vines and corn in the season, but he eats a class of insects not touched by other birds—the leaf beetles and the larvae of many species of insects inhabiting the tops of elm, oak, and apple trees. At the end of the season a balance will be found in the oriole's favor. The nut-hatch is eminently an insect-eating bird, living largely upon grubs which hide under the bark of oak, chestnut, elm, maple, and other rough-barked trees. The black tit-mouse, or chincadee, is of direct benefit to forests by the great number of insect havc consumed during the year. It eats insects too small to pass through the nut-hatch. The woodpecker looks out larger territories than the two preceding kinds, but can hardly be said to be an especially valuable aid to the farmer. The wrens are strongly beneficial to gardens and plants about the house, because of the number of caterpillars they eat. The flycatchers are beneficial, and so are the thrushes, warblers, and vireos.

**Clover as a Fertilizer.**

Our best success has been in scattering the seed over growing wheat, on a cool morning when the dew has driven off the thin depth of frost opens the ground in order to allow the seed to fall and is lightly covered by the thawing earth. Both this and the wheat, but especially the clover, are usually benefited by a broadcast sowing of ground plasters in May. So marked is this sometimes, that one can write his name in large letters with plaster sowing, and the letters will be distinctly visible in the more luxurious green when the clover shanks, at first protected from the sun by the wheat plants, have a chance for full growth, after the wheat is cut. The experience of many who raise much clover is, that a small catch is not necessary if the seed is not sown until the soil is warm and mellow. The clover starts into growth at once and strong plants are quickly obtained. The chief danger of delay is that the still feebly-rooted plants may be caught by dry, hot weather and killed. While plaster is a good top-dressing for clover on most soils, if one's own experience or that of his near neighbor does not indicate this, other light top-dressings may be useful—some soluble fertilizer, as superphosphate or marlure of potash. Clover responds to any attentions of this kind and will catch and retain, if the seed is of the finest and rich material it gathers from the air—material which, when plowed in, richly prepares the soil for other crops.

Clover as a Fertilizer.

Wherever clover can be grown it must always be the staple crop, to be turned under as green manure. There are good reasons for believing that a large clover growth turned under actually adds to the fertility of the soil. Much of the mineral matters in its leaves and stems are brought from the subsoil, whence, in the case of other crops, they would be entirely unavailable. The bulk of a clover crop in full growth is much greater than most farmers realize. The green herbage of such an acre might, when dried, yield little over two or three tons of hay; but, by carefully washing away the soil, so as to preserve all the clover roots, it has been found that these, in
their green state, weighed at the rate of thirteen tons per acre. The quality of the manurial value of clover roots is quite as remarkable as its quantity. They are rich in nitrogen, in lime, potash and phosphates. It is, this which makes a clover sward, when plowed under, the best possible preparation for wheat. In its decay clover furnishes all that the grain crop requires, and it supplies, such plant food in more available form, and more evenly distributed through the soil, than the same amount of material could be placed by any other method. With the most careful top-dressing much of the soil will commonly fail to be placed in contact with the manure, and hence fail to realize any immediate benefit therefrom. On the other hand, clover growth plowed under enervates every particle of soil with which either leaf or plant has come into contact.

Clover as a Shade.

There is probably no other plant in the world of such value to the farmer for shading the soil. It affords the most perfect protection to the soil during the fierce, dry heat of the summer. Being a constantly deciduous plant, its leaves are perpetually falling and soon form a delicate covering for shade, and easily penetrated at all points by the air, which is the greatest carrier to the voracious soil of those atmospheric elements that are to enrich it. In this way the clover plant not only contributes directly to the fertilizing of the soil by giving its own substance back to it, but it furnishes a protective covering to the entire ground, which encourages and stimulates those chemical processes by which the hungry and exhausted soil is recuperated from the vast supplies of nutrient that are held in the atmosphere. It becomes to the farmer the most valuable fertilizer, as it imparts fertility to the entire soil.—American Scientist.

Our Local Organizations.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular monthly meeting of the Lancaster Agricultural and Horticultural Society was held on Monday, April 9. The following members and visitors were present: John H. Landis, Manor; F. F. Diffenderfer, city; C. L. Hunsicker, Manheim; C. A. Gast, city; Johnson Miller, Warwick; Peter S. Reist, Manheim; J. M. Johnson, city; J. C. Linnville, Salisbury; H. G. Reist, Willow Street; S. F. Elzy, Esq., city; Levi S. Reist, Oregies; E. H. Hoover, Manheim; H. G. Reist, city.

Mr. H. G. Reish, who had been elected president of the society, read his inaugural address. The address was an excellent one, and will appear in full on page 53 of this number of The Farmer.

On motion the reading of the minutes of the previous meeting was dispensed with.

Crop Reports.

Mr. Miller said the wheat crop in Warwick was very good. Grass is better set than it has been for a number of years. Not much showing for new crops has yet been done. The winter, he thought, was favorable for fruit.

In speaking of Warwick, said the Sisson sly was destroying some of the wheat which was grown in September. He knew of several fields which were totally destroyed by the fly last fall.

Mr. Resh stated that the remarks of Mr. Reist in reference to the fly would be applicable to almost the entire section of the county.

Mr. Linnville reported for Salibury, that the wheat was very uneven, some of it being excellent, while some was very badly injured by the fly. They had a better set of grass than they have had for four years. The spring and summer crops have been good. Some varieties of peaches had been killed in his orchard, but he thought there would still be a very good crop. Most of the farmers have disposed of their cattle, at prices that paid them very well for their winter feeding.

Short Papers.

Mr. C. L. Hunsicker read a paper on the subject of garlic—an omnious plant which, while not at present numerously found as it was some years ago, is still prevalent to a large degree on many lands. This pest can be eradicated by a judicious cultivation of the soil.

He also read a paper entitled “Saws and Sawmills,” in which he described the rise, progress, and perfection of sawmills, and spoke of the vast saving in labor by the old method of reducing timber by means of hand saws.

Early Pasturing for Cattle.

The question “Is it feasible to turn cows on early pasture and subsequently be compelled to feed dry rations?” was spoken on by Mr. Hoover, who said that it appeared to him that a middle ground might be taken between the two extremes too early. Early pasturing has its good results, one of which was that early grasses oftentimes take the place of melicane, Cows, after being housed for a considerable time, need something to purify their blood, and this can be accomplished by early pasturing. He could point out the pasture fence for an hour or two each day. Where pastures will not hold out, farmers should provide themselves with roots, in order to make up for the deficiency. In case he could not continue his cattle in pasture, he would delay putting them there until he could keep them there.

Mr. Linnville thought it would be a good plan to plant a small spot with rye, which might be fed to the cattle in the stable very early in the season. H. K. Fulton, Esq., was elected to membership in the society.

Specimens Exhibited.

Dr. S. S. Rathvon exhibited a peach branch, almost entirely covered with what is known as the “peach root” pest which is hard to get rid of. He recommended cutting off the limb, or even cutting down the tree.

The same gentleman also presented specimens of black hellebore or Christmas rose, a plant which begins to bloom in the open air about Christmas time, and continues to bloom until the middle of April, and sometimes later.

Adjourned.

POULTRY ASSOCIATION.

The Old Society Dissbands and a New One is Organized—Organization and Officers.


The minutes of the previous meeting were read and approved.

Mr. Lichty, of the committee on constitution and by-laws of the proposed new, incorporated society, presented a constitution, which, after a few alterations, was adopted.

The constitution provides for the incorporation of the society, with stock to the amount of $900, with power to increase the same to $1,000, the par value of each share to be $5. It also provides for officers, who shall be elected at the meeting in April in each year, one month’s notice of such election to be given to each member of the association.

A constitution was adopted, disbanding the old society, transferring to the new association all the property and debts and premiums due, and agreeing to pay premiums due by shares of stock in the new society.

An election of officers of the new society was then held, which resulted as follows:

President—J. A. Stober.
Vice President—M. L. Geider and Charles E. Long.
Corresponding Secretary—J. B. Lichty.
Recording Secretary—J. B. Lichty.
Treasurer—John E. Schwan.
Board of Directors—John Seldomridge, S. G. Engle, F. Frank Evans, H. A. Schroyer, and H. S. Garber.

On motion the Secretary was instructed to make the necessary public announcement of the intention of the received great crops of corn.

A resolution was also adopted providing for the payment of stock subscriptions on or before the next meeting.

The society adjourned to meet on the first Monday in May, at 10 o’clock, A. M.

THE FULTON FARMERS’ CLUB.

The Fulton Farmers’ Club met at the residence of Joseph P. Greist on Saturday last, nearly all the members of the Society being present. Mr. Greist and his wife, Joseph C. Stubbs and daughters, Isaac Bradley, and several others were present as visitors.

Asking and Answering Questions.

Joseph C. Stubbs asked what he should do with a large grainship that had grown on a tree that had been blown down. E. H. Haines said hang the vine on the fence for the present and next spring trim and hang on a trellis.

Joseph C. Stubbs asked what is the best remedy for distemper among dogs. E. H. Haines said he would hang him to a tree. One member suggested a lead shot.

Malissa Gregg asked what would prevent flies from eating cabbage plants. Grace King uses soot on them in the morning; Mont. Brown sprinkles sulphur on them when he is on; Esther Haines plants lettuce among her cabbage plants in soot, rice, and in the same manner, did not weigh or measure but simply guess the proportions. Wm. King asserted that there was not a woman in the room who knew how to make soap, that it was guess work from beginning to end, and that they could not explain the mysteries and chemical changes connected with the making of soap.

Wm. King asked if oats ground with corn would make good feed for milk cows. E. H. Haines—Yes, good feed for any kind of stock. Those Stubbs used oats and corn as good feed for milk cows, stating that he has known it (by experiment) to lessen the flow of milk to some extent, and wheat bran to increase it. He would use bran always. Wm. King had been using bran in his dairy but substituted oats instead, and churned six pounds of butter last week. His cabbage plants is the loss to the oats. Nearly all the club preferred bran to oats for cows, but thought an occasional change of feed beneficial.

Mont. Brown asked if deep or shallow plowing for corn was the best. E. H. Haines claimed that shallow plowing was the best. Our soil is not so deep. Solomon Gregg favors shallow plowing. He plows from four to five inches deep for corn, but deeper for wheat. He considers seven to eight inches deep plowing. Thomas Stubbs's early experience was with deep plowing, but he does not plow so deep now, but thinks he plows deeper than his neighbors. Lindley King said if the sod is stiff he plows deep; a lighter sod he does not plow so deep. Nearly all present favored shallow plowing for this section.
The Afternoon Session.

The club then adjourned for dinner, after which the members inspected the host's farm and stock.

They saw an Arnie harrow in operation, exhibited by Howard Coates, who is agent for sale of them.

The club then assembled for the afternoon session, when the minutes of the last meeting were read and criticisms called for.

E. H. Haines had no fault to find with the stock. He thought the host had some very fine horses and some not so good.

Solomon Gregg did not see much change. The wheat, however, did not look very well.

The next in place of an essay, read a selection on the social and political purposes of the farming class. Carrie Blackhorne read very nicely a poem entitled "Better than Gold."

In looking over the reports of the club for a year past, Thomas Stubs said he had noticed good results, mainly from the use of ocher, guano in York county, and that he would try it.

E. H. Haines asked him how he succeeded. He could not make much of a report, but thought it had done some good.

Mont. Brown read an article from the Lancaster Farmer, "About the nation of Brchner Fertilizers," by Howard Preston, of Chester county. Some discussion then followed, as to the benefits to be derived from each.

The writer of the article claims that when lime was giving such good results, thirty or forty years ago, there was a movement to raise the battle, and that lime was getting the credit due the manure. That only a small portion of the lime is taken up by the growing crop, the balance remaining inactive, and that stony commercial fertilizers have come into use because lime has been increased from 30 to 40 per cent.

None is what it was. Wm. King stated that part of his farm has had no lime on it for over twenty-five years, and he considers it as good condition as other farms that have had lime on them.

Joseph Jones, at a former meeting held here, said the way to grow peaches successfully was to let the cattle eat the tops off the trees, while the roots were making a larger growth. The club was rather amused at this novel manner of pruning peach trees.

Mr. Stubs now says he gathered this season two large tubs full of peaches from a tree treated in his manner.

Solomon Gregg read an editorial from the New Era on the need of agricultural schools.

E. H. Haines gave the following list of first harvests as reported:

1 Early Harvest, one peck; Early Joe, one peck; Early Knowles, one peck; Early Kenmore, one peck; Towson, three peck; Blenheim, two peck; Snowdonia, two peck; Fallower, four peck; Chittenden, four peck; Trenton Winter Blush, two peck; White Pippin, two peck.

John Grossman selected the following:

Two Early Harvest, one Red Astraka, two Snowdonia, one Snowmoose, two Towson, two Grosman, one Keenan, four Trenton Winter Blush, five Early Harvest, two Smith Cedar, five Rustics, two "Successes."

The Club then adjourned to meet at the residence of Lindsey King, May 5, 1883.

LINNÉAN SOCIETY.

The Linnéan Society met on Saturday afternoon, March 19, 1883, President J. P. Wickersham in the chair. The following officers were elected: Thorburn, chairman; Smith, corresponding secretary; James, treasurer; and Loomis, auditor.

The regular meeting was held at the residence of Mr. Loomis, 520 South 3d street.

A. E. Burnside, Matthew H. Carpenter, Fernando Wood and Ewatts W. Farr, with fine portraits of them, aggregate about 300 pages, royal octavo, and are published in the form of a paper. Report of the Commission of Education for 1882; 914 pages octavo; Annual Report of the Statistical Institution for 1880, 772 pages octavo; Statutes of the United States of America, containing the laws of the national government, 37 volumes, quartos and quires, and 35 maps and charts. Numbers 5 and 6 of the American Entomologist and the American Birds, all of which are published in the form of a paper.

The report of the committee appointed to collate the various amendments made from time to time to the constitution and by-laws was then handed in and in motion received and the committee continued its labors.

The report of the committee stated that the amendments were made in order to improve the constitution and by-laws, to contain all the amendments which have been made and any new ones which may be deemed advisable. Committee on keys stated that keys have been procured and could be obtained from the treasurer. Bill of 90 cents for the service will be paid. It was then requested that the present president grant permission for setting forth the objects of the Linnéan Society, to be delivered before the members and citizens at a meeting to be called for the purpose.

The treasurer then had authorized several serial volumes in possession of the club.

On motion, adjourned to meet on Saturday, April 25, 1883, at 2 P. M.

AGRICULTURE.

An Early Crop of Peas.

There are two distinct classes of peas, those with small round seeds, the others with much larger, round or kidney shaped. The round-seeded peas, the wrinkled, the fedded, or narrow peas, are as much better than the other as sweet corn is superior to field corn. The round peas, while not so good, are much healthier and earlier than the wrinkled, and they germinate quickly, wrinkled peas will do if they can come up. The round peas are vastly better than no peas, and are very acceptable to the others. To have early peas, they must be sown early—the earlier the better. After the seed has thinned for the small stock in the seed bed, they are ready for the field. If the ground was manured and planted last autumn, all the better; if not, select the richest available spot, and open a drill four inches deep. Peas should be covered deeper than most other seeds. For varieties, the Early Kent is one of the best; it has almost as much yield as any other place, and is one of the names of a good strain of this pea.

Carter's First Crop is another good variety, and every spring, new extra early sorts are sent from England, which usually turns out to be old Early Kent, with a new name. The pea should be sown in drills, not over an inch apart, but just about one inch every inch, and at first covered with about an inch of soil. It is well to put about four inches of coarse stable manure over the rows; this is to be left on in cold days, but when it is sunny and warm, pull it off with the rake, and let the sun strike the soil over the peas, replacing it at night. When the peas sprout, give them plenty of water, and when the first stroke of frost comes, give them the coarse manure over them as needed, until the covering of soil reaches the level of the surface. If a ridge of soil, a few inches higher than the peas, be drawn up on each side of the row, it will greatly protect them from the cold winds. When the plants are large enough, plant them close together, and add some horse manure to them, and stick in the brush. When the soil becomes dry and warm, the main crop of wrinkled peas may be sown.

American Agriculture.

Dr. Gilbert, the well known English agricultural chemist, visited this country last year, and traveled over 10,000 miles through Canada and the States. Some of his observations were recently published in the London Gardener's Chronicle. He was strongly impressed with the advances that have been made in the United States, especially, of level plains of natural vegetation. The accumulation of fertility, and the capacity of such districts to provide food for future population, seemed to him to be almost boundless; but under present management there appeared to be a wasteful expenditure of good soil, and little or no return. Mr. Dalrymple's great farm in Dakota, who has a two-third's interest in the 70,000 acres, from which 30,000 acres of wheat were harvested last season, yielding over half a million bushels. The soil is very rich prairie land, but does not yield over 25 bushels per acre. Some places have been the best cultivated, and yield 40 to 45 bushels. Mr. Dalrymple does not apply any manure, but merely burns the straw on the land, and raises wheat year after year. He does not see any decrease in the crop.

We cannot quite agree with Dr. Gilbert when he says that is the only crop (which can be pursued under present circumstances, where land is so much cheaper than labor, admitting as he does, that thorough culture and the absence of weeds would
The Lancaster Farmer.

Triumph oats, Adamin wheat and Pingle's Green Mountain wheat need only be mentioned. Few people will have the time to try this comparatively new crop, but they want by consulting this very interesting and complete list.

Chemical Elements in Plants.

Chemists are generally agreed that plants require seven different elements from the soil in order to make a healthy growth. These are phosphorus, potassium, nitrogen, calcium, lime, magnesium, and iron. Other elements are often found, sometimes in great quantity, such as silica, soda, chlorine, etc.; but as many plants have been grown to perfection without their presence is not considered essential. Last year at an English experiment station, tarragon plants were grown in pure sand without any fertilizer except phosphate, merely lived, without gaining in bulk. But on ground coprolite being applied, the produce, even in that miserable soil, at once went up to twenty tons an acre.

Cucumbers.

In planting other crops in a hot-bed or cold frame, it is a good plan to leave a space under each sack for a hill of cucumbers, which may be sown at once. For planting out-doors, sow seeds in pots, half-a-inch in pure, rich soil, which may be plunged in the soil of the greenhouse. The plants should be thinned to two, and when it is safe to set them in the open ground, turn out the ball of earth, without disturbing the roots, and plant it.

Lettuce.

Plants that were wintered in frames may be set out at the same time as early cabbages, placing them between the rows of cabbages and a foot apart. They may also be transplanted to other cold frames, and given a crop earlier. Seeds should be sown under glass in March, and they may be set out as soon as the soil is in good condition. Seeds may be sown in the open ground, in rows 12 inches apart, to be thinned to 10 inches. The Curled Simpson, Tennis-ball, and Hanson are among the good kinds.

Parsley.

Sow in cold frame, window-box, or, when the soil is ready, in the open ground. The seed is often several weeks in the ground before the plants appear. The Fern-leaved and Double Curled are both hardy, and some good varieties.

Radishes.

Seeds may be sown in the cold frame for use very early, and in the greenhouse and as soon as it can be worked, in drills a foot apart, dropping two or three seeds to the inch. Scarlet Turnip, round; French breakfast, oblong, and Scarlet Short-top, long, are all good; the first named is the most reliable.

Early Potatoes.

Besides commanding a high price, there are other considerations that come into to make the early crop of potatoes valuable. The early crop continues to be as good as the best, not only for early but the bulk of early potatoes, and is grown in a much more profitable arrangement of crops than to have turnips follow potatoes. The ground usually has to be pretty good for potatoes, but it is not essential that the manure be very much decayed. Some, indeed, consider that sowing again is much better than potato. The turnips, on the other hand, must have the manure very well decayed, in order to give its best results. Hence, after the potato has done with its fertilizer, there is enough left for the turnip to thrive upon. This is a source of income in May and rye also thrive very well on land which has been previously well manured for potatoes. In all these cases the early potato has a great advantage over the late one. They allow of a much earlier preparation of the ground for the subsequent crop. There is still another advantage in an early potato.

In this part of the country at least, the plant is subject to the attacks of the stem borer. They usually commence their ravages about the end of June. They bore out the whole central pith of the stems, and before the end of July the plants are all dead, being black from the poison received. In many places there is not often fifty bushels of potatoes to the acre, and of these half of them are too small to be saleable. By getting the potato early in the ground, and using varieties which mature early, the tubers are of pretty good size before the teases get to work, and thus a heavy yield is secured. It seems to us we can almost do without any more late kinds. We say nothing here of the depletions of the beetle, as it has been so completely met and overthrown as hardly any longer to be considered as a serious injury to the crop, early or late.

Grafting the Common Cherry Tree.

It is not commonly known that the common black and red cherry which are regarded as wild," can be easily grafted with other and the varieties,—that is, as easily grafted as cherries usually are, which every one knows who has tried it is more difficult to make grow than any other fruit. The seions, however, if not already cut, should be secured at once and before the buds swell, and the grafting should be done as early as possible. The trees are the most effective result, in fact, are nearly all seed and skin—are worse than nothing to have upon one's premises, unless when very large to be cut down and sold for cabinet making. These trees can be grafted and may be made to yield an abundance of fruit of a rich and delicate sort. Only a lucky tree should be selected for grafting, and the scions should be in the best condition. Where the stocks in which the scions are to be inserted are large, the method to be adopted is that mentioned in another article in this column; but they are secure the usual mode of grafting should be pursued. We suggest to our agricultural friends who have some of these trees upon their farms—and they are to be found upon nearly all of them of any—size—to employ a good graftor to do the work, and report to us the degree of success which may follow.—*Germanian Telegraph.*

Household Recipes.

Purse Whip.—Sweeten to taste and stew three quarters of a pound of prunes; when perfectly cold add the whites of four eggs, beaten stiff; stir all of this together till light, put in a dish and bake twenty minutes; when cold serve in a large dish, and cover with good cream sauce.

Cream Cookies are made of one cupful of butter, one cupful of sugar, three tablespoonsfuls of sweet cream, half a teaspoonful of cream of tartar and half a teaspoonful of soda; flavor with cinnamon or nutmeg, or if you wish to have them very delicate flavor with extract of lemon or rose water.

Ginger Puffs.—Take half a pound of flour, four eggs, one teaspoonful of ground ginger, a little grated nutmeg, an ounce of pulverized sugar and half a glass of white wine. Add the ginger, sugar and nutmeg to the flour, and mix all together with the eggs well beaten and a glass of wine. Bake this mixture in a pie dish.

A Breakfast Dish.—A good breakfast dish can be prepared from the remains of yesterday's dinner, providing that consisted in part of roast mutton. Chop it fine and put it in a saucepan with a cup of gravy or of soup stock, season with pepper and salt, and simmer over a gentle fire until the meat is tender. Take the fat out of the dish; let the meat heat gradually, and, when "boiling hot," set the pan on the back part of the stove, and poach some eggs to serve with the meat. When the eggs are done put the meat on a platter, and lay the eggs around the edge. With this kind of breakfast may be provided at small expense.

Cup Pudding.—A favorite cup pudding is made...
of six eggs, beaten very light, seven tablespoonfuls of flour and one pint of sweet milk. Stir these all together briskly and bake in cups.

Loxter Patties.—Cut a pint of ABOVE meat into dice and stir it into a half pint of cream sauce. Season with cayenne pepper, a little grated mustard and lemon peel to taste. Stir it over the fire until it is well heated, then fill pate-shells with the hot mixture.

Venison Patties.—Cut cold roast venison into dice, and heat about a pint of it in a half pint of cream sauce, thicken it, if you can any way you choose and season it, then stir it over the fire until scalding hot. Fill pate-shells, and serve as hot as possible.

Preparing Currants.—To swell the currants for cakes, after they are peeled and cleaned, pour boiling water over them and let them stand covered over a plate for two minutes; drain away the water, throw currants an eighth to dry them, and do not use until they are cool.

Broiled Sweet Potatoes.—Thickly pare large fine sweet potatoes. Cut them crosswise into thick slices and broil them over a clear hot fire. When crisp and brown put them upon a hot platter, sprinkle with nutmeg, and pour boiling sweet milk or butter cut into small pieces. Serve fresh and very hot.

Fruit Pudding.—Take sour cream and saleratus enough to sweeten it, add a pinch of salt, and mix thick enough for biscuit. Roll out thin, and spread any kind of fruit that has been canned, omitting the juice, or preserves, or marmalade, or dried fruit that has been soaked; cover this well with the crust. Moisten the crust up carefully so that the fruit will not be squeezed out, close up the ends, and lay it on a white towel that has been wrung out of scalding-hot water and floured. Pin the towel loosely around the pudding, leaving plenty of space for it to swell; then put it in a kettle of boiling water, with a plate at the bottom. Keep boiling constantly until done.

French Pancakes.—Take two eggs, one tablespoonful of sifted sugar, two tablespoonfuls of flour, half a pint of new milk. Beat the eggs thoroughly and put them into the bowl with the butter, which should be beaten to a cream; stir in the sugar and flour, and, when these ingredients are well mixed, add the milk. Keep stirring and beating the mixture for a few minutes; put the batter on buttered plates and bake in a quick oven fifteen minutes. Serve with apple of powdered sugar on with layers of cake and layers of marmalade or preserves between them.

Summer Salad.—Pit the boiled shrimps, and when thoroughly cold (those bought in cans are very good) arrange them in a circle upon leaves of fresh lettuce. Pour a mayonnaise sauce in the center and serve at once. Sometimes a tablespoonful of chopped parsley is added to the dressing for this salad.

Pickled Tongue.—A good-sized tongue requires to boil at least three hours. It is a good plan to make it over a fire, as the skin will be more tender. To pickle it put it on in cold water and let it come to a boil. Some cooks change the water when it is half done; if this course is taken, be sure that the fresh water is boiling before the tongue is placed in it.

Rice Bread makes a pleasant variety at the breakfast table. Take one pint of well cooked rice, half a pint of flour, the yolks of four eggs, two tablespoonfuls of butter melted, one pint of milk and a teaspoonful of salt; beat these all together; then, lastly, add the whites of the four eggs, which you have beaten to a stiff froth. Bake in shallow pans or in greased tins. Serve warm.

The Holstein Breeders.

The annual meeting of the Holstein Breeders’ association of America was held in Syracuse, 116 members being present. The President, E. A. Powell, of Syracuse, made an address giving information in regard to the rapid advance made by the Holsteins, the great beef and milk breed of the world, in the United States during the last year.
Poultry.

Unless well kept, vermin may be expected as the weather gets warmer. If fowls are presently, apply kerosene to the perches, from which it will spring to the fowls. Fitting hens should have a warm and quiet room. Feed young chicks often. Never give them corn neat in any shape while to the downy state—and use it sparingly if at all after that. Bread crumbs soaked in water is the best food for young chicks.

Hen's Busy. This is the busy season with the hens. If you want them to manufacture eggs, they will do so now—beautiously, if they are reared with the raw material. Don't forget to supply plenty of broken-oster-shells, so that they can put covers on the eggs. Look after the nest also, and see that they are clean and free from vermin, and in a retired spot.

Chicken Notes. Sweet or sour milk poured into a long trough is much relished by poultry for drink. Fifty fowls will drink of the published trough in a day.

When the weather is bad and the chicks appear not to stand it well, the food may be seasoned moderately with red pepper, with the addition of tincture of iron to the water. Warm milk also should be given to drink.

LITERARY AND PERSONAL.

NOS. 1, 2, and 3, Pennsylvania State College Agricultural Experiments. 36 pp., octavo.

The Grange.—Its origin, progress and educational purposes. By Hon. D. Wyatt Atkin, of South Carolina. Read before a convention called by the Commissioner of Agriculture, January 25, 1888, to consider the subject of agricultural education. Spec. Ed. 50 cts., Royal, 80 cts.

Report upon the numbers and values of farm animals, of product and quality of cotton, and comparative values of American and European farm implements. Also, rates of transportation in Europe and the United States, Feb. 1883. Special Report, No. 56. 74 pp., Royal, 80 cts.

Catalogue of Live Cattle comprizing the Crystal Spring Herefords, L. H. Walker, Worcester, Mass. This herd consists of one hundred and eighty-four registered Jerseys; and cattle fanciers and dealers should by all means send for and consult this catalogue, before they make up their minds to purchase stock of this character. 100 pages octavo, giving not only the age and pedigree of all the cattle named therein, but also additional information of a historical, economical and domestic character.

The Nugget.—"A precious little lump of wisdom," Dr. H. W. Lobb, editor and publisher, No. 320 North Fifteenth street, Philadelphia. 4 pages, 8vo, in the hands of the publisher.

The Weather Indicator. An 8-page quarterly, published by Wm. H. Cather at 50 cents a year, and edited by Geo. R. Cather, Ashville, St. Clair Co., Ala. Proposes to propagate according to the principles of Meteorological Science, criticisms Wiggins, et al., and alleges that "The system of these forecasters is more certain than the signal service and more opportune, as it gives the weather so far in advance." Endorsed by seven papers in Alabama.

Wholesale price list of grape vines, small fruits, etc., for spring 1883. T. S. Hubbard, Fredericksburg, New York, who offers a lettered Illustration of the Fredericks Grape. 8 pp., Royal, 80 cts.

The Separitists of Free Trade, a quarterly circle, in which Sunset Cox, Mr. Hewitt and Mr. Lamar, are called to account for their tariffs, in contrast with the principles of protection to America.

THE LANCASTER FARMER.

The American Farm and Home, published monthly at 1000 F. street, N. W., in the city of Washington, D. C., at $1.00 a year in advance. J. T. Taylor, editor. A royal quart of 24 pages, Vol. 3, No. 1. Of its business, "The New York Journal of Agricultural Journalism, nevertheless we cannot see why it should not, or ought not, succeed. Considering the relations of agriculture to all the other industries of the country, it ought to support more than 100 such journals. It does not confine itself to the sphere of agricultural and domestic literature alone, but, with its ample space, is able to "box the compass" in literature. Its literary quality, however, is superior to its material quality, but it is a good beginning.

Science, published weekly at Cambridge, Mass., U. S., by Mr. Martin Van Biuren, at $5.00 a year. It is a semi-quart of 40 pages, printed on calendar paper, and in clear type; and, if we regard the quantity and quality, it is certainly the cheapest publication ever issued in this country. The present number (March 9, '8') is embellished by a portrait and a biographical sketch of Professor Horace Mann, A.M., D.D., of the Smithsonian Institution, and Director of the National Museum, unquestionably "the right man in the right place," and, one never having seen him from the picture alone, would be able to account, from this article, for his appearance. One of the most interesting articles for this month is for his appearance indicates not only the ability to think and to search, but also the physical energy to utilize in visible form the substance of his thoughts. "Science," seems to be the epitome of what is valuable and interesting in the scientific world, to all who are interested in the progress of the nation. It does not seem to attempt to popularize science by "stepping down," but rather "steering others up."

The Harriwamian Monthly, published by the "Hannah Club," of Philadelphia: Bushrod W. James, business manager, Northeast corner 16th and Green streets, Philadelphia. Terms, $3.00 annually; single numbers, 30 cents. One hundred pages octavo, monthly (vol. 4, No. 21), at which rate would amount annually to twelve hundred pages, making two large volumes of interesting reading matter. This is the official organ of the Homeopathic Society of Pennsylvania, its second name Homeopathic Society. This combination of the name Homeopathy is, may be an able expedient in the columns of this intelligently edited and excellently executed magazine.

Homeropathy is regarded as medical orthodoxy or heterodoxy, it cannot be denied, that during the last forty years, the whole medical tump has been lowered, more or less leavened, through an influx which is claimed for Homeopathy. It is now able to stand successfully in its own defense. There let it stand.

The Wheelman Magazine, an illustrated magazine of cycling literature and news, Boston, Mass., published at 122 Congress street, at ten dollars per annum; single numbers 30 cents. The bycycle is rapidly becoming an institution in our land, and if it continues to increase at its present rate of progress, the census department of 1890, will have to designate an officer or officers to take charge of this specialty, and make the proper returns. Here is a royal 8 vo. magazine, literally and artistically illustrated, containing 78 pages of letter press, embracing a literature—although peculiar to itself—at once able and entertaining, as well as interesting. The Wheelman, or the "Wheelmen," have their literature and their commerce, their clubs and clubshouses, their commercial depots, of bicycles, tricycles, velocipedes, and all their accessories, their rolling halls and their schools of instruction and sales rooms. The Wheelman is an interesting journal, and all, and its material and typographical execution is equal to any in the land. No professional or amateur ought to be without it.
THE PENN HARROW

BEST IN THE WORLD
IT HAS NO EQUAL

A KNABE IN THE WHITE HOUSE.

There was seen yesterday at Messrs. Knabe & Co.'s factory a magnificent concert grand, just finished by them for the presidential mansion. President Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House decided in favor of the Knabe Piano as his preference, and ordered accordingly the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case, and of superb tone and action—an instrument worthy in every respect of the place it is to occupy. It was shipped to its destination yesterday—Baltimore.

COLMAN'S RURAL WORLD.

This sterling Agricultural paper entered its thirty-sixth year on the first of January, and appears in a new dress, and gives evidence of increased prosperity. To the Farmer, Stock Breeder, Fruit Grower and Cultivator of Sorghum for Syrup and Sugar, it is almost indispensable. It should be read by every one owning a farm. It is published weekly, in the best style, at only $1.00 per annum, by NORMAN J. COLEMAN, St. Louis, Mo.

THE PENN HARROW

CHANGED TO SINGLE "A" HARROW.

Complimentary Notice.

We desire to call attention to the advertisement in another column of D. N. Penny & Co., Detroit, Mich., the great seamen, whose mammoth establishment is one of the sights of the chief city of Michigan, who do the largest business in their trade in the United States, reaching across to the Atlantic and Pacific oceans. The house is entirely reliable, and if you wish to get exactly what you order, you cannot do better than send to them for your seeds, and you may depend upon it you will get the best that the market can supply. Their seeds have become known over the entire civilized world for purity and fertility, and have gained for them a permanent reputation. Their Annual Seed Catalogue just issued for 1887, replete with information and beautifully illustrated, will be sent free on application.

SEND FOR SPECIAL PRICES

On Covered Grapesvines, Travelling Melons, Tolep, Peppor, Florida Magnolias, and all kinds of Scollings and Trees for timber plantations by the 100.

J. JENKINS NURSERY
3-5-79

WINONA, OHIO. EMERSON & CO. OHIO.

By removing the wheel from the original Harrow and making the most complete Double A Harrow in the market.

The Penn Harrow

CHANGED TO DOUBLE "A" HARROW.

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Indispensable for Ordinaries, as the proving wheel harvests right up to and all around the trees without furrowing them.

The Penn Harrow

CHANGED TO THREE-CORNER ROTARY HARROW.

THE TREE SHAPER—FRUIT TREES.

Fruit, Shade and Ornamental Trees.

Plant Trees raised this spring and suited to this climate. Write for prices to

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79-1-12

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Satisfaction guaranteed both in price and quality.

You are invited to call and see our goods. No trouble in showing them even if you do not wish to purchase.

Don't forget this notice. You can save money if you want to buy.

Particular attention given to custom work.

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OFFICE: 15 NORTH DUKE STREET,
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EDITED BY DR. S. S. RATHVON.

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editor. His contributions on subjects connected with the
science of farming, and particularly that specialty of which
he is so thoroughly a master—entomological science—some
knowledge of which has become a necessity to the success-
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Agriculture Devoted to Horticulture Domestic Economy Miscellaneous
Lancaster, Pa. May, 1883
Dr. S. S. Baitlyon, Editor.

CONTENTS OF THIS NUMBER.

EDITORIAL.
Weather Prophecies
English Sparrows
Pulverized Lime vs. Chickens in Cages
A County Fair
Market Gardening
Frogs, Vegetables and Flowers
Saddleback Moth
Of Animals
Excerpts
What is an Insect

SELECTIONS.
The Potato Question
Farm Notes
Encyclopedia of the Cultivated Plants Among Live-stock—Field Mating—Muck for Sandy Soils
Farms and Garden
The Peach Prospects—Homespun at Exhibitions
Tomato and Egg-Plants—Clear Up and Cleanse Your Property

OUR LOCAL ORGANIZATIONS.
Lancaster County Agricultural and Horticultural Society
Crop Reports—Is there a Feasible Way to Avoid Boiling Farm Hands?—Miscellaneous—Questions for Discussion
Poultry Association
Octorara Farmers
Census Work of the South
The Turcuman Club
Linsean Society

AGRICULTURE.
Potato Growing
The Supremacy of Grass
A Good Way to Cultivate a Small Patch of Potatoes
Tobacco Prevents Scale
A New Cereal

HORTICULTURE.
Strawberries
Currants
Grapes
Raspberries and Blackberries
Grafting Old Trees
An Immense Peach Crop Promised
A Good Weedle

HOUSEHOLD RECIPES.
Ham
An Excellent Way to Cook a Duck
A Novelty in Cake
"Favorite" Pudding
Potato Soup
Chicken Fritters

Lancaster Pa. May 1883

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FROM SMALL TESTS BEGAN IN 1874 THIS PRAC-
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Our trial ground contains the entire list of vegetables from A to Z, not in a line, but comparatively
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from Canada, England, France, Holland, Germany and
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tinguished by a label bearing specific numbers; these
were recorded in a book giving date of planting and origin
of sample.

Each family of vegetables planted the same day and
under precisely the same circumstances, each trial dis-
tinguished by a label bearing specific numbers; these
were recorded in a book giving date of planting and origin
of sample.

The books of record are volumes of practical observa-
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readily at all times to testify to the merits or demerits of every vegetable known
in the area.

At conditions and disturbing factors are taken into ac-
nount, and in this case the whole history of the growth and
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SIMPLEST AND BEST.

Butter Worker
Dogs
A. H. Reid
26 S. 16th Street, Philadelphia.
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Trains leave the depot in this city, as follows:

<table>
<thead>
<tr>
<th>Route</th>
<th>Departure</th>
<th>Destination</th>
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<tbody>
<tr>
<td>WE TWAD.</td>
<td>Lancaster</td>
<td>Harrisburg</td>
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<tr>
<td>Pacific Express</td>
<td>8:48 a.m.</td>
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<td>Weymouth</td>
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<td>11:28 a.m.</td>
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<td>Wireless Express</td>
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<td>Harpers Ferry</td>
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<td>New York</td>
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<td>No. 2 via Columbus</td>
<td>10:56 a.m.</td>
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<td>Sunday Mail</td>
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<td>EASTWARD.</td>
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| The Hanover Accommodation, west, connects at Lancaster with Niagara Express, west, at 9:25 a.m., and will run through to Harrisburg.
| The Frederick Accommodation, west, connects Lancaster with Fast Line, west, at 9:25 a.m., and runs to Frederick.
| The Pacific Express, east, on Sunday, when flagged, will stop at McIntyre's, Bellingham, Mount Joy and Landisville.
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JOHN A. HIESTAND, Proprietor,
No. 9 North Queen St.,
LANCASTER, PA.
WEATHER PROPHETIES.

Prognostications of the weather would be of immense value to the country, provided they were really reliable forecasts of what is to come; the present are valuable only in so far as they are harmless, if not absolutely criminal; for, no matter how reckless or preposterous they may be, there are still some people who believe in them, and are greatly injured by them.

The government apprehends the great use such fore-knowledge would be to the governed, and hence the institution and establishment of the Signal Service. This service is not a mere system of post-worry, but is based upon information obtained from all quarters of the country, as to the meteorological condition of the different localities from whence the information is obtained, and its reliability must always more or less depend upon the accuracy of the observation made and reported by the local observers and operators. Fully appreciating the common aphorism—"There is many a slip between cup and lip," the service never attempts to promulgate anything more than "Probabilities" in relation to the weather, and this fact amounts to an admission that the machinery and executive energies of the different stations are not, beyond a peradventure, accurate in their observations and calculations, and therefore only can report approximations to the real state of the case.

The Signal Service may be regarded as still in its "swaddlings," and hence, unlike Vennor and Wiggins, its modesty, in publishing what the weather will probably be, within the next twelve or twenty-four hours—not a week, or a month, or a year, in advance, as the two prophets above named profess to do.

There are many people who find fault with the service because of these modest, unpretentious manifestations. They think an officer and others under the auspices of the government should make a "spillage" after the Vennor-Wiggins style—hit or miss. It probably would be easier to "hit" a storm-prophecy made in the month of March, than to "miss" one made for any other month of the year. We cannot recall a month of March for at least sixty years, that was not stormy. There may have been such, but we do not remember it. Other months may have their storms also—especially September—but none is so certain to produce a storm as the month of March; being, like September, subject to equinoctial influences.

If Vennor and Wiggins are such reliable prophets—especially Wiggins—and could not forego frightening and distressing their fellow-beings—especially the ignorant or illiterate among them—on account of the promptings of their consciences, why were they so silent in regard to the storms, tempests, tornados, cyclones and floods, which so comically, so generally, and so destructively occurred in the late month of April? It would have been of some value to the country and the people, had they been forewarned of these direful occurrences; but no, it appears they were entirely outside the pale of their prognostic calculations; or, is it more charitable to frighten the people with a false forewarning, than to enlighten them with a true one?

Should it be thought that these strictures militate as much against the Signal Bureau as against Vennor and Wiggins, we would merely suggest that, according to our understanding, the Bureau does not profess to prognosticate or prophesy. It merely promulgates what is likely to occur in certain parts of the country, within the next few hours, from observations made and transmitted by local reporters. If it does more than that, it wanders out of the domain of fact, and into that of fancy. Of course, a chief possessing greater intellectual force, a larger and more continuous experience, and an ample ability to reason from causes to effects, may be able to forecast the results of local meteorological phenomena, better than those who make the original observations. But, the past month abundantly illustrates that there are elementary impulses or forces, meteorological divergencies and convergencies, that are still beyond the spheres of human observation and calculation—even beyond the grasp of probability, and this may be so for a long time yet to come.

ENGLISH SPARROWS.

"Right about face—Dismissed."

Just now the agricultural, the horticultural and the editorial worlds are "down" on the English sparrow; just as if that bird, from a sault had become a sinner. Why, dear people, we have no fault to find against this little pugnacious foreigner any more than we have against a duck because it instinctively takes to the water. The chief surprise is that the sparrow has had his zealous advocates, and has been protected by special and stringent laws, but that he ever was introduced into the country at all, as an insidious bird of any reliability worth talking about. This Journal has distinctly demonstrated in several editorial papers during the past two or three years, where the sparrow stands in ornithological classification, and that his place is not, and never has been, among insect-feeding birds. He is a flesh, and therefore, essentially, a grain-feeding bird. Mr. Jonesby says he believes a sparrow would eat an insect; provided you could convince him that some other bird wanted it; and, in confirmation of this assertion, he says he once saw a blue-bird about to appropriate a worm, but he was driven off by two sparrows, who greedily and heedlessly seized a short string instead of the worm, and, by a cleverly and speedily seizing it and immediately swallowing it, the worm in the meantime making its exit into the ground. Petition the Legislature to pass an amendment to the bird-law, suspending the prohibition relating to the English sparrow. Any legislator who would vote against such amendment, would certainly do so in total ignorance of the nature and habits of the sparrow. Perhaps it could not be successfully demonstrated that the sparrow does not eat insects, especially if there was nothing else "handy" that he could devour, but to uphold him as an _insectivorous_ birds is simply preposterous. If a bird-fancier caged one, it is very likely he would feed him the same food he provides for his other _flecks_; namely, seed-grain, or their equivalents. The Crow and the Owl are "contraband," because the one destroys corn, and the other young chickens; and yet, they have conspicuous redeeming qualities, in that they destroy insects and mice also. An English sparrow may occasionally destroy an insect, but if he does, he is likely ashamed of it, and feels as if he had "departed from the traditions of his fathers."

PULVERIZED LIME vs. CHICKEN GAPES.

About annually, for the last half century, complaint has been made, in some quarter of the land, about the "Gapes," or pips, in young chickens, and remedies have been asked for, and given, times without number, and still the Galliculturists "are not happy." Those who claim to be gallicultural experts, and who have had many long years of experience have failed as signally in their theories and practice, as have the inexperienced or illiterate amateurs. The singular thing about the matter is, that so many claim that the gapes is a mere trifle, a very simple affair, or a myth. Ten years ago, a practical chicken-grower informed us that he invariably cured this disease by a simple application of lime-dust, and the process was just as simple as the remedy. He inclosed the infested fowl in a small box just large enough to allow it standing room; over this box he stretched a muslin screen, upon which he placed a quantity of pulverized lime. Then he struck the box with a mallet, or a "billet" of wood, and the lime-dust that sifted through the screen would be handy" to the fowl and cause a paroxysm of sneezing, and this effect, dissolved and expelled the gapes in a mass, or masses of mucus, and the cure was performed.

Within a few days past, an intelligent farmer, near Oregon, in this county, informed us that lime-dust has been his remedy for some years, and he has always found it effective. He merely mixes the lime with a dust-bath, in the coop or out of it, and the fowls effect the application themselves by scratching or throwing up the dust in the act of bathing. The process is the same, namely, inhalation and sneezing, and invariably dissolves the gapes. He further states that no ben should be allowed to have more than ten to a dozen chicks at a time. To all this we would suggest, on competent authority, that the rejected masses of gapes should be carefully collected and destroyed by fire or hot water: for, they are endowed with extraordinary
vitality, and have been known to revive by moisture, after they had been dried for thirty or forty days. After the fowls are cured they should be removed to premises remote from those in which they had been afflicted.

A COUNTY FAIR.

The business men of this city and the country people generally cannot overestimate the importance to their mutual interests of a well devised local exhibition of our natural resources, our agricultural and mechanical products and our business enterprise. The project of holding a county fair, in behalf of which a preliminary meeting of those interested was called, is one that can only be made successful by the hearty co-operation of all concerned. It must be run in no personal or local interest and on no narrow gauge principle. It should have the good will and the participation in its management of representative men from all sections of the county, to the end that the widest popular interest be excited in its success and the fullest exhibition be secured of our great wealth of agricultural resources and products. With a richness of products of the soil far exceeding that of any other single district in the whole United States, it is a reproach that our community does not every year devise and sustain a fair better exhibition in this line than even the state fair can show.

Added to this is the other consideration that Lancaster city is rapidly growing in importance as a business point and manufacturing centre. All of these interests being interdependent, and each helping the other, can be profited by being brought together in an exhibition of their best products. Our farmers have much to learn by seeing new methods and many striking innovations in agriculture, now being so widely discussed, can be exhibited and tested at a county fair. So with our mechanics and manufacturers and tradesmen in their respective lines. But the more important objects of the exhibition should be to bring all of these classes together, to the furtherance of those interests which are mutual and in the harmonious progress of which we secure the more complete and self-sustaining development. Especially is this the case in Lancaster, where, so much surplus money of our agricultural community might profitably be directed toward the upbuilding of manufacturing interests, which in turn would afford new and better markets for the products of our tillage.—New Era.

MARKET GARDENING.

Farmers as a rule do not pay sufficient attention to market gardening. If you are near a large town or city, it will pay you to make a special exertion to get your vegetables into market a few days in advance of your neighbors in the country and will make the difference between profit and loss. The case of this article one year made a specialty of peas both early and late varieties. The early kinds come in about the same time as all competitors, the consequence was that they sold readily at $2.00 per bushel; by the time the late varieties were ready for picking, the market had relaxed, and the peas had advanced to 25 cents a bushel. Now the point I wish to make is this, it did not cost any more to raise, pick, or market the peas that were sold for $2.00 per bushel than it did the peas that sold at 25 cents per bushel. Another advantage you have in raising early peas is that they are off the ground in season for a crop of fall turnips, which will be relished by the cows in the tall, when the feed is changed from grass hay. Do not use poor quality because it is cheaper. The object is to raise your own seed, but if you cannot attend to it, buy only of reliable seedsmen, and be willing to pay a fair price. Good seed is cheap at a high price, while poor seed is dear at any price. There are thousands of bushels of poor seed (or seed not true to name) put up in packages for the trade with unimpaired deal, and sold for a low price. The farmer prepares his land and sow some of the so-called cheap seed, expecting a bountiful harvest. He is surprised, much to his disappointment, his early peas turn out to be late ones; his cucumbers are musk melons; and his flat turnips are shaped like a cow’s horn. For early use, I recommend the following varieties of vegetables:


Beans—Early Valentine and Black Wax.

Beets—Egyptian and Bastian’s Early Blood Turnip.

Cabbage—Jersey Wakefield. Carrol—Early Scarlet Horn. Cauliflower—Clay’s Hybrid. Cabbage is one of the best; cultivated same as cabbage but requires more manure.


Dandelion—Improved Thick-leaved; make the soil rich and in rows from 12 to 14 inches apart, covering seed nearly half an inch deep.


Onions—Flat Red and Yellow Danvers. Peas—Carter’s First Crop. Potatoes—early is Clark’s No. 1, for late variety Mammoth Pearl. Tomato—Canada Victor. Turnip—Flat Red Top.

—Farmers’ Companion.

Although, as a rule, it may be somewhat too late for any practical purpose, the present season, to insert the above in our May number; yet, it contains some suggestions that may be good for a long time to come, notwithstanding some of the conclusions are by no means final. Some of the advice could not be realized as public, although it might be private.

For instance, one or two men, or even a greater number in a community, might realize $2.00 a bushel for early green peas, but it is very doubtful if a whole community, or county of peas-growers could, unless there was an immense demand by people and early markets, and some order for the same. It would disturb the market as much to have all the peas rushed in early, as it is to have them intermediately or late. No poor man, no ordinary mechanic, can afford to pay two dollars a bushel for peas, unless it were shelled peas, but that is not the way in which early green peas are usually sold.

However true it may be that farmers as a rule do not pay sufficient attention to market gardening, there is very little use in attempting to stimulate them by advising impossibilities, especially since it is only the big demand, and a big demand. The Vanderbilts, the Astors, the Goulds and the Belmonts might pay $1.00 or even $5.00 a box for strawberries, but if the whole crop of the country was “rushed in” early it is not likely that such prices would long obtain, even among such monetary magnates.

There certainly must be a limited demand for unshelled green peas at $2.00, a bushel, strawberried at $1.00 a box, and peaches at 50 cts. a piece, and because these, and even higher prices, may be realized early, and in moderate quantity, yet it does no follow that tons, at those prices, could be sold in communities that only buy pounds.

We once heard of an “impractical,” who was willing to sell for less, or say 50 cts. for a bunch of berries. He went forthwith and rented six acres of ground, and devoted it, in due time, to the cultivation of a “famous” crop of celery. It happened that a goodly number of his neighbors did the same thing, only not so extensively. When the harvest came he could only realize five cents a bunch for his celery; the market was over stocked with finer celery than his, which only realized ten cents a bunch to its owners.

Of course, there should be very early, and also very late, vegetable crops, and also intermediate ones, not too many of each, for the general consumption of the community, at renumerating prices.—This is healthy gardening.

FRUITS, VEGETABLES AND FLOWERS.

The following which appeared in a contemporaneous journal about the first of May, tells a significant tale in relation to the horticultural products of the country, and the pecuniary encouragement they may afford those who have the energy, the knowledge and the enterprise to engage in their production. Of course, some of the prices mentioned below are fabulous; but then, there are many people who will almost pay any price for articles of luxury, whether they can afford to pay for it or not. If they can’t afford it, of course they are fools, and deserve to suffer for such brainless extravagance. But, there are many who can afford it, and these ought to pay them, if for no other purpose, at least for the benefit and encouragement of horticulturists and gardeners. It needs a stimulant of this kind to force cultivators out of the narrow habit of growing two rows of peas, three hills of strawberries, a bunch of onions, or half a dozen cucumbers, and attending market about once a month.

“Fifty thousand quarts of strawberries may be expected here next month from Florida, Georgia and South Carolina,” said a wholesale dealer yesterday. “Two thousand quarts arrived from Jacksonport last week. We have had 7,000 quarts received from them this month. They are selling to-day at 75 cents a quart; the first brought $2.75. Let the young folks who are thinking of marriage know that two cases of orange blossoms arrived this morning from Florida, being the first that have ever been sent here from there. They were sent in a refrigerator, and are in fine condition.” Hot-house strawberries from Massachusetts and Rhode Island bring $3 a quart now; the first brought $10. Peaches from the same source will begin to arrive in about two months. Cucumbers from the hot-houses around Boston and Pittsburg are arriving, and retailers sell the best at 80 cents, or $1 more than the wholesale dealers charge. Mushrooms from Long Island and from the hot-houses around South Amboy are worth 50 cents at wholesale; the teachers charge their wealthy customers a price that nets a large profit. The hot-house radishes
in market come mostly from Long Island." "New York is the best market for all these fruits," said a dealer, "but Boston, Philadelphia, and Washington also take considerable.

New England is the seat of the hop-vine industry, though we have bushes also on Long Island and in New Jersey."—New York Sun.

"SADDLEBACK MOTH."

Mr. H. L. Z., Lancaster, Pa. The oblong smooth cocoons that you found above ground and attached to the roots at the base of your hop-vine, are the cocoons of a species of "Hag-moth," or, as some call it, "Saddleback moth;" and, on opening one, we have no doubt it is the English name given to the species; this species is becoming abundant in and about Lancaster. The cocoon we opened contained the living larva, very little changed from what it must have been last August or September, when it spun itself in; enduring all the cold, sleet, ice, snow and winds of the intervening winter, and it seems remarkable that on the 8th of May it had not yet assumed the pupa state. Even the green and reddish-brown colors were retained. The anterior and posterior darkly hued leaves were greatly diminished in size, and thrown backward and forward in adapting the larva to the form of the cocoon, which it entirely filled. It is very well known that the spinners, with which the darkly hued of this insect larva are supplied, produce a painful sensation when they come in contact with the back of the hand or any exposed part of the body, where the skin is soft or thin. The larvae of these insects are omnivorous feeders, and have been detected on almost every kind of fruit trees (last summer even on the peach) and on a great variety of plants and shrubs, including Indian corn, roses, etc., and whatever injury vegetation sustains from them is during the larval period. It is a misunderstood impression to suppose that they injure your hop-vine, unless they are reared in such abundance as to affect the yield. From the great number you say you found, they would have been quite capable of injuring it to a great extent, provided they fed upon its foliage, a case we are not able from personal observation to affirm, so far as we remember. That the cocoons should have adhered to the roots of the hop is not at all remarkable. Insects that spin cocoons always fasten them more or less firmly to any object that is most convenient. We have had them spin in boxes of dozens of times, and they have invariably fastened their cocoons, whether on the box itself, the lid, in a corner, or an angle.

The genus Empis, which belongs to the group Conchilopodidae, which, we presume, aludes to the shell, shell-like, and internally polished cocoon. And also to the section Heteroboea, because of the heterogeneous characteristics of the individuals embraced in it; perhaps we ought to say in conclusion that these are minor divisions of the great order Lepidoptera—but butterflies and moths.

**OCCUPATIONS OF ANIMALS.**

The following purports to be the results of an interview by a reporter of the New York Sun and a naturalist, and no doubt there are many who are able to verify it, at least so far as it relates to their own observations upon the animals of their own localities, or those they have met with elsewhere, and yet there is still a blissful state of ignorance almost everywhere, in regard to the commonest subjects of the animal kingdom. And we are woefully deficient in a thorough degree of intelligence upon other subjects. The article recalls some of the observations and experiences of our early manhood, indeed, of our boyhood—especially in reference to the "ant Lion," or myrmeleon, the "carpenter bees," the "mason wasps," the "Bombardier beetles," the ants, aphides, etc. Doubtless these various phases of insect life may occur right under the noses of these possessing rare opportunities to make accurate observations, and yet they may be entirely unconscious of anything of the kind. The description, even if not quite accurate in detail, and may lead the reader to speculative, if not practical, thinking.

"There's a curious reflection of human affairs in the actions of the lower animals," said the naturalist to the reporter.

"Everything but the dynamite phase," suggested the latter.

"No, I won't except that," was the reply; "and I'll wager you can't mention a class of pests or scavengers to me, which I can't show you something similar in the so-called lower animal kingdom."

The reporter suggested the dynamite fiend, but the naturalist replied, "Pull out a drawer upon which was a blood-curdling name, "there's a beetle that belongs to the exploded lobster, and so powerful a character, it is thought the bomber, and is ready to go off at a moment's notice."

It is, as you see, an old-fashioned sort of a term, but it doesn't mean long hair and the like; but let and it follow the fact that the bomber stops suddenly, and if you were listening you would hear a report, a puff or smoke would rise in the air, and the purser would be completely demoralized. But if these bombardiers fire five or six times in as many minutes, whirling about, as if taking aim. The explosives come from a gland. Quite a number. The larva of some dragon flies eject a liquid irritating to man. The squids, however, lead in this respect. I remember drifting along over the seas a couple of years ago, and seeing several squid just below the surface. I put out my hand, and in a second my dear friend was literally drenched with ink, which was thrown from a distance of at least three feet. It was inedible, and I still have the vouchers in the way of stomach ache."

Here the naturalist took down a drawer labeled "Myrmeleon," and said: "Here is not only a potter, but a diagram of its trap. The propensity seems bred in the home, as it is indulged in by the young insects. When first hatched the insect seeks out a soft soil on some miniature sandy plain. It generally holds its legs close to the body while its body is whirled about like a pair of dividers. This done, the insect begins throwing out the sand; some is carried, but the greater part is removed by the wind at the last moment. With a quick movement the worker shovels a load upon its head, and by a backward upward jerk hurl it far out of the tent. If a pebble or stone is met with it is tossed out in the same way, masses half as large as the worker being hurled over a foot away. When a large stone is presented for consumption it is tossed in many ways, just as do for our blooded stock. In the fall ants have been known to take their cows under ground and try to keep them in by covering them with earth, and other insects as pets, some as playfowls, others on account of their odor. Several hundred distinct species of insects are in this way preserved.

In engineering the ants are equally skillful. They bridge wide streams by joining together their bodies clinging one to another, and the bridge so constructed gives them a way to blow across the stream. In this way a bridge is formed over which an entire army passes."

Here is the tube of a marine worm. You see it was first formed of tiny ground pieces of sand—in fact, of anything that the animal could get hold of, just as the inner walling of a house is made of rough material; but when
it to the exterior, there is a chance for decoration. As the snow falls for the first time, the snow on the trees is made up of their shells. Here is another shell called the "Pholus," found in Japanese waters. It affects large bivalve shells, and in some way sticks them about its shell. Now, if the animal had no taste, the first old shell or stone that came to its use, as you see, is nothing but these shells are used. Here's another and a fossil, showing that shells did the same thing millions of years ago.

"Many birds have the decorative instinct. Certain ones in Africa are said to fasten fire to their nests that gleam at night like so many lanterns. Another African bird will take off all its tail feathers except the tip of the longest plumage, and thus gives itself a jaunty air. The horn bills color their feathers artificially and certain kinds of a family of birds found in Australia, and allied to the birds of paradise, bring shells and other objects miles from the sea and decorate their play houses with them. Some fake curious house, others shells, and others prefer fresh flowers.

"Now, as to builders. The architectural ability of birds almost equals that of man. Some birds, like the Indian parrot, build, are angels of song, and build, and sing, and dance, and do all the rest. Now, if you look around and see how the birds cut their marks and scratches it makes on trees at a distance seven or eight feet from the ground. These signs run as high as the tree, sign language, which is the first language that another has been there before. The sailors are represented by this spider, that not only goes to sea, but builds its own boat. The parrots and others are like the sailor; the parrot, for instance, is represented by some South American birds, who go through certain strange performances for the benefit of other companions. As for the undertakers, many species of beetles bury their dead. The medical profession is represented by the dog, who has in his side a lance, which comes out without injury, but the Bob Sawyer, is always ready for use. The wasp is the paper maker; some are masons. The ministers are represented by the praying mantis."
larger supply of albuminous food for sheep than other ruminants demand. Wool being the chief profit of sheep farming, it will be economy to feed oats or oil-cake pretty freely to secure a liberal growth of this staple.

I find coal ashes to be a very valuable article to be used for many purposes. I have used them for three or four years on currant bushes for the destruction of the currant worm, and find no necessity for the use of hellebore or any other poison. They are as effective on cucumber vines to keep off the striped bug. Last year I used them on cabbages, filling the head full, and had no further trouble with the worms. The cabbages headed well, receiving no injury from the worms. The ashes are better to be sifted through a fine sieve. — E. J. H., in Fruit Recorder.

A CORRESPONDENT of the Country Gentleman gives it as his opinion that, in regard to scalding, boiling or steaming, an experience of five years with steamed food for a dairy of from thirty to fifty cows led him to the conviction that if compelled to take his choice and pay for it he would pay more for the exception than the adoption. He is convinced that cutting the long forage pays better than any other preparation in a well-managed dairy.

Tomatoes raised in poorish light soil will ripen ten days earlier than those raised in rich soil. We know this from actual test during the present season. If large showy tomatoes are wanted, regardless of flavor or time of ripening, then the rich soil and rank growth are needed. Cutting off all but one or two fruits of the clusters while they are small and green will also cause those remaining to grow to a larger size. So says the Rural New Yorker.

It is marvelous how sheep and wool growing have increased in this country within the last fifteen or twenty years. In 1890 there were only about 23,000,000 sheep in the United States. We now have nearly 50,000,000. In 1890 the wool clip amounted to only 60,000,000 pounds; to-day it is nearly 300,000,000 pounds—an increase within this period of over two-fold of sheep and five-fold in the production of wool, giving unmistakable evidence of our advance in this industry.

The commonly received advice to orchardists to scrape the rough bark from old apple trees has been contradicted, some having tried it and concluded that 'the practice did more harm than good. The rough bark is a protection to the tree from sudden changes of temperature. The benefit often claimed from scraping the trees comes from the greater attention paid to them in other respects by men who take this trouble. White washing apple trees is equally ineffectual for good.

A CORRESPONDENT of the Germantown Telegraph says: 'Fresh, clean hog's hard rubbed three or four times on any kind of warts on horses or cattle will remove them on three or four applications. I have removed the warts time after time, and have never been able to find the wart for the fourth application. If I should send the Latin name for hard and tell men to pay fifty cents to the druggist for about two cents worth of good hard this remedy would be often used.'

The first and most important consideration in selecting a spot for the garden is the situation. The most suitable is a very 'gentle inclination toward the east or southeast, that it may have all the advantages of the morning sun. The next preferable exposure is south or southwest. If sheltered from the north or northwest so much the better. Always avoid, if possible, the neighborhood of large spreading trees, as their roots will exhaust the soil and their shade injure the crops.

Chalk soil is highly recommended as a preventive of disease in sheep, and in an English pamphlet the following recipe for its use appears: The chalk should be given mixed with the food, except in urgent cases, when it may be mixed in water or the gruel, and given as a drench. The dose is 1 pint to every 25 head of sheep or lambs. One-quarter pint per head for full-grown cattle, horses or pigs; half the quantity for young cattle, and two teaspoonsful to one dessert spoonful for young calves.

Fattening horses is well understood by jockeys, and may well be studied by farmers who have horses to sell. A horse well fed and kept steadily at work will gain slowly and his flesh will be solid and enduring. This is best for the buyer, and has the advantage for the seller that the horse earns his keeping while being put into condition. The jockey method is to feed oil-meal, exercise little or not at all, and make a glossy coat, which will soon become rough and starting when the horse is put at hard work.

All kinds of fowls are natives of warm or semi-tropical climates. However long they have been domesticated, they retain their liking for warm weather, or at least warm quarters in cold weather. In the winter season they will do better in close houses, even with little ventilation, rather than exposed to severe weather. When a young chick will rest under its mother's wing in a summer's night at a temperature of 100, or more, there is little danger of smothering an old fowl in winter in a tight house.

At the Farmers' Institute, recently held at Fredonia, a paper on the history of the Concord grape was read by George Hinsford, in which he stated that the first Concord vine in the country was set by himself in 1854, and cost him $7, the vine being sold at $40 per dozen, or $5 each. In few years he had several in bearing and for sale, but no one would purchase, believing it was too far north for grape-growing to be profitable. His first crop of 400 pounds was marketed with difficulty, but the second sold more readily.

Many farmers are greatly troubled with a growth of sorrel upon their lands, which is an indication of neglect and exhausted fertility. The weed, however, appears best in good tilth in seasons when extreme drought prevails. The best way to exterminate the pest is to sow bone-dust mixed with ashes and plaster. One barrel of raw bone dust, with two of ashes and half a barrel of plaster, will serve to drive out the sorrel on a quarter of an acre of ground if applied after deep plowing.

To CLEAN a coat collar procure benzine and a sponge and wash the cloth with it. This will remove all the grease very quickly.

ABSENCE of vegetation, badly arranged entrance of light and hay-racks over their heads, permitting seeds and dust to fall into their eyes, are referred to as prolific sources of blindness in horses.—Chicago Journal.

SAUSAGE GRECIQUETTES: Sausage meat, two beaten eggs and cracker dust. Mold the meat into little balls, dip in the egg then roll in the dust and cook slowly until done through and through. Serve without the gravy—Rural New Yorker.

Every cook knows how long a time it takes, when it can least be spared, to look over one or two quarts of beans. An ingenious friend, who is always trying to save time, says: Put the beans in a colander, and all the time dirt will be shaken out, and the beans speckled can be picked out with ease, and in a very short time.—N. Y. Post.

The demand for good horses increases despite the enlarged use of steam machinery in all kinds of business. There are probably more horses now used to cart produce to and from railroad stations than were ever required for the stage routes that the railroads superseded. Yet, when the steam engine came into general use for transportation, many believed that the days of horse breeders were over.—Leaven (Mich.) Republican.

SWEET RUSK: One quart of new milk, three tablespoonsful of yeast and flour to make a thick batter. Mix the night and in the morning add one cup of fresh hard or half hard and better, one cup of sugar, a little salt and the yolks of three and the whites of two beaten eggs. Mix thoroughly together, mold into desired shape and let rise before baking. The reserved white should be beaten stiff, a little sugar added to it and spread over the top of the rusk just before they are done.—Exchange.

It is the custom in most families who give attention to the concerns of the table to serve oatmeal and milk at breakfast. Excellent as this custom is, it may be varied occasionally with good effect. One way to do this is to make a hasty pudding of Graham flour; it should be made like ordinary Indian meal pudding, with the exception that the Graham must first be wet with cold water; it must be stirred constantly; it will require about twenty minutes steady boiling and should be well salted.—N. Y. Times.

THE CARE OF THE EYE.—1. Avoid reading and study by poor light. 2. Light should be from the side and not from the back or from the front. 3. Do not read or study while suffering great bodily fatigue, or during recovery from illness. 4. Do not read while lying down. 5. Do not use the eye too long at a time for near work, but give them occasional periods of rest. 6. Reading and studying should be done systematically. 7. During the study, avoid the stooping position, or whatever tends to produce congestion of the head and face. 8. Select well printed books. 9. Correct errors of fraction with proper glasses. 10. Avoid bad hygienic conditions and the use of alcohol and tobacco. 11. Take sufficient exercise in open air. 12. Let the physical keep pace with the mental culture, for asthenopia is most usually observed in those who are lacking in physical development.
WHAT IS AN INSECT?*

Among the masses of mankind, or popularly considered, an insect appears to be any small animal for which no other name comes handy, but, etymologically restricted, and qualified by certain exceptions, an insect is a four-winged hexapod, the body of which is conspicuously divisible into three transverse sections, namely: the head, the thorax and the abdomen. Although the body of an insect is so easily divisible, that if we strike against a pin upon which a very dry specimen is impaled, it will be very apt to fall into three pieces; yet a closer inspection will reveal the fact that these are not simple or solid pieces, but that they are all compound, and composed of many minor parts. Take the abdomen for instance, and it will be found to consist of a series of sections or rings called segments, or by way of distinction, abdominal segments. Neither are these rings entire in structure, but are latterly divisible into semi-rings, the upper ones called dorsal and the lower ones ventral. The thorax, to which are attached the wings and the feet, is also a compound section, being composed of prothorax, mesothorax and metathorax, and like the abdomen laterally divisible—the upper parts into pronotum, mesonotum and metanotum, and the lower parts into pterosternum, mesosternum and metasternum. In some orders of insects—notably the order Coleoptera, beetles—the dorsal divisions of the prothorax are confluent, that is, they are all accounted one piece, while the ventral portion is compound; not only divisible into three parts, but into many more. There are also some minute species in the order Apinoptera, or wingless insects, in which the thorax and the abdomen are confluent, and the insects seem to possess only a head and abdomen, the thorax being conspicuous absent, or if present at all, only rudimentally so. The head of an insect is still more complicated in its structure, and the parts more numerous than in the other divisions of the body, and this is especially the case in mandibulated insects, that is, those possessing jaws, and their usual accompaniments. In short, the head is the largest and most complicated part of the body of an insect not exceeding an inch in length, 306 hard pieces, which enter into the composition of the outer envelope; 496 muscles for putting those in motion; 48 nerves to animate them, and these nerves divided into incomparable fillets; also 48 pairs of tracheae, or breathing organs, equally ramified and divided, to convey air and life into "this inestimable tissue." These are the little animals popularly despised, and yet have the power to scare mankind with fear and famine.

But, an insect is something more than a "four-winged hexapod." It occupies not only an important position in the economy of nature, but also quite as important a one in systematic classification. There are many systems of classification; but, perhaps that of Cuvier, the great French naturalist, is the most popular, as it is certainly the most simple. He divides the animal kingdom into four sub-kingdoms, namely: Anima-lia vertebrata, that is, animals possessing a vertebral column or backbone; Anima-lia mollusca, animals destitute of a backbone, but possessing an external shell, either univalved, bivalved or multivalved; Anima-lia articulata, animals possessing a thoracic or lesser number of con-}

*Essay read before the Linnean Society at its meeting on Saturday, April 28, by Dr. S. H. Kewen.
twigs, walls or timbers; but those species that have an incomplete metamorphosis roam abroad, and feed the same as they do in their larval periods, and are only distinguishable by their rudimentary wings. The term *aurita* is also sometimes applied to this stage of insect development, and especially to those species which exhibit glistening spots, of a golden hue, the name being derived from *aurum* the Latin for gold; and for the same reason, the term *chrysis* is used in this connection, being derived from *chrysos* the Greek for gold. The mythological term *mycales* is also sometimes used accordingly as to which species which pass their pupal periods in ponds and streams of water in which it does not seem inappropriate.

But, whichever of these terms may be used in descriptive entomology, we may know, from what has been said, that it refers to the third, or state intermediate between the larva and the imago.

The fourth period of insect development is the perfectly matured, or imago state. This is a name given to insects after they have completed their metamorphoses, because they are then in the image of the parents who deposited the egg from which they developed in complete form, oviposition and procreation until it has obtained the imago state, so that it is impossible for caterpillars, snug, grubs, maggots, or any other insect larve to multiply.

By whatever process they may have first been brought into existence, it is entirely consistent with scientific experience that they are now only reproduced through the medium of *ova.* After its evolution from the *pupa,* and its assumption of the *imag* it acquires no increase in size, no new beauty, and no additional instinct; for, like Minerva from the brain of Jupiter, it issues forth fully developed in each, and in all that relates to its perfect insecthood.

The idea therefore of old and young insects, based upon a difference in size merely, is a falacy. They cannot, in this respect, be compared with adult vertebrates, for many of these wax fat; but the external integument—or rather skeleton—of insects is too rigid to allow any distention, as a rule, except a limited elongation of the abdominal division among the females. In the *imag* state, the true hexapodal character becomes developed with a very few rudimental exceptions to the number six, and these few have four—confined to the order *Lepidoptera;* including butterflies, etc. There is, however, a marked differentiality among insects in relation to the number of their wings, as well as in the structure of these organs. None have more than four wings, but some have only two, and others are entirely wingless. In some instances this wingless character is confined to the females, whilst in others it pervades the whole order, both male and female. In the order *Coleoptera,* the anterior wings are replaced by rigid *elytra,* or wing covers, which are of little or no use in flight. The division of the Class *Insecta* into orders is mainly based upon the character and number of their wings. The term *Coleoptera,* a Greek compound, which, according to accepted authority means "sheath-winged," but according to my notion, "shield-winged" would be more appropriate; because the wing covers do really shield the wings when they are in repose; moreover, the elytra when separated from the insect, and naturally united in the greater number of cases, have the form of a miniature shield. The term *Hemiptera* is from a Greek compound, which means "half-winged," because the basal portion of the anterior wings are coriaceous or leathery, and the apical portions are membranous.

The order *Homoptera* is so called from two Greek words meaning "same-winged," because the wings are all of the same form and size, and of the same color—of the same size—homogeneous. The seventeen-year *cicada,* popularly miscalled "Locust," is a conspicuous illustration of the insects belonging to this order. Orthoptera is also a Greek compound and means "straight-winged"—the wings fold up in straight corrugations like a fan—this is at least the character of the posterior, or underwings. The common "Grasshopper," or true "Locust," is a typical illustration of this order. *Hymenoptera* is derived from the two Greek words, *hybris,* a membrane, and *pteron,* a wing. Because of the latter, the order is characterized by four membranous wings.

*Neuroptera,* means nerved-wings, because the wings of the insects belonging to this order are ramifications by a net-work of nervures; they are represented by the dragon-flies, the lace-wings and the white ants; and the immediately preceding order by the bees, wasps and common ants. *Leptoptera,* comes from *leptos* a scale, and *pteron,* a wing, meaning scale-winged insects, and is represented by the butterflies and moths. *Diptera,* means two-winged, and includes the various two-winged flies, of which the housy is the most common example. These are also divided into minor orders, including a few species which cannot be properly classified with any of the preceding orders, among which are the "Caddie flies," the Bee styllops and the "Ear-wigs."

This latter name has been popularly and erroneously applied to insects that are supposed to enter the human ear, but this is a mistake. The insects are shy and avoid the light, and under certain circumstances might enter the human ear for the same reason that any other small insect, of similar habits might—namely, to hide itself. There is reason, however, to believe that the term *Earwig* is a corruption or contraction of *Ear-wing.* These are also known under various names of which the *Ear-wig* is the most conspicuous.

All small insects resemble the human ear. To all the foregoing definitions there are exceptions, modifications and variations, too numerous to point out here, but which becomes apparent to the student in entomology, as he advances in his practical studies; but, from all this, it must become impressively manifest, that many animals popularly classed with insects, have no structural affinity with them, as for instance, spiders, scorpions, ticks, crabs, lobsters, centipedes, millipedes and many others.

In fact, they differ numerically, from eight to a thousand, in the number of segmentations of the body. In the first five named, the head and thorax are conhuent; in spiders, etc., *named ephyralothora* in crabs and lobsters, *araeace.*

There is really no just ground to fear an arbitrary redundancy of the insect world—their rapid increase, periodically and locally is subject to the laws of cause and effect in nature, and their presence in the general economy of nature is just as essential to the harmony of the whole, as that of any other class of animals. It would be far easier to prove that the destruction of our forests has a much greater influence upon the increase and the alimentary habits of insects, than it has upon the meteorology of the country. Insects are gastronomically progressive. When the wild Hawthorns were all cut away or destroyed, then the *Seygels* beat in, or "striped borers," which were not previous to this in the degree that an apple is superior to a hawthorn, in that degree did the partialities of the "borer" for the apple develop itself. So also the "Colorado potato beetle," (Dorphyhora 10-luteata) which erst was content with a wild species of Rocky Mountain salixia, until it had an opportunity to make a comparison between its native food and the cultivated potato, when it abandoned the former and adopted the latter; and, not only this, but instead of remaining local, it became migratory in order to gratify its newly acquired penchant. Wherefore it is necessary to say that the insect has been educated or endowed with a new instinct which it did not originally possess, but merely that circumstances had called into exercise that function of self-preservation, which is so eminently a characteristic of the whole animal world, but which may remain latent until brought out by local surroundings. The tobacco plant has now some twenty conspicuous insect enemies; their partialities for this plant being entirely based upon gastronomical gratification—indeed, I am not sure, but this insect-like for "the weed," may be governed mainly by the accident of fate. In whatever order its green state is so much more aseculent than ordinary vegetation, that it is not to be wondered at that insects should prefer it as food, especially since it has become such an object of careful culture, and so improved in quality and quality.

The multiplicity and destructivity of insects, I am inclined to think, will always run parallel with the productiveness and improved quality of domestic vegetation. A house..."


THE LANCASTER FARMER.

May, 1882.

THE POTATO QUESTION.

At the recently monthly meeting of the Berks County Agricultural Society, "The Potato and Its Cultivation" was the subject discussed, and some interesting facts were elicited.

Dr. Aaron Smith referred to the importance of the subject, and requested the large number of farmers in attendance to give their experience.

S. J. Hill, of Ruscombmanor, said that in his section the soil is a sand clay, with plenty of small stones interspersed. He held that the stones were of service in the production of potatoes, because when grown in such soil the potatoes are usually meaty and very palatable. In choosing a place for potatoes, one should be selected where the sub-drainage is carried towards the potato patch. Cultivation has as much to do with success as planting them. The potatoes should not be planted too thick.

President McGowan: "What kind of potatoes do you plant?"

Mr. Hill in reply said: "I always plant large potatoes, but have them properly sliced, so that only one or two stalks will come at once place." Continuing his remarks, he said that care must be taken in cutting the potatoes, and in laying them down. The pieces should be laid in the furrow with the eye down; if you place the cut side down it will take longer for the stalks to root. The soil should be well pulverized, and in plowing between them, the hold should not be thrown up too high against the stalks. There ought to be an indention where the stalks are, so that the water will find its way to the roots.

Dr. T. S. Gerhart, of Robeson, asked Mr. Hill what varieties ought to be planted, and the latter said he plants the Ohio Victor, which succeeds best on his soil. Next to this variety he would recommend the Peerless. He suggested the changing of seed potatoes every few years, by obtaining them from other districts.

Dr. Gerhart: "What has been your yield per acre?"

Mr. Hill: "On one-fourth of an acre, I have raised one hundred bushels."

Dr. Gerhart: "Do you use any phosphates?"

Mr. Hill: "Our phosphates is barnyard manure."

V. T. Steltz, of Robeson, said that he had raised 400 bushels of potatoes to the acre with barnyard manure, but had never used any commercial fertilizers.

W. H. Bitter, Esq., of Robeson said that potatoes require pretty good soil, and their quality is better when grown in sandy soil, or on a hillside than when produced in heavy soil. He was never able, however, to grow more than half a crop on the hillside. People in buying potatoes generally prefer those of large size, whether the quality is good or not. Potatoes need a good deal of manure, and barnyard manure is better than phosphates.

James Buskirk, of Ruscombmanor, relates his experience with phosphates, and said that he had obtained a better yield by their use than without.

Benjamin E. Dry, of Rockland, agreed with the views of Mr. Hill, who is engaged in farming in an adjoining township.

Dr. T. S. Gerhart said that there must be something more in the soil than stones; there must be the proper ingredients. He approved of changing potatoes by obtaining seed from other localities. The Early Rose is the most profitable potato in his neighborhood. The Peerless should be put in low land. Potatoes want good, rich soil. He has heard of such yields as 600 to 700 bushels to the acre, but in this part of the country the farmers are satisfied with a yield of 400 bushels.

Jeremiah Y. Bechtel said that he planted some potatoes years ago in low ground, when residing in Union township, and manured them well, but the crop was not worth taking up. The same year he put some on high ground, without manure, and the crop was a magnificent one. In the latter case, however, the soil was "new land" and had never been plowed before. In general, therefore, that new soil is what potatoes want.

John Gottshall approved of using leaves as a manure, and said that ground for potatoes cannot be too much enriched.

Dr. Gerhart: "How will clear, dry leaves do?"

Mr. Gottshall said that he had tried dry leaves alone, with much success, but the results were not as good as when leaves and manure were used together.

Mr. Hill said he had read about laying potatoes right on top of the ground, with no other covering than straw.

John Gottshall said he had visited a friend in the West who owned his small farm of 35 acres in this county for $4,500, and bought a farm of 180 or 190 acres in Missouri for $3,100. He raised 1,500 bushels of wheat the first year. Mr. Gottshall during his visit observed three or four large heaps of straw, and asked what they intended to do with it. "Use it for covering potatoes," was the answer. "After we have plowed our ground," continued his friend, "we mark out the furrows, lay the potatoes in the furrow, and then cover them with straw. In the fall we pull away the straw, and we thus raise 300 to 400 bushels of potatoes."

A. D. Trexler, of Albany, recommended a thin covering for potatoes, and said that the Ohio Victor will do best in heavy soil. He believes that potatoes should be selected according to the soil. The Early Rose will not do as well in low ground as in gravel soil. Whether large or small potatoes are planted, they should be cut to obtain the best results.

John U. Kaler, of the Eleventh ward, Reading, formerly of Robeson township, talked of the experience which he had years ago in raising potatoes. He believed in cutting seed potatoes to single eyes. For some years he raised 65 pounds, and three of the potatoes weighed over a pound apiece. He bought six pounds of Early Rose potatoes, from which he raised seven bushels. He cut them to single eyes, and from one eye had 4½ pounds. From a bushel of potatoes, two years in average, he raised 37 bushels. The ground was well manured and well plowed. The soil was a sandy loam, and the potatoes were never killed up very high.

There are so many varieties now, and what will do well in one section may not succeed so well in another. He believed good stable manure to be about as good as anything ever used, and said that the looser that the ground is kept, the better. For planting purposes he prefers a potato of good size. The potatoes should be cut into 8 or 10 pieces, and be planted in rows three feet apart, the pieces being dropped at distances of 12 or 13 inches. From 5 to 10 bushels of potatoes will plant an acre.

Howard Eschelman, of Robeson, said that he believed in a thorough preparation of the soil, and good cultivation, in order to raise large crops of potatoes.

J. V. Bechtel said that it is better to plant ground late than to get it in proper condition. In a dry season drought can be overcome by mulching.

President McGowan said in regard to cultivating potatoes in a dry season, he favored working the ground from the middle of the afternoon towards morning. He is opposed to working the ground in the forenoon either for potatoes or corn, as by attending to this in the afternoon the soil will not dry out so rapidly, when the moist sub-soil is brought to the surface.

Dr. Aaron Smith, of Reading, formerly of Lower Heidelberg, said that in planting potatoes he would select a piece of ground not too clayey or too rocky. He would plow it in the fall as deep as two horses could tear it up, as the soil absorbs from the air the fertilizing principles that go to raise potatoes. If the ground is of a limestone nature, it should not be plowed when wet. In the spring he would go over the land with a spike barrier, then with a cultivator and then a roller. After he had done this, he would tear it up again with a plow. He would not plow the ground quite as deep in the spring as in the fall. He would thus obtain a loose, fertile soil that he could cultivate with pleasure. He would then furrow out his land, making the furrows about 2½ to 3 feet apart, and run cross furrows the same distance apart. At the intersection of the furrows he would plant the potatoes. He would plant the best potatoes that he could get, by having the nice ones picked out of the general crop of the previous year. He would cut the potatoes in pieces, leaving two eyes to a piece, and plant these pieces in a hill, placed in triangular shape. Barnyard manure is then put on top of each hill, serving to keep down the grass and support the potato stalks. He believed in having the potatoes deeply covered, in order that they may keep moist. If they are planted on top of the ground, the potatoes are green and consequently very unwholesome. He objected to putting potatoes two yards in line upon the same tract. He had given nearly 30 years' experience to the subject, and had produced 250 bushels to the acre, amidst the ravages of the potato beetle, while his neigh-
bors did not obtain the seed which they had planted.

Secretary Fox said that in listening to the discussion he was forcibly reminded of the rapid flight of time. It was a long time since he had engaged in the cultivation of potatoes, and yet it does not seem long. In 1807 he exhibited 47 varieties of potatoes at the Berks county fair; and the following year 62 varieties, taking the 1st premium for the largest and best display, as well as at the Lancaster county fair and the State fair. He then gave his views in regard to raising potatoes, advocating thorough tillage, keeping the ground free of weeds, and selecting large potatoes for planting purposes, cutting the same to single eyes, and not planting them too deep. A good crop can be raised from small potatoes, but to continue the practice will eventually result in the deterioration of the variety. Seed potatoes should also be changed every few years.

R. W. Scherer, of Oley, believed in putting plenty of manure on ground for potatoes, the more the better. He believed in shallow plowing for this crop, preparing the land in the fall. He runs his furrows three feet apart and plants the potatoes, the largest he can get, right in the furrow, taking care not to cover them too deep. The potatoes are dropped 12 or 15 inches apart in the row. During the summer he cultivates them well, keeping the weeds and grass down. The ground is kept as mellow as possible. He believed in changing seed potatoes, and had taken seed potatoes this year to Rockland Township and received others in exchange. He believed in cultivating the land right, and putting on plenty of lime. Potatoes cannot thus be grown too often upon the same land.

President McGowan: "What time do you plant yours?"

Mr. Scherer: "The earlier the better. I would prefer the first of March, if I could have the ground ready by that time."

John Mayer, of Robeson, said that he believed in the old Pink-eye potato, as that variety does as well in his locality as any other.

A. S. Klein, of Upper Bern, said that he preferred land for potatoes that had been plowed the first or second time. Barnyard manure is the best fertilizer. The Ohio Victor and Early Rose are the varieties which succeeded best in his neighborhood last year. Cultivation should be done in the afternoon. Manure has a tendency to retain moisture, and the same result is obtained by planting potatoes in new land.

John C. Hepler, Superintendent of the Charles Evans' cemetery, said that he had tried nearly all the different kinds of potatoes. His ground has a clay sub-soil, and he plows it in the spring, harrows it and runs deep furrows. The potatoes are dropped in the furrows about twelve inches apart; he never plants any smaller than a bailed half, and selects those of medium size to large. After running through with a spike harrow, and then three or four times with a cultivator, he plows the potatoes in, and stands. He has had some remarkably heavy crops. He related the following curious incident: He planted a number of rows 250 feet in length, twelve of which ran north and south, and twelve others east and west. They received the same attention, but while the vines in the rows running north and south were full of potatoes, those running east and west produced barely five bushels more than had been planted. There was no difference in the appearance of the vines. He also said that in planting he puts out his late potatoes at the same time that he plants his Early Rose. He had planted them later, and about the time that they wanted rain, the dry season came on, and they were a failure. He recommended the St. Patrick for late crop and Early Rose for the first crop.

William Kupp, of Union, said that the Early Rose and Peerless are preferred in his locality. Potatoes did not do well last year, owing to the dry weather having caught them. He had raised a good crop of potatoes for four years in the same place.

The Secretary reported a uniform product of 40 to 50 bushels from one-eighth of an acre every season for seven years in succession, but the ground had been heavily manured, and a compost of saw dust, decayed bark and leaves, well mixed together, had been liberally applied. Potatoes exhaust the soil largely of potash, and it should be replaced for several years in succession if care is taken to return to the soil the same elements that are taken away, just as is done by the tobacco growers of Lancaster county, who have raised "the weed" successfully for a number of years on the same piece of land.

Capt. W. G. Moore, of Womelsdorf, said that he was glad to see so many practical farmers present, and that they had taken such an interest in the discussion. He had noticed this in his experience, that different varieties of potatoes are adapted to different soils. Hence, wide-awake farmers will continue to grow new varieties. He had planted potatoes in soil and raised good crops.

A. J. Brunklach, of Exeter, was called upon, and said that while he had tried a good many varieties, and had also raised in his time a good many small potatoes, his experience was not different from that of other gentlemen who had occupied the floor.

Owing to the lateness of the hour the subject was then dropped, and after selecting a question for discussion at the next meeting, the society adjourned.

**FARM NOTES.**

**Enemies of the Currants.**

There are two—the Worm and the Borer. The first, which has latterly become very prevalent and destructive in denuding the bushes of their leaves, makes its attack soon after the leaves are of full size. The insect begins its work by laying the eggs soon after the leaves appear. The best remedy as we have for two or three years recommended, is the white hellebore in the powdered state which should be dissolved in hot water, a teaspoonful of the powder to an ordinary bucket of water and applied with a sprinker. Some sift the powder over the bushes in the morning when the dew is upon them, but the dust is liable to be inhaled, and if it is, it produces distressing sneezing. A second application may be necessary.

The borer is a different insect, and works in the stem, passing through the pith from bottom to top. The moths appear early in June; the eggs soon hatch, and the worm at once borrows through the wood to the centre, feeding as it progresses upon the pith. Its presence in the stem may be known by the yellowish appearance of the leaves. The best remedy is to sprinkle the bushes as soon as the moth makes its advent, with white oil, soap and water, about a pound of the soap to four or five gallons of water, repeating it once or twice.

The currant worm does its work rapidly in consuming the leaves, and they must be attacked the moment they show themselves. A single day's operation, unchecked, will play havoc. A plentiful supply of coal ashes, sieved, may also dislodge them. They multiply rapidly, and when not all disposed of, enough may remain to do much damage.

**Diseases Among Livestock.**

Like in the human race, epidemics among live stock are frequent and destructive. They come nobody knows how or whence; and pass away nobody can tell why. History records so many of these, and we all remember enough of them, that it is useless to dilate upon them. This being so, it is hardly to be expected that beasts will escape similar visitations. Yet some people seem to expect this, for when an epidemic breaks out among the beasts of the field it produces about as much commotion in a community as the prevalence of cholera among bipeds. Every sort of resource is had to counteract it. County conventions are held; Legislatures appoint commissioners to investigate the disputer and find out a remedy or a preventative; impracticable laws are demanded, and the whole agricultural community effervescences as to what is to be done for their safety. Suddenly the epidemic vanishes; the discussion as to the causes which produced it, filling newspapers and periodicals with a mass of speculation which not one person in a hundred ever reads, as unimportant themes to the end. All seem to be willing to lay by guzzles by bygones and drop, omen con., the all absorbing question.

In the common course of things we must expect to be visited by these epidemics. Horses, cattle, sheep and swine, according to their nature, will get sick and die, entailing a loss which all who own beasts must submit to. And when an epidemic assails them, it is useless to discuss whether it came from abroad or is indigenous, or where it originally appeared. The first consideration should be to study its diagnosis and apply a remedy. It must be remembered that there are losses and misfortunes in every business. Unfortuaneous circumstances cannot at all times be avoided or controlled.

**Field Mulching.**

Though this heading may look rather formidable it is really as simple as possible in carrying out. It is not a new suggestion now made for the first time in these columns, for it has been referred to repeatedly as a matter that is deserving of more attention than it generally receives. Even when first mentioned here it was not an original idea, inasmuch as our attention was called to it while visiting one of the best conducted farms in a neighboring county. It is this: In removing the hay from the field, that portion
THE LANCASTER FARMER.

PARK AND GARDEN.

We find in the April number of the Agricultural Review an elaborate essay on free trade, written by a gentleman who hails from the State of Iowa, and who seems to labor under the delusion that the principal markets for the products of western agriculture is to be found in Europe, and this in face of the fact that our exports of cereals amount to less than ten per cent., while the home consumption is fully ninety per cent! In the course of his labored effort to prove this, he asserts and assumes as a fact that the Eastern States, meaning thereby the New England and Middle States, are very nearly self-sustaining with regard to food. Now, any such statement as this is simply based on ignorance. The State of New York is not only not self-sustaining but depends upon the West for fully four-fifths of her breadstuffs, and more than half of the meat she consumes, while the case of New England is still stronger. Here, in Pennsylvania, we do, it is true, make a much better show than this, but our case is gradually becoming assimilated to that of New York, for the simple and obvious reason that the Western competition against us is absolutely overwhelming.

Tomato and Egg-Plants.

While tomato plants can be set out any time now, if they are protected at nights and whenever there is a frost. The eggplant should not be set out before the last week in May, and then should be protected during cool nights. They are one of the most difficult vegetables to grow, and require at all times particular care and attention. The space occupied by the roots being very small, they require the richest soil and heavy manuring from the barnyard. Both plants should be well mulched. To afford them certain protection, prepare boxes of rough half-inch boards, about ten inches wide at bottom and five or six inches at top, from twelve to fifteen inches high, made of four pieces, and open at top, as there need be no fear of the frost disturbing the plants through this aperture. With care in stowing them away in the dry when not needed, they will last fifteen to twenty years, and are a sure protection for any tender plants.

Clear Up and Cleanse Your Premises.

The warm weather is here, and it behooves every citizen to cleanse his premises of all offensive matter in order that they may become perfectly clean and healthy. There is no doubt at all that a great deal of the sickness visiting families proceeds from filthy cellars, sinks, yards, outhouses, styes, etc. These things are neglected by many as are other duties from pure thoughtlessness, while others never dream of paying any attention to them, not thinking it worth while. There are several remedies for this bad, unhealthy condition of things that can be easily applied. The first is to put one pint of the liquor of chloride of lime in one bucketful of water, and one pound of chloride of lime in another bucketful of water, and sprinkle over decayed vegetable matter. For this purpose washing surpasses it; indeed, it is a perfect delusion. The next is to take four pounds of sulphate of iron or copperas and dissolve it in a bucketful of water. This will in most cases prove a sure remedy in destroying all offensive odors. The third is to take simple chloride of lime and sprinkler in damp cellars, outside heaps of dirty yards, &c. Before this, however, is done, let there be a general cleaning up, removal of everything offensive or nasty, to a place whence no harm can arise. These chemicals can be purchased at the druggist, and as prices go are not dear.

The labor of cleansing one’s premises by cold. Some of these remedies is trifling, and the expense is not worth mentioning. If it were ten times greater, both the labor and expense should be willingly incurred. But perhaps the best procedure is to cleanse your cellars, yards, outhouses, styes, &c., systematically. Especially should the cellars, sinks, and everything about the house be kept free of all offensiveness at all times. Cellars should be thoroughly cleaned out twice a year and whitewashed once. Sinks about kitchens should be particularly attended to by once a week pouring into the pipes a quantity of boiling water. Privies can be rendered completely inscrutable by the application of fresh earth from time to time.

Protect the Partridges.

There was a meeting of horticulturists held some time since in the West, at which the question of preserving partridges upon our farms and in our gardens to destroy insects and vearmin generally was presented and facts given to show that they are very destructive during the growing seasons of the enemies of our plants, flowers, fruits and grain. One speaker said that in view of these services the partridge ought to be protected against the hunter, and the farmers and his boys as well; that no bird is more harmless and none more useful; that to shoot or to trap it for stewing, broiling or making potpies, was very much to be deplored and should be prevented if possible; and that it was the only bird that remained with us through the winter, after being deserted by all others. But this is easier said than done. Human nature, we are a little apprehensive, will need a triune of change and educating before this partridge millennium arrives.

To show, however, how useful this beautiful and harmless domestic bird is, it was at one time possible that a flock of partridges were seen running along the rows of corn just sprouting, and seeing them engaged at something which was believed to be pulling up the young plants, one of them was killed and its "crop" examined, which was found to contain one cutworm, 21 striped bugs, and over
THE LANCASTER FARMER

OUR LOCAL ORGANIZATIONS.

THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular monthly meeting of the Lancaster County Agricultural Society was held on Monday afternoon, May 7, 1883.

The following members and visitors were present: J. M. Johnston, C. A. Reist, E. S. Hoover, Brinton, S. E. Fehr, Ephrata; Levi S. Reist, Manheim; Harry G. Rush, West Willow; Calvin Cooper, Bird-in-Hand; M. D. Kendig, Creswell; E. S. Hoover, Manheim; C. L. Hunsicker, Manheim; Johnson Miller, Warwick; J. H. Moore, West Hempfield.

In the absence of the regular Secretary, M. D. Kendig was temporarily elected to fill his place.

The minutes of the Secretary not being present, they could not be read.

On motion, William Bones, of Safe Harbor, was elected a member of the society.

Calvin Cooper, as one of a committee named to inquire into the expediency of holding a fair, reported that the committee had agreed it would not be advisable to do so in case the State Agricultural Society held its annual fair here. Since then he has learned the State Society will hold its fair in Philadelphia. Mr. Cooper also stated that he had since spoken to the owner of the Park grounds, Mr. McGraw, who offered to give the grounds to the Society at a very moderate price. Several parties from Ohio have expressed a desire to exhibit, but the home Society has the preference.

On motion, the report of the committee was accepted and the committee discharged from the further consideration of the subject.

On motion of Calvin Cooper for a special meeting of the society will be called by the Secretary on next Monday at 2 o’clock sharp, for the special purpose of debating whether a fair shall be held. All the active members of the Society are requested to be present.

Crop Reports.

L. S. Reist, of Manheim, reported the prospect for next very good. Grass was never better at this season. Wheat is about as good at last year; the outlook is promising.

Calvin Cooper enabled all Mr. Reist said. He never saw anything more profitable.

Lemuel S. Fry has seen a good deal of the north-eastern section and has never seen the grass better. Wheat is very even and almost uniformly good. The fruit prospect is very fine. Some peach trees in the neighborhood of Ephrata have died without ostensible cause. The late frosts have done no harm.

The dying of them was stated to be the result of the cold weather of two years ago.

The President stated grass to be very good. The wheat quite as good as last year. Some of the early strawberry blossoms are frozen. Corn is planted only in small part. The prudence of a fine fruit and grain season at the present time is excellent.

M. D. Kendig reported there is still 30 per cent. of last year’s tobacco crop uned. Fear has destroyed some plant beds. The plants are not large, but well set. There are still many fat cattle standing in the farmers’ stalls uned. Farmers do not know the prices. The rain fall for April was 2.15 inches.

E. S. Hoover also said the tobacco fields were in the tobacco beds. Some of the fruit trees are not blooming as freely as sometimes, but all in all the promise of good crops, both of fruit and grain, is very good.

Is There a Feasible Way to Avoid Boarding Farm Hands?

Calvin Cooper believed every laboring man will be the better by boarding with his own family. Farmers should provide themselves with the help with houses. They should give him ground to grow the vegetables he requires. Sell him ground if he wants to buy it. This will make men better citizens and better employees. Such men as have homes he has found to be the best laborers. It is as easy to board at their own homes as with the farmers.

Mr. Kendig said that the trouble was with the single hands. Where shall they board? Then, too, when a man lives at a distance from his work, that would be an inconvenience. He preferred to have the day laborers get the table with him, so that time is lost. Mr. Cooper’s views are better in theory than in practice.

Lem. S. Fry agreed with Mr. Cooper in his principal reasoning. Permanent help can be boarded at home, but when the laborers live a mile or two away, it is possible that they may lose some portion of work? For this reason it does not seem feasible at all times to have help board at their own homes.

Mr. Cooper’s plan is feasible in certain cases, and always desirable.

The President held it was desirable that farm hands should board themselves, but somewhat inconvenient. The farmer can board a man more cheaply than he can board himself. Tenants are not so profitable as outside help; that at least has been his experience. He believed Mr. Cooper’s plan would be the solution of a good many farm labor problems, but it would hardly prove profitable to farmers.

E. S. Hoover thought much was to be said on both sides of this question. If permanent labor can be secured for the entire year, it is desirable that it should be. If the man lives on the farmer’s premises, he has more of the interest in the farming welfare. He is also more apt to be steady in his devotion to duty. Single men are more apt to be careless and unreliable. Expenses are apt to be higher in the case of a man who lives in the tenant house. The farmer can get his board for a little cheaper when he has no tenant laborers.

It was stated that a farmer can board his farm hands at an average of about thirty cents per day. It was also said he could be hired at $1.10, when they were boarded, and at from $1.25 to $1.40 when they boarded themselves.

Miscellaneous.

The question referred to Mr. Paxson several meetings ago was, in the absence of that gentleman, again continued.

C. L. Hunsicker read a short essay on profits in farming, quoting the money made out of special crops. Trucking, peanut growing, apple farming, peach raising and a number of other special pursuits were instanced and the profits stated, to prove that a great deal of money can be made out of careful and methodical culture and cultivation. He asked also why this society dragged along in such a half-hearted way. In a herkis county, a county in most particular helter behind us, they own, we have a most flourishing agricultural society. What can be done to improve this state of affairs?

The chairman, on a suggestion, nominated Messrs. Cooper, Hoover and Miller a committee to prepare a restatement of the society.

Some very fine seed corn was exhibited from the farm of Mr. S. S. Spencer. The grains were fully an

such long and some even longer. It suggests very large yields.

Questions for Discussion.

What is the best means of conveying water from wells for house, barn and irrigating purposes? Referred to D. E. Kendig.

What agricultural product is the most remunerative? Referred to H. M. Engle.

Is the cord binder adapted to the wants of the Lancaster county farms? Referred to J. C. Linnville.

On motion, the society adjourned.

THE POULTRY ASSOCIATION.

In the absence of the president the regular meeting of the Lancaster Poultry Association was called to order by Jacob B. Long.


The minutes of the preceding meeting were read and approved.

The secretary reported that an application for a charter for the association had been applied for and held under advisement by the Court.

The by-laws of the association were read and adopted by sections.

Mr. Long reported that sixty-three shares of stock have been subscribed for, and fifty-one shares paid. Premiums paid amounted to $104.50; out of a total amount of $142.50; bills to the amount of $130.09 had also been paid; leaving premiums to the amount of $8.50, and bills aggregating $74.50, unpaid.

The President of the State Association who had subscribed for stock and not paid for the same, were requested to pay for their stock by next meeting.

John E. Denlinger and H. M. Stauffer, of Barreville, were elected to membership in the society.

Adjourned.

OCTORARO FARMERS.

The April meeting of the Octoraro Farmers’ Club was held at the residence of Wm. Jackson on April 21st. The following members were in attendance: William Wood, Theodore Whitson, Alston Baker, Daniel Webster, Thomas Baker, Samuel Whitson, J. C. Brosius, Alfred Brinton, William Jackson, Ephrata; William Cooper and H. B. Brinton. Visitors: George Walter, Levi Scarlet, Dr. Fowaltl and Iven Gilbert. The minutes of the previous meeting were read and adopted. Farm specimens were called for. William Jackson exhibited some seed corn and a basket of very fine Pealess potatoes, and Levi Scarlet some of the famous Mammoth Pearl and Beauty of Hebron varieties.

AFTERNOON SESSION.

After partaking of dinner the stock and biddings were inspected, and things were found generally in good repair. The stock consisted mainly of dairv cows, and among them were some very good ones. Upon returning to the house, George Walter, who formerly owned the place, gave his experience from the result of liming for the past twenty-five years. Having cleared a large portion of the place himself, it has since frequently had liberal applications of lime, except a portion of one or two acres that has never, within his recollection, had any lime whatever, it having been left without lime as an experiment. The land was all treated alike, with the exception of liming. The result is that today no perceptible difference can be seen in any of the crops, on those limed, as well as on those limed, and this, by him, he assures us that many hundreds of dollars were wasted, and labor in proportion on the erroneous idea that lime was beneficial to the farmer in the way of increasing his crops and making the soil more fertile. He thinks the idea originated from the fact that those who generally made a practice of using lime on their land were mostly careful farmers, who cultivated their crops thoroughly and made considerable barn-
yard manner, applying it in a manner that secured good results, thus enabling many to credit the good crops more to liming than to their otherwise good farming. Some remarks having been made on the wheat field of the host, one-half being much better than the rest, he explained the difference to be caused by drilling furiously the night before that part of the ground where he had broadcast the rest on the rest it was soon broadcast preparations to drilling—the result, so far, having been much in favor of cultivating the wheat. Members of the club made their reports for the past year, giving the number of acres in corn, as follows:

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Yield Items of Note were the profits from the dairy of one who averages $270 per month. This included buttermilk, milk, and various products from the milk. Another heaven Sends was that a yield of five hundred bushels of salable potatoes, raised on one and a half acres of ground, sold at an average of sixty-five cents per bushel. The host read a practical essay on the construction of plows and plowing, recommending in the conclusion that each man plant a few of the new kinds of plows, and give them another trial, which is now so common use, as to give the ploughman greater power in steadying the plow and being able to guide the depth and width of the furrow with greater ease, discontemnuing the use of the jack on the ground that it throws the surface too much, and tends to make the plows of old work instead of turning it on its edge, as the plows did, being a lesson to the gathering invitation. Two instances were cited of a perceptible difference in wheat where the ground was ploughed, using the jointer for part of the field, the wheat being best where it was not used.

A Discussion. Anna Baker read a selection entitled "The Teacher's Dream," after which the question discussed was, "Is it advisable for farmers to engage in the cultivation of special crops, such as tobacco, potatoes, etc.?" It was thought best not to discard any regular crop and to keep them too much time and labor to any other crop, owing to the bailing of failure and sometimes poor market for farm products, which happen with all at times. A safer plan was to have variety; then, in the case of the failure of one, there would be others in reserve that could be depended on. As well as a means of saving, the same farmer will pay farmers to procure combined reapers and binders for their own use the coming harvest. A few encouraged it, to those having a large acreage of wheat to harvest, in view of the difficulties of procuring good harvest. On the other hand, it was thought advisable to have the material ready for making as soon as possible, but most objected to them, owing to their cost, the amount of room they require for shelter the greater part of the year, being impracticable for harvesting.

Baking was also a question, that which would be best. The following page was received and distributed by the corresponding secretary: Agricultural Department report "The Graffe, its origin, progress and educational purposes;" report upon the number and value of farm animals, etc.; "Climate, soil and agricultural capabilities of South Carolina and Georgia;" report on the distribution and consumption of corn and wheat, and the rates of transportation of farm products; comprehensive of the tenth census of the United States, in two volumes. Admitted to meet at Theodore Wildfleld's at the usual time in May.

Agricultrue. The TuCQuan club a social and scientific organization, which has been in existence for several years, recently resolved to hold annual banquets. The first was given Friday evening, April 30, and was a good success in every respect. The club consists of twenty-six members all of whose names were given, (except two who are absent by reason of ill health). The supper was served in Mr. Wise's best style, the viands being choice and wines generous. Toasts and speeches, witty sayings and interesting anecdotes kept the company in good humor until midnight, when the party broke up.

Following is the roll of the TuCQuaners:


Dr. Ewing in Chester County, was present as an invited guest.

Linnaean Society. The Linnaean Society met on Saturday, April 28th, at 2 P.M. in their Museum-rooms, in Y. M. C. A. building, the President, J. P. Wickersham, in the chair, and seven members in attendance. The minutes of the previous meeting were read and approved, and dues collected.

The donation to the museum consisted of about fifty specimens of good, silver, lead, iron bearing minerals from the Eureka mines in Nevada, and also a small box of gold bearing sand from the same locality, donated by Mrs. L. V. Rawlins, formerly of the city of Calumet, Michigan. Also, a donation to the museum of a collection of the five bled Enthusiasm and the terrines of a known animal, all nicely prepared. Specimen of Cordylides Flavilis, Rof., found in Lancaster county, and Aromanis Potam, var. 'Nuttalians, 'Zea, donated by Prof. J. B. Stahl. Dr. S. K. Baker donated a species of Aromanis Potam, and a preparation which is being used instead of wood in buildings. It can be sawed and planed like ordinary wood.


Dr. S. S. Rathvon read a highly interesting and valuable paper on "Carcass is an Insect?" This paper was ordered to be published. The committee appointed to revise the by-laws reported progress, and on motion were continued to next meeting. The thanks of the society were, on motion, tendered to the donors to both museum and library. The president then made a few remarks in reference to an address on Objects of the Society, and said that he would be prepared to deliver one some time during the fall. After a chat on various scientific subjects the society adjourned to meet on Saturday, May 30, 1883, at 2 P.M. in Museum.

Potato Growing. If a potato is planted very shallow, or if the soil gets washed off so that there is little space between the planted potato and the surface of the ground, it will be seen that the new tubers may have little or no soil to protect them from the strong sunlight in which case they also will take on the green color of the stalks and leaves, and become worthless for table use. A good potato must be grown beneath the surface; and it is entirely contrary to its nature to form below the level of the bud from which it starts. Roots incline to extend downwards into the soil as well as horizontally, but the underground structure of the potato, having its terminal bud into the ecenter, starch poor, do not work downward to any considerable degree. The lesson to be learned from this fact is, that we desire a crop of good eatable potatoes we must by deep planting or "hilling up," (by mounding) give the new tubers plenty of room to form and to grow under the surface, and the hills must be broad enough to contain the potatoes without danger from exposure of the ends through the sides of the hill.

The Supremacy of Grass. The great arable crop of the country is maize, worth three-fourths of a billion last year, but the valuable crop which was most considerable, that portion which is cured for winter use is small compared with what is gathered by the farm animals themselves, in summer, and in every season of the rolling year. It is not the grass farm in England that fails to rent, but the arable rain and turf lands on which the crop of competition falls lowest and hardest. Illinois has mainly gone to grass, except about a fourth of the area given up to corn, and prosperous in proportion to the extent of verdure. Iowa is fast following the example, and is reaping the reward of the American laborer." The Ohio, Illinois and Southwestern and Southern Minnesota are rapidly extending mowing and pastureage, and enlarging flocks and herds, and establishing butter and cheese factories. The South is beginning to think better of grass: there is a field for enterprise in dairying and meat production of the Agriculturalian plateaus and slopes which will one day make the fortunes of multitudes. Land can be had at nominal rates, capable of growing clover and orchard grass, in a climate healthful and comfortable as any in the United States, where a near market for them to find to high prices until competition should equalize the superior advantage.

A Good Way to Cultivate a Small Patch of Potatoes. Last Spring I planted some early Ohio and Magnum Bonum potatoes, covering them from four to six inches with soil. When the weeds began to sprout I took a garden rake and raked over every hill, taking out six inches or more of the covering. This operation killed the young weeds coming up in the hills. I then took my shovel bow, cultivating the patch as if the potatoes had been up, (the raking enabling me to see where the hills were.) As soon as the potatoes were up so as to show the tops, I took two tubers from the hills and planted them every week until the potatoes were on the eve of putting forth buds, when, with a good hoeing (hilling but a little) I laid them by.

And now for the result: I never had as little trouble with weeds, because they didn't get a chance to get a "foothold," which I never walked over to give a
crop of nice early potatoes. Taking the
thirty growth my potatoes made I treated my
late potatoes in the same way, and the result was
equally satisfactory.

Tobacco Prevents Scale.
A correspondent of the New York World says:
"I do not pretend to say what causes scabby potatoes,
but some of my neighbors though for the effec-
tiveness of refuse tobacco as a remedy. Their
plan is to cut up the refuse stems and stalks of tobacco
quite fine in an ordinary straw cutter and apply
the same as a top dressing on potatoes at the
planting. This simple remedy appears to have done good by destroying the grubs of parasites, or
whatever is the cause of the scale. It also acts as
a good fertilizer."

A New Cereal.
An exchange says: A new cereal has been intro-
duced by a gentleman of South Carolina, a descrip-
tion of which may interest our readers. Milloza
is a native of the Southern hemisphere, being found
in large quantities in Columbia, where it is used as a
common food of the working people and the grain is
disturbed to working animals. In food qualities it is
eated to be superior to wheat, and experiments show that
fifty to one hundred bushels of clean seed can be
raised to the acre. Rev. R. H. Pratt, formerly a
missionary in South America, the gentleman who intro-
duced it, says potatoes have grown very successfully
for some years in South Carolina, says the milloza
is allied to the sorghum and Guinea corn families,
and should not be planted where there is any
danger of mixing them. The grain is small, and
more erect than the Guinea corn families,
heads are larger and more compact, and the color is
milky white instead of red. It differs from sor-
ghum in this, that the sugar it contains is fully
converted into corn when the grain matures—so that
the pith of the grain stalks becomes as dry and taste-
less as that of Indian corn when the stalk is dead.

In Barranquilla, on the coast, where we have a dry
season (which is really a drought) of five or six
months' duration, we have grown it in our garden,
and after it had ripened one crop of seed I
have cut it down to the roots in the midst of this dry
season and have had a second crop, of inferior quality,
of course, that shoot up at once from the roots. I
have been told that a third crop of fully ripened seed can
thus be obtained from a single plant. I do not
know what this can imply (for the soil at this season gets
as dry as a potsherd, and nearly as hard) unless it
means that, after most other plants, this lives off the
atmosphere which there, certainly, is densely
charged with moisture from the sea. It was this
capacity for standing drought which induced me
to bring the seed home, in the belief that it would
be of inestimable service to our Southern States,
where our crop so often fails from drought.

HORTICULTURE.

Strawberries
Any good corn land will raise good strawberries,
provided you use well rotted manure and keep the
plants well mulched with leaves or straw. Set
plants in rows, two feet apart, and twenty inches in
the row. They should be set out as early in the
spring as possible in order to give the plants a
good start as soon as the weather permits. They
should not be allowed to bear the first year.

Currants.
Cuttings from the best varieties should be set out
this month in rows two and one-half feet apart,
and five inches in the row. In two years they will com-
mence bearing. Every farmer should have a large
supply of currant bushes, for, with proper cultiva-
tion, they will yield large quantities of fruit that
can be marketed in even the small towns, as very few
towns are fully supplied at the present. As soon as
the bushes are large enough to bear, mulch with
coal ashes; it will keep the weeds down, and keep
the ground cool and moist.

Grapes.
Set out vines on high land where they can have
a plenty of sun, and get out of the reach of early frosts.
Do not use stable manure as such earth will bring the
leaves and fruit down to the ground. Cuttings may now
be set out for next season's planting; leave one bud
above the ground, and press the earth firmly around
the cuttings. The Concord is the best variety for
general cultivation.

Raspberries and Blackberries
Should be set out as soon as the ground is dry.
The last two years' crop of berries in New England was
very poor, and it will pay the farmer to raise a large
quantity for market during the next few years. Set
himself to work this summer as for passing along the
fertilizer. Apply heavy mulch to last year's
growth and tie up to stakes—Farmers Companion.

Grafting old Trees.
In selecting old apple and pear trees for the pur-
puse of grafting, care should be exercised to take only
those that refuse their foliage late in the autumn.
This will insure the growing of the graft sufficiently
long to firmly establish it and cause it to remain
unaffected through the winter. In every instance that
we have tried to raise fruit grafts on old trees which
shed their leaves early, we have failed. They would
grow for a few years, bear a few specimens and then
die.

In grafting old trees, provided each inch in diameter
may be used. But such bunches only should be
selected as have a smooth bark. Say it at an angle
so that all moisture will run off; split the bark down
an inch and a half; sharpens the graft from one side
only; let the slant be the full length of the side of
the bark; raise the bark carefully and set the graft
with the cut side next to the wood; then tie up with
a cotton string and wax so that neither air nor water
can penetrate. The wounding should be examined in
a few weeks to supply any defects, etc. Let an inch
or two of bark remain, unjoined, between the grafts
as they interlock to the trunk. When the stem is
not over two inches in diameter, four grafts can be
set by splitting down the stem the usual way twice.
If all grow, and are two many, cut out the two least
promising ones. With care, every apple or pear
graft ought to grow, and never less than nine out of ten.

An Immense Peach Crop Promised.
At no time since the Delaware and Maryland pen-
sinsulas has been a fruit-growing section has the pros-
pect for the peach crop been better than now. The
buds are just bursting into pink blossoms, and there
is now little or no danger from frost. Competent
judges who have been visiting the orchards say that
there will be a million bushels more shipped this
year than last. This will be the largest yield ever
known, with the single exception of the phenomenal
crop of 1857, when so many people shipped the
fruit as they picked it, the markets were glutted for seven weeks.
The growers will probably adopt the suggestion of the
Philadelphia Produce Exchange—to sell the
baskets with the fruit, and thus avoid the vexation
necessary of the return of "empties."

A Good Weeder.
Get your blacksmith to cut out a piece of plow
steel three inches wide and six inches long for
the blade. By drilling two holes in the center he can
fasten on the shank for the handle, which should be
forked and provided with a socket for the insertion
of the handle, and should be set at an angle of
the five degrees to the blade. The two
long edges should be drawn thin and sharpened.
You have now one of the most effective weeding hoes
ever invented, and it is not patented. It has a double
edge, and can be worked equally well by
pulling or pushing. Put it along the edge of your
potatoes and you will save a great deal of time.
**THE LANCASTER FARMER**

**Chicken Fritters.**—Cut cold roasted or boiled chicken in small pieces, and place in an earthen dish. Season well with salt, pepper, and the juice of a fresh lemon. Let the meat stand one hour or more: then make a flour batter, and drop the meat into it. Drop by the spoonful, into boiling fat, and fry till a light brown. Drain and serve immediately. Any kind of cold meat, if tender, can be used in this way.

**Stuffed Potatoes.**—After the potatoes are well washed, bake them until soft. Cut a piece from the top of each potato and drop out the soft pulp with a spoon, taking care not to break the skin. Mash the pulp well through a colander, season with salt and mix with plenty of butter. Return the mixture to the cases and brown the tips with a salamander or red hot shovel.

**Indian Pudding.**—Take four eggs, and the weight of two-thirds of a pound of brown sugar and a quart of a pound of butter, and the juice and grated rind of one lemon. Beat the sugar and butter together till light, then break the eggs in the dish with them and beat briskly; then stir in the meal. Bake in a quick oven; serve in saucers, and pour over it some thin jelly or jam, or fruit sauce.

**Water Wyne’s Pudding.**—Quarter of a pound of raisins stoned and opened and laid round a basin or mold, half a pound of sugar, and a quarter of a pound of butter, and the juice and grated rind of one lemon. Beat the sugar and butter together till light, then break the eggs in the dish with them and beat briskly; then stir in the meal. Bake in a quick oven; serve in saucers, and pour over it some thin jelly or jam, or fruit sauce.

**Care of Goslings.**—After the first few days regime of copped eggs and nettles, young goslings may be given a mixture of potatoes, meal, and green vegetables cut up very finely, the nettle, however, suits them better than any other green food, as the juice of that plant seems especially favorable to their digestion, which is so rapid that young geese must be fed five or six times a day. With them, as with all other young animals, it is necessary to give abundant nourishment from the very first. Later on they will eat best root either raw or cooked, and most kinds of green vegetables, as well as any sort of grain, and are especially fond of fruit. The Toulouse goose has a rather inconvenient habit of sucking her own pro- vender, and if she has any chance of doing so, will dig up and consume any number of crowses and other bulbs. It is not, however, to be supposed that they will be permitted in the garden; but the writer has once suffered more than one of these marauders, thinks proper to warn others against a like misadventure.

**Growing Stock.**

**Raising Calves.**—If I wish to raise a calf dropped in winter I let it lie with the cow one or two days and let it suck as much and as often as it pleases, unless the cow’s udder is caked. I then milk all I can before the calf sucks. After the first two days I take the calf away and let it go to its mother only twice a day until a week or ten days old, then let him go without one feed. When the milk is dry, then put my fingers in the warm milk and put them in a glass in the same time bearing his nose down into the warm milk in the pale, and so soon as he begins sucking well stop the fingers from the mouth and let the calf drink, if he will, a few swallows; if not, repeat the operation two or three times until he has a good taste at the milk; then leave him until the next feeding time, and then try him in the same way, and if he will not drink let him go until he will. Few will go beyond the third time trying. I seldom have one which will not drink some the second time. When they get so they will drink it, it is a good plan not to give a full mess for two or three days, but let them be rather hungry at each time of feeding until they get the habit of drinking. Then once the habit is once done, place a trough or dish with some meal in it in such a situation that they cannot turn it over. Nip it up against the side of the stall or peau in which the calf is kept, but convenient to get at, and let him eat this as well as the milk. Place a little hay so he can get it; either rowen or early cut herbed grass is best. The best meal for a young calf is a mixture of oats and corn, ground in the cob, two bushels of the former to one of the latter. At weeks skimmed milk, slightly warmed, may be substituted for water. Should the calf not be allowed to stand until it gets very sure. After eight weeks they may be fed and will do well, if given a fair allowance of meal, upon milk that is ever so old and sour.

**N. H. Mirrors.**

**Competition Against American Cattle.**

No little anxiety has been felt regarding the enterprise shown by English subjects in stock breeding and improving the cattle of distant English colonies, being made by foreign capital in opium territories. The following is the capital, for the purpose of bringing frozen meat from the distant colonies to English markets naturally gave rise to the belief that meats would be cheapened—reduced even below what it could be produced for, profitably, on our cheap western lands. That the British in their present condition, or British subjects, open no avenue to the cheapening of meats to English consumers, for the English colo- nist is after the same honest penny of the consumer that the western ranch man is striving to obtain. The man who has his cattle under the best conditions as to climate, etc., has access to the best feed and water, and is nearest to the consumer, will most easily and surely get the penny.

**The problem of meat shipment is yet in its infancy; but no matter what mode eventually proves to be the best for shipment, it seems certain that point of production nearest to the consumer, all other things being equal, will have an advantage that no influence can efface, nor time alter.**

That British capitalists are aware of this fact, we have ample evidence, seen in the large investments which are being made in this emergency. The growing of meat for sale in a country whose climate is favorable to a free consumption of meat, must naturally be more profitable than where the opposite fact holds.—National Live Stock Journal.

**Growing Market Lamb.**

In growing market lambs, says the National Live Stock Journal, the feeder should remember that the lamb must be sustained on the food eaten by its dam, and she must eat enough for two. This consideration shows that her food must be liberal and of good quality. The lamb should increase in weight at least one-half pound per day if growing for market, and this alone requires a fair ration to produce, and therefore the feeder must deal with ewes suckling lambs with a liberal hand. The ewe must provide a profitable fleece besides growing her lamb and keeping up her own flesh. We have produced most satisfactory results in feeding sucking ewes upon the following combined ration: Ten bushels of wheat, six bushels of barley, two bushels of oats, all ground together is fine meal, and then mixed, and the time of feeding, with one-half wheat middlings. Each ewe had of this one and one-half pounds per day, with about the same weight of one- half cut hay. This was all eaten clean. But the hay is cutting; and I am convinced against what I have said, that in case the ewe should have two pounds of such a ground ration on straw, and if the straw is cut short all the better. A good shelter is supposed in this case, else such growth in lambs as we have in the interior of this country, is not to be had, and perhaps on any ration, in cold weather. This small amount of fastness has a remarkable effect in modi- fying the heating quality of corn. It keeps the bowels in a healthy active condition and prevents all danger of gorging in the ewe.

**Carpet in Oregon.**

Recently 1,500 young carp, sent out by Professor Baird, were received. There were forty-eight applicants from this State for them. They are three inches in length, and will be in very good condition after their long trip. As a desirable addi- tion to our splendid supply of fish, they have not a very high reputation in this State. The following clipping, taken from the Oregonian, echoes the general opinion among fish growers: The young carp sent out here from the Fish Commission last summer and distributed and reports have been received of many lots reaching their destination in safety. Mr. W. S. Ladd, yesterday, placed a number of them in a pond on his property on the East Side. Captain Harlow, at Trousdale, on the Sandy, has had them stocked with good success for several years, and now has thousands of young fish to dispose of. He feels aggrieved that after all his expenditure and trouble the Government should send fish here to give away. The carp is no doubt a fast growing and long-lived fish, and is well adapted for stocking along with sturgeon pouds, and may be good enough eating to one raised on Mississippi catfish or Georgia rock- heads, but to those who have been accustom to the Oregon trout and Columbia river salmon, these garbage eating consists of suckers can never be accepted. The best method of rearing fish to the carp, are caught by Cinamen every week in the river here, and sold in the Chinese quarter, where they are readily purchased. No white man ever thinks of eating them.—American Field.
much whole corn and sprigs as they will eat. Always keep broken oyster shells and dry ashes or gravel where the chickens can get to them. For green food give anything you may have, such as cabbages, turnips cut up fine, or anything of this kind. Turnips and onions are very wholesome if cut up small and fed at the morning feeding. Feeds are excellent. If you add these you do not require so much meal. Give the mash in the morning as hot as they can eat it, unless you can put your finger into it without pain, you need not give it to them. You may give them fish meal at any time, such as is left from the table bits of meat, potatoes, all kinds of vegetables—in fact almost anything which is cooked for human beings, is good for chickens.

Chickens must not be fed over; if they are, they will not produce many eggs. The best rule to follow in feeding is: Never give too much, or they will eat up clean, without stopping to go away and come back. Chickens fed in this manner and kept in a dry place (not too close; better white than closed up so that there is not free circulation of air) will give you eggs from the first of December straight through the winter, and nearly all summer.

Lettuce for Young Chicks.

All kinds of stock like green food, and it is especially desirable for young poultry. Where the fowls have plenty of range it is no trouble to have them supplied in that direction, but there are breeders who have but little room and keep several varieties, who find it necessary to feed the young chickens through the breeding season, and all poultrymen know how soon the fowls will clear up every vestige of grass in their yards. To keep them supplied with fresh sods is a good thing, but it either necessitates going some distance for the daily supply or soon discards a plot of ground by taking so much and from it. Raising cabbage for them is desirable, but it takes some time to get it. The quickest growing thing to raise is lettuce. In very early spring a small hotbed will start enough to last until the sowings made in the ground have grown large enough to feed. Small beans can be sown; and if a good growth is kept up at first, the bed will last quite a while as the tops can be cut off as wanted for the poultry, the roots being left in the ground to sprout more leaves and tops, which they soon do if well cared for. The expense of keeping up a small bed of lettuce is not very great, and from it the fowls can be supplied with good wholesome "greens," at a time when other "cabbage sals," is yet in its infancy. It is one of the best things for pigeons in confinement and can be used as well as poultry feeders, the advice given above will be of two-fold advantage to them. Breeders, try it. —The Southern Planter.

Poultry Pickings.

Who ever heard of a hen that fed abominably that she might remain slim and not be eaten? She comes running along with uneasily hunched whenever any one calls, "lucky tack-tack tack tacky," (itself almost inapplicable to a hen but a good name) gymnastics in every feather and lack of grace in every movement.

As fowls are fond of fruit, it would be well to plant currants in their run, and grapevines to run over their located fence. If one must invest in an incubator, it pays to get one of the best, even though the first cost should be $5 or ten times as much as the price asked for a cheap machine. All the best incubators are high-priced. There are no reliable cheap incubators in the market.

Let all you who have a surplus place a damp soil of earth and mould it into a cone form. This dampness is beneficial, as it supplies the moisture the eggs lose during the process of hatching.

A dry substance like wood or sawdust, for hens' nests, absorbs moisture from the eggs and ruins them. The hen, if left to herself, will make the nest on the moist earth.

The practice of running hay through a hay-cutter and reducing it to as short pieces as possible, and then mixing with corn and soaking it to an ordinary grist-mill to be ground in procucrator for poultry, has been followed for several years by certain breeders with good results. Let any one try rolling corn before feeding it to their fowls, and by and by if his egg-basket does not fill much more quickly than before.

All the mallees of civilization have been expended upon fowls. Legs so heavily feathered that the wretched birds only walk by a series of fortunate accidents; heads decorated with plumes so enormous that the bird is prevented from using its natural grace, and when it stands upon 'em so wonderful a kind that each cock appears to carry a beef-steak and two mutton chops above his startled visage; these are the results of centuries of scientific breeding.

While the poultry show season is one blow in a year, and strikes hard, but to avoid vibrations that last through the whole twelve month, the poultry press works constantly and steadily.

The Origin of the Domestic Turkey.

Many suppose, from its name, that the turkey originated in the East. Not only does the English name give support to this belief, but the French name, dinon, a contraction of Gouron d'Inde, (a bird of India,) shows that the same is held in Europe. Professor S. T. Baird, of the Smithsonian Institution, who has made a special investigation of the subject, and finds that we have two distinct species of turkey in North America; "One confined to the more eastern and Southern States, the other to the southern Rocky Mountains and adjacent parts of Texas. New Mexico, Colorado, and Arizona."

The turkey of the eastern United States, and the eastern Mexico, as far south, at least, as Oaxaca, and that is from the Mexican species, and not that from eastern North America that this domestic turkey is derived. One of the points of difference between the two, and the one believed to be constant, is in the color of the tips of the tail-feathers and of the feathers overlying the base of the tail. These are crimson, or yellowish white, in the Mexican, and typical barn yard birds; while, in the wild turkey of eastern North America, the same parts are of a jet black brown color. The domestic turkey was introduced into England, in 1641, and some years later became sufficiently abundant to afford the farmer his Christmas dinner. When the Spaniards conquered Mexico, the turkey was found in a domesticated state, and it probably had been reared as a tame bird for several centuries to that time.

To Keep Eggs.

1. Eggs may be kept for an indefinite time if packed when quite fresh in boxes with rock alum in shape of cubes. Place the boxes in a cellar kept at a temperature of about 50 degrees then the eggs, small end down, cover with alum around and over them, and pep in a cool, dry place.

2. Stack fresh lime with boiling water; when cold, thin with cold water to the thickness of cream. Pack the eggs, small end down, in a barrel or in some large jar, and put the gagging the eggs. Care must be used in taking them out, as they are easily cracked. This has been used with success for forty years. 3. Three gallons of water, one pint fresh shaked in one half salt. Use per gallon fresh eggs with sound shells if more is in it use all the salt; if more salt hardens the yolks put them in carefully; they will keep perfectly good for a year or more. 4. Hold perfectly fresh eggs in boiling water while counting six. A wire basket can be used for this purpose. Be sure to have water enough to prevent them from being heated. Let them dry and cool, then pack in oats. Put a layer of oats on the bottom of the keg or barrel sufficient to support the eggs. Pack them closely, small end down, and proceed till the barrel is filled. Shake it gently till the eggs and oats firmly. This method has given eggs a year after packing, in as good a state of preservation as when first packed, in answer to several inquiries.

Fifty Per Cent from Fowls.

The truth is that the average hardboord fowl, with no nonsense about them, will furnish a couple of dollars or more pay, by actual count, just 50 per cent. if sold, is moderately well treated. What else on a small farm does that, unless under exceptionally favorable conditions! Last summer we had sixteen pullets which, during the wet weather at the beginning of the weeks before, and eighteen old hens; the pullets kept our egg basket full until late in the winter, when the old hens began to lay. When we summed up in December, we had collected 1,065 eggs, of which 576 were sold. Can you or at table keep but sent to our little chickens in the early spring, and we only sold thirteen, beside keeping pellets to lay in the winter. This, and the fact that heavy rains prevented several broods from doing at all well, reduced our profits somewhat, but after having all grains and the warm weather for the young, we gave $2 or more dollars we received for eggs and chickens were clear gain, as the eggs and fowls used in the house balanced the expenses. Also, we have a stock to go on with, both pullets and old hens.

This is the result of any very great outlay in time or trouble, for we were too busy to do many things that would have swelled our total; it is only what any small farmer can do easily enough. We used common coops knocked together from any old boards, but whitewashed often, and with loose bottoms. For the chickens we give corn, oats, rye and buckwheat, some table scraps, and in the winter poularded shells and bones, warm moisters for at least one meal and warm water to drink. Hens are fond of sour milk, and during the hot weather either with fresh milk or sour milk, being the only item we did not count up in our estimate. New coops and all manner of patent appliances are nice if one can get them, but we have been obliged to do without, and find it is possible to get a very reasonable result for about 50 per cent. It is the same, and we have more chickens to sell, but always we find that the little book in our egg basket balances in the same fashion. Dame Partlet pays as well for her board and lodging at the Jerseys we all regard so comparatively, and needs far less care and trouble. —W. E., Redfield, Iowa.

LITERARY AND PERSONAL

CHOICE MUSIC.

"Under the willows, the drooping green willows were the willows of a beautiful May."

Very many ballads of the 'Lilly Dale' order have, of late years, been given to the public, but, very few of them have such smooth, beautiful music as that to the above words, which belong to the song, "Under the Willows," (35 cts.) by C. C. Dow, who is one of the charming musical gifts of the same name.

Another charming musical bit of the same name is "First little Kiss he gave me," (35 cts.) an artistic song and dance in the play of "My Sweetheart." Still another beauty is "Sleep, Baby Sleep." (30 cts.) a charming ballad by Angela Mcconnel Lowles.

"The Train," (35 cts.) by Mullen is a song of our hurraying time, and "Oh that I had wings," (25 cts.) by Haves, will sound well in church.

"That's not for me," (30 cts.) by F. R. Redmore, who is one of the songs played by the Spanish Students.

"Heart and Hand Waltz," (31 cts.) by Le Bacon, is a good arrangement.

"Sunshine Polka," (30 cts.) by B. Hurley, is a pretty piece of brightness.

"Long and lovely" songs and dance comes to us in a package sent by the well known publishing house of Oliver Ditson & Co., Boston.

How we regret that when we could we would, but now we would not, being the beautiful full measure of our admiration for the company. He that is moved by a shower of sweet sounds, can feel assured he will not be influenced by "stratagems, by treaties and by spells," whilst he is engaged in such exercises as are shadowed in the above.
THE LANCASTER FARMER. [May, 1883.

The Biographer, illustrated, for May, 1883, published by P. W. Collamore, New York, at $3.50 per year, has found its way to our editorial table, and we record a cordial welcome. If an illustrated biographical periodical excites any astonishment at all, it ought to be that a publication of the kind had not been forthcoming long ago. This is the first that we have met with for containing 35 biographical sketches of eminent men and women of the continents of Europe and America, 32 of which are accompanied by very striking portraits (so far as we are able to judge) executed on wood. The paper is a good one; and the only satisfactory conclusion of the sketches into such limited spaces, and yet retaining the essential facts, certainly exhibits as much ability as is displayed in more elaborate works. We do not know that this field has ever been occupied in this country before by a regular serial; and, at first blush, one might suppose that such a work must necessarily be limited. "Bless your soul," no. There is stock enough on hand for a long line to come; moreover, every day of the entire year, a hero, a statesman, a philosopher, a scientist, a soldier, a philanthropist, a statesman, a man, or a professional, is born, so that the "other" of such a journal might extend to the end of time. It certainly fills a vacuum that hitherto existed, and considering the amount and quality, it fills creditably and cheaply. We have given our experience of the past, we will find, at the end of the year, themselves in possession of an octavo volume containing 288 pages, 400 biographies and 354 portraits, and all for the sum of $3.50. Its value to editors, essayists, lecturers, historians and the literati in general, is unmeasurable.

Scientific and Literary Gossip.—A monthly magazine of notes, news and reviews in science and literature, 50 cents a year. Published by S. E. Caskey & Co., 41 Arch street, Boston, Mass.

The Southern Cultivator for May.—This popular and sterling agricultural journal is again on our table. An examination of its contents show it to be fully equal to previous numbers. The proprietors have purchased The Farmer's Leader, and by this act have absorbed the only remaining rival in their particular field.

The Southern Cultivator stands in the very front rank of agricultural papers, and for the South is certainly unequalled by any. As usual, Thoughts for the Month and the Inquiry Department are full of standard advice, both practical and experimental. Cotton is the only crop it would be well worth the subscription price. But to these are added very many other features of interest and importance, embalming the subjects of Truck Farming, Laws for the Farmer, Sheep Husbandry, Fertilizers, Cotton, the Field, Dickson's Letters on Intensive Farming, The Patron of Husbandry, Jersey Cattle Notes, The Poultry Yard, The Household, Children's Department, Fashions, etc., price, per annum $1.50. Address, Jas. P. Harrison & Co., Atlanta, Ga.

Strawbridge and Clothier Quarterly, published by Strawbridge and Clothier, merchants, Philadelphia, consists of a series of numbers devoted to Fashion, Home-Art, and Household Economy. No. 3, Vol. 1. of this splendid Quarterly Quarto is before us, and perhaps there is no mercantile enterprise in the kind in the entire country, that can match the success of this quarterly. Illustrations, fair and readable letterpress, in quality and variety, all relating to taste in dress and household economy. 88 pages of reading matter, with nearly 600 illustrative figures, eight of which are full page, and three additional pages of music. Its contributors are fashionable, and it is a sound journal for writing upon topics appropriate to the journal, upon which they seem to be specially posted. The publishers say,—"The ultimate aim is, to afford the large number of our patrons whom distance precludes from visiting us in person, the opportunity of postling themselves with tolerant thoroughness upon the subjects of dress and house-furnishing, and to supply their needs through the information the Quarterly presents." Doubtless, such an effort will be crowned with ultimate success, both the buyer and the seller, otherwise it would only be a self-fermenting machine. The tremendous efforts in the world to cater for the "professional," the "literary," and the "scientific," are commendable, the pity is that similar energies, devices and forces, could not be brought to bear upon man's spiritual condition. It is, in a natural sense, to "make friends of the unrighteous mammon," but there surely must be better and more human aims. The gentlemen of Strawbridge and Clothier conduct a first class establishment, and publish a first class journal, in which they tell what they have to sell, how you may adorn your body and your mansion, from head to foot, from the kitchen to the shop, and large and small quantities, relating matter to domestic, sanitary, and literary subjects.

American Farmer, published by E. A. K. Hackett, No. 167 Calhoun St., Fort Wayne, Ind., at $1.00 a year. This is a 16 page quarto, devoted to agricultural and domestic affairs. A neat, compact, and well arranged journal, containing beautiful stock illustrations, and edited with ability.

Bulletins Nos. 1 and 2. Division of Entomology. U. S. Department of Agriculture. Confining reports of experiments, chiefly with kerosene, upon the insects injuriously affecting the orange-tree and the cotton-plant, made under the direction of Dr. C. V. Riley, entomologist of the Department. And respecting the introduction of Locust and Chinch Bug, together with extracts from the correspondence of the Division on miscellaneous insects, by the same. In all 100 pp. 8 vo. We thankfully acknowledge the receipt of these documents, with the compliments of the Chief. These bulletins are mainly compilations from the observations and experiments of local reporters, and extracts from correspondence, and are eminently practical, and of special value to those residing within the region infested by the insects referred to. The Government of the United States, by its figures and statements, finds that "Eternal vigilance is the price of liberty," and that its employees cannot execute a "job" once for all, but that their labors are continuous—and, for aught any one may know to the contrary, they may be perpetual.

A medical physician enters the sphere of medical life at one-and-twenty, practices his profession for a period of sixty years, and finally passes off the stage an octogenarian. What has been the result of his medical experience? Why, his professional services were needed during the last year of his mortality, when all desire to the contrary was first. It will be even so between the agricultural and domestic interests of the country and practical entomology. The natural work moves slowly.

Special Reports, Nos. 57 and 58. Department of Agriculture, on the distribution and consumption of Corn and Wheat, and the rates of transportation of Farm Products. 8vo, 25 cents; and the Condition of Winter Wheat, and the Condition of Farm Animals; also the spring rates of transportation of farm products. April, 1883, 85 pp. 8vo. From Department of Agriculture.

The Mechanical News. An illustrated journal manufacturing, engineering, milling and mining. A demi-foilo of 50 pp. architecturally and biograph-ically illustrated, published monthly, price, one dollar a year. No. 110 Liberty street, N. Y., and Springfield, Ohio. The paper and letter-press of this journal are very fine, and the full-work illustrations very elaborate and well executed.

Mastery.—Useful Pastimes for Young People, embracing Home-handicrafts, Household affairs, Rural Occupations, Industrial Arts, Amateur Mechanics, Experimental Sciences, etc. An Illustrated quarterly magazine of 16 pages, in tinted ornamental covers, published at 324, Broadway, New York, at $5 a year in advance. No. 1, vol. 1, for May 10, 1883, of this beautiful and instructive publication is before us, and contains eighteen separate articles on practical subjects relating to the above, with twenty-five appropriate illustrations exemplifying the same.

We do not devote this notice to the instruction of childhood and youth, and in the language of its introductory, it "seeks to be your companion and guide in the exploration of this nearly yet imperfectly known world of action and utility, of beauty and mystery, which is now yours to possess and control." This is a ten years' endeavor to evolve the art of cultivating a useful aim in life, and if you never come into possession of anything to control but self, "Satan will find no mischief still for idle hands to do," because you will be "out of the bounds" of his workshop, which is infinite.

Texas Farm and Ranch.—A double folio of eleven and four, containing compact columns of very readable reading matter; published monthly by the "Texas Farm and Ranch" Publishing Co., Austin, Texas, at one dollar a year.

Number 1, Volume 1, of this enterprising publication has found its way up to the "Sunny South" to our Northern sanctioned, and brings with it its great rays in illumination of many subjects relating to the "farm and ranch," domestic affairs, industrial interests, and general literature. According to the census of 1890, Texas at that period had in her population 900,000; Texas the population, a number more than half as large as the entire population of the thirteen colonies at the close of the Revolution. Yes, we think the Farm and Ranch will succeed, and ought to succeed.

The Sugar Belt.—Devoted to the cultivation and utilization of the sugar cane. Volume No. 1, 50 cents a year; 16 pages. An intelligent, persevering and efficient advocate of this useful and beneficent home product.

The Keystone. In the interest of the jewelry trade, Philadelphia, Pa., 1883. A semi-demi of 8 pages, published quarterly at 52 and 54 North Sixth street, by John L. Shepherd, at 30 cents a copy, and wholly and solely to the traffic in jewelry, and especially gold and silver watches, in which it is elaborately illustrated. The designs are "just splendid," and the paper and letter-press of a superior order.

Science, No. 11 April 20, 1883, a weekly magazine, edited by Moses King, Campton, Mass., S. A., at $5.00 a year, with a rapidly increasing subscription list, which it unquestionably deserves. As an illustration of its value as an advertising medium we insert the following, from the number before us: "Moses King, Publisher of Science, Cambridge, Mass.: Your request for your quarterly report is herewith furnished you a statement of the sixty-nine thousand (69,000) copies we have actually printed of the illustrated weekly journal "Science," and have made affidavit to same before a Justice of the Peace."

No. 1, Feb. 5, 6,000 copies. No. 2, Mar. 16, 6,000 copies. No. 3, Apr. 6, 6,000 copies. No. 4, May 4, 6,000 copies. No. 5, May 24, 6,000 copies. No. 6, June 7, 6,000 copies. No. 7, July 12, 6,000 copies. No. 8, July 26, 6,000 copies. No. 9, Aug. 9, 6,000 copies. No. 10, Aug. 23, 6,000 copies. No. 11, Sept. 6, 6,000 copies. It is our understanding that the regular issue of Science is never to be less than six thousand (6,000) copies each week, and that during the year we are to print fully four hundred thousand copies (400,000). Respectfully, to (name) of the Commonwealth of Massachusetts, Boston, Suffolk County. April 18, 1883. Personally appeared Avery L. Randal, to me well known as the member of the firm of Rand, Avery & Co., who signed said firm's name to the foregoing and made oath before me that the statement therein contained are true.

Jno. L. Page, Justice of the Peace.

We have already noticed this journal in the literary columns of the Farmer, and it gives us pleasure to be able to record these evidences of its success, and incidentally, its value as an advertising medium to those who engage in buying and selling. Its success, as a scientific journal, is very extraordinary.
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Dr. S. S. Rathvon, who has so nobly managed the editorial department in the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—botanical science—show a knowledge of which has become necessary to the success of farmers, are alone worth more than the price of this publication. He is determined to make "The Farmer" a necessity to all households.

A county that has so wide a reputation as Lancaster county for its agricultural produce should certainly be able to support an agricultural paper of its own, for the exchange of the opinions of farmers interested in this matter. We ask the cooperation of all farmers interested in this matter. Work among your friends. The "Farmer" is only one dollar per year. Show them your copy. Read and induce them to subscribe. It is not much for each subscriber to do but it will greatly assist us.

All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

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CONTENTS OF THIS NUMBER.

EDITORIAL.
The Country Fair............................... 81
A Field Naturalist............................. 82
Insects, Injuries, and Excreta.................. 81

SELECTIONS.
Stale Fruits and Vegetables.................... 83
Small Fruits and "Fixing Up".................... 83
Considerations of Importance in Feeding........ 84
Thin Out the Fruits............................ 84
Study Your Farm............................... 85
A Profitable Tree to Grow..................... 85
Steers in Pasture............................. 85
Insects....................................... 86
Shortage of the Wheat Crop.................... 86
How to Kill Cabbage Worms..................... 86
Bees and Horticulture.......................... 86
The Origin of the Cereals...................... 87
The Floating Gardens of the Garden of Brazil... 87
Condensed Wisdom About Oysters................ 87
Columbia Salmon............................... 88
Pure Olive Oil................................ 88
Contracted Feet and Proper Shoeing............. 89
Our Woolpeckers............................... 89
Tree Planting in Maryland..................... 89
The Summer of 1888............................ 90
About Alligators.............................. 91

OUR LOCAL ORGANIZATIONS.
The Agricultural and Horticultural Society...... 92
Crop Reports—Pennsylvania Imperial—New Business... 92
Pulson Farmers' Club........................... 92
Asking and Answering Questions................ 92
Linolnian Society............................. 93
Donations to Libraries........................ 93

AGRICULTURE.
The Crop Outlook............................... 93
Bone Manure for Pastures...................... 94
Farm Tools and Implements..................... 94
Use and Benefit of Planter..................... 94
Sowing Corn for Fall........................... 94

HORTICULTURE.
Bulbed........................................ 94
Use the Hoe................................... 94
Forcing Apple Trees on Off Years............... 94
Cultivation of Horse Radish.................... 94
Floral Notes.................................. 94

DOMESTIC ECONOMY.
A Good Breakfast Dish......................... 95
Care for the Sick............................. 95
Tidies That Will Wash......................... 95
A Mode of Hanging Paper....................... 95
Pilows for Lounges................................ 95
Washed and Unwashed Butter.................... 95

HOUSEHOLD RECIPES
Lemon Custard................................ 95
An Excellent Soup............................. 95
Celery Pie..................................... 95
Brown Bread................................. 95
Old-fashioned Indian Pudding................. 95
Macaroni...................................... 95
Spanish Short Cake............................ 95
Delicious Pudding............................. 95
Easily Prepared Dessert....................... 95
Fish Cakes................................... 95
Rosettes...................................... 95
Corn Starch Pudding........................... 95
Brown Stew................................... 96
Potato Pastry................................. 96
Liver Hash.................................... 96
A Good Plain Cake............................. 96

ENTOMOLOGICAL
Parasites of the Colorado Beetle.............. 96
Ants........................................... 96
Literary and Personal........................ 96

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The Pennsylvania Railroad Company and the Lancaster Examiner are requested to convey the following thanks and appreciation of the citizens of Lancaster:

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The Lancaster Examiner.

No. 9 North Queen St.

Lancaster, Pa.
THE COUNTY FAIR.

The project of holding a county fair this year in Lancaster seems to have been abandoned. The idea of holding a meeting on Whitsun Day in Lancaster to consider the subject seems to have been the precursor to its abandonment. Perhaps it was thought, as more people visit the city from the country on that day than on any other day of the year, there would be more likelihood of being a full meeting, but this was a mistake. The people who attend such gatherings do not come to discuss, concoct, and carry out public exhibitions, but to participate in and enjoy what had been previously established. They don't come to think, to propose, and to assume responsibilities, but to see what is to be seen, to commune with their friends, and to indulge in such recreations as seem suited to their various tastes—some of them perhaps, but many of them otherwise. To get up and sustain a successful agricultural and mechanical exhibition requires special energies, backed by determination, and directed toward a specific end—it involves head-work and hand-work, such as is not included in the category of gala-day.

Without some personal sacrifice of time, comfort, and perhaps also of money—at least some risk of money—it is idle to think of getting up an exhibition with any reasonable prospect of success. Because our neighboring county Berks can do so—and time and again has done so—it does not legitimately follow that we can do so; and the very fact that we never have done so, ought to enable us to look at the subject from a different standpoint than that from which we have been in the habit of viewing it—a standpoint from which we can take a broader view of the subject, than the narrow one of self-interest alone.

Again, Berks county and various other counties succeed, because there seems to be more of a unity among their citizens, as to what ought to constitute the leading elements of a fair, how these should be combined and carried into practical effect. Another element of success involves the co-operative interests of those who are not farmers or fruit growers in the community, but who “move heaven and earth” to extend their personal interests among farmers to secure their pecuniary patronage. Agricultural productions constitute the basis of human material existence. But where it comes to a display, in which the whole community is interested, collaterally or otherwise, all those collateral interests are expected to be represented. If some of them are ruled out as “contraband,” which in other communities are accepted as perfectly legitimate, there must likely be different opinions will arise, and a lack of that unity, so essential to any enterprise of magnitude, will follow. And the strength with which these opinions will be asserted and maintained, will be proportional to the conscientious convictions of those who entertain them. If they cannot be compromised for the advancement of a special end, then it seems more wise to abandon such an end than to subject it to even possible failure, and not a mere financial failure, but a failure to secure a truly representative display.

A FIELD NATURALIST.

Forty years ago, or more, a brightly-spotted turtle was discovered in the vicinity of Philadelphia, and two miserable specimens were sent to Professor Agassiz. It was Mullerberg's turtle, and since then one has been seen not last summer. My friend was always on the lookout, never failing to pick up or turn over every small turtle he met on the meadows, or among the rocks, and examine whether her marks on the underparts were those of the lost species. Finally, one of the ditches in the meadows was drained off to be repaired, and there, within a short distance, were picked up six Mullerberg's turtles! If you go to Cambridge, Mass., you can see four of them alive and healthy to-day. They could easily have been picked up, and collected in the ditches, and so into the creek; but if they ever did, they have succeeded for twenty years in escaping some pretty sharp eyes. This little incident has a moral for us in two ways. One is, that often the apparent rarity of an animal comes from the fact that we don't know where to look for it; and the other, that it takes a practical observer to know it when we have found it, and to take care that it doesn't get lost sight of again. Practice your methods of observation, then, without basing conclusions or judgments on any other way. And the cultivation of the habit will be of inestimable advantage to you.

This is the merest hint of how, without going away from home, by always keeping his eyes open, a man, or a boy or a girl can study to the great advantage and enjoyment not only of himself or herself, but to the help of others. You can tell me how patiently this naturalist watches the ways of the wary birds and small game he loves; how those snailish and shy darters forget that he is looking them up; how he studies the stream as it winds and turns, and go on with their daily life as he wants to witness it; how he drifts silently at midnight hid in his boat, close to the timid heron, and sees him strike at his prey; or how, concealed in the topmost branches of a leafy tree, he overlooks the water-birds drifting their little ones, and smiles at the play of a pair of noisy ones, whose notes would not be in sight an instant did they suppose any one was looking at them. But I cannot recount all his vigils and ingenious experiments, or the entertaining facts they bring to our knowledge, since my object now is only to give you a suggestion of how much one man may do and learn on a single farm in the most convenient sections of the United States. St. Nicholas for June.

More than forty years ago we made a collection of all the tortoises, turtles and terrapins of Lancaster county, which we very laboriously skinned, stuffed and mounted. These consisted of Cyclura cornuta, Emys geographica, Emys parti, Emys gentilis, Emys sargus, Echium exasperata, Klaenena hennigiana, Klaenena pseudoklaenena, and Emys satura serpentina. But the Emys mahobarijchi we were not fortunate enough to find, and the late Prof. S. S. Haldeman, in his list furnished for Rupp's History of Lancaster County, published in 1844, expresses a doubt as to its being a native of Lancaster county, in which doubt, after a hunt of thirty years we strongly felt inclined to acquiesce. But in July 1880, that doubt was happily dissipated at an encampment of the "Fugian Club," at Yards Spring, near the Susquehanna.

On that occasion Mr. Charles Emery, the senior of the club, without a knowledge of its scientific value, picked up a fine specimen near the camp, and presented it to us. Not having time to prepare it in the usual manner, we embraced it in a jar of alcohol, and it is now in the museum of the Linnean Society. In 1848 we donated our collection to the Libhart Museum, of Marietta, Pa., and some years afterwards Judge Libhart donated them to the Linnean Society in whose museum they now remain. Of course since this collection was made a great revolution has been made—either backward or forward—in the nomenclature of these animals; but that does not affect the specimen; they are the same "shillgritten" that they were in the olden time, and before they were scientifically named.

INSECTS INJURIOUS TO FRUITS.

The above is the title of a handsome octavo volume of 139 pages just issued by J. B. Lip- patches Co., of Philadelphia, beautifully illustrated by 440 wood cuts, and printed in the publishers' best style. The book is written by one of our fellow-citizens, Mr. Rupp, a ruling all sections of the country, and favorably known, not only in Canada, but in the United States and Europe, for his original papers on Entomology, both in its scientific and economic aspects. The need of such a work as this has long been felt by the fruit growers, who are necessarily engaged in con- ducing to a knowledge of the results of the author's own large experience of over twenty years as a fruit grower and student of entomology. The matter is presented in a concise and plain man- ner, avoiding all scientific phraseology except such as is necessary to accuracy.

The arrangement of the work will make it convenient by the plan of reducing the class of insects injured under the fruits they specially injure, and again are divided into separate groups, such as those which injure the roots, trunk, branches, foliage, flowers, fruit, blossoms, trees and vines, thus enabling any person without any scientific knowledge of entomology to recognize and determine such insects. The maps are clear, and having before him the life-history of the insect briefly traced and the remedies which have been found useful in subduing it, fully ex- plained, the reader will be enabled without delay to adopt the best measures for destroy- ing it.
Charcoal should be fed logs and poultry. Experiment has demonstrated that the same amount of feed will produce a far greater amount of flesh and fat when fed with plenty of charcoal.—*Cincinnat Times*.

None of the tuberous-rooted grasses, like timothy, are suitable to permanent pastures. They cannot stand close cropping or constant trampling. Pasture grasses must be fibrous and deep-rooted varieties.—*Chicago Journal*.

**Oat Meal Gems.**—One beaten egg, one cup of sweet milk, one cup of cold oatmeal, pudding, beat all together, and add half a teaspoonful of soda, and one and one-half cups of flour. This quantity will fill the gem pan. Does not hurt some dyspepsies.—*The Household*.

A pretty tidy is made by embroidering a spray of flowers or a bird on a small square of satin; then put a band of satin around this; have it of a contrasting color; then another band outside of this, and finish with fringe. If the satin is of a bright color and of good quality, it needs no other decoration.—*N. Y. Post*.

Top dressing, unless with very fine manure, is of doubtful advantage with the clover plant. The clover is easily smothered by anything covering its leaves. It may, however, pay if the clover is to be turned under early for a crop of sweet potatoe crop this season. The best time to manure is before the seed is sown. A very light top-dressing then will secure a heavy growth.

The value of wood ashes as a fertilizer is too little appreciated. They contain in varying proportions the valuable mineral properties needed by plants. They are especially valuable for orchards in bearing, having an as yet unexplained effect in perfecting the fruit. It is better to give a light dressing of any potash manure every year than to give large doses at any one time.—*N. Y. Times*.

The brilliancy of gold can be imparted to brass ornaments by just washing them with strong lye made of rock alum, one ounce of alum to a pint of water; when dry, rub with leather and fine tripoli.

**Paste for Wall Paper.**—Take sifted flour, add sufficient cold water to wet it, mixing well. To each quart, add a teaspoonful of salt, and the same of powdered alum, then pour on boiling water, stirring all the time until the mixture thickens. Pour on boiling water slowly and stir briskly.

As a material for fire-proof stage curtains the New York fire commissioners have experimented with asbestos and found it satisfactory. It is claimed that curtains prepared with this material will resist heat, without burning, long enough to allow any theatre audience to leave the house before the fire could break out beyond the stage.

**Save the Children's Stockings.**—How many mother's know they can knit up as well as down? When children have reached the age when they wear out the knees of their stockings, and the heels and toes also, the ingenuity of woman must be exercised. In the most hopeless looking stocking there is usually a strip at least an eighth of a yard long which is too good to throw away, and yet is too much worn to pay to ravel out and knit over; from this then cut off the ragged top and bottom, and knit up as well as down.

If you cannot match the color use another shade, or to a brown strip knit a scarlet or grayish brown top.

**Your Own Blacking.**—An English receipt recommends the following: Put into a large basin one pound of ivory black, one pound of treacle, and a quarter pound of sweet oil. Stir these ingredients up with a stick, and let it stand for twenty-four hours, then add a quarter-pound oil of vitriol, mix with three times its weight of cold water. Stir well and let it stand again for a few hours, then add a quart of sour beer water. Pour it into a stone jar, which keep in a dry place.

Before pouring some into the small bottle for daily use thoroughly shake the contents of the large jar for several minutes. Some of the cheap "blackings" sold are very injurious to shoe leather, as they crack and burn it.

If you dip your broom in clean, hot suds once a week, then shake it and hang it up, it will last twice as long as it would without this operation.

A simple and easy way to ornament a common pillow-case for the baby's pillow is to feather-stitch it all around with scarlet marking cotton. Choose the cotton which is warmest, not to fade.

There is danger, as many people have found to their sorrow, of a gossamer waterproof cracking when stiffened by cold; so, before putting it on in severe weather, warm it before the fire, both outside and in, and this danger is averted.

The skill of the Chinese in dwarfing plants as well as ladies' pedal extremities is well-known. It is stated in a recent work on China that the ladies of the "upper ten" in the Celestial empire wear in their bosoms little fir trees, which, by a carefully adjusted system of starvation, have been reduced to the size of button-hole flowers. These remain fresh and evergreen in their dwarf state for a number of years, and are regarded as symbols of the perpetuity of love, to express which they are used by ladies of the highest rank.

An excellent lubricant for wagons is palm-oil, which is thick and adhesive. It may be improved by adding to it an equal weight of black lead and thoroughly mixing it. A very small quantity need be used. For road wagons and haggles baster-oil is an excellent lubricant.

There is nothing better for butter dairy cows in the shape of grain feed than a mixture of 200 pounds of corn-meal, 200 pounds of fine middlings, and 100 pounds of cottonseed meal. Of this five pounds a day may be given with benefit, and will return a good profit in butter or milk.

Sheep are very subject to catarch of the nasal membranes; their wooly coat sometimes overheats them and they take cold, especially on the back, where they are tender. Some warm gruel, a dram of sal-petre, a dry, warm lodging for a few days, and a little pine tar rubbed on the nose generally cures the trouble.

Too much confinement is injurious to a colt, and will tend to produce weakness of...
day. These facts are not in themselves very important, yet they suggest the query whether close shuffling of cows in winter or summer is better than giving them the run of a yard or pasture lot.

To control a vicious bull put a ring in his nose in the usual way; from this ring pass a small chain through the staple near the point of the horn across to the joint of the other horn, then through the second standa down to the ring in his nose. The chain thus forms a triangle. It should move freely through the staple, so that even the slightest pressure on the chain on either side of the head, or between the horns, will instantly make itself felt through the ring.

There is a farmer who is Y's. Enough to take his E's, and study nature with his I's, and think of what he O's. He hears the chatter of the J's as they each other T's. And c's that when a tree D K's it make a home for B's.

A pair of oxen he will U's. With many haws and G's, and their mistakes he will X Q's. While plowing for his P's. In raising crops, he all L X, L's. And therefore he little O's, and when he heos his oil by spells. He also eals his hose.

—Whitehall Times.

STALE FRUITS AND VEGETABLES.

We have some decided opinions upon the deleterious effects on children especially and adults generally, of unripe, witted, green, overripe or partially decayed vegetables and fruits. The vegetables of the city are not as the vegetables of the country. Those of the country are gathered and eaten in the time of their perfection and are healthy and beneficial to the system. Those which are usually bought in the market in the city are brought long distances, exposed to the sun, drying winds and rain, which makes them become decayed.

Any fruit that has been exposed to the heat of the sun, and wind, will have lost much of its vitality. It should be very few indeed who will buy such provisions.

There are no real benefits to be derived from such provisions. They are not only injurious to the stomach, but dangerous to children. They are injurious to the stomach, and dangerous to children. The children have no power to discriminate between good and bad food, and the doctor has no power to make them do so.

In the case of vegetables, we have the same opinion. Vegetables should be bought and used as soon as possible after they are harvested. If they are not used immediately, they should be cooked and consumed.

SAFETY IN THE USE OF VEGETABLES.

The best way to ensure the safety of vegetables is to grow them yourself. You can be sure that they are not affected by heat or wind, and that they are fresh and healthy.

The practice of buying vegetables from other people is dangerous. The vegetables may be old, decaying, or even poisonous. It is better to grow your own vegetables, as you can be sure that they are safe to eat.

It is also important to wash vegetables thoroughly before eating them. This will help to remove any dirt or germs that may be present.

The best way to store vegetables is in a cool, dark place. This will help to keep them fresh and healthy.

These are some of the important considerations when it comes to the safety of vegetables. By following these guidelines, you can ensure that you are eating healthy and safe food.

THE LANCASTER FARMER.

83

matured vegetables and ripe fruits from his fields knows that he is providing for himself and the precious ones entrusted to his care luxurious gifts from the goddess of health.

The resident of the city when he lays these things out of season in the place where purchased knows they have been long from the parent stem, and have gone far in a change of their chemical nature. All these things are under the goddess of greedy traffic instead of health.

It is well to pause and think of what you are doing; health and life are precious boon, too valuable to be sacrificed to a craving appetite or a thoughtless attention to the duties of life. We should like to lay down some general rules for purchasing vegetables and fruits which will do for the entire season's practice:

1. Use fruits and vegetables only when in prime condition.

2. Never allow in your house or offer to your family berries or vegetables when green, unripe, overripe, wilted or decayed.

3. It should be made a serious crime to sell or buy fruits or vegetables which are so partially decayed that they have to be sold at a reduced price.

4. Salads, lettuce, kale, cucumbers, peas and green corn wilt under any circumstances in a few hours. They should, therefore, only be eaten within a few hours from the time they are gathered.

5. Berries, melons, tomatoes and all other juicy fruits have but a brief healthy state, and should always be treated with suspicion. — Intra State Register.

SMALL FRUITS AND "FIXING UP."

The culture of small fruits is a subject that ought to interest any one who owns a foot of land. It has been truthfully said that "if the whole world was a city there would be sufficient room to grow grapes enough for the population." Now often we hear people say, among them farmers, if I was only "fixed" I would plant fruit. At first thought it would appear as if "fixing up" was a terrible thing, but I must confess for one that in reality this matter of getting fixed is a very small job, and can be gotten in any one's way.

Now, readers, let us look at this matter square in the face, and see what there is in it.

We will suppose you only have a small lot of land, 50x120 feet. This is a small town lot, and a farmer would think this no land at all for fruit, so small that it would not be worth bothering with; at the same time this is sufficient land to grow enough small fruits for one family, yet they will say they cannot get "fixed." The trouble is, they don't try to get fixed.

A 30x120 foot contains 7,000 square feet, and if the plants can be set on an average of five feet square (while strawberries can be much closer) it will take 300 to occupy the ground, and ought to be planted somewhere near the following proportions: 24 enrant bushes, 12 gooseberry bushes, 10 grapevines, 100 raspberry bushes, and this will leave sufficient room for 200 strawberry bushes, while on the north or west side there can be four cherry or plum trees, which in reality will be an advantage to the lot, and if it is wished to make the lot attractive plant an evergreen or Russian mulberry hedge in front and keep it trimmed in any desirable shape.
A lot planted as described will afford sufficient fruit in their season for any family, besides increasing the value of the land, and be a credit to the owner. Any land owner can have a lot like this if he wants it, and another advantage to be gained is the growing of small fruits while the bushes are small. I have yet to find any one who has commenced the growing of fruit but will become so interested that he will be constantly increasing his stock. It is a duty we owe to ourselves and our children to make home pleasant, and I tell our families we must not afford not to fix up our homes, and if you have not thought of the matter it is time you did, and so this very spring commence, and if you have children get some small fruits of some kind and give them to them. Show them how to plant and care for them; tell them how in course of time, with proper care, they will bring forth fruit; and it will do you good to notice the interest it will awaken in them, and they will soon try to have the nicest door-yard and garden in the neighborhood. Come, let us wake up and try and make home pleasant, and the children will not want to leave home.

—Northwestern Farmer.

CONSIDERATIONS OF IMPORTANCE IN FEEDING.

A good feeder is not necessarily the man who, having an abundance in his crib, throws into the feeding-box according to the abundance in hand. To build up a living organism with success and without interruptions, hence with profit, is something different from what the average farm hand is capable of doing correctly. As regards economizing food, much, of course, depends upon the market value of this, yet not so much as might at first sight appear; because corn at less than a dollar a bushel is likely to go hand in hand with low-priced beef. And when beef is low in price, no man can make much profit in feeding. This condition, it is true, may be better under this state of things than it would otherwise be, through the moderate prices on articles he is compelled to buy, as low-priced corn and meat are quite likely to be accompanied by moderate prices on some, if not all the necessaries of life.

One of the principal factors in the gain made by a fattening animal is comfort. Discomfort makes war upon the vital forces, and these being sustained only through nutrition consumed, it follows that the less the discomfort the less the waste of food. Hence, to reason that, as winter is over, animals can now be left without shelter that have heretofore had protection, is wrong from every point of view. The outer hide and hair, protected through the winter, will be doubly sensitive to cold and wet if exposed during storms in early April. Comfort is the criterion as to probable thrift, and any weather that a domestic animal can not remain out in without showing discomfort, it should not be exposed to.

This subject of comfort in regard to domestic animals having their freedom upon the farm—eat regularly and with a degree of moderation, hence are not liable to the repletion which comes to the feeding beast induced to eat immoderately. While artificial stimulation may, under certain conditions, and within certain limits, prove helpful, still we can not always be assured that no disorder will occur to interrupt nutrition. Artificial conditions, when brought to bear upon the living animal, so change it from accustomed influences that, so far as the fattening beast is concerned, it requires good management to insure that it will go through to the end of its short journey, the butcher’s block, in good, healthy condition, and yield a profit.

All men who feel stock can not be expected to study physiology, though its principles are brought into requisition every day, and it is really as necessary that the living machine be understood, that they may conduct their business successfully as that the engineer, to be an expert with the engine, be minutely acquainted with its every part. One of the lessons easily learned in every feeding lot is, that the chilling weather of early spring tells upon exposed cattle more than the dry, frosty air of a cold winter. If shelter, dry bedding and pains-taking care are required at one season more than another, that time is very likely to come in the early months of spring. The mercury may not run low, but the vitality of farm animals will go down in the scale more rapidly when the atmosphere is charged with a damp, depressing influence than when the mercury is well down below the freezing point and the air clear and dry.

While by analysis, and through experience in feeding, it has been often proved that corn leads all of the farm-grown grains in making flesh, still it is equally well-known that as the extreme cold disappears a mixture, made up of the lighter grains, shorts, and bran, with a little oat meal added, will bring better results than corn alone, though, chemically, it may be superior to the combined foods.

No man can feed successfully until he has learned to vary the food according to the condition of the animal, giving rest to the digestive organs as occasion calls. When in good condition it is safe to calculate that a fattening beast will bear a pound of grain per day for each hundred pounds of its own live weight. It will consume more than this in cold weather, because no inconsiderable amount is required to keep up a successful battle with the outside temperature. From early spring till grass comes it should be made a rule that the gain be more rapid than during the extreme cold of winter. That gain can be made if due care be taken. The conditions, in some important regards, will be more under control than heretofore during the winter.

There is a double induction to erect great vigilance in adding to the daily gain, namely, (1) the gain in pounds at that time in the history of the beast when his weight upon the scales is approaching his highest value per pound; (2) the advantage of the increased fleshiness—ripeness—as an important factor in increasing the price of his weight per pound. Then, too, the manure—and no farm anywhere is so good that it does not need all the manure made upon it—it is rich, hence valuable, in the richness of the feed given and its quantity. The matured bulk of the productive element in the soil than does the load of wheat or other grain sold off the farm, dollar for dollar of value. Yet he does carry something, in fact no inconsiderable amount of bone and flesh elements; but bear in mind that he leaves no inconsiderable substance behind him in the form of manure, while the grain and hay hauled off the farm leaves nothing—is a dead tax upon fertility. It is the fact that the steer provides for others of his kind to follow after him that gives stock-growing one of its most valuable features. That kind of husbandry that will bring the most dollars for the manual labor expended, at the same time taking the least substance from the soil, in view of the returns, is the sort that is each year receiving greater attention from the more intelligent class of farmers.—Live Stock Journal.

THIN OUT THE FRUIT.

As the season seems favorable, the prospect is that the trees, of all kinds, will be loaded with fruit. Too much fruit is something unusual, for the market is never overstocked in quantity, but too much inferior fruit is a yearly infliction on all who buy. Pruning, trimming and cultivating, while pushing forward the trees in vigor and productiveness, also assist in the development of a surplus of blossoms, the stimulus causing the trees to develop more energies in that direction in preference to an excessive flowers, for the embryo buds are alike, and diverge into leaf or fruit as the conditions direct.

Thinning out fruit seems repulsive to those who are accustomed to seeing heavy clusters of fruit on trees, and the operation appears to be a wasteful one; but, when we consider that fruiting is but an effort of natural reproduction, it is to be wondered, rather, that thinning is not more commonly practiced. If the tree cannot propagate by seeding it will endeavor to do so from the root by sending out shoots. It either sends out shoots or fruit buds, or both, and this must be accomplished only with the material which the tree affords, part of which is stored and part new, taken directly from the soil at the time of blossoming or a little before. This material is distributed to every part of the tree, the remotest blossom not being forgotten, and the tree can only nourish according to its capacity to supply. Where the fruit is overcrowded on the tree the fact is apparent that inferiority of size must be the consequence; and whenever the fruit is dwarfed the flavor and appearance is below the average, to say nothing of the drain on the vitality of the tree, which is thereby compelled to use its utmost endeavor in order to develop its fruit.

By thinning out the inferior specimens, leaving only that which looks promising, the sap is directed into fewer channels instead of the many, the fruit, being supplied with a greater proportion of nourishment, grows more rapidly, ripens sooner, and is improved in appearance and quality. Nor will the actual production be less, for the chances are that by measurement the quantity will be more than if no thinning process had been practiced, the chief benefit being a keeping of the price owing to the superiority of the fruit. Strawberries so treated have been grown to such proportions as to readily command fifty cents per quart when inferior kinds were not in demand, and pears have been sent to our markets that sold singly at good prices, while others were sold by measurement. Thousands of bushels of apples rot in
our orchards annually simply because the trees are overcrowded and the fruit becomes unsalable, and cherries, peaches and even the small fruits are no exception.

Another point to be observed is that trees and vines must not be allowed to make any effort other than by bearing. The shoots and runners must be kept down, as they rob the parent stock of vital power—as is well known to those who grow strawberries especially, the runners of this year being detrimental to fruit production the succeeding season. Let every fruit-grower endeavor to produce good, well-formed, marketable fruit, cutting out that which is inferior, and allotting to the trees only that which is suitable to their capacity, and the increased prices and quick sales will be more than a satisfactory remuneration for a small amount of extra labor required.—Philadelphia Record.

STUDY YOUR FARM.

There is too much farming done at random. Failure frequently pursues a man through life for want of a clear and determined conception of the object that he ought to aim to accomplish. A forcible writer in the Library of Useful Knowledge urges every farmer to consider the nature of his farm; the quality, abundance, or the deficiency of his pasturage; the character of the soil; the seasons of the year when he will have plenty or a deficiency of food; the locality of his farm; the market to which he has access, and the prices which he is disposed of there with the greatest profit. These things when well studied and decided will point him to the breed of stock he should raise, and the kinds of grains or grasses he should cultivate. The man of more means and more ambitious aims may take in more extensive views, and look scientifically to the question of improvement of stock. But the farmer with limited means and less ambition, with whom we have most to do, does not feel like running any risks, or engaging in the least doubtful enterprises. Such regard their cattle as a valuable part of their property and the source of their income cannot be disturbed by interrupting the regular routine of business. And yet by careful study this necessary inflow can be kept up, and the income of his farm greatly increased without much enlarged expense, while the annual outlay otherwise may be lessened, and labor lightened. Rich or poor, humble or ambitious, he ought to study closely what will best suit his farm, examining closely the points and qualities of his own cattle and those of his neighbors. If he determines dairying is best for him, he must examine the question of quantity and quality of milk, and its value for the production of butter and cheese; the time that the cows continue in milk; the character of the breed for gentleness, their predisposition to disease, and the natural tendency to turn to nutrient or to milk; the ease with which she is fattened and value as a beef when she is given up as a milker; the proportion of food requisite to keep them in full milk or to fatten when dry. If grazing is decided to be the main business, then consider the kind of stock which the farm will be best suited for, the kind of meat most in demand at the greatest profit in his neighborhood, the early maturity, the quickness of fattening at any age; the quality of the meat; the parts upon which the flesh and fat are principally laid, and, last of all, the hardness and adaptation to the climate and soil. When a farmer wisely settles on all these questions, he will find he has but little time to loiter about neighboring street corners.—Iowa State Register.

A PROFITABLE FRUIT TO GROW.

Of all the varieties of fruit usually grown on the farm, perhaps the quince is less frequently seen than any other. Of late our fruit-growers have begun to set out peach trees in hope of obtaining Early June, or the finest of the early peaches. There are many reasons why every farmer's garden should have a few quince bushes growing therein in order that a supply for the family may be secured, if none are marketed. The quince is a hardy, deciduous shrub, reaching a height of from ten to fifteen feet and bearing large white and pink blossoms quite late in the season. The fruit is of a rich golden color and in some respects resembles the orange. The quince is easily propagated from seed, layers or cuttings. The soil most suitable for this fruit is a deep moist loam and of a slightly alkaline character if the bushes are planted in salt or marshy abounds may be secured. It bears easily and with a favorable growth in four years from transplanting the trees ought to bear a peck of fruit. There are a number of sorts grown in this country, the Champion being the latest acquisition and said to be the largest variety grown. The most extensively grown variety in this country is the Orange. This sort is of good size, color and flavor; it is remarkably productive and with good treatment bears fair, smooth fruit that uniformly stews tender and is excellent for drying purposes.

There is one thing to be considered in growing this fruit—that it is never grown in such quantities but what the farmer can get at least $1 per bushel, and it is often that he gets twice that amount. The canning of vast quantities of this fruit always renders their sale assured. Very many growers do not properly prune the bushes so as to admit the sunlight and thus avoid having so much green fruit. When the bushes are overloaded the fruit should be thinned out and the rest will be larger and better. When set in rows about twelve feet apart is the right distance, and if in very rich soil fifteen feet may not be too great a distance. The bear is liable to attack the young bushes and even those that have reached a considerable size. In this section the quince is chiefly grown in the garden, but in the Middle States and at the West large orchards of the quince are cultivated. Riding into a gentleman's door-yard recently we noticed three large bushes close by his homestead. The fruit had been gathered, but the owner informed the writer that from the three bushes he obtained two barrels of large marketable fruit. When properly cared for there can hardly be a more paying crop, since almost every family uses up as few quinces.

—Springfield (Mass.) Republican.

STEERS IN PASTURE.

Thirty steers of 800 or 500 pounds weight, on good pasture from May 1 to November, should gain each 400 pounds. Much depends on their condition when turned out in spring. Those wintered around straw bales, without grain, will not begin to gain much for several weeks. Their digestion is bad; much blood is needed to renew their coat of hair and loosen the hide. On the other hand, a steer already fat will not gain so much as one in what is called good condition. Such an animal will increase very fast from May 1 to the middle of July, while in July and August very little grain would be manifest, while the thin steer would then be in condition to add some weight. It is much better to market July the steers that were fat when turned upon grass in May.

Cattle wintered around straw bales will be in good condition without any grain if they are fed at the same time with a moderate amount of corn, fodder, or four or five ears of corn per day without the folder. A farmer will make it pay to borrow money with which to buy corn to feed cattle wintering around straw bales, as the most of the cattle do in all States West of Pennsylvania. It is no unusual thing in this country of cheap and abundant corn to see starving March dead cattle lying around straw bales, starved to death! Two months ago I saw such a sight within two miles of my residence; the owner worth $25,000, with hundreds of bushels of corn conscientiously kept to feed hogs—the everlasting hog. Farmers make an expensive mistake in thinking grain fed to stock is wasted. A correspondent from Michigan, whose inquiries suggested this article, speaks of having pasture in an open grove, and also of a pasture set in family. No matter how much depends upon the way these lags are pastured. The wool-lop should be pastured first, and the cattle kept off the timothy and clover, because the grass among the trees will be much richer and more palatable if fed before the trees come into full foliage. This pasture then should be allowed to grow until October 1, when it will again be in prime condition at a time when timothy and clover have stopped growing.

Many persons overstock their pastures, and the animals fail to gain as much as they would with a better range. During May and June the grass seems so abundant they purchase more stock to keep down the growth, and the result is, the cattle during August and September frequently gain nothing. The farmer must recollect that he can not depend upon the growth of any grass except red clover from middle of July until fall rains set in. With plenty of rain in latter part of summer the grasses do not grow half as fast as during May and June. These things must be considered by the breeder of cattle if he expects the largest gain in weight, and his pastures must be at all times such that the cattle can readily and quickly find sufficient grass.—Cor. N. Y. Tribune.

INSECTIDES

Very soon the farmers and gardeners throughout the country will have to commence the annual battle with noxious insects. We have learned how to manage some of these enemies, and to conquer them every time; but others continue to resist every known
method of destruction. We give a list of some of the best known insecticides and the manner of applying them in order that our readers may get them ready for use the present season.

For the Colorado potato beetle nothing makes a smaller hole or cheaper than Paris green has been discovered. One pound of the green to fifteen of any cheap kind of flour is the best mixture, and this should be scattered over the leaves of the potato vine as soon as the larvae or grubs appear, and the application repeated as often as necessary during the summer. Two or three applications are usually sufficient. Tin dusters, made for the purpose, can usually be had of any tinsmith; if not, one can be made out of an ordinary tin can, which must be fastened to a handle four or five feet long. This same mixture may be used to destroy caterpillar worms on apple trees, but is rather more difficult of application, although with a long handle to the duster the leaves and twigs of ordinary sized trees can be readily reached.

The asparagus beetle, which usually comes from its winter quarters about the time the first shoots of the plants appear, is not readily destroyed by insecticides, as it will not answer to apply poisons at this time, or any offensive substance; but as the beetles do little injury now, all attempts to destroy them may be deferred a few weeks, or until the cutting season is over, at which time the beetles will have laid their eggs on the stems whence they will presently come the little black slug-like larvae. These have soft, rather sticky skin, to which almost any dry dust-like application will readily adhere. Dry caustic lime is a cheap and efficient poison for this pest, and a few applications during the summer will clean an asparagus plantation of the pest. We have used lime on our asparagus bed to destroy these grubs for more than twenty years and never knew it to fail to destroy this pest. Lime will also destroy the rose and cherry tree slug—in fact, all kinds of slug-like larvae which have a sticky, slimy skin.

The cabbage or bugs tar water is of great value. An old tar barrel, with a quart or two of tar left in the bottom, and filled up with water, will in a few days furnish a moderate supply of a very efficient insecticide for various kinds of bugs and flea beetles which frequently attack cabbage and tomato plants early in the spring or summer. Pine tar is best, but coal tar will answer very well. Carbolic acid, one part of the acid to thirty or seventy of water, is as strong as can be safely applied to delicate kinds of plants.

Flowers of sulphur are sometimes used upon sweet-potatoes, and to a certain extent the dusts scattered over the young plants or thrown on the ground under the leaves will usually drive away insect enemies, especially during hot weather, when the fumes of the sulphur are dispelled by the heat.

Sulphur has been found an excellent insecticide in some instances, and this salt is also a good fertilizer, and therefore answers a double purpose. One tablespoonful of sulphur dissolved in a pail of warm water is a most valuable solution with which to sprinkle cabbage plants infested with the caterpillars of the cabbage butterfly. Several applications will usually be necessary, for the butter-}

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**SHORTAGE OF THE WHEAT CROP.**

S. H. Seaman, of Milwaukee, Wisc., Secretary of the Millers' Association, some weeks ago sent out over 3,000 inquiries to millers in the twenty-one leading wheat States, asking them for the best information to be had concerning the outlook for the wheat crop.

Mr. Seaman issued a private circular on Friday to the members of the association, in which he gives the estimate of the crop based on the report, placing the shortage for the year at 93,000,000 bushels in the twenty-one States. This not being the kind of report desired, particular pains were taken to keep it from the papers. From a stray proof, however, the following estimate of the yield in the United States was taken: 4,599,000 tons in Nebraska, 1,500,000; Texas, 2,100,000; Kansas, 23,000,000; Missouri, 21,400,000; Iowa, 15,300,000; Minnesota, 7,700,000; Wisconsin, 18,500,000; Illinois, 22,000,000; Kentucky, 12,400,000; Tennessee, 6,800,000; Georgia, 3,900,000; Virginia, 8,300,000; Maryland, 9,000,000; Delaware, 1,000,000; New York, 18,900,000; Pennsylvania, 22,500,000; Ohio, 26,000,000; Indiana, 29,000,000; Michigan, 73,300,000. The total yield of these States in 1872 was 405,297,500 bushels. It will be noted that the estimates in some of the States, notably California and Minnesota, have been made by several statisticians, Mr. Tallman, Milwaukee, whose estimates have been so generally quoted, was shown the miller's estimates last night. He said: "The California and Minnesota estimates are ridiculous. In my estimation of the aggregate yield of the country I have given the figures of these two States as furnished me by the official authorities." The Secretary of the California State Agricultural Department said: "Our crop can't exceed 30,000,000 this year." H. H. Smith, the United States statistician, states that the official report of the Minnesota argence shows 739,500 acres. The average yield per acre of that State for three years is 79.12 bushels, 80.13 bushels, 81.90 bushels. Estimate this year's crop at 12 bushels per acre, and we have but 2,810,000 bushels.

Mr. Seaman, in closing his report, says: "In presenting this report to our members for their information, I have only to say that it is based entirely upon replies to my inquiries, which have been carefully taken, thoroughly analyzed, and the averages closely figured; in short, the conclusion was arrived at by the most careful investigation of the replies, and is given to you with the confident assurance that, so far as it is possible to arrive at the probabilities of the growing crop, we are approximately correct."**

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**HOW TO KILL CABBAGE WORMS.**

The ravages of the caterpillars of the cabbage butterfly caused a great deal of trouble last summer at the State Agricultural Experiment Station, Geneva, N. Y., particularly those of the second or August brood. In order to test the efficacy of various reputed remedies for the cabbage worms, the director applied them to special collections for worms, and noted the effects. One specimen confined for three hours in a bottle partly filled with black pepper crawler away discolored by the powder, but apparently unharmed. The second, repeatedly immersed in a solution of saltpetre, and a third in one of boracic acid, exhibited little indications of inconvenience. Disulphide of carbon produced instant death when applied to the worm, though its fumes were not effective. The fumes of benzoic acid as well as the liquid caused almost instant death, but when applied to the cabbages small whitish excrescences appeared on the leaves. Hot water applied to the cabbage destroyed a portion of the worms, causing also the leaves to turn yellow. One ounce of saltpeter and two pounds common salt dissolved in three gallons of water formed an application which was partly efficient. The most satisfactory remedy tested, however, consisted of a mixture of one-half pound each of hard soap and persuasone oil in three gallons of water. This was applied August 25; an examination the following day showed many, if not all, the worms destroyed.

The growing cabbage presents such a mass of leaves in which the caterpillars may be concealed that it is hardly possible to reach all the worms at one application. It is of importance, therefore, to repeat the use of any remedy at frequent intervals.—*Scientific American.*

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**BEES AND HORTICULTURE.**

If some of our fruit-growers were to write upon this subject, they would place as the title: Bees versus Horticulture. Some of our ablest entomologists are persuaded that bees do not always play the role of friends to the pomologist.

What I am to say of bees would apply equally well, in some cases, to many other sweet-loving insects, as the wild bees, the wasps, and many of the dipterons, or two-winged flies; only as early in the season other insects are rare, while the honey bees, though less numerous than they are later in the season, are comparatively abundant, even early in the spring months.
My first proposition is, that plants only secrete nectar that they may attract insects. And why this need of insect visits? It is that they may serve as "manuring priests" in the work of fertilizing the plants. As is well known, many plants like the willows and the chestnuts, are dioecious. The male element, the pollen, and the female element, the ovules, are on different plants, and so the plants are absolutely dependent upon insects for fertilization. The pollen attracts the insects to the staminate flowers, while the nectar, which issues from the pistillate flowers, to which the varieties of the strawberries are so nearly directed, that this luscious fruit, of which great old Isaac Walton wrote: "Doubtless God might have made a better fruit than the strawberry, but doubtless God never did," would in case of some varieties be barren, except for the kindly ministrations of insects. Other plants are monocious; that is, the stamens and pistils are on the same flower, but the structural peculiarities are such, that unless insects were wooed by the coveted nectar, fertilization would be impossible. Many of the plants with irregular flowers of both sexes, through whose agency Darwin was so admirably shown, are thus entirely dependent upon insects to effect fertilization. In many of these plants the structural modifications, which insure fertilization consequent upon the visits of insects, are wonderfully interesting. These have been dwelt upon at length by Darwin, Gray, Beal and others, and I will forbear to discuss them further.

But many of our flowers, which are so arranged that the pollen falls easily upon the stigmatic, like the clovers, squashes and fruit blossoms, fail of full fruition, unless forsooth, some insect bear the weight of one flower to the pistil of another. As has been repeatedly demonstrated, if our fruit bloom or that of any of our encumbrous plants be screened from insects the yield of seed and fruits will be but very partial. Professor Beal and our students have tried some very interesting experiments of this kind with the red clover. All of the plants under observation were covered with gauze that the conditions might be uniform. Bumble bees were placed under the screens of half of these plants. The insects commenced at once to visit and sip nectar from the clover blossoms. In the fall the seeds of all the plants were counted, and those from the plants visited by the bumble bees were to those gathered from the plants which were shielded from all insect visits, as 236:5. Thus we see why the first crop of red clover is barren of seed, while the second crop, which comes of bloom visited freely by bumble bees, whose long tongues can reach down to the nectar at the bottom of the long flower tubes is prolific of seed. This fact led to the importation of bumble bees from England to New Zealand and Australia two years since. There were no bumble bees in Australia and adjacent islands, and the red clover was found impotent to produce seed. And when we have introduced Apis domestica into our American apiaries, or when we have developed Apis Americana, with a tongue like that of Bombus, seven-sixteenths of an inch long, then we shall be able to raise seed from the first crop of red clover; as the honey bees, unlike the bumble bees, will be numerous enough early in the season, to perform the necessary fertilization. Alyke clover, a hybrid between the white and the red, has attractive flower tubes, which make it a favorite with our honey bees, and so it gives a full crop of seed from the early blossoms.

In all these cases we have proof that nature objects to close interbreeding; and thus through her laws, the nectar-secreting organs have been evolved, that insects might do the work as cross-fertilization. As in the case of animals, the bisexual or dioecious plants have been evolved from the hermaphrodite as a higher type; each sex being independent, more vital force can be expended on the sexual elements, and the result is that the flowers are more numerous.

It is sometimes contended by farmers, that the visits of bees are detrimental to their crops. I have heard farmers say that they had known bees to destroy entirely their crops of buckwheat, by injuring the blossoms. There is no basis of fact for this statement or opinion. Usually bees visit backwheat blooms freely. If for any reason the seed fail, as from climatic condition and influence it occasionally will, the bees are charged with the damage, though their whole work, as shown above, has been beneficial and that only.

It is true, as I have personally observed, that species of our native bees (Xylocopa) do pierce the flower tubes of the wild bergamot, and some of our cultivated flowers, with similar long corolla tubes, that they may gain access to the otherwise inaccessible nectar; the tubes once pierced, and our honey bees avail themselves of the opportunity to secure some of the nectar. I have watched long and carefully, but never saw the honey bee making the incisions. As I have never heard of any one else who has seen them, I feel free to say that it is entirely unlikely that they are ever thus engaged.

My last proposition is, that though bees, in the death of nectar secretion, will sip the juices from crushed grapes, and other similar fruits, they rarely ever, I think never, do unless nature, some other insect, or some higher animal has first broken the skin. I have given to bees, crushed grapes, from which they would eagerly sip the juices, while other sound grapes on the same plant—even those like the Delawares, with tenderest skin, which were made to replace the bruised ones—were left entirely undisturbed. I have seen bees up in an empty hive with grapes, which latter were safe even though surrounded by so many hungry mouths. I have tried even a more crucial test, and have stopped the entrance of the hive with grapes, and yet the grapes were uninjured.

In most cases where bees disturb grapes, some bird or wasp has opened the door to such mischief, by previously piercing the skin. Occasionally there is a year when an entire vineyard seems to be sucked dry by bees in a few hours. In such cases the fruit is always very ripe, the weather very hot and the atmosphere very damp; when it is altogether improbable that the juice oozes from fine natural pores, and so lure the bees on to this Baccchanalian feast. I have never had an opportunity to prove this to be true, but from numerous reports I think it is the solution of those dreaded onslaughts, which have so often brought down severe denunciations upon the bee-keepers, and as bitter curses upon their owners.


THE ORIGIN OF THE CEREALS.

Wheat ranks by origin as a degenerate and degraded lily. Such in brief is the proposition which this paper sets out to prove, and which the whole course of evolutionary botany tends every day more and more fully to confirm. By thus from the very outset placing clearly before our eyes the goal of our argument, we shall be able the better to understand the reasons why we give such items of the cumulative evidence is really telling. We must endeavor to start with the simplest forms of the great group of plants to which the cereals and the other grasses belong, and we must try to see by what steps the primitive type gave birth, first to the brilliantly colored lilies, next to the degraded rush-like sedges, and then to the still more degenerated grasses, from one or the other of whose richer grain man has finally developed his wheat, his rice, his millet, and his barley. We shall find the essential pedigrees of wheat from the time when its ancestors first diverged from the common stock of the lilies and the water-plants, to the time when savage man found it growing wild among the untold plains of prehistoric Asia, and took it under his special protection in the little garden-plots around his wattle hut, whence it has gradually altered under his constant selection into the golden grain that now covers half the lowland fifth of Europe and America. There is no page in botanical history more full of grasses and cereals, than there is no page in which the evidence is clearer or more convincing for those who will take the easy trouble to read it. — Popular Science Monthly.

THE FLOATING GARDENS OF MEXICO AND THE GARDENS OF BRAZIL.

Through all their Arab-like wandering, wherever they abided for a time, the Aztecs were wont to cultivate the soil; and when settled—frequently environs by barbarous enemies, as they were—in the midst of a great lake where fish were remarkably scarce, they devised the ingenious expedient of forming floating gardens and fields and orchards on the surface of the tranquil waters. These they wrought skilfully of the roots of the aquatic plants woven together, wreathed and intertwined with branches and twigs, till they had secured a foundation of sufficient solidity to support the soil, composed of earth substance from the bottom of the lake.

Ordinarily these floating gardens were elevated about a foot above the surface of the water, and were of oblong shape; and in the daytime, were adorned with vegetation, comprising countless varieties of flowers, vines, and shrubs, presenting raft-like fields or gliding gardens of marvelous beauty and luxuriance. These famed chinampas, along the Viga Canal, finally became attached to the mainland comprising the grounds situated between the two great lakes of Chioaco and Tezcuco. Little trenches filled with water seem to separate the gardens, and miniature bridges connect them with the main land. The Indian proprietor dwells in a humble hut, situated
in the midst of his floating fields. From March to June the latter are one mass of floral beauty—a flowery sea, in which the many varieties of the rose prevail, while other flowers add their varied tints and perfumes, prominent among which are variegated garlands of carnations, poppies, sweet peas, jessamine and other gifts of the munificent flora of Mexico.

When the City of Mexico was taken by the Spaniards under Cortes, in 1521, it occupied several islands in Lake Texcoco. The water, from various influences, chiefly volcanic, has since receded, and the city, although still retaining its ancient site, is now two miles and a half distant from the lake. At the time of the Spanish conquest, it presented, however, very much the appearance of Venice—"a city in the sea, thronged on her hundred isles"—the margins of whose broad and narrow canal streets were in many places lined with splendid mansions.

According to ancient Spanish history the native Mexican had at that time attained a high degree of perfection in various arts, for which they do not appear to have been in any degree indebted to the civilization of the Old World, and which must have been an outgrowth of indigenous talent. Especially in the cultivation of the soil, by which the fruits and flowers of this tropical region were developed, were the native Mexicans highly skilled.

The fertility of these floating gardens, owing to the abundant advantages noted for modern Oriental gardens, and the early chronicles describe them as literally covered with flowers and fruit. The City of Mexico is still to a great extent, supplied from floating gardens with fruit, vegetables and the choicest floral productions, constituting an industry from which is derived the sole support of the inhabitants of some of the villages situated on the shores of the lake, who are, indeed, descendants of the aboriginal race who fell victims of the treachery of Cortes. Two of these villages, Santa Anita and Ixtacaecno, New Mexico, are noted for their beautiful flowers, and, at certain seasons, their floating gardens are in full bloom, they are favorite resorts for pleasure parties of the citizens.

The region of Entre-Rios, in Brazil, has many noble gardens. The magnificent bay of Caranamara, along the shores of which the public Passelo stretches for a considerable distance, has been celebrated for its beauty ever since the first settlement of the Portuguese in the Brazil. At a time when, unadorned by art, or any handicraft except that of Nature, in a climate sublime and ethereal, this shore was called "The Walk of the Lovely Nights," Vieira de Almeida, in 1555, wrote enthusiastically of the bay of Caranamara, and declared that nothing but the Bosphorus could be compared to its beauty. He describes, as well, the beauties of the gardens of Rio, which, in their antiquity, were marvels of sublimity. During the government of the fourth viceroy, Luis de Vasconcellos, in 1778, the present public promenade was created. A great part of the ground now occupied by the promenade when thus projected, as well as that now occupied by the public gardens, was a low and unpromising waste.

CONDENSED WISDOM ABOUT OYSTERS

Half the people are always convinced that raw oysters don't like them. They only do it because it's a nice dish to order and smacks of good living. Now, when a man orders half a dozen of the largest oysters it certainly can't be because he likes the flavor as a big oyster has not the choice flavor that epics pretend to like. Big oysters ought only to be cooked, and small ones reserved for raws; but if you venture to serve a dozen small oysters on the shell, people think you are cheating them. What do I consider the best oysters? Well, the Shrewsburys. They have a different color, and a sweet, delicate flavor that no other oysters rival among any other. But there isn't one man in 500 that can tell the difference between Shrewsburys, Long Island, Mill Ponds, East Rivers, Providence River, etc. They think they can, so it's all right. At a good many eating houses you can get any kind of an oyster, in seas-n or out, but they all come from some scrub bed. The largest are labeled Saddle Rocks, another size and shape Blue Points, and so on. Blue Points are perhaps the most in demand now; they cost from $4.50 to $6.50 per barrel. East Rivers are estimated the best by a good many, but there isn't a man in 500 that can place in the market taste. They range in price from $4 to $9 a thousand, according to the demand and the supply. The consumers don't feel the rise and fall. It is felt only by the wholesalers. Some of the largest oysters come from Old Point, Fortress Monroe. From there they reach Baltimore, and so travel north. Baltimore is the big oyster depot, and they put up immense quantities in cans. It's a great sight to see 50 or 100 darkies shucking oysters as fast as the smacks unload them. A smart man ought to open from 4,000 to 9,000 a day. I understand a team of four men have taken $230 profit out of a barrel of oysters and given them about $23, Baltimore prices. Oysters are eaten here, of course, all summer, but summer is their breeding time, and they ought to be left alone. They're not up to the mark until the water gets cold.

COLUMBIA SALMON

Speaking of the salmon fishing interest a Portland (Oregon) correspondent of the San Francisco Chronicle says: The fishing season lasts four months. A boat net and signal-light costs from $400 to $600. There are thirty-six canning firms on the Columbia river, nearly all of them being at Astoria. There is a general disposition to center the salmon-canning business at that ancient little town, as it seems to be the cheapest place of operations, for if the fisheries were further up the Columbia, tug-boats would have to be employed to bring in the fish; but, as the last place, from the mouth of the Columbia is very stormy during the fishing season, during which there is often loss of life and a great deal of danger and hardship. This is one reason the Columbia salmon cost more than the Sacramento salmon. Fishermen who have their own boats and nets are paid sixty cents a salmon weighing eight pounds. Those whose boats are furnished by the company are paid forty-five cents a salmon. One of the firms has raised the price to seventy cents a fish, but the others refuse to see the elevation of our salmon are packed in one-pound cans, and forty-eight cans make a case, the average price of a case being $5 or $5.20. The product of the thirty-six canneries on the Columbia river last year was 550,000 cases, worth $2,750,000. It is estimated that the capital invested in these thirty-six canneries is about $2,000,000. When it is known that fishing boats cost $500 to $600 each, and that some of the fishing firms have 100 boats, and that a total of about 7,000 men are employed, the cost can be readily understood. About one-third of the salmon product is shipped to San Francisco for reshipment to Australia, the Eastern States, and islands in the Pacific ocean. The remainder is shipped direct from Astoria to Liverpool or London. One vessel recently left with 70,000 cases, worth over $350,000, the most valuable cargo of salmon ever shipped from the Pacific coast.

The continued run of salmon in the Columbia is remarkable, considering the great destruction of fish by traps and the merciless iron wheels that impale them like the Spanish garotte. There is a sentiment in favor of abolishing this wholesale destruction of fish, and it is very likely that a law will be passed prohibiting it. The law against fishing between Saturday night and Monday morning is not rigidly enforced. This law was passed in order to allow the fish to ascend to their spawning grounds. But in this wholesale and untimely destruction the people are deprived of the very source of their revenue. It is proposed by the cannerymakers to establish a hatchery. Some "public spirited" people think the State should establish a hatchery for the benefit of cannery establishments. Yet the cannery men, year after year, packed from 400,000 to 550,000 cases, depending solely on fish that escape to their natural spawning grounds. It can be easily estimated what a future awaits this growing industry when a hatchery has been established able to turn out millions of fish annually, and their wholesale destruction stopped. Perhaps then 2,000,000 cases might be packed, which would yield a revenue of about $10,000,000, about one-fourth of which would be net. During the last fifteen years the revenue derived from fishing in the Columbia river was about $25-000,000. There were 600,000 cases of salmon packed on the Pacific coast last year, the value of which was $4,300,000. This would leave 300,000 cases for canneries outside of the Columbia river. When salmon fishing began here fifteen years ago the price was about three times what it is now, or $15 a case. If the wholesale destruction of fish is not stopped, and hatcheries are not soon established, the supply will fail; and the last run of salmon, and the price will advance.

But there is considerable salmon fishing in Alaska, three cannery men being in existence there, and recent reports refer to the establishment of another.

The "scooping" wheels, upon which salmon are caught, resemble the old-fashioned "undercut" wheel. They are built upon embankments or projecting rocks, so that the wheel will be in the water when the stream rises. Of course, they are built in the low-water season. The wheels have plank paddles, so that the water running down stream sets the wheel in motion, and the salmon
CONTRACTED FEET AND PROPER SHOEING.

Contracted feet are more commonly the consequence of lameness in horses than the cause. Any diseased condition inside the hoof, giving rise to an unusual degree of heat, leads to a more rapid evaporation from the surface of the horn, to drying and shrinking of the hoof and to absorption of the soft parts within. The shrinkage or narrowing takes place, especially at the heel, where the foot has not a long, but only an elastic cartilaginous internal support, which yields easily to any pressure from without. When this condition, which always coexists with this drying due to disease, is the disease of the heel by the animal standing on its toe or removing the weight from the entire foot. When the foot is planted on the ground and the weight thrown upon it, the soft parts descending within the hoof tend to press it outward, and as a matter of fact the hoof does actually expand at the upper part (next the hair), and thus the natural tendency of the unused elastic horn to contract is to a great extent counteracted. This is therefore the most common cause of contraction, and in many cases even contracted feet is it well first to look for some existing disease, such as corns, bruises, pricks, other wounds, graveling, thrust, inflammation from uneven bearing of the shoe, from the nails being drawn up too tight, from navicular disease, from ringbone affecting the second or third phalanx, and so on.

Apart from any disease sufficient to cause lameness, contraction of the feet sometimes goes on to an extremely degree, until indeed one heel may meet the other, and yet lameness is not induced. Yet if contraction takes place without any such disease as a long period of rainless weather following a wet spring, the compression of the soft part by the dry and shrinking horn will cause inflammation and lameness. During the past dry summer this was not at all uncommon, and the thus started bade fair if neglected to go on to serious structural disease and permanent lameness. Contraction caused in this way may be counteracted and corrected by measures calculated to soften and expand the horn, followed by such as will retain its natural moisture, and give proper bearing to the shoe. To saturate the contracted foot, keep the unshod animal standing every day for sixteen hours in a stream of water coming up to the hair round the top of the hoof, or in a soft bucket or clay tubule closing in around the foot to the same level. In frosty weather a warm poultice placed in a strong bag drawn over the foot is preferable, the more so that it can be kept applied both night and day. At the end of a fortnight the foot will usually be found to have expanded to its natural dimensions.

If there is much lameness it will be desirable to apply a blister on the front and sides of the pastern during the period of poulticing. This may be repeated and the poulticing continued if lameness remained at the end of a fortnight. As a blister the following may be rubbed into the skin on the front and sides of the pastern: Powdered cantharides, one-half dram; oil of lavender, ten drops; olive oil, one ounce. It may be repeated the second day if heat and tenderness have not been induced by the first application, also as soon as the effects of the first application have passed off and the resulting scaling has been dropped off. When lameness has disappeared and the hoof has been sufficiently expanded, it should be dressed carefully, going the same height to the wall at all corresponding points on the inner and outer sides, and paring heel and toe in proper ratio with each other, the sole being left as far as possible to come to the heel with the hoof wall at all points and to furnish with it a surface of bearing for the shoe. The shoe should be perfectly loose and smooth, and when applied should press evenly at all points. It should be drawn only moderately tight, and on giving the horse to understand the use of the file should be as far as possible avoided. The horn is formed of a series of pus tubes with an intertwining cellular structure, and when the rasp or file is used so as to expose the open ends of these tubules the contained moisture escapes, the horn withers and the soft parts may be injuriously pressed upon. For this reason the use of the file on the front of the hoof is to be severely deprecated. I should only be used on the lower edges of the wall where it projects over the shoe, and when the sharp edges might otherwise split up. For a similar reason, the sole should never be pared down into the tough elastic horn, though all sealy masses on the surface may be safely removed. After shaving, the use of a hoof ointment will serve to prevent evaporation and drying, and is absolutely needful after the foot has been softened by poulticing. A mixture of equal parts of wood-tar and sweet-oil will answer admirably. This brushed daily over the entire surface of the horn—wall, sole and frog—will usually preserve a sufficiency of moisture and the natural elasticity and toughness.

OUR WOODPECKERS.

"I fast thee named all the birds without a gun! Loved the wild rose and left it on its stalk! O, be my friend, and teach me to be thin!" said Wilson.

When Wilson, the ornithologist, came to this country, the first bird he saw and secured was the redheaded woodpecker. His sensations of delight and admiration were remembered years after, when he gave it a prominent place in his book and described it as the most beautiful bird he ever beheld.

This bird, Picus erythropsopus, is one of our most common woodpeckers, and with such brilliant colors and active habits is also best known. It must be a very unobservant person who does not know a "red-head." The glossy black body, with broad band of white across the back, is headed by deepest crimson, the color extending far down the neck. The red-head likes to stay about the orchard in fruit time, and we can imagine his crimson head grows brighter from being so often dyed the blood of cherries, and the children know that the best cherry tree in the neighborhood are the ones he has tasted. Wilson says: "He is of a gay and frolicsome disposition, and half a dozen of the fraternity are frequently seen diving and vociferating around the high dead limbs of some large tree, playing with each other, and amusing the passers-by with their gambols." But though he is not above recreation, his general air is business-like, and his business is to catch worms. Not the worm
The committee designated by the Legislature to take charge of this important matter comprises Governor William T. Hamilton, ex-Governor John Lee Carroll, ex-Governor Philip F. Thomas, Hon Lloyd Lowndes and Professors P. R. Uhler and Ira Remsen. The committee have therefore called together on Wednesday, but Professor Uhler who is thoroughly conversant with the resources of the State and its needs, is fully competent to furnish at any time all the information the General Assembly may require on which to base proper legislation and in Professor Remsen he would find an equally able scientific coadjutor. The resolution of the Legislature implies that some replanting had been practiced before 1882, but restoration has never been carried on to any considerable extent. The importance of trees to the health, safety and prosperity of any country is well recognized. Here forest-destroying begin with incursion from "blizzards," and retain the rainfall and melting snows sufficiently to prevent sudden torrents and consequent flooding of large rivers, which are usually attended by destruction of property and even of life. On the other hand, too, they help to make springs which supply the tributaries of the larger streams. Hillsides covered with trees and undergrowth retain the water and ooze it off gradually to the springs, or permit it to trickle through rocky crevices and converge in the streams of lower levels. Where the trees are destroyed and the hillsides are bared by the rain, "rushing down" by a single impulse, to swell into floods and overwhelm large areas of cultivated territory; while that which falls on the disintegrated rocks is held as in a sponge, and is parted with chiefly by evaporation into the atmosphere.

The most extensive tree planting which has been practiced in Maryland has been done this spring by Mr. Robert K. Martin who has set out 12,000 forest trees of different varieties on the line of the Gunpowder river, eight miles from the city. These trees have been scattered over 54 acres of land owned by the city at Loch Raven. Mr. Martin, who is the civil engineer of the war department is in the habit of going through the city and selecting large areas of cultivated territory; while that which falls on the disintegrated rocks is held as in a sponge, and is parted with chiefly by evaporation into the atmosphere.

The most observable of these efforts is the planting of an orchard of sixty apple trees; we had no rain or snow all that winter till May that moistened the dry earth over an inch, and then I hauled water to the trees every week; yet of the sixty trees only three or four lived. The next fall I again planted the orchard, and as the ground was then more moist, every tree grew, and most of them are yet living, though far past their prime. The winters were so mild and warm that I saw a neighbor's wheat field containing more oats than wheat, and that was the only winter that oats was not killed by freezing or that I saw a plot of a crop of wheat and oats growing together on the same ground.

But again a change came over the spirit of our dreams—of growing tropical fruit out of doors, as from 1825 the climate changed again, and we got plenty of rain and snow. I well remember that on April 23th, I think it was the spring of 1828, a snow fell 18 inches deep, blocking up the roads so that Supervisors had a big job on hand for a week, I sent my hired man to mill with a two-horse team who was not familiar with the road, and his team stuck fast in a snow drift.
through a public road thirty-two feet wide. He came home with the horses, and we had to go and dig out the wagon. It was quite warm in March and the early part of April, and the peaches were already as large as small shot, but not a peach was left on the tree; indeed, all the leaves and young growth of that spring, even in the woods, were frozen black, and all the new growth fell off. Some say the seasons repeat themselves; if so, then we should have a series of dry and mild sea, soue before many years. — J. H. Gatch in New Era.

ABOUT ALLIGATORS.
Six thousand baby alligators are sold in Florida every year, and the amount of ivory, number of skins, and quality of oil obtained from the older members of the Suwanee family are sufficient to entitle them to a high place among the products of the State.

The hunted all young "gators" at $25 per hundred, and the dealers from 75 cents to one dollar each. Live alligators two years old represent to the captor 50 cents each, and to the dealer from two to five dollars, as the season of travel is at its height or far advanced.

A 10-foot alligator is worth $10 and one fourteen feet long $25 to the hunter, while the dealer charges twice or three times that price. The eggs are worth to the hunter 50 cents per dozen and to the dealer 25 cents a piece.

The dead alligator is quite as valuable as the live one, for a specimen nine feet and reasonably fat will net both branches of the trade as follows:

<table>
<thead>
<tr>
<th>THE HUNTER</th>
<th>THE DEALER</th>
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<tbody>
<tr>
<td>Oil</td>
<td>$5.50</td>
</tr>
<tr>
<td>Skin</td>
<td>$1.00</td>
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<tr>
<td>Head</td>
<td>$1.00</td>
</tr>
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<td><strong>$7.50</strong></td>
<td><strong>$8.50</strong></td>
</tr>
</tbody>
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The value of the head is ascertained by the number and size of the teeth. Dealers mount especially fine specimens of the skull, but the greater number have no other value than that of the ivory they contain.

The wages of the hunter depend, of course, upon his good fortune in finding the game. One of the most expert of these gives as instances of successful hunts the items of three days’ work which yielded thirty-nine dollars and seventy-five cents; of six days with a yield of twenty dollars and ten cents, and of eight days’ hunting which netted forty dollars and twenty-five cents.

Without speaking of those enemies of the "gator" who hunt him for sport, there are about two hundred men in the State of Florida who make a business and try to make a living by capturing or killing him. Very many have eaten alligator steaks from simple curiosity to learn its flavor; but many more eat it because it is the cheapest, and, oftentimes, the only meat they can afford. The flavor when it is fried or broiled is that of beefsteak plentifully supplied with fish gravy, while the fore-legs roasted taste like a mixture of chicken and fish, and have a delicate flavor.

Very methodical in his habits is the alligator, and very suspicious of anything around his home. When he starts out in search of food it is invariably an hour after tide has begun to ebb, and he returns about four hours after low water. If he has a land journey to perform, he goes and comes by the same route, never deviating from it until he sees evidence that strangers have tramped on his domain. He lives on the banks of some stream, for he has decided objections to stagnant water, and to make his home he digs a hole at least twelve inches below the level of the water. This whole is perfectly straight, although on an incline, and from twenty to thirty feet in length, terminating in a chamber sufficiently large to admit of his turning in it. There he or she dwells alone, save when the female is caring for a very young brood, in which case the one room is converted into a nursery.

Full-grown alligators not only do not occupy the same hole, but they will not live near each other.

The alligator usually lays her eggs about the first of July, and during the month of June she is busily engaged in preparing a cradle for her young. Selecting a place on the bank of some stream or creek, she begins work by heaving hard and level with her tail an earth platform about six feet square. She scrapes together with her fore-feet, oftentimes from a distance of fifty yards from the proposed nest, dried grass, sticks and mud, until fifteen feet of the material is in a place convenient for her purpose. On the day following the completion of these preparations she lays from thirty to fifty eggs on the prepared ground, and piles over them dried grass and mud deftly worked in with sticks until a mound six feet in diameter and three feet high has been raised. The surface of this is quickly hardened by the sun, and in order that it may be as nearly air tight as possible, the female visits each day, covering with mud any crevices that may have appeared, as well as remodeling such portions as do not satisfy her sense of beauty.

The ordinary time of incubation is about two months, and then the newly hatched brood may be heard yelping and snarling for their mother to continue her work by releasing them from their prison nest. On the second or third day after the first noise has been heard, the female bites a hole in the side of the mound, out of which the young ones, barely more than eleven inches long, come tumbling in the most vigorous manner, crawling directly toward the water. Until the young are three years old the mother exercises a parental care over them, always remaining with them, and so much to protect them from their natural enemy, man, as to prove a constant menace to their father, who has an especial fondness for his own children in the way of food.

When the hunter finds a nest, he carries the eggs home to hatch them, where he can easily capture the brood if the eggs are fresh or if the young in them are not more than five inches long; at any other stage they will not hatch if removed and are of no value except for the shell. The captured eggs are then packed in straw as nearly as possible in the natural way, and the process is then repeated with success. One farmer reared sixteen hundred and another a thousand last season. The young will eat immediately after coming out of the shell, but they thrive best if given no food for at least three months.

The cry of a full-grown 'gator is not unlike the bellowing of a bull, except that it is of more volume, since the voice of a male can, on a calm day, be heard a distance of five miles; and they may be said to be sun worshippers, since, they seldom "resolve themselves into song," save at the rising of the sun; in fact, the only exception to this morning melody is when a storm is approaching. The average Florida "cracker" needs no other barometer than the alligator in the neighboring creek or swamp.

One comes to be astonished at the volume of sound which comes from these monsters when he sees a full-grown one put forth all his force in the act of cackling. He stretches his body to its full length, inhaling sufficient air to puff him up nearly twice his natural size; then, holding his breath, as it were for an instant, he raises both head and tail until he informs the segment of a circle. When all is thus complete, the "roar" comes with sufficient force to startle one, even though he be prepared for it. Since, in order to guard his head, the alligator is obliged to turn his body somewhat and since, when his jaws are once closed, it is not to be opened, it is necessary for a moderate amount of strength on the part of man to be met, the hunter selects this point for attack when it is possible for him to steal upon his game unawares. If the intending captor gets a firm hold upon the jaws of his game in this way, the monster becomes reasonably easy prey; one rope soon secures his jaws, another is tied around his neck and fastened to a tree, while a third secures his tail in the same way, thus stretching the captive in a straight line; his fore paws are tied over his back, a stout pole is lashed from the end of his snout to the tip of his tail, and the 'gator is helpless.

It is seldom, however, that the hunter gets his game at a disadvantage, and to secure him alive he must set about the work much as boys do when they snare rabbits. A tall, stout sapling near the water’s edge is the first requisite, and directly in front of that in the water, a narrow lane or pen is made with stakes, the two outer ones being notched, as in the spindle of a box-trap. At the end of this pen, and nearer the shore, a stake is driven into the mud, and on the top of it is fastened a piece of tattered beef. A stout rope at one end of which is a large nose, is fastened if and to the top of the sapling and to the upper part of the nose is attached a cross-bar, or trigger, which, when the tree is bent, catches in the notches on the outer stakes just below the surface of the water, the nose hanging around the entire opening. To get at the meat the alligator attempts to swim under the bar, but his back disables the trigger, and he is a captive, with the rope fastened just back of his fore legs.

It is necessary to bind the captive while he is in the water, and then to carry him to the shore in a boat; for, unaided as he is, he can be drowned if dragged through the water. When once properly secured and on land, the alligator can do nothing in the hope of effecting a release, save to roll over, and this he does by a mighty effort with his shoulders, frequently working himself over a quarter of a mile in distance in a single night.

Those who are familiar with the habits of the alligator, as seen in the Southern States,
believe his partiality for decayed food does not arise from any particular favor it may possess, but simply because in a putrid state any form of meat, however costly, is apt to fall apart and mastiuated when fresh. Although the possessor of so much liver in the shape of teeth, and able to use its jaws with so much power, it is an extremely difficult matter for an alligator to dismember a pig, even after the flesh is decayed. While the meat is yet firm and the muscles intact, it is an impossibility for him to do other than swallow it nearly whole, as he sometimes does when he is interrupted shortly after he has killed his prey. That alligators do like fresh food when it is possible for them to eat it is shown by the fact that fresh fish and small turtles are their favorite diet. In the stomach of a 12-foot alligator there have been found six catfish, none of them mutilated, weighing altogether 54 pounds.

If one believes implicitly the positive assertion of the alligator hunters, he must perform as say no man knows the span of life allotted these Saurians. The native Floridian, as well as the hunters, will insist that the largest of the 'gators are more than a hundred years old, pointing to the fact of his slow growth in proof of the assertion. A newly-hatched alligator is eleven inches long; at the age of six years he is very slim and but three feet in length; at ten years of age he has gained considerabily in breadth and but twelve inches in length, while during the next two years he has grown hardly more than one inch longer.

An alligator fifteen feet in length, caught near the mouth of the St. John's river, was so covered with barnacles and marine growth as to make it almost certain that he must have been in existence seventy-five years.—James Otis in Our Continent.

Our Local Organizations.

The Agricultural and Horticultural Society.

The regular monthly meeting of the Lancaster County Agricultural Society was held on Monday afternoon, June 4.

The following members were in attendance: Calvin Cooper, Bird-in-Hand; Casper Hiller, Conestoga; John C. Livillie, Sadafbury; Henry M. Engle, Marietta; W. H. Brosius, Drumore; Ephraim S. Hoover, Manheim; C. A. Reif, R. F. Diffenbacher, J. M. Johnson, F. S. Pyrer and Peter Hershey, city; S. Hoffman Hershey, Salunga; Levi S. Reist, Manheim; Peter S. Reist, Little; C. L. Hunsicker, Manheim; John R. Backwater, Salisbury; J. B. McDaniel, Holtwood; and Charles Moyer, Bird-in-Hand.

In the absence of the President, Vice President Engle took the chair.

On motion, the reading of the minutes of the previous meeting was dispensed with.

Crop Reports.

Casper Hiller said the wheat fields on the whole look very well. Some are very rank where tobacco was grown last year. Grass is excellent. Fire will be tolerably plenty. Peaches are well set. Cherries are very full. Small fruits of all kinds promise well. Corn is pushing along slowly.

Calvin Cooper made a similar report. Grass was never better set. Wheat looks very well. Corn looks sappy and comes along slowly. Tobacco is ready to plant. Peaches are well set.

Levi S. Reist knows of a number of wheat fields sown on the 26th of September, which will not make half a crop, because of the ravages of the rats. John C. Livillie reported some poor wheat fields the fly being very bad; grass is the best in years; corn is small; oats is very backward; fruit promises very well.

Peter S. Reist said nearly all crops save apples and wheat will be fully up to 100; grass is extra-ordinary; core is up and growing; so is oats; small fruits are growing. Hoffman Hershey reported a fine prospect for the coming season. Wheat has no fly in his neighborhood. He found the apple crop would not be heavy; they seem to be falling. Tobacco looks well so far as planted. Small fruits promise well.

Mr. Cooper remarked the curriculo had so far done very little harm. The plums and gages, and the trees were very full.

H. M. Engle thought wheat was a little too rank; he feared excessive heat and showers would make it lodge. The clover is as good as ever we had it here. Corn grows too fast. Some of the sweet-potato leaves look very fine. The potato beetles are very scarce. In his neighborhood the curriculo is doing much damage. The corn crop is unusually large. Pears and apples will not be a full crop.

Casper Hiller read the following on Paulownia Imperialis.

This magnificent tree is not receiving the attention it deserves. Its royal color and the clusters of its sweet-scented flowers are beautiful. The tree, if severely shortened in when young to keep it from becoming too straggling, makes one of our best trees for ornament. The tree is perfectly hardy. As a quickly available tree, it has no equal. It far out-classes the 'gators as a tree. Early in the season, before the leaves are out, it is possible to plant this tree. Its compact growth is the chief objection that it should not be planted near a dwelling. The Paulownia wood, for durability, is not exceeded by anything, unless, perhaps, the locust. The timber is said to be the best class for cabinet work.

To give an idea of its growth we cite a tree growing in Independence Square, Philadelphia, 35 years old, measuring 8 feet in circumference and about 50 feet high.

A tree 18 years old, that I had occasion to remove about 8 years ago, measured 18 inches in diameter. Some of this wood was left lay around purposely to test its durability. It is to-day as sound as locust wood would be under similar conditions.

This growth exceeds the locust by far. The locust, too, is more resistant to bores and other insects while the Paulownia is so far insect proof.

This tree is well adapted for the planting on hillsides. It should be planted thickly, say from four to six feet apart, to make them grow straight and upright. If the trees, two or three years of age, are cut down, there will be no difficulty in growing straight stems, as they then make shoots of 10 to 15 feet long in one season.

After three or four years more, the thinning out will pay for all the labor expended on the planting. These poles, from ten to twenty feet long, are excellent for fencing or for fuel. If some of our creek hills, that are annually having their soil washed away until they become barren wastes, and are already eyesores, would be planted with these magnificent Paulownias, they will become a thing of beauty to the country and a joy to their possessors.

Calvin Cooper reported that the growth of the above tree was all Mr. Hiller said, but with him it was winter killed. He had it in the nursery, but the growth was checked by these repeated winter killings.

Mr. Hiller said this tree was a profound seed bearer and can be readily cultivated. A young tree on his premises has increased at the rate of one inch in diameter per annum. The Catalpas do not make more than one-fourth the growth of the Paulownia.

Has the Self-Binding Reaper Been a Success? A question often asked the late Professor A. H. Pyfer was in the affirmative. There has been no greater progress in agricultural machinery at one step than this machine. It does its work cleaner and better than any other plan. He has used one with uniform success. It takes up lodged grain better than anything yet devised. This puts the sheaves in excellent shape. There are fewer rakeings. It cuts twelve acres per day; a very good day's work. He used the Osborne machine, but said there were others that were better. It is not necessary for every farmer to have one. A number of farmers can use the same machine. The Osborne machine does not make the sheaves a uniform size.
Answering Questions.

E. H. Haines asked how the members’ corn had come up and why there was a failure, which is to be attributed to... rain, some had trouble and attributed it to the imperfect seed. One said he selected his seed in the fall and put it in the kitchen store, and never had any trouble to get it to grow.

Solomon Gregg cited a case where a neighbor of his had done similar to this, and there was very little came up, and afterwards got seed from his crib, and this came up very well. Judge Brown stated he has for over twenty years selected his seed corn in the fall, keeping it near the kitchen stove, and never has had any trouble, always coming up, no matter what the condition of the ground or the weather.

It is not the usual opinion of all present that by a judicious selection of seed in the fall and keeping it in a warm and dry place, there will be no trouble in getting it to grow.

Lindley King asked what is the reason the hogs are eating the bark off of apple trees this season more than is usual? The club was not aware that this was the case. It was thought to be a habit that hogs get into, and the only remedy is to take them away from the trees.

Wm. King said that—at a former meeting of the club the question was asked if it was better to cut clover green or let it get quite ripe, and he now asked the club if they have changed their opinions since then.

All present preferred cutting before it was too ripe and the question was raised what constituted ripe-ness. The heads turn a dark color or when the blossom was dying, was thought what would be meant by the ripe state.

Rebecca Haines asked which is the most nutritious canned or dried fruits.

This question raised quite a discussion as to the canning of green apples to a dried state, some members contending that the dried fruit was as nutritious as the canned, that the drying process only took the water out and the fruit still retained all the nutrition. But at the same time all preferred the canned fruit as it was more palatable. Others held the opinion that the drying process, while taking the water out, also takes a certain quantity of nutrition and consequently is inferior to canned fruit.

[This is an important question and the club would be pleased to have a scientific answer to it from any person they may be willing to take the trouble to answer.]

Esther Haines said the worms were very bad on the currant and gooseberry bushes and asked if any one present could give a remedy.

Lazman Blackburn uses with good results dry coal or wood ashes dusted on the bushes when they are young.

Mary Stubbs uses the ashes above and it is satisfactory.

William King said white heliothele clustered on the bushes when wet was recommended.

Monty Brown wanted to know what prospect there was for fruit.

E. H. Haines: There is going to be the largest crop of cherries there has been for years, an average crop of apples and some pears.

Solomon Gregg, so far as he has observed, thinks the prospects are good.

Josiah Brown reports cherries full, apples and pears poor, and wild goose plums a failure.

S. J. Bennington (fruit tree agent) says his observations are a large crop of cherries, not an average crop of apples but a fair crop of peaches and pears.

Club then adjourned for dinner. After doing jus- tice to the good things set before them, they spent some time looking at the host’s stock, farm, etc.

Afternoon Session.—After resembling for the afternoon session, the minutes of the previous meet- ing held here were read.

Criticism on the farm management was then called for. As usual the remarks were all of a favor- able character. Mr. Brown’s fine flock of sheep and

Agriculture.

The Crop Outlook.

The Agricultural Bureau has made its May crop report, and in the main it confirms what we have been told by private estimates, that the wheat crop of the country will fall short of last year’s crop by from 16,000,000 to 100,000,000 bushels.

The average is lower in a number of States than it was in April, most notably in Ohio, Michigan, New York, Illinois, Missouri, all important wheat growing localities.

Most of the Northern States show an improvement as do also the Southern States and those on the Pa- cific. Oregon shows an improvement equivalent to

Linnæan Society.

The Linnæan Society met on Saturday afternoon, May 26, 1843, at 2 o’clock, in museum rooms, Y. M. C. A. building. The president, J. P. Wickersham, in the chair, and eight members in attendance.

There were also three Indian girls from Carlisle present as visitors. The minutes of the previous meeting were read in part, and dues collected, after which

Donations to Library

were examined and found to consist of the following:


The donations to the Museum consisted of the following:

A specimen of the pupa of a species of Philoptera, commonly called "May-fly," from Waltham, South Carolina, sent by mail, by Dr. Wm. F. Fahnestock. This subject may be P. hinsata, as that species occurs in the South; but, from the pupa alone, without previous identifications, it would be impossible to pronounce upon the species, especially after it had been immersed for some time in alcohol, and afterwards shrunk and dried. Philoptera bifascia is common to Lancaster county, but has also a wide geographical range found along the Ohio and Mississippi rivers and their tributaries.

Very few bumble bees or wasps were seen, as the flowers were in the bloom, and ignorant of these insects are short-lived, it would be more proper to name them "Day-flies." When the wasps and bumble bees are aquatic, and remain in the water a whole year, annually crawling out of the pupa form, and adhering to almost any object that is convenient, the fly revolves first as a subimagoo, and then the true winged animal, perfectly harmless, being destitute of mouthparts or possessing them only faintly rudimental. They are long boiled, with the wings erected—back to back—like those of the common yellow butterfly, and have comparatively two very long and illustrious or oval, and very long anterior legs projecting forward, as a south cotton, and finely reticulated wings, the anterior pair being about three times as large as the posterior pair. They have a sluggish flight, and multitudes of them are sometimes found sitting on fences and other objects in large numbers. They are a favorite subject of study, of course, they can eat nothing, and the whole busi- ness of their brief lives is devoted to the perpetua- tion of their species. The eggs are deposited on the water, sink to the bottom, and are soon hatched, and the wax-like cocoons, of mud, algae and perhaps other small aquatic animals.

A species of "Anointed Oat"—Arelda steriis, cultivated by some gardeners as a vegetable curi- osity. The curious thing about it is, that when laid on a smooth surface, paper for instance, and a sus- cession of moderate blows are struck on the paper near it, it will move towards the point of concussion, and follow the blows in any direction they are made.

The outer surface of the shell of the oats is densely covered with long finely barbed bristles or setae. In its absence it is equally able, through the elastic and barbed character of these bristles the apparently unanimated movement supervenes.

Dr. S. R. Rathvon stated that the canons of the "Saddleback moth"—Euproctis sallata—noticed in the May number of the Lancaster Farmer, and which still contains the living larvae of that insect on the 3d of May, and almost in the fortnight during May, were questioned—"Why so few yellow plumes."

Very few yellow plumes were observed, the time between these two dates. Removal from the open air to the house may have hastened this trans- formation, but it also may have retarded it. It is difficult to artificially preserve all the conditions that would accomplish the final evolution to the moth state; but, from the healthy and plump appearance of the pupa, I entertain the hope that I may succeed, although I have often failed.

The pupa is of a clay yellow color, nine-sixteenths of an inch in length, and about the same in circumference, and has the pincers and the hump characteristic of the caterpillars. A caterpillar, "as a wild and savage," in general, although not exactly belonging to that family, under its modern elaborations and re- strictions.

Prof. J. S. Storer read a very interesting paper on "Vegetable Monstrosities," illustrated with a speci- men of the common Indian turul, which was the consolidation of six stems into one, while the number of spindles was a good deal more. Miss Lefevre exhibited specimens of the Tamark (Tamaris galli- ceus), and American Larch (Larix americana).

Mr. Harris was also present, who was admitted to the Academy of Natural Sciences, for their publica- tion, and asked that the same be approved, which, on motion, was done.

Committee on by-laws further continued, after which society adjourned to meet on Saturday, June 30, at 21, P.M., in Muscota.
THE LANCASTER FARMER.

[June.

Forcing Apple Trees on Off Years.

Ase A. Curtis, of Stratford, has tried an experiment in apple growing, the result of which will be of interest to all those who raise apples for their own use or the market.

Having an orchard which produced fruit only on every other year and bearing that the trees could be made to produce bearing season so that every year might mean valuable, he selected a healthy young apple tree eight years ago and for four successive bearing seasons carefully rubbed off every bad as fast as it appeared. For the first three of these years the leaves were removed, and in the fourth year the tree came to bear one year and the others the next there need be no "off year" at all for the apple crop.—Burlington Courant.

Cultivation of Horse Radish.

Any kind of soil will suit horse radish, provided it is cool and moist. A low, moist, sandy soil, well enriched with low-yard manure, is the best. In some experiments, Peru guano, or a mixture of finely ground raw bone-dust and un-leached ashes may be used with benefit; 500 to 600 pounds per acre of either the above fertilizers, or 20 tons of manure, or 10 tons of burned ashes are excellent, but need help; a strong am

FLORAL NOTES.

In a plant is vigorous, and well furnished with foliage. In good health it is a plant that every grower has its particular value, for in a very small space there is less danger of injury from too much water, than if it is scantly watered or in a pot much too large for the root. In the latter case, if the soil is kept wet, the roots decay and the plant dies.

Turk's Aplia, or green fly, is one of the most troublesome enemies of pot-grown plants. It is most easily destroyed by syringing, an operation that will well repay the slight amount of water, and so many. Some plants require more heat than others; and nearly all plants require more heat when growing vigorously, or flowering, when in a state of rest.

To induce a vigorous growth all plants should be grown in good rich soil; composed of decayed turf and well rotted manure, and sufficient sand or road-mix to make it porous, and nearly all should be re-potted as soon as the pots are growing in thoroughly filled with roots. In re-potting use pots only one size larger—or about one inch more in diameter—than the plants have been grown in.

Pests are rare, if protected from the bleak winds. A cold frame is the most suitable place to winter.

Bone Manure for Pastures.

An English paper, commenting upon the subject, remarks that the Cheshire dairy farmer, by free use of bone manure laid on the grass lands, makes his farm which at one time, before the application of bone manure, fed only twenty head of cows, now feed forty. In Cheshire two-thirds or more, generally three-fourths, of a dairy farm is kept in exact pastures, which remain small under in villages. Its dairy farmers are commonly bound to lay the whole of their manure, not on the arable, but on the grass land, purchasing what may be necessary for the arable. The chief improvement besides drainage consists in the application of manure. In the milk of cows in its urine, in its manure, in its bones of calf reared and sold off, a farm parts with so much earthy phosphates of lime as is contained in half a hundred weight of bone dust. Hence the advantage of returning this mineral manure by bone dust laid on the grass land will be more striking. In Cheshire to an imperial acre of grass land is 1,200 to 1,500 weight. This dressing on pasture land will last seven or eight years, and on mowed land about half that period.

Farm Tools and Implements.

A certain number of tools, and some skill in their use, will often save the farmer much time in seed mg for a mechanic and some expense to paying him.
A Mode of Hanging Paper.

A mode of hanging paper on damp walls has been patented in England, and is as follows: Mix half a cup of salt, pepper, and common flour boiled for about ten minutes, until it is well beaten. Store well, and when you want to use it, add to the boiling water. Make sure, with a little rolled cracker, and put the boiling water, then a little milk with sugar dissolved in it; bake in a moderate oven, but brown the pie by setting it in the shelf in the oven.—Baton Post.

THE LANCASTER FARMER

A GREAT Breakfast Dish.

A great breakfast dish can be prepared from the remains of yesterday's dinner, provision for the consumption of which is usually made in a half hour's time. Of course, some allowance will suffice to change a pair of these garments, and make them more comfortable. Cut them open the entire length, then put on a facing on one side and a plait on the other; at proper intervals sew on some small porcelain buttons, and make the buttons-holes, and you will be surprised when you accomplish this that you never thought of doing so before.

Tidies That Will Wash.

No one but the very rich or the inexperienced housewife enjoys using tidies that will not wash, and many women who have not suffered pangs of grief in this matter, some delicate but useless article of this description hanging by one pin in indistinguishable ruins from the back of a chair after the exit of a gentleman friend.

The tidies made of macramé and of the lighter fish cord, embellished with bright ribbons, are really pretty, and can be used with uncompliment. The universal appeal of the fish cord are very easy to make. After making a chain of proper length for the width of the tidies make alternate rows of thick stitches and of chains, so that spaces will be left in which to turn ruffles; the ribbons should be of the exact width of the spaces; black velvet ribbon is also pretty to run in. When it forms a block on the right side work a star in yellow and scarlet silk.—N. Y. Post.

An Excellent Soup.—An excellent soup can be made by taking one can of corn and boiling the corn with an equal part of water in equal proportions; season with salt, pepper and a little cayenne; boil the soup thoroughly, and serve in a tureen. It is very good

Pillows for Lounges.

Large square pillows for lounges andicker-work chairs are ingeniously made of patchwork pieces, small squares and rectangles, which are sewn together, and then the edges are embellished and neatly joined together. The pillow is usually of lace. The corners are adorned with tassels of erlispom floss. Another pretty style of chair cushion is composed of plush and embroidered lengths of velvet and satin. The edge is finished with a corded, which is suitable for corner chairs. Very handsome covers for chifforobes are made of linen with lace strips at equal distance, upon which are embroidered small flowers. The border is knotted fringes with plush band heading.

Washed and Unwashed Butter.

The difference between washed and unwashed butter is analogous to the difference between clarified and unclarified sugar. The former consists of pure saccharine matter, while the latter, though less sweet, has a flavor in addition to that of pure sugar. When washed, there is always a little buttermilk adhering to the butter that gives it a peculiar flavor in addition to that of the pure butter, which many people like when it is new. Washing removes all this matter and leaves only the taste of the butter pure and simple. Those who prefer the taste of the butter to that of the former ingredients, mixed with it like the washed butter best. The flavor of butter consists of fatty matters which do not combine with water at all, and therefore cannot be washed away by it. The effect of washing upon theKeep-qualities of the butter depends upon the purity of the water used, upon the nature of the butter, and upon the manner in which the butter is washed. The result will affect the butter the better it is washed the more important factor in the make-up of the butter is that it is necessary to be very particular not to injure it in any way if we would excel in the art of butter making.—American Agriculturist.

Lemon Custard.—Custard is simply milk thickened with eggs. When a custard is required ralhii amounts of sugar over the pan of lemon to get the "rest." This is a more delicate way than using the juice of the lemon, which is apt to curdle the custard. From the lemon rind you get the gel, which makes a better combination. Take half a pint of milk, boil it in a small saucepan, and pour it into a jug. Put a large saucepan on the fire half full of boiling water. Break two eggs into a bowl and beat up yolks and whites together, adding the hot milk which has been swirled very thoroughly at a time, and beating so thoroughly that all the air of the egg is broken up. When all the milk is added set the bowl in the saucepan of boiling water and stir until the custard thickens. Pour into cups and set aside to cool. English cooks stir the custard until it is nearly cold. Very delicate custards have made with rice, flour or corn starch, the receipt for which comes with the package.

Household Recipes.

Lemon Custard.—Custard is simply milk thickened with eggs. When a custard is required ralhii amounts of sugar over the pan of lemon to get the "rest." This is a more delicate way than using the juice of the lemon, which is apt to curdle the custard. From the lemon rind you get the gel, which makes a better combination. Take half a pint of milk, boil it in a small saucepan, and pour it into a jug. Put a large saucepan on the fire half full of boiling water. Break two eggs into a bowl and beat up yolks and whites together, adding the hot milk which has been swirled very thoroughly at a time, and beating so thoroughly that all the air of the egg is broken up. When all the milk is added set the bowl in the saucepan of boiling water and stir until the custard thickens. Pour into cups and set aside to cool. English cooks stir the custard until it is nearly cold. Very delicate custards have made with rice, flour or corn starch, the receipt for which comes with the package.

An Excellent Soup.—An excellent soup can be made by taking one can of corn and boiling the corn with an equal part of water in equal proportions; season with salt, pepper and a little cayenne; boil the soup thoroughly, and serve in a tureen. It is very good.

Brown bread made by following these directions is sure to be good: Sift, until thoroughly mixed to a moderately moist state. Add one pint of corn-meal, half pint of rye flour, one teaspoonful of salt, two teaspoonfuls of baking powder, one tablespoonful of brown sugar. Peel, wash and ball two mediumsized potatoes; rub them through a sieve, and beat to a smooth paste. Add a half pint of milk. Make a batter of this, and the potato mixture, as in the instructions. Have a little pan, and pour the batter in; then set the pan in a kettle of boiling water; let it cook in this way for an hour. Cover the pan, of course, and put it in a hot oven for half an hour.

Old Fashioned Indian Pudding.—Two quarts of skimmed milk, two lemons, half pint of cream, one teaspoonful of salt, two teaspoonfuls of baking powder, one tablespoonful of brown sugar. Peel, wash and ball two mediumsized potatoes; rub them through a sieve, and beat to a smooth paste. Add a half pint of milk. Make a batter of this, and the potato mixture, as in the instructions. Have a little pan, and pour the batter in; then set the pan in a kettle of boiling water; let it cook in this way for an hour. Cover the pan, of course, and put it in a hot oven for half an hour.

Spanish Short Cake.—Spanish short cake is excellent for tea. Take three eggs, half a cup of butter, one cup of sugar, two thirds of a cup of sweet milk, a little cinnamon, two cups of flour, one teaspoonful of baking powder; stir the flour in, do not beat the eggs before stirring, and the batter is ready, put into a buttered mold and steam on a griddle. And when it is done spread a thin flour over the top; make this white of one egg, a little pulverized sugar, and a teaspoonful of cinnamon; set it in the oven to brown.

Delights of Persons.—A delicious pudding is made thus: Sift two tablespoonfuls of flour, and mix with the beaten yolks of six eggs, add gradually one pint of sweet cream, a quarter of a pound of citron cut in very thin slices, and two tablespoonfuls of sugar; mix thoroughly, pour into a buttered tin, and bake twenty-five minutes. Serve with vanilla sauce.

Family Prepared Desert.—An easily prepared desert is made of topica. It hardly seems appropriate to call so dainty a dish a pudding. Soak two slices of bread in a little good water, add warm water enough to allow it to expand; when tender, screen it, and take it from the fire; add an orange cut in small bits for flavoring, and serve with cream.

Fish Cakes.—Take any red-fish that has been cooked, remove all skin, bones and fat, and make fine. Mix with it mashed potatoes rubbed to a cream with a little butter, the same quantity as you

Domestic Economy

A Good Breakfast Dish.

A good breakfast dish can be prepared from the remains of yesterday's dinner, provision for the consumption of which is usually made in a half hour's time. Chop it fine, and put it in a saucepan with a cup of gravy or of soup stock, season with pepper and salt, and scald over it, stirring all the time, a tablespoonful of flour; let the meat heat gradually, and, when boiling hot, set it on the back part of the stove, and poach some eggs to serve with the meat. When the eggs are done, put the meat on the platter, and lay the eggs around the edge. With fried potatoes, muffins, and coffee a wholesome breakfast may be provided at small expense.

Care for the Sick.

Everybody who cares for the sick knows how difficult it is to remove or to put on the knit wrapper; it seems as if the invalid needs to assume attitudes that would be almost impossible to one in robust health in a half hour's time. Of course, some allowance will suffice to change a pair of these garments, and make them more comfortable. Cut them open the entire length, then put on a facing on one side and a plait on the other; at proper intervals sew on some small porcelain buttons, and make the buttons-holes, and you will be surprised when you accomplish this that you never thought of doing so before.
THE LANDSCAPE FARMER.

LITERARY AND PERSONAL.

The American Agriculturist.—A journal devoted to scientific beekeeping. Vol. 1, No. 1, for May, 1853. Published monthly by S. M. Locke, editor and proprietor, promptly, at 

This is a fairly printed octave of 24 pages—and 10 additional pages pages of advertisements—in tinted covers, and is replete with practical essays, notes and other contributions, from able writers on agriculture all over the country. The matter is truly first-class, and the periodical is published in this number, embracing nearly every large city and State in the union. If we were a bee-keeper, we certainly should feel this journal a very essential aid to our labors. We quote a very interesting paper from its columns, by John H. Gill, a Capital and by the way, a very able man on which we call the attention of our readers, and especially those who are much exercised about the bee.
COMPLIMENTARY NOTICE.

We desire to call attention to the advertisement in another column of D. M. Ferry & Co., Detroit, Mich., the great seedmen, whose manummoth established in the chief city of Michigan. They do the largest business in their trade in the United States, reaching across the Atlantic and Pacific oceans in the same way as second and following, and if you wish to get exactly what you order, you cannot do better than send your order for your seeds, and you may depend upon it you will get the best that the market can supply. Their seeds have been known over the entire civilized world for purity and fertility, and have gained for them an honorable reputation. Their Annual Seed Catalogue just issued for 1885, replete with interesting and beautiful Illustrations, will be sent free on application.

THE PRACTICAL FARMER, OF PHILADELPHIA.

This monthly Agricultural paper has a large circulation, and has acquired a good reputation. It is published by the PRACTICAL FARMER, a firm of long experience in the field of agricultural literature.

THE PRACTICAL FARMER is published with the following objects in view:

1. To give free to each of our Subscribers an opportunity to obtain an Improved Farm, a well-known, reliable real estate man has carefully selected for 500 Farms, to be offered for sale. The subscriber who purchases the Farm, will, in addition to the Premium, be entitled to a wagon, a large quantity of seeds, and a large quantity of books, etc., on the subject of agriculture.

THE MOST SPLENDID OFFER EVER MADE TO FARMERS is now tendered. We give to the Premium, a beautifully engraved, hand-colored map of the United States, and a large quantity of books, etc., on the subject of agriculture. We also give to the Premium, a wagon, a large quantity of seeds, and a large quantity of books, etc., on the subject of agriculture.

THE PRACTICAL FARMER is published with the following objects in view:

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THE PRACTICAL FARMER, OF PHILADELPHIA.

This month's number contains a large amount of interesting matter, and is well worth the price.

THE PRACTICAL FARMER, OF PHILADELPHIA.

This month's number contains a large amount of interesting matter, and is well worth the price.
Where To Buy Goods in Lancaster

**BOOTS AND SHOES.**

M Knock & Son, No. 12 Centre Square, Lancaster, Dealers in Boots, Shoes and Rubbers. Replacing promptly attended to.

M. Levy, No. 3 East King street. For the best Dollar Shoes in Lancaster go to M. Levy, No. 3 East King street.

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John Hale's son's,New, third and 17 North Queen Street, have the largest and best assorted Book and Paper Store in the City.

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H. Finsters, No. 15; East King st., (over Ciba Hall) is the place in Lancaster to buy Furniture. Picture Frames a specialty.

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**CLOTHING.**

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1840. 1883.

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A MONTHLY JOURNAL,

Devoted to Agriculture, Horticulture, Domestic Economy and Miscellany.

FOUNDED UNDER THE AUSPICES OF THE LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

EDITED BY DR. S. S. RATHVON.

**TERMS OF SUBSCRIPTION:**

**ONE DOLLAR PER ANNUM.**

Postage prepaid by the Proprietor.

All subscriptions will commence with the Januay number, unless otherwise ordered.

Dr. S. S. Rathvon, who has so ably managed the editorial department in the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—agronomical science—some knowledge of which has become necessary to the successful farmer, are alone worth much more than the price of this publication. He is determined to make "The Farmer" a necessity to all households.

A county that has so wide a reputation as Lancaster county for its agricultural products certainly ought to be able to support an agricultural paper of its own, for the exchange of the opinions of farmers interested in this matter. We seek the co-operation of all farmers interested in this work. Work among your friends. The "Farmer" is only a dollar per year. Show them your copy. Try and induce them to subscribe. It is not much for each subscriber to do but it will greatly assist us.

All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application to the Editor.

John A. Hieand, No. 9 North Queen St., Lancaster, Pa.

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Dr. S. S. BATHYON, Editor.

LANCASTER, PA., JULY, 1883.

JOHN A. HUESTAND, Publisher.

CONTENTS OF THIS NUMBER.

EDITORIAL.
The Horn-Worm Moth. ........................................ 97
More English Sparrow Lore .................................. 97
American Pomological Society, Organized in 1848. 97
Excerpts .................................................................. 98

CONTRIBUTIONS.
Benefits and Expenses of Public Roads. 98
The General Outlook. ........................................... 98

SELECTIONS.
Water........................................................... 99
Superior Corn Culture .......................................... 99
Things Put Into Tobacco ....................................... 100
The Crop Prospects .............................................. 101
Easy Soups ........................................................ 101
More About the Spargrass ................................... 102
How to Sleep ..................................................... 102
Small Gardens ................................................... 102
An Unquestioned Fact .......................................... 103
A Few Facts About Bees ..................................... 103
Thousand-Dollar Compost Heaps .......................... 105
Drinks,.......................................................... 104
What and When Planting Should Be Done. ............. 104
Nourishing Fluids—Stimulating Drinks, Mineral \nWater Drinks—Mineral Waters as Refrigeratives, \nOstrich Farming in the States .............................. 105
Small Fruits on the Farm .................................... 105
Introducing New Varieties ................................... 107
Amendments of the Working Classes .................... 107
State Horticultural Association of Pennsylvania ... 108
Officers and Committees for 1883—Standing Commit-
tees—Special Committees. ................................ 109

OUR LOCAL ORGANIZATIONS.
The Poultry Association ........................................ 109
Linen Society .................................................... 109
Donations to the Library ..................................... 109
Internal Revenue ............................................... 110

AGRICULTURE.
Successful Farming ............................................ 109
The Crop Situation ............................................. 109

HORTICULTURE.
Asparagus ...................................................... 110
Grape Culture .................................................. 110
Hot Water for Sickly Plants ................................. 110
About Trees ..................................................... 110
Lima Beans as a Field Crop .................................. 110
Value of Garden Vegetables ................................. 110

DOMESTIC ECONOMY.
Cleaning Carpets .............................................. 110
Take Care of Your Tools ..................................... 111
Uses for Salt Bread .......................................... 111
A New Test for Waste Pipes ................................. 111

HOUSEHOLD RECIPES.
Poor Man's Fruit Cake ........................................ 111
Bacon Omelette ................................................ 111

Lolster Croquettes ............................................ 111
Mutton, Rice and Tomato Broth ............................ 111
Pepperpot ...................................................... 111
Eggs on Toast .................................................. 111
How to Broil Fish ............................................. 111
To Cook Soft shell Crabs ................................... 111
Chicken Croquettes ........................................... 111
Boiled Rice, Georgia Style ................................ 111
Oxtail Soup ..................................................... 111
Rice and Lamb, Arabian Style .............................. 112
LIVE STOCK.
Feed the Cows Well in Summer ............................ 112
How to Feed Stock ............................................ 112
Harsh Grooming .............................................. 112
Wasteful Destruction of Calves ............................ 112
The Glanders .................................................. 112

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OFFICE AND YARD: Northeast Corner of Prince and Walnut-sts., LANCASTER, PA.
THE HORN-WORM MOTH.

A voice from the Gap has been published, in which it is proposed to establish a general systematic destruction of this insect (which is so detrimental to the interests of the tobacco growers) by a widely extended system of action, in which the moth itself is to become the objective point, instead of a delayed warfare, and fighting it in the form of a worm. There seems to be some wisdom in the inception of this idea, if it is intelligently and energetically carried into effect: because, the moth is the origin of the damage, and not the danger itself. In other words, the moth is the symptom, and not the disease itself, and if the symptom is properly treated, the disease may be measurably, if not entirely, prevented. A female moth during the entire tobacco season will deposit about five hundred eggs, each one of which is likely to become a destructive Horn-Worm: and, if she can be captured, or killed, before she has deposited any of her eggs, it becomes very apparent how much damage has been prevented. But the male is also an object of solicitude in the economy of this insect: for, it is he that fertilizes the eggs of the female; and, unfertilized eggs will never produce Horn-Worms.

These large gray moths, variously called "Horn-Worm Moths," "Tobacco-Moths," "Sphinx-Moths," "Humming-Bird Moths," and "Hawk-Moths," have been the object of much attention for almost any liquid sweetness; and, being provided with a long spiral sucking tube, they are able to extract the nectar from the largest and deepest flowers; but they seem to have the strongest partiality for the trumpet-shaped flowers of the Datura stramonium, commonly called—"Thorn-Apple," "Jamestown-Weed," or "Jinsson-Weed." We mention this plant specially because it is so common, abundant, hardy, of easy cultivation, blooms profusely, and is of easy access to those who may have the matter of destroying or capturing these insects in hand. Why they are partial to the nectar of this plant may be because it belongs to the same family that the tobacco plant does. It is a Solanaceae plant, and has a family alliance, not only with the tobacco plant, but also with the potato, the tomato, the egg-plant, the ground-cherry, the night-shade, the horse-nettle, the hen-bane, the cayenne-pepper, and a number of other plants of a similar character.

The "Death's-Head Sphinx" of Europe (Acherontia atropos) as its specific name implies, feeds on the "deadly night-shade," (Amenae belladonna), but is also destructive to potato-tops in its horn-worm state. The moths of this family all partake largely of nature's sweets, not only from the flowers of the "jinsson-weed," but also from various species of trumpet flowers, including lilies, honey-suckles, morning-glories, and convolvuli in general. Wherever these various flowers bloom, is the place to stand and wait for the moth, and not in the tobacco field. They are powerfully swift-winged insects, and must be taken maurus, when they are making their evening home voyages; for, they usually conceal themselves during the middle of the day. They are twilight fliers, and during that portion of the day is the time to conduct an active warfare against them. A deadly poison introduced into the flower-ends of the plants they visit has been the extinguisher of many thousands of them. Artificial flowers, made to imitate those the insects visit, and similarly poisoned, are said to be equally effective. But whether poison is used or not, where the flowers bloom is the most successful place to encounter such this moth. If only four out of every five eggs, through various contingencies, become abortive, it will still leave 100 horn-worms to each female moth. A graded scale of prices—a certain price per capita—might be adopted both for the capture of moths and worms. This would be more effective than hiring persons by the day.

If it is worth a penny or a half-penny to kill a worm, it is worth ten times that amount to kill a gravid female moth. Males might be reckoned at half the price of a female. Still, with all this to counter the object of the moth, it is not to be omitted. The next best thing to the destruction of the moth, is the destruction of the eggs before they are hatched. No worms should be left in the field after the crop is harvested, for these will make moths for next year. The whole tobacco region of the county, or the State, should go into the measure with determined energy, for the longer the matter is delayed, it only adds to the difficulty of the problem, therefore "be up and doing."

MORE ENGLISH SPARROW LORE.

The farmers of Berks county, Penn., say, according to a telegram from Reading, "that since the onslaught upon the English sparrows, which is permitted by recent legislative enactment, there has been a remarkable increase in the damage to crops by the Hessian fly and wheaten worm."

The foregoing scrap, clipped from the "variety" column of the Public Ledger, we think a slender upon the truthfulness and the intelligence of the "farmers of Berks county."

When, where, and how long has "the onslaught upon the English sparrows" been in existence? Who ever saw or heard tell of an English sparrow destroying such a tiny and tasteless insect as a Hessian fly? Hessian flies congregate in wheat-fields—or rather they are bred there; but English sparrows roost and nest about the same region. Billings, in a number of instances, have been driven from their "bloom." The "boom" of the Hessian fly, however, must have been destroyed by swallows, chimney birds, martins, red-starts, fly-catchers, night-hawks, etc., etc., but for, very few, indeed, if any, are captured by sparrows. Besides, the law affecting sparrows is too recent to produce any perceptible effect upon the number of Hessian flies; moreover, the damage by Hessian flies was already done when the law went into effect. No, there is no farmer, not even in Berks county, who will for one moment make or defend such an assertion—they are wiser than that. As to that indefinite creation denominated "the wheat worm," we don't know which one among the many it is; and how should a sparrow know it? Whatever "wheat worm" may be meant, we think almost any one might go bail that the English sparrow will molest them as little as any other bird that flies. It may be an easy matter to send such telegrams, and easier still to print them, but the writers should give their names, or their authorities, and not attempt to palm such stuff on the "farmers of Berks county," even if the report had originally come from a single isolated old fog. At the present writing many of the elm trees of Lancaster city are infested by millions of "Elm-beetles." The leaves are literally skeletonized by them, and the twigs, branches, limbs and trunks, from the apex to the base, are covered with the larva, the pupae, and the mature beetles, and although Lancaster city is full of English sparrows, not one of them approaches those trees in quest of the worms. Even the gutters and the pavements are populous with these insects; where, as a general thing, they are ample to either the sparrows or the people. One will find multitudes of sparrows perched here and there, but the "onslaught" has not yet commenced in Lancaster city) lightening over half a grain of oats scratched out of a horse-dropping, but the Elm beetles they "let severely alone."

AMERICAN POMOLOGICAL SOCIETY—ORGANIZED IN 1848.

Marshall P. Wilder, Boston, Mass., President; P. Barry, Rochester, N. Y., Vice President; Prof. W. J. Beal, Lansing, Michigan, Secretary; Benjamin G. Smith, Cambridge, Mass., Treasurer. The nineteenth session of this distinguished national association will be held at Horticultural Hall, Philadelphia, Pa., commencing on Wednesday, September 10th, 1859, at 10 o'clock, A. M., and continuing for three days. All Horticultural, Pomological, Agricultural and other kindred associations in the United States and British Provinces are invited to send deliberations as large as may be convenient, and all persons interested in the cultivation of fruits are invited to be present and take seats in the convention.

This promises to be one of the most interesting conventions ever held by this society. Sixteen of the most distinguished essayists of the country, will read papers or deliver addresses on Pomology, Botany, Fruit Growing, Entomology and other subjects relating to these, and there will also be a general exhibition of fruits. Also, in connection with the above-named society, and at the same time and place, will be held the Fiftieth Annual Exhibition of the Pennsylvania Horticultural Society. Wm. L. Schaller,
Contributions.

The Lancaster Farmer.

THE LANCASTER FARMER.

Phialdelphla, President, Caleb Cope, S. W. Noble, J. E. Mitchell, and James Ritchie, Vice Presidents, Thomas Moehan, Corresponding Secretary, A. W. Harrison Recording Secretary, and Treasurer.

Packages of fruit intended for the National Association, should be addressed to Thomas A. Andrews, Horticultural Hall, Broad street, Philadelphia. Freight and Express charges should be paid. Arrangements have been made with hotels and some of the Railroads terminating in Philadelphia for a reduction of fare, but in most cases it will be best for delegations to arrange rates with the roads in their localities.

Hon. J. E. Mitchell 310 York Avenue Philadelphia, is the Chairman of the local committee on Reception.

This event will present a rare opportunity to those interested in Horticulture to gratify their most ardent wishes, and the spectacle will be one worthy of their most immediate attention.

In the absence of a County Fair our local fruitists will be more than compensated by visiting and participating in the above.

EXCERPTS.

A LOAMY soil, with a loose gravely sub-soil through which the surplus water easily drains away, may be deeply plowed with good effect, or at any rate without the injurious results which follow the practice of the deep plowing on stiff chaly soil.

Large numbers of sowls may be kept with profit, if not over fifty be kept in one colony.

The total number of herring shipped from Eastport, Me., this season is 17,240,000, a decrease of 13,420,000, from 1881-2 and of just one-half from 1880-1.

A HAMSY cup of chocolate: Scrape a small cake of chocolate into a cup, mix with the same as much sugar as may be agreeable, fill with boiling water and stir the mixture. — The Advance.

It costs a good deal to keep hens. They take food by the peck. — Boston Advertiser.

They thus prove profitable harvests though, by insuring full crops. — Pittsburg Commercial Gazette.

A Correspondent writes that a sure way to kill burdocks is to cut the top to the ground, and then with a sharp knife scoop out a hole and put in a teaspoonful of kerosene. There will be no further trouble from that plant. — N. Y. Express.

GRAMAY biscuits are very nice if eaten while fresh and warm. To one pint of milk allow half a cup of melted butter, half a cup of sugar and two eggs, add enough flour to make stiff batter; do not attempt to knead them, but drop from a spoon into hot muffin tins. — N. Y. Post.

SLUGS, as the green, sliny caterpillars are called, which appear upon the leaves of pear and cherry trees, are best treated by dusting of dry-slated lime. This may be applied by shaking it from a bag of open fabric, fastened to the end of a pole. — Chicago Journal.

ANNONA water or a damp cloth dipped in whitening, cleans paint nicely. Sapolio is also good. Cold tea is the best thing to clean varnished wood with, the tea and tea leaves saved from the table for several days and steeped will usually be sufficient. It removes spots and gives a fresher, newer appearance than when soap and water are used. — N. Y. Times.

Benefits and Expenses of Public Roads.

Comparatively few people realize the cost and the inconveniences of many of our public roads. In the first place, when these roads have been located by juries or reviewers appointed by the court, (formerly six, but at present only three constitute the lawful number of reviewers) they, nine times out of ten, through courtesy to the petitioners, follow lines between parties so as to do the least damage, and also to please them, which run the roads crooked and inconvenient for travel, sometimes running east, west, north or south between two farms until they become perfect zigzags, merely to please or gratify the selfish whims of their neighbors, often on account of two who might be termed "troublesome neighbors:"); making many roads not only expensive, but often hard to travel, and also hard to haul heavy or even common loads on.

Does it ever occur to those who locate roads, or to the people through whose premises roads are located, how expensive to the farmer a small hill is made, to draft a reason able load? For instance, two horses can easily pull one hundred rails, or say two tons of anything else, on good level roads, but on account of one or two hills, either short or long, he must either choose between half a load (one ton) or attach two extra horses to draw this loads up said hills.

If a farmer desires to haul a full load of rails, or 2 tons of grain or any other produce, he is compelled to keep two extra horses merely to overcome the grade in these several hills, involving an expense which might have been avoided in a more judicious location of the country road. But this is not all, the subject also involves a waste of time, for, perhaps he is compelled to make two trips to do a work which otherwise might have been accomplished in one.

There are also other important matters connected with the location of roads, of which I shall have something to say hereafter; such, for instance, as macadamizing, drainage, repairs, dangers, etc. The hills on some of our township roads are so steep that it not only is almost impossible to ascend them with anything like a reasonable load, but the descent is absolutely dangerous, the animals attached to them being barely able to keep out of the way of the vehicle behind them. — P. S. R.

The General Outlook.

The hay crop was a full one, and it was generally well cured and without injury from rains. The wheat will be a three-quarter crop, and the oats will be a better crop than we have had for many years—it will come again to perfection, like in the olden time. Corn is promising well, so far, and so also is, generally speaking, tobacco. We had rains just as we needed them. We had about two rains a week for some time, which was more than common in this locality; and, notwithstanding the general good which may result from it, it also done considerable damage to corn and tobacco. It washed down hill-side fields, making trenches that will require some labor to level up again. Potatoes will come in as an extra crop. Strawberries were a perfect crop both in quality and quantity, and raspberries and blackberries much the same. Cherries did well. Peaches are doing ordinarily well. Grapes seem to be doing very well, and are promising a full crop, and also foreshadow perfection.

Plums, as usual, are nearly all destroyed by the Curculio. Apples bloomed profusely, and had there been a dry time at the period of fertilization, there would have been a good promise for a crop; but the rains washed out and drowned the blossoms at the most critical period, and we, alas, are again disappointed. Of course, there will be some apples in special localities, but as a whole the apple crop is nearly a failure. Some varieties will do passably well, whilst others are non est. There will be a few pound-apples this season, but Smith's cider will do better — "aber such nicht wider."

If my 130 trees had been all of the later kind—the kind that bear every year, and only alternate more or less heavy—my prospects would have been better. Two years ago they did well, but last year the limbs broke down with fruit. This year they hang pretty full, and seem to be perfect. If my trees were all of that kind, I would have realized $250 or $300 every year for the last three years. They are just now in vigorous condition. True, many of the apples are stung by insects, but some will still remain.

Harvesting goes somewhat slow, on account of the heavy rains. This is one of the most remarkable harvests we have had for many years. Some fields will yield forty bushels to the acre, whilst at the same time adjoining fields will not yield more than from five to ten bushels to the acre.

I never saw the Hessian fly do so much injury as it did during the last days of September, 1882. I know of two fields sowed on the 25th of September. Both had been in wheat the previous year; the wheat came up very beautifully; the ground was in good order. It came up in four or five days after sowing. The flies commenced on it immediately, and it could be seen last full already that the crop would be a failure.

In 1876 the wheat sowed in our neighborhood before the 8th of September, was all destroyed by the Hessian fly. It was rainy from the 5th to the 12th. That which was sowed afterwards made a good crop. We have eventually to come back again to the old time, and not sow until about the first of October. It was conclusively proved this year that that which was sowed as late as the 10th of October had good crops. — L. S. R., Oregon, July, 1883.

"The proof of the pudding is in the eating." If late sowing demonstrates that the Hessian fly can therefore be headed off, it seems to be a simple thing to head them off. But, says another, late sowing in the fall makes lackward growth in the following spring, and then the grain is liable to fall a prey to the "wheat middle," which is just as bad as the flies.
Sian fly, so that the farmer's wheat prospects are always between "the upper and the lower mill-stones." Risk late sowing at any rate; the middle does not necessarily always follow the fly.—En.

Selections.

WATER.

Water forms three-fourths of the surface of the earth, and even a larger proportion of our own bodies. Hence it is hardly possible to exaggerate the importance of having an ample supply of this element in its purity. The purest water in the world is said to be that of the river Loke, in Sweden, which contains only one-twentieth of a grain of impurities per gallon. It flows over a bed of hornblende rock, which is only slightly, if at all, dissolved by it. The rain which falls near the end of a long storm is generally quite pure; the atmosphere has been cleared from dust and vapors by the first falling rain and that which comes last has nothing to absorb. Water which is collected from roofs in the city is never pure, being contaminated by various gases, sulphur compounds and other deleterious substances. It should never be drunk unless first carefully filtered.

The character of spring water depends entirely on the character of the soil through which it has passed before it issues as a spring. In localities where the primary rocks are sandstone, the spring water is nearly pure; in limestone countries it is impregnated with carbonate of lime or magnesia. This, when present, in large quantity, causes dyspepsia, goitre and cesticinism, affecting not only human beings but domestic animals. Five or six grains of lime or magnesia in a gallon render water unfit for cooking leguminous vegetables; hence the use of soda to soften it. But the same quantity of these mineral substances makes the best water for tea and coffee, as the five or six grains of carbonate of lime prevent the water from dissolving the astrigent matter contained in the tea, yet permit the extraction of all the desirable properties it holds.

Organic matter of vegetable origin is not especially dangerous, but that of animal origin, even in very minute quantities, is highly dangerous. It may communicate no unpleasant smell or taste to the water, but on the contrary may give it an unusually fine flavor, thus betraying its victims "by a kiss." The first symptoms of poison from the use of such water are slight nausea and mild diarrhoea; afterward typhoid fever sets in, and the struggle for life grows intense. It is estimated that water may contain one grain to the gallon of organic animal matter without being fatal; thirty-five grains of mineral and organic vegetable matter in a gallon will not always render it unfit to drink. The Croton water in New York city contains 5 grams of impurities to the gallon, the Genessee River water supplied to the city of Rochester contains 13 grams; the Hudson River water in the city of Albany contains 6 grams. The water of the Mississippi contains forty grams of mud per gallon, and is certainly unwholesome water to drink.3 Peat matters held in solution by water in ponds and swamps are harmless, even though they may color the water, but the clearest and most sparkling water from wells in the vicinity of cess-pools or graveyards is to be regarded with the utmost suspicion.

Oxygen is the great purifier. The world is purified every day by oxidation of oxygen with any substance is combustion. As the rain falls through the air it dissolves the oxygen, nitrogen, carbonic acid and amonia of the atmosphere, but more oxygen than nitrogen, so that the air dissolved in water is much richer in oxygen than ordinary atmospheric air. This excess of oxygen supplies fishes with the vital element, and also furnishes material for the combustion of impurities in the water, literally burning up. "Sewage which would poison an ordinary well becomes harmless in the running stream, and while the sewage on the surface in every river, though it drains populous districts, will nevertheless supply wholesome water." The conditions of this purification are that the sewage must be mixed with twenty times its volume of running water and low ten or twelve miles, at which distance from the source of impurity it becomes burned clean of all injurious matter. The water of running brooks that have received sewage is to be avoided unless the volume of water is large enough to permit complete combustion of all organic matters contained in it. The water of ponds, lakes and rivers is generally purer than spring or well water, because they receive their supplies from over the soil rather than through it.

The simplest method of purifying water is by evaporation. Charcoal will remove organic matter from absorption. Water tanks charred on the inside to the depth of an eighth of an inch are sometimes used. A bushel or two of fresh charcoal tied in a bag and thrown into a foul well or cistern will cleanse its contents. Permanganate of Potassa is very effective in destroying organic matter in water. A small particle of the crystallized salt added to a glass of water will supply enough for a few hours and render it innocuous. Travelers in malaria countries are careful to drink only water that has been boiled, and those who find, in moving about from place to place that the water disagrees with them, will be spared much suffering if they will drink it hot instead of cold. One soon becomes accustomed to the taste of hot water without any admixture of anything else, and acquires a fondness for it.

Little fishes when just hatched from the egg and placed under the lens of a microscope seem perfect in form, but as the rays impinge on the eye, the contractions of the heart may be seen and the movement of the corpuscles in the arteries flowing to and from the heart. These look as drops of water moving along the surface of water.

 Doubtless to eyes of a different organization than ours we too are transparent, and seem to be, as we are, three-fourths and more water, with a symmetrical aggregation of cells distributed through it. Could we look upon ourselves thus we should need no suggestions as to the necessity of being sure that this preponderating element should be supplied us in the utmost attainable purity.—X. Y. Tribune.

Send in your subscriptions to This Farmer for 1883.
planted. The more machines were improved the more the use of hand tools was disdained. The time is not far in the past when no one expected to raise a crop of corn without using the hoe to plant and cultivate it. Now the hand-hoe is never seen in most corn-fields in the Western States.

The case with which corn was raised when the soil possessed all its virgin richness caused farmers to fall into negligible habits concerning every stage of its cultivation. They were at little trouble to select and cure seed. They rarely went to the expense of purchasing an extra article for planting. They took their seed corn from the same bin where they obtained the food for their pigs and chickens. On this account the quality of their corn deteriorated. The application of manure did not commence till the soil showed signs of exhaustion. Then it was not applied to the soil in the best way to secure the best results, but in the manner that was easiest. Maneuring in the form of drills is practiced in the east, was thought to be attended with too much work. Little or no attention was paid to giving a top-dressing to hills or drills of corn. Very few ever used ashes, land plaster, or any commercial fertilizers on corn ground. The consequence has been that farmers in the east have finally surpassed those in most parts of the west in the production of large yields of corn. The report of the National Department of Agriculture published last fall showed the heaviest yield of corn in the New England States and almost the lightest in some of the western ones where the soil is prairie and the climate too moist to produce the full yield of the crop. It seems evident that western farmers must adopt the measures that eastern farmers are forced to adopt to raise large crops of corn. They need not lay aside the use of the riding cultivator, but they must take up the use of the hand-hoe. It is rare to read an account of how a premium corn crop was produced without noticing that the hand-hoe was used before, in connection with, and after the horse cultivator. The former works the ground in the hill itself while the latter works between that them. Although the yield of corn in many States where the natural conditions are favorable to its growth is only thirty bushels to the acre, still a hundred bushels are sometimes produced. To produce the latter amount no more land is required and no more plowing and harrowing performed. Extra care, however, was taken in every operation from the time the seed ears were selected the full previous to planting the crop was put into the crib. The seed was carefully tested before the season of planting and the kernels counted and dropped on finely prepared soil by hand. In many cases a shovelful of well-trodden soil alone was used; the compost was placed in the hill before planting the seed. A careful person went between the rows at the time the sprouts were making their appearance and removed any small stones, images of earth or other substances that might obstruct the growth of the tender plants. As soon as the plants were a few inches high a handful of wood ashes, land plaster, or some other fertilizer was thrown between them. The hand-hoe was used about the hills in advance of the cultivator. While the plants were quite small a careful watch was kept for cut-worms, which were killed before they had done much damage. If too many stalks were found in a hill a part were removed. If all were destroyed from any cause new seed was planted. The loe, cultivator and plow were used as often as occasion required till the stalks of corn were sufficiently high to completely shade the ground and prevent the growth of weeds. When the stalks were sufficiently large to throw out ears suckers were carefully removed and cured for fodder. The smutty ears were cut off and destroyed. A good deal of labor was spent, but the large yield compensated for all the care bestowed.—Chicago Times.

THINGS PUT INTO TOBACCO.

"There is no doubt," said a large city manufacturer, "that tobacco is fixed up in many ways, in order to prepare it for its various markets. A poor tobacco may gain a higher marketable value by treatment, although it is not possible to make a good article out of a bad one. The genuine lover of tobacco will distinguish between a natural and an artificial flavor, although the latter is carefully employed.

"The points to be attended to in cigar making are appearance, flavor, color, texture, easy draught, and evenness in burning. Much depends upon the wrapper. In New Jersey, for instance, a light-colored wrapper must always be used. In Pennsylvania and farther south it is impossible to sell anything but Colorados. The New England wrapper will alone suit them. Colorados are, however, not liked in the West, even in Colorado itself. In almost every Western State, except perhaps Ohio, dealers must have a dark, smooth, and somewhat oily wrapper. They won't touch a light cigar. The heavy, dark wrappers are grown mostly in Pennsylvania. They do not compare with Eastern wrappers, but Western dealers must have them in all except the higher grades of goods.

"While the appearance of a cigar is due chiefly to its wrapper, its flavor depends upon the filling. The best cigars have Connecticut wrappers and Havanna filling. This wrapper, even now so highly prized, is, however, slowly deteriorating. It has no longer the smooth, clear surface and silky quality of a few years ago. It is dry, more friable, and has a rougher appearance than formerly—that is, unless it is grown on a fresh soil. Our domestic tobacco lands are losing some of their most excellent qualities, and still get splendid tobacco from the Southern States in the various forms of filling, smoking and chewing, but I now refer to the important point of wrapping. We cannot do as much as we would wish toward improving the appearance of wrappers—they will not stand strong treatment. Certain processes are used, however, with fair results.

"The chemists have an important share in our work, as they do nowadays with the manipulation of almost every article of human consumption. I know fifteen of them employed in the factories of this city. It is an open secret that their duties consist largely in insuring the evenness of goods, flavoring them, and improving their apparent quality. In the flavoring of wrappers they can do but little though they often color or spot them. It is in the flavoring of fillings and in developing and heightening the narcotic powers of the weed, and thus making it marketable at higher prices that their services are in demand. I do not think that opium or its salts are now used by manufacturing tobacconists, though there is an absurd popular belief to that effect. Nevertheless, it is known that it is used to any extent as a substitute for tobacco. The ancient cabbage leaf assumption is a popular delusion. In England, however, five or six years ago, prepared cherry leaves were largely used as an adulteration; but, in order to obtain a narcotic effect, the manufacturers used opium, and the Government broke up the business by stringent laws against such adulterations. I know of no other instance of the sort in cigar manufacture, though I have detected adulterations in smoking tobacco.

If not name all the substances used in flavoring tobacco, every manufacturer has a formula suited to his particular trade. There are some flavors which are in regular use. Among these vanilla is by far the most extensively employed. This is used only in the fillings, in the form of an alcoholic tincture or extract, and is introduced through a process of absorption. Few cigars are wholly free from vanilla, but its effects are comparatively harmless when not too freely used. The toika bean and balsam of fir are also much employed in the same way, and for the same purpose. Cedar oil is a fine flavor, but is seldom used except in a fine quality of cigar. A really fine cigarette can hardly be said to improve under any manipulation beyond the necessary curing.

"The tobacco flavor may be very well initiated, with a little assistance, of course, from the original article. The best thing now known for that purpose is valerian. It is very largely used, but as it is excepted by most people as an excellent nervous, I should not consider its effects injurious. Vanilla and valerian are doubtless the most valuable chemicals now inogue among the tobacconists. By their use the dullest and weakest smokes may be improved into fair and excellent ones.

"They are largely employed in those smoking grades which are sometimes heavily adulterated with coarsely ground barks. Cigarette tobacco is the most highly flavored of all not excepting even chewing tobacco, which is well known to be pretty heavily repaired, as we say. Not only valerian and vanilla, but cascarilla bark enters into cigarette tobaccos. They are generally made of very ordinary tobacco, except when prepared by large manufacturers who have a reputation to sustain. To make a cigar burn well ammonia is no doubt the most useful agent, with which the stronger qualities the old plan of soaking the tobacco in a stiff solution of saltpetre is still adhered to. The latter practice must be injurious, and should be wholly discarded.

"This matter of burning is an important one. A manufacturer in trying his leaf, will have a sample cigar made of it, and, getting a fair light, will lay it horizontally upon a table. Then, taking out his watch, he will note the time it continues to burn. Manufacturers sometimes buy a tobacco which is good in all respects but that of burning well. He gets it, of course, at a lower figure on that.
account, and then turns it over to our chemist. Those scientific fellows usually bring it up to the standard. The value of the New York is enormous; but many more cigars are retailed here at ten cents than at five. In towns and villages the opposite is the case. Extra fine cigars are also largely called for here. For the best cigars we use smooth, silky Havana top leaf and stemless fillings of the fine Partaga quality.

"The best tobacco in the world is, without a doubt, that grown in the Via Hunda, near Havana. Most of the best tobacco is grown in valleys. It is as true of the best Massachusetts or Connecticut, as of the Havana article. Salt air has an excellent influence upon the flavor of these same or loamy soils are best for it. The first quality tobacco is that possessing the finest fibre and the least quantity of nicotine. In these points the Havana leaf stands preeminent.

"It is true that manufacturers often give an intoxicating quality to cigars. This is accomplished by dipping the fillings into a solution of sulphuric ether and bromide of potassium. A formula similar to that of Hoffman's Anodyne is also used. Tobacco thus prepared is said to be injurious in the long run.

The peculiar effects of a certain class of cigars are unquestionably due to their being dried with so-called nerves, narcotics and stimulants.

"It would not do to state the particular formula we use, though I may say that the flavor now most largely employed is a combination of vanilla, valerian and New England rum. The poisons made use of are to be found chiefly in the essential oils. It would be useless to deny that they are largely used, the quantity in a single cigar is very small and of very little importance. If cigar smoking is injurious at all, I should say that it owes its evil effect rather to its inherent nicotine than to its adulterations, except where the latter are of an omnigenous character."

**THE CROP PROSPECTS.**

The July report of the Department of Agriculture indicates very general improvement in the condition of cotton. Rains were general up to the 15th or 20th of June, and local showers have been frequent since. There has been an excess of moisture, interfering with cultivation and promoting the growth of grass. Clean fields are found only in favored districts and on lands of prompt and pushing cultivators. Since June 20th, growth has been rapid. In grassy districts the plants are still small but healthy, and making great progress with rapid cultivation.

The only complaint of drought comes from Central and Southwestern Texas, from the Colorado to the Guadalupe. A few counties in South Carolina and Georgia report a present need of rain. The recent distribution of moisture has been quite unequal. Adams county, Mississippi, has had showers daily for five weeks, and Pike county for six or eight weeks. The general average of condition has advanced from 86 to 90. Last July there was an improvement of three points—92 to 95. Returns of July since 1770 have indicated higher condition than in June, except in 1871, 1873 and 1879. The spring weather was too variable in temperature and moisture, as it usually has been in former years, for the highest condition of the plant. The only retrogression of July was from twelve to ten points that is made from excessive rain, cool nights and injuries from chinch bugs, red ants and rust.

A gain of ten points has been made in the northern zone, North Carolina and Tennessee, seven in Georgia, six in South Carolina, four in Texas, three in Mississippi, two in Virginia and one in Florida. Alabama and Louisiana stand as in June.

The July State averages as follows: Virginia, 83; North Carolina, 91; South Carolina, 91; Georgia, 93; Florida, 95; Alabama, 97; Mississippi, 99; Louisiana, 101; Texas, 95; Arkansas, 91.

Worms have wrought little injury as yet. The caterpillar has appeared at a few points from South Carolina to Texas. In Butler, Alabama, the second brood of worms appeared June 20. The boll worm is at work in Denton county, Texas. Picking will commence in Southwestern Texas about the 20th of July.

There has been some improvement in winter wheat in Connecticut, New York, Virginia, South Carolina, Texas, Ohio, Michigan, Indiana, Illinois, Missouri, Kansas and Carolina, which advances the general average of condition from 75 to 80. The spring wheat average has advanced from 98 to 100. The indications for July point to a winter wheat crop of fully 300,000,000 bushels and a product of about 125,000,000 bushels of spring wheat.

The area of the corn crop has been increased about two and a-half million acres, making the aggregate sixty-eight million acres. There has been some extension of area in nearly every State. The proportion of increase is large in the Northwest and in the Southwest. On the coast from Virginia to the Mississippi the advance has been small. In some places the reduction of prices of corn and of supply last year has a discouraging effect.

There has been too much rain in the great Western maize districts and failure of stands from planting poor seed, making the crop late and growth small, but improvement has of late been rapid. Taking all the States together, the average for corn is 88, against 85 last July, 90 in 1871 and 100 in 1880.

The average of the principal States are as follows: New York, 84; Pennsylvania, 89; Ohio, 83; Michigan, 73; Indiana, 90; Illinois, 82; Iowa, 90; Missouri, 82; Kansas, 91; Nebraska, 71; Dakota, 78. The Southern ranges average from 90 in Tennessee to 103 in Louisiana.

The prospect for oats is nearly as good as in July of last year, the average being 99 against 103.

The condition of barley is represented by 97. Last July, 90. The average in New York is 82; in Pennsylvania, 91; in Wisconsin, 73; in California, 90.

There has been an increase of about five per cent. in the area planted in Northern potatoes. They are reported in high condition, averaging 101.

The area of tobacco appears to have been diminished 7 per cent.; condition, 95.

The London agent of the Agricultural Department, telegraphed on Tuesday: "Weather first ten days of July hot and forcing. Wheat estimates increasing generally throughout Europe. Market reports from a great number of points in the West and Northwest state that a general change for the better for the information in all the crop prospects has taken place during the past two weeks, owing to the cessation of rains and the advent of hot weather. The spring wheat and oat crops are unusually promising, and are both now nearly assured. It is believed that the corn crop is rapidly coming up to its condition in 1882.

**EASY SOUPS.**

Why is it that so many people think that it is a hard matter to have soup for dinner, and why is it that those who have it do not use the available material for this purpose often use it the least? Now, if you are rich enough to have an experienced cook, she will either know how to make a certain number of good soups or she will see many simple methods you may suggest to her; but, if you are not rich—have perhaps only one girl, who is only a good plain cook—there is every hope for you to begin most dinners with a tasty and nourishing soup. It has been said that a plentiful of soup makes a warm place in the stomach for the dinner proper, and that digestion is thus aided thereby. This may be so or not; but it is only claimed now that it is good to have soup for dinner, and that it is easy to have it, too. For example, you need not go to your butcher's and spend fifty or sixty cents for a beef-bone or a knuckle of veal. Don't you have roast beef once a week—say a rib roast; two or three ribs? When you had your one, two or three meals from this, take the bones remaining—crack them if you can, leave them as they are if you can't—and put them over the fire with salt two quarts of boiling water. Now you need not take a big iron pot for this, and to lift and your material does not require it. Some particular housekeepers will exclaim with horror when I say use a large tin saucepan or skillet. Cover this, and just let those bones cook all day, replenishing with hot water as it boils away. "You cannot have your soup till to-morrow." You ought not to have it till to-morrow. The last thing at night pour off the liquor and throw away the bones. If you wish, strain the soup, which is now what is called stock; but it will not be very good and you shouldn't be used up. The former of the above will either sink to the bottom or form a cake of fat on top. Now, from these few bones please make the following: A rice puree, a vegetable soup, a tomato soup, a potato soup—almost anything except a clear soup. It all depends upon what you put into it. Have in the house always a bottle of celery salt, some bay leaves.
and whole cloves. Five cents' worth of bay leaves, to be bought at a druggist's, will last a dozen years. Into, perhaps, a quart or more of soy sauce, put the drained tomatoes from the top, put, one hour before dinner, half an onion sliced and three tablespoonfuls of well-washed rice. Let this boil gently. A few minutes before dinner add a salt-spoonful of celery-salt, pepper and salt to taste. Chop a little fresh parsley fine and put into the tureen. It will not flavor much, but will look pretty. A little here means a teaspoonful when chopped. The rice meantime has boiled itself into a thickish substance, forming what is called a puree. The color of your puree will be whitish, and its taste will be good. For a vegetable soup, chop fine one medium-sized carrot, large piece one large onion; add a small bay leaf and one clove, and boil with as little water as possible for one hour. If you have any cooked or uncooked tomatoes, add a few spoonfuls. Let the soup stock come to a boil, skim and put in the vegetables. Thicken slightly with two tablespoonfuls of corn starch or flour and your soup is done. For a tomato soup, take the quart of stock and let half a can of tomatoes boil together for three-quarters of an hour. Strain, add a teaspoonful of sugar, salt and pepper, one cup of milk, and, if the stock is not very rich, add a few green onions thinned with about two tablespoonfuls of flour rubbed to a smooth paste with a little cold water or milk.

For potato soup, or puree rather, boil five medium sized potatoes and onions together until the new potatoes are ready to fall to pieces. Drain well, sprinkle with salt. Have the stock hot, skimmed. Then rub the potatoes through a collander into the hot stock, and to make it smoother stir in one or two tablespoonfuls of flour, blended smoothly in a little cold water as in the tomato soup. Add pepper and a teaspoonful of chopped parsley.

I have spoken so far only of beef bones. A leg of mutton will furnish just as much material in the way of bones as the beef. Then there are the beef-steak and veal cutlet bones, small ones to be sure, but just put them on the fire in a small skillelit, and they will be the nucleus of another soup, or give enough more for another plateful. The quantity given here is intended for a family of four. With a larger family, of course there will be more bones, therefore more soup possible. Neither is it claimed that one can make a dinner of these soups. They are simply a refesh—a preliminary to the dinner, and it is hoped have been presented in such a way as to seem easy to make.—E. M. N., in the Continental.

**MORE ABOUT THE SPARROWS.**

The sparrows seem to have a good many friends after all. The papers are full of communications on their excellent work in clearing away the insect pests and destroying those so hurtful to farmers and gardeners. The Philadelphia Telegraph has espoused the cause of the detested stranger and urges his case as earnestly as the Thres calls for his destruction. But we fear the Telegraph is not quite so good a naturalist as this controversy seems to demand. In alluding to the pear buds, which sparrows admittedly cut off and frequently destroy on the trees, it says: "It is not the bud he is after, but the infinitesimal parasite that comes with it, covering the pear bud. For instance, this year like a thick green scab. To remove this the bird sometimes takes the bud, too, but not always." Now this is an excuse that will hardly find approval among ornithologists. Birds, we think we may safely say, do not do business on that wholesale plan. The finches, of which family the sparrows are so conspicuous members, don't capture their prey in that way. Nature has endowed them with very excellent eyesight, and like all the rest of the finch tribe, with bills capable of picking up, one at a time, even the "infinitesimal parasite" on the pear buds, if they had the disposition. They take their food bit by bit, and not by great mouthfuls, as the Telegraph says and evidently believes.

The simple fact in this controversy is that the amaters who are so largely discussing the sparrow question on the sparrow side omit one very important feature out of their case, and one, too, that is virtually decisive of the whole case. Ornithologists have divided birds into orders, arranged according to their habits and other peculiarities. Some feed on animal food exclusively, others on fruits, and others again on seeds of various kinds. A few feed on all these, but the sparrow is not one of them. His bill fits his place and tells correctly the kind of food he feeds on. His place is not and never was among the insectivorous birds. He is as firmly established among the seed-eaters as the eagles and owls are among the meat eaters. As well might these people try to persuade us that a falcon will eat corn and oats as that a sparrow's principal food is insects. It is contrary to their nature. It is not their fault, perhaps, but just now it happens to be their misfortune. We do not deny that they occasionally swallow an insect, but this arises either from a mistake or through greed. Hunger may perhaps, on rare occasions, force him to adopt this unnatural diet. We firmly believe it is much against his will that he returns to his natural food at the earliest opportunity. The truth is, the poor sparrows are not at all responsible for the fact that they don't feed upon insects. It is one of the conditions of their creation and they can't shake it off. They are no worse than many other birds we have, but at the same time it won't do for their friends for them "to assume a virtue when they have it not." As we said before, an occasional insect may accidentally find its way into the stomach of a sparrow, but at the same time a pair of common house wrens, whose business is insect catching and eating, will destroy more of those pests than all of the sparrows in Fairmount Park. If we are to have peace for sparrows, let us at least put them on scientific grounds and not such as the sparrow's own nature repudiates.—Neo Era.

**HOW TO SLEEP.**

Health and comfort depend very much on attention to matters that to some seem very trivial. We have sometimes heard persons complain that they did not sleep well; that they were disturbed with horrible dreams, and awoke in the morning weary and nervous. Inquiries as to diet, exercise and other essen-

This of health have often failed to reveal anything that could account for these unfavorable conditions.

It is not well in these cases to limit our investigations to the routine of the day; but we should inquire at what hour the patient goes to bed, what he thinks about usually, and most particularly what position he places himself in to invoke sleep? If he lies on the back with his head over his head, there will be a half-conscious compression of the chest, with difficult breathing, to relieve which he opens his mouth. The air coming in direct contact with the throat, causes dryness, and then souring will begin. In the meantime the pressure of the viscerâ on the large artery whose course is along the inner portion of the backbone, impairs the circulation of the blood, producing discomfort which manifest itself in horrid dreams. Thus the whole night is passed in a disturbed sleep, and perhaps many nights pass without one of refreshing sleep. The most unwise course under such circumstances would be to resort to the use of opium or any other drug. The ranks of the victims of this unfortunate habit are recruit-ed mainly from such cases as we have described. It is wonderful what control an individual can get over himself if he tries. There is no reason why a person cannot lie upon his back instead of the back, and keep his hands and arms down; and then lie will not open his mouth; then his throat will not become dry, neither will be sore or have bad dreams. But often he can't help thinking about his business, and his thoughts will run on for hours. This is also a habit that may be broken up. Have the will to put aside your thoughts, and in time you will have the power to do so.

We do not say that there are not other causes that habitually interfere with sound sleep, but we believe there is a remedy for each difficulty which may be found by seeking for it.—Bell's Journal of Health.

**SMALL GARDENS.**

An article in your paper, clipped from the West Chester Local, induces me, for the benefit of others, to make a more explicit statement.

The garden in question is not more than 150 by 200 feet, from the superfluous surface of which must be deducted the space occupied by fruit trees and a width of six feet all around for the growth of raspberries and currants.

Within the small space left I not only raised about two hundred quarts of straw-berries, but also peas, beans, red beets, cabbage and tomatoes in abundance, together with a crop of potatoes which will yield me sixteen bushels at the very least.

I paid nothing for hired help, but cultivated the ground myself for relaxation from my literary labors, which you know are considerable. I was at no outlay for murre, but used compost, made up of fine grass cut by the lawn mower, saw dust, slops, decayed vegetables, coal ashes, etc., such as will accumulate about a place.

I put on the coal ashes in large quantities, though told that it would be injurious. I thought otherwise, and correctly so, because I knew the ashes would keep the ground from "baking," a fault which needed remedy.
"Ah," exclaims some one. "But you didn’t keep any chickens." Yes, I did. I "carried" thirty hens over the planting season and have now, by actual count, eighty-thirty little fellows in glorious possession of "all out doors." I fed them well, "yelled" them very little, covered the newly- planted beds with brush, and sustained no damage by their depredations. I incidentally mentioned the fact of the sale of the strawberries to the reporter of the Local, because impressed with the fact that many others, and especially those whose interests are limited, might make their gardens quite profitable by devoting spare moments to their cultivation.—Freake H. Stauffer, in New Era.

AN UNDISPUTED FACT.

It is no use disguising the fact. Farm work is not popular with either the young men or the young women in farmers’ families. Many a farmer who is getting old sees with a sort of vague dread of an approaching calamity the silver threads streaking his loved and faithful companion’s hair, as the aged pair sit alone in the long evenings, thinking sadly of their son who is in the city, and of their daughter who is also far away. They realize, too, that new tastes and new desires and hopes have estranged their children from the farm and the homestead, the memories of which cling and twine around their own hearts and bind their affections to the place, on every foot of which there is some work or improvement done by their own hands—some tree planted, some spot beautified, some waste reclaimed, some building arranged—and now all must go, by and by, into the hands of strangers who will tear down what has been built up with so much pains and has been tended with so much loving care. In thousands of farm-houses such cases as this may be met with, and they are very sad to one who knows how it is himself.

To know that one has some companions in his misery is supposed to be a consolation. If this is so, we in America may look across the Atlantic and take comfort to see the same thing going on in France, where the French farmers are mourning because their boys are abandoning their homes and becoming cooks and valets and shop men, and the girls become nurses or waitresses and stand behind the shop counters, as they do here. And German and Italian immigrants work on the farms and in the vineyards, and when the old farmers die these new-comers buy the land which the young men and women think to be below their notice.—N. Y. Times.

A FEW FACTS ABOUT BEES.

Successful bee management must of necessity be based on correct knowledge of the instincts and habits of bees. Without going into the minute details which a thorough naturalist would be curious to master, there are certain facts capable of being put into small compass, with which it is absolutely necessary every bee-keeper should be familiar. These we propose to state in this article. Bees are of three kinds. Every complete hive or colony contains one queen, a number of drones (the fower the better), and a multitude of workers (the more the merrier). The queen is the only perfect female and lays all the eggs from which all the other bees are produced. The eggs are of two different kinds. The one hatches into drones or male bees, while the other producers workers. These, however, are simply undeveloped females, and every worker-egg is capable, under special treatment, of developing into a perfect female or queen. The special treatment consists in building what is called a queen cell, a roomy, pendent receptacle, somewhat resembling a peanut, housing the egg or young larva therein, and feeding it with a peculiar substance, known among bee-keepers as "royal jelly," until it is fully developed into the young female, so that she comes upon the stage of life, fully qualified to increase and multiply. Instinct impels bees to rear queens when the colony becomes very populous and swarming time is at hand, also at any time when the colony is deprived of its queen. Only one queen (with few exceptions) is required or allowed in a hive at one time. Sometimes a queen will wander into the wrong hive; at other times bad weather prevents swarming, though the preparations have been made for it, and in such cases queen-slaughter is very apt to take place, unless, as is often the case, they happen to be hung queens until the weather is more favorable, and circumstances are more propitious for swarming. Within a few days after being hatched, the young queen issues from the hive on what is prettily called her "bridal tour"—courtship, marriage and impregnation being all accomplished on the wing, during a brief flight. Only for this purpose does the queen ever leave the hive, except when a swarm issue. One impregnation lasts for a lifetime. Before it occurs, strange to say, the queen has the power to lay drone eggs; afterward she is capable of laying both drone and worker eggs. It sometimes happens that a queen fails to meet a drone at the proper period for fertilization. She then becomes a drone-layer, and with such a queen a colony is doomed to extinction. This and other facts in the natural history of the bee show the utility of the movable frame hive, which admits of examination, and permits the bee-keeper to remove a drone-laying queen and give the lasting colony a fertile queen or brood out of which to rear one. The queen bee is endowed with wonderful proficiency, and when honey-fORAGE is plentiful, instinct impels her to spend her time and labor in the direction of fecundity. It has been ascertained by careful experiments that a fertile queen is capable of laying upward of two thousand eggs in a day. Her prolificacy is regulated by the supply of honey, and, hence, it is the policy of all good bee-keepers to feed in early spring, so the colony will be ready with a strong force of young bees to take advantage of the honey season, when it comes.

The average lifetime of a queen is about three years; but they do not live so well the third year. If they are not prolific the third year, and are not reared with a queen, or if a young, prolific successor. Worker bees are short-lived, not averaging more than six weeks in the busy season. Drones are also short-lived. They are reared in the spring, when the colony becomes strong and the time approaches for swarming; and when the honey season is over the worker bees drive them out of the hive or sting them to death.—C. F. Dodd, in N. Y. Independent.

THOUSAND-DOLLAR COMPOST HEAPS.

Please give me a little space to again urge upon the Teutonic thousands of farmer readers the great value of the compost heap. I do not urge it as a theory, but as the result of many years of actual experience. I have tried, in a moderate way, one and another of the commercial fertilizers, and while I have no complaint to make as to their value, it seems to me that our farmers as a rule can do better. I commenced hunting for my compost heaps last spring, throwing into them all the coarse refuse, whether it was coarse manure, street sweepings, fish refuse, pig manure, or cinders, and when the garden season was over, I did not throw anything in but leaves—i.e., anything and everything that I supposed would be of value. At times, when they seemed to be getting too hot, I had water thrown upon them in sufficient quantities to cool but not to drain from them. During the fall they were worked over. They have been heating a very little all winter, about sufficient to keep them from freezing. We are now working the largest one over again, after which it will be ready for use. I am aware that it may be urged against this that it will cost time and labor, and some money; but, on the other hand, I shall urge the importance of the good things that I know of in this world. I can not tell what the two heaps have cost me, as they have been gathered at such times as we could spare men and teams from other work. I am now paying twenty-five cents per cord for working over, and I will have, after this is done, not less than one hundred and seventy-five and perhaps, two hundred cords, and in splendid condition for immediate use. As near as I can judge, the cost will be from $300 to $400. How about their value for the coming season’s crops? I shall also have an immense amount of good stable and barnyard manures, much more in bulk than these heaps, and I believe that no man values them higher than myself, but when and where I want my kind to give me the largest possible crops, and those of the greatest value, there goes my compost manure. Why? Simply because many years’ experience tells me that crops will start up more vigorously, and grow up more rapidly with this manure than with an equal amount of the best stable manure. It is reasonable that this should be the case, as it is more nearly ready for plant food than any other manure could be. I cannot give your readers the actual value of these heaps, but if any man should come to-day and say: "I will deposit $1000 to your credit in the bank if you will allow me to haul away your compost heaps," I should answer: "My friend, I have lately been purchasing some property, and my bank account is unusually low, but I do not need money bad enough to make such a sacrifice as that would be to obtain it." I have never used these manures upon any crops where they did not tell the same story. I do not pretend that the manure is most different from any other, and every one of them more valuable than they otherwise would be.

It is possible that if each was taken in its crude state and plowed under, its value to the land might be as great as when in its present condition. But I should be years instead of a few weeks or months in getting my returns.
THE LANCASTER FARMER.

July,

Merchants think "small profits and quick returns" best in the long run. With me this plan of fertilizing has never failed to give quick returns and large profits, or at least large crops.—J. M. Smith, in New York Tribune.

DRINKS.

What and When Fluid Nutriment Should be Taken.

Nourishing Fluids.

Regarding the drinks which contain more nourishment than water, much might be said. A few statements will suffice to bring out the most important points regarding their character and uses. This class of drinks is employed whenever the formation of nourishment is required with the least efforts on the part of the digestive organs. Nourishing fluids which undergo very little change in the stomach, but are simply absorbed and go at once to supply the materials for the repair of tissue, are types of this class. Under this head there is such a variety used that it appears necessary to specialize a little more. To make this clear three sub-divisions may be made: First, those which are absorbed without change by digestion, such as water, saline and saccharine solutions, and some of the animal extracts; second, such as require very elaborate digestion, which takes place slowly, milk for example, and, third, those which undergo changes by digestion, but do so very rapidly and with very little effort on the part of the digestive organs, whey — serum of milk— buttermilk, clear soups, and some of the gruels.

The first of this division should be used when a patient has thirst without hunger and is unable to digest the more highly nutritious drinks. In fevers attended with great disorder of the digestive organs, life may be sustained for a long time and the comfort of the patient greatly increased by using this kind of drink, while very great harm might be done by giving strong stimulants at once, which require digestion. The second class should be used in the same conditions mentioned above as soon as the digestive organs will tolerate them. The second class answers well when the patient has the ability to digest food, but has no appetite, no ability to masticate and insolvate solid food. Such conditions often are seen in disease. Take typhoid fever, for example. The patients will refuse solid food altogether. They cannot masticate or swallow it, and still they will take milk and other nutritious drinks, and digest them.

The adaptation of the various kinds to the wants of the sick demands the skill of the physician, and should not be trusted to the nurse or ordinary attendant. At one time it may be necessary to give carbonaceous nourishment to sustain the nervous system in order to carry the patient through some exhausting stage of an acute disease, while at another the gradual supply of tissue may be the object desired. The engineer uses the most combustible material when he wishes to get up steam rapidly to carry his locomotive up hill, while a slow, steady fire is all that is required to drive the engine upon level ground. So it is in giving drinks to the sick. We should know exactly whether it is necessary to sustain the vital or nerve forces during the work immediately on hand, or to supply tissue to-day for the work of to-morrow, and then adapt the nourishment accordingly.

Stimulating Drinks.

This brings us to the second class stimulants, that is, drinks to increase vital action and prevent the waste of tissue. There has been much learned discussion among the doctors of medicine regarding the questions whether stimulants produce vital energy or force or simply bring into action that which exists in a latent state, and whether alcohol (the essential element of most stimulants) supplies new material for the tissues or only retards the waste of tissue. These questions lie upon the outer boundary of our present field of inquiry, and fortunately, their solution is not absolutely necessary to the obvious practical truth, that stimulants help to sustain the organization under extraordinary taxation, either from labor or disease, and that the need and health and those who are sick are sometimes enabled to accomplish more than they otherwise could by the aid of stimulating drinks. Those who are in health and live under favorable conditions of life do not require stimulants; on the contrary, they are directly injured by their use; but under the circumstances named above stimulants are the most valuable and potential agents at the command of the physician. They are, however, the most liable of all drinks to be abused, and therefore they ought to be used with care, and with a clear understanding of their effects. A few hints regarding these points will serve as an outline guide to the use of stimulants. They should never be used in health except as a luxury; they should only be given to accomplish that which cannot be attained by food and rest; they should be regulated in quantity when given to bring the strength and activity up to or toward the standard of health; care should be taken not to produce over-stimulation by stimulants—that is, intoxication even in a slight degree, because a corresponding degree of depression follows; and stimulants should be used in sufficient doses to produce the effect desired, and repeated at such intervals as may be necessary to maintain the effect. Stimulants are rapidly absorbed, and produce almost immediate effect. This should be carefully watched in order to avoid a too sudden excitation. Wines which contain a small percentage of alcohol, as most good wines do, may be most beneficially used. There is less danger of producing sudden intoxication, and that irritation and congestion of the stomach which is caused by strong liquors. If whisky, brandy, or other thoughts have to be used, they should be well diluted. Clear liquor taken when the stomach is empty produces great derangement of the liver, and if the practice is continued long produces fatal organic diseases of that organ. A man's days are numbered when he is seen taking his whisky habitually before breakfast. While it is a bad habit to drink strong liquors immediately after meals, it is far less dangerous than doing so before eating. Any fluid which contains more than 15 per cent. of alcohol is said to arrest digestion, taken with food. This is true, I believe, although most people who drink could keep it. They know that they eat and drink and digest, and hence they do not see how the drink taken can arrest digestion. The fact is that digestion is stopped until the alcohol is absorbed, and no digestion goes on until the body is able to throw off the extra load of the alcoholic drink. This gives the stomach extra duty and prolongs the time of its labors. Mixing liquors with mineral water, which has become fashionable of late years, is a great advance in the right direction. The mixture is not only more agreeable to most people, but it counters the tendency of strong drinks to injure the stomach and liver. It also secures a slower absorption and produces a more prolonged and milder stimulation.

Perhaps the most difficult question of all that pertains to this subject is what kind of stimulant to use. Those who drink for pleasure select that which is most agreeable to the taste, without regard to the ultimate effects upon the system; but in using stimulants for the purpose of strengthening the weak or in aiding the cure of disease, the selection should be based upon different principles. It is impossible to tell beforehand what will agree with a given case. The only way is to try and see what produces the desired effect. Some delicate people, whose appetites are poor, will be benefited by using beer at their meals, while in others it will cause anxiety and indisposition. If stimulants are used in this way, well, while others take whisky or brandy agreeably.

A momentary excitement is caused by a very small quantity of any stimulant in semi-delicate or sick people, and in othersラング and weariness follow. Both effects are injurious, and the stimulant should be withheld or given in smaller quantity. If digestion is labored and the appetite impaired after using a stimulant it should be given up. On the other hand, if a feeling of strength without excitement follows, and the appetite is improved, or not impaired, then it is evident that the stimulant is useful. When stimulation is indicated, and the patient is in need of animation, one of these stimulants is all that is necessary. Perhaps some one will be found to give the desired effect. In short, select a stimulant for each case in place of seeking a stimulant which will suit all cases. In giving stimulants to the sick there is one great mistake frequently made, and that is giving too much at first. The dose should be so small as not to produce any marked effect, and then it should be gradually increased until the desired effect is produced, and then that quantity continued. Care should be taken never to give more than is needed, for this has been the most difficult point to be fixed. Only by very careful and constant observations will the system be brought to the proper state of health. There is one rule which can be followed on this point, and that is to give only as much as can be appropriated by the system. Whenever more alcohol is taken than can be used up in the system the excess is thrown off by the mucous membrane of the lungs, and the breath has the smell of liquor. No matter how much liquor is taken, if it is not eliminated by the lungs the quantity is not too great and no matter how little is taken if it is thrown off in that way the quantity is too much.

Mineral Water Drinks.

The third class medicinal drinks embraces so much and is so closely connected with medicines generally that a volume might be
written on the subject. Mineral waters now hold an important position among remedies that is necessary for every one to know something of their use. Medical men are supposed to understand their use and to be able to prescribe them with the same intelligence which they show in the use of other drugs. But the people use mineral waters nowadays freely and without the advice of physicians, and therefore, they ought to know more about them than they generally do. Perhaps there is no valuable class of agents more abused than mineral waters in the way they are employed by all sorts and conditions of men. The fault is not altogether of the people. They have no one to tell them how to use the waters. Advertisements proclaiming the virtues of certain waters are to be found in abundance everywhere, but without any specific directions how to use them. In fact, mineral waters, which are far more valuable than most of the nostrums in circulation, and not so well protected from misuse. Every box and bottle of patent medicine is labeled how and when it should be taken and in what doses, but most of the mineral waters have only the name of the water on the bottle with a long list of the diseases it is said to cure. Names alone should be changed. Mineral waters should be taken with the same care and with as clear a knowledge of their effects as any other medicines. Medical men especially in Europe, have given much attention to the medical effects of different waters, and their interest in them has increased of late years. The subject of the therapeutic action of all the waters has not yet been exhausted by any means. In fact, there is still much that is hazy in the words of the doctors generally regarding this whole matter. I might state this a little stronger by saying that there are still a great many medical men who are lamentably ignorant of all that pertains to mineral waters. The medical literature on this subject in great part remains to be written. Facts are being obtained by observation all the time, and even now more is known about how to use and the effects to be obtained from mineral waters than is practically applied. It has been pretty definitely made out that certain waters accomplish certain objects. The strong saline waters are cathartic. Others act upon the kidneys. Those containing iron and phosphates are tonic. The fittina and sulphur waters are said to be valuable in rheumatic affections, and so on. It would be confusing and tedious to name all the waters and their effects.

Mineral Waters as Elimiatives.

A more convenient way to comprehend and remember them is to classify them according to their effects; as follows: First, eliminatives; second, tonics, and third, alternatives. The first includes the largest number and expresses the most important effect produced by mineral waters. Elimination, by which is meant the throwing off of the worn-out materials in the system, is one of the most important processes of all the functions of the body, and one which is particularly liable to be ranged. The breaking down of old tissues and their expulsion from the body is highly necessary to the health and activity of every one. No matter how simple and perfect the supply and appropriation of food may be, if elimination is retarded ill-health and sluggishness is sure to follow. Those of sedentary habits, i. e., those who eat much and take little physical exercise, are particularly prone to bad elimination. They become like a house which is not cared for. Rubbish accumulates in the corners, dust settles in all the furniture, the doors creak on their hinges, and the avenues of escape are blocked up. They need cleaning out. Busy men in easy circumstances, lawyers and clergymen, are often the victims of faulty elimination, and should spend part of their time in drinking mineral waters. A blacksmith who works hard and perspires freely should be among the early eliminators. He has little need to go to Saratoga to drink the eliminating waters. "The curse of the poor is their poverty," is a saying often heard, and it is a truism to some extent. It is equally true that the poverty of the poor is often their greatest blessing. The strong arm, the clear head, sweet sleep, and good digestion of the working man often comes from the poverty which compels him to work. The well-to-do man often suffers from indisposition, headache, want of appetite and despondency simply because he is loaded down with the sweets of life and the weight of care is a constant companion. He tries a little wine, which acts like a whip on an over-fat horse. It starts him up for a moment, but only increases the troubles by further arresting the breaking down and cleaning out of the dirt and cobwebs with which his tissues are handicapped. Such a man would derive great benefit from a course of mineral waters of the first-class, viz: the eliminatives. They would be to him the same as a thunder shower to New York or Brooklyn in summer—cooling and cleansing. Catarrhal states of the mucous membrane of the alimentary canal, so common everywhere lead to trouble of the liver and constipation, and all the aches and pains attendant thereon. The subject of these disorders, which have been brought on by years of unwisdom living, may take an occasional dose of medicine without relief. They become chronic grumblers, and fancy that they belong to the class of incurables, while the fact is they only require to drink cathartic waters three or four weeks to be fully restored to health and strength. Others there are who have no such derangement of the digestive organs, but suffer from inactivity or functional derangement of the kidneys may be said to have renal constipation. They feel weak because oppressed by the load of excrementitious matter which the kidneys fail to throw off. They eat freely to gain the desired strength, but that only increasing the distress. That is like heaping coals upon a fire without taking out the ashes. That which they vainly try to do for themselves can easily be accomplished by the free use of diuretic waters. By the judicious use of these waters bright's disease can often be prevented. When that dread disease is on the point of fully establishing it is often worth while thinking about curing it. But the functional disorders of the kidneys referred to above tend to organic disease, and they should be promptly relieved.—N. Y. Times.

Subscibe for the LANCASTER FARMER, the best and cheapest agricultural paper in the State. Every farmer should take it.

OSTRICH FARMING IN THE STATES.

My recent report on ostrich farming in the United States seems to have elicited considerable interest, and I am in receipt of many letters asking further inquiries on the subject, and not having time to answer them all separately, I have thought that the various questions asked might better be met by a supplemental report, which you will find inclosed.

I give the points in order in which they occur to me:

1. I do not think it would be possible to send ostrich eggs to the United States and have them arrive there in good condition. The long voyage and motion of the ship, to say nothing of the passage they would have to make across the Atlantic, are likely to injure them, and would so add to their expense that they would be of little advantage upon their arrival. This is not merely my own opinion, but also that of the ostrich farmers located here.

2. The only safe way is to procure the birds; and Messrs. Hill, Protheroe & Co., who have been so successful in transplanting the African ostrich into this country, inform me that, so convinced are they that the United States offer all the facilities necessary to a successful prosecution of the business, they propose very soon to take a lot of the birds there and thus contribute to the development of the new industry. They are now making arrangements to this end. The cargo will consist principally of four-year-old birds, as they stand a sea voyage the best, and they can be sold, by comparison, much cheaper than old birds, and besides, they assure me that from their experience of the losses and expenses of bringing birds from the Cape of Good Hope, it does not pay nearly so well to import the feathered birds to rear them from the breeders in the country itself.

On the subject of this industry and its naturalization in the United States I submit the following letter, which I have received from them:

Buenos Ayres, April 13, 1882.

Dear Sir:—We beg to state that we have made replies to the letters you handed us from various parties inquiring for further information than that contained in your own able report to the department of state, on the subject of ostrich farming.

This enterprise continues to flourish in this country, so far as the well-being of the birds is concerned, and the quality of the feathers produced on the rich pasture of the pampas is much superior to the average at the Cape.

Our breeding birds have already commenced to breed and some chickens have been hatched out, and we shall forward you any further report to your government we should like to point out the special advantages which we consider the United States offer for the establishment of the ostrich in the country itself as a vast market for all the feathers which can possibly be produced there for years to come; and doubtless there is an import duty which will protect the home grower, and enable him to obtain a higher price than foreign growers can in other markets. This fact, influences, of course, the value of the chicken, and in the highest prices, of course that can be asked for them is just what it costs to import. Now as the expenses of shipping are very heavy, and any drawback in that way would be terrible, without the possibility of insurance it will scarcely pay to introduce any but four year old birds and breeders, with a view of raising the feathered birds in the States, consequently all fear of cheap importation being done away with, a very handsome figure can
be asked for the chickens, and the owners of breeding birds will reap a golden harvest.

The industry, indeed, will pay as well in the United States, or even better than it ever did at the Cape in the days of fabulous profits, when the demand for chickens was far greater than the supply, and when birds, three months old, really brought $20 each; and this in a country which suffers from periodical drought much more often than other draw-backs, all tending to make ostrich farming less valuable, because less productive than it will be in the United States.

That the business will assume larger proportions in your own country we are quite convinced; and, as is usual in such cases, the first in the field will be the first to take advantage of the demand for young ostriches, which is sure to spring up.

We are, yours very truly,

HILL, PROThERO & Co.

E. S. Baker, Esq., United States Consul.

3. In regard to the yield of feathers, I am advised that the product from one bird annually is worth about $90, wholesale, in London. If however, the pasturage is good, which it seldom is at the Cape of Good Hope, the yield is worth much more. Mr. Hill informs me that he has known one plucking sell for $150, and two pluckings can be taken in a year, but that is an exceptional case. A return of $50 per year is the very lowest that will be obtained under any circumstances.

He has every reason, however, to believe that $120 worth of feathers can be obtained from each bird annually in the United States. An ostrich of two years of age which costs, say $375, will therefore give about 25 per cent, gross profit. From this a small percentage must be deducted for accidents, and, say, $50 per bird for expenses, annually. Still this leaves about 15 per cent, clear; and when it is considered that any farmer of stock can generally place fifty birds and upwards upon his land, without making much difference to the pasturage, and that no herding is required where the fencing is good, and that little trouble is involved, even at the prices quoted it is more than fair compensation.

4. A large number of birds delivered in the United States, Messrs. Hill, Prothero & Co., inform me that they will probably be able to furnish breeders at $1,750 per pair; for four-year-old birds, which may shortly be expected to breed, the price will be $1,200 per pair; and for two-year-old birds, $750 per pair.

5. In the case of four-year-old birds and breeders, it will be born in mind that the return of profit is twofold: first, the feathers, which perhaps may not do more than pay the working expenses, as the birds when breeding require separate inclosures and to be fed on grain; second, the profit derived from the sale of young chickens.

By the process of incubation, it may certainly be expected that sixty chicks will be annually reared from a pair of breeders. The value is, of course, influenced to some extent by the activity of the demand; but intrinsically it depends upon two things, viz.; the return of feathers they give and the risk of death before they become productive. As regards the former point, a chicken gives its first plucking (always London wholesale prices), worth $5 to $6 per bird, at the end of nine months; and every six to seven months thereafter the really good feathers are produced, worth from $20 to $120 per plucking, according to the age of the bird. Every man who is therefore for himself what a clutch would be worth to him, were risks and mortality out of the question.

6. In regard to mortality, almost everything depends upon the state of the pasturage and the rainfall. Generally, if a constant supply of lucerne (alalfa) or clover or other green grass can be obtained, then ostrich farmers calculate on 10 per cent., as the rate of mortality, but should green stuff not be attainable when the chicks are from a few days up to three months old, the number of deaths may be excessive. I am told that at the Cape of Good Hope the chicks are sometimes almost worthless from the absence of herbage. In the Argentine republic, and I presume in the United States, this great drawback will not be felt. After three months the special danger is passed, and at the Cape chickens of this age for years have been worth from $50 to $90 each. After this time the mortality will probably not exceed 10 per cent.

Mr. Hill is of the opinion that for a long time to come birds three months old would be worth in the United States $120 each; for the expenses alone of importing ostriches will probably be almost this sum, to say nothing of the first cost and the risk of the voyage. Even at the price named the return would be satisfactory to the owners of breeding birds quite fabulous.

7. Regarding the management of the birds, as I have said before, all that is needed is an inclosed paddock, or grass fields, with sufficient pasturage to sustain them. They should be collected and counted about once a week. Every month they should be brought into a small inclosure, when each bird should be examined, and the ripe feathers plucked. The process of display of them is simple enough. They are put in a "corral" or small pen, so confined that they cannot exercise their propensity for kicking, and are fed on hay, prepared food, and a little grain daily. They procure an egg every two days. In violent storms shelter is always better for the flock, but this is not really necessary.

There will be needed a small room for the incubating machine, and oil enough for the lamp which heats the water; also shelter for the young chicks for three months. This is about all; and, as in other employments, success will be attained by care and attention.

8. The best book upon ostrich farming is that of Mr. Douglass, of Cape Town. It is published by Cassell, Peter Sulpin & Co., London, New York. It will be observed in this book that the author advises two or three years' experience on an ostrich farm before starting the business. In regard to this, Mr. Hill says that Mr. Douglass addressed himself to young Englishmen, who have been brought up to nothing, and knew nothing of farming pursuits. He insists that any intelligent man, in the least accustomed to take care of stock, can learn the habits of these birds in a month, as also how to treat the few diseases to which they are subject; and if he buys healthy birds he will be successful from the first, provided the farm is a suitable one.

I have obtained the above points either directly from those who are practically acquainted with the business of ostrich farming or from observations of my own while visiting a farm in this vicinity, and I think they will be found reliable.

In regard to the special advantages which the United States offer for the prosecution of the industry I do not think there can be any doubt.

Ostriches are doubtless capable of standing the climate of almost any of the States, but productive ostrich farming, whether for the feathers or for raising the chicks for sale, ought not to be attempted except in the milder portions of the country, as the Southern, Southwestern and Pacific States.

The birds are naturally timid, but are readily domesticated, especially when they are produced by incubation; and they become on the farm as tame as chickens, ducks or geese. The males, however, are not quite so tractable, and during the breeding season they sometimes become aggressive; and then they have to be watched or they may do mischief.

There is a drawback, and sometimes fatal, though by facing them with no manifestation of fear, and using a stick three or four feet long with a fork at the end into which the neck of the bird is inserted, their attacks can generally be avoided.

Messrs. Hill, Prothero & Co., informed me that immediately upon the shipment of a cargo of birds to the States the fact will be publicly announced, as also their port of embarking.

SMALL FRUITS ON THE FARM.

The first thing is the selection of the ground. If possible, a plat that slopes in the East or South is preferable, and if it is protected on the North and West so much the better. We do not like a steep hillside, especially for small fruits, but, if possible, want it sloping sufficiently to drain well. If this cannot be secured to obtain the best results, artificial drainage will have to be resorted to.

While a poor soil will raise some fruit—and by using manure around the plants much economy in fertilizers can be used—still, if possible, it will always pay to select a naturally rich soil. Or if this can not be done, an application of well-rotted manure should be given. It is better of course that much of the preparation should be done in the fall, but at this time we can only do the best we can at the time. The ground should be well plowed and harrowed thoroughly, to get it in as good condition as possible. As in all other farm operations it pays to make the work of preparation as thorough as possible.

We believe that in small fruit culture it is far better to have the manure thoroughly incorporated with the soil. The roots of all plants (where they are to remain any length of time in the same place) are certain to penetrate through the soil in every direction, and when (as if often done) the manure is applied

*The history in the United States on ostrich feathers is as follows: When eral-, or not-dressed, colored or manufactured, 25 per cent. ad valorem, colored or manufactured, 50 per cent. ad valorem.
simply around the roots when the plants are first set out, it will stimulate a heavy growth at first or when the manure is first reached by the roots. In fact, I have always found that (especially the small rookslet and beets) get beyond the manure and come in contact with the purer soil outside of the area covered by the manure, then there is a stoppage in growth and a consequent damage to the plants. And again, when manure is simply applied immediately around the roots in too large a quantity (this is nearly always the case when applied in this way), it causes too strong a growth of wood at the expense of fruit and hardness. An application of wood ashes is very beneficial, and should be applied if possible be kept up. For, in all these cases, it is necessary to save to our fruits, both large and small, in preference to using them in any other way, and if due care is taken with what is made in an ordinary family, a sufficient quantity can be secured to give all the fruits generally raised on the farm dressing.

Understand at the outset that I am simply writing for the benefit of the farmer who, we think, ought to raise small fruits of all kinds for the use of his family, and not for those who make the raising of small fruits for market a specialty. I claim that each farmer can raise all kinds of small fruits far cheaper than he can buy. In fact, I have always held that the farmer ought, by all means, to raise all that is consumed in the way of edibles, and he can do so far cheaper than he can possibly buy them. — N. J. S., in Prorifer Farmer.

INTRODUCING NEW VARIETIES.

The seedsmen and nurserymen are annually introducing to notice new varieties of fruits and vegetables, but such work should not be left entirely in their hands, as it is the duty of farmers, gardeners and fruit-growers to experiment in such matters in order to increase the hardness and yield of all plants that are cultivated for profit. Perhaps the reason why the introduction of new varieties is not interesting to farmers is because they consider the matter as something difficult, which, no doubt, is true, but it is as easy to them as it is to seedsmen. If we consider wheat, for instance: the work of improvement consists of nothing more than the selection of the plumpest grains from the largest heads and best stalks, which plan, if continued for a few years, results in a variety better adapted to the locality in which it is grown, and which will yield more and produce a better quality of wheat. Vegetables of all kinds may not only be improved by this method (selecting the best) but even the growth, shape and other characteristics may be changed.

The greater number of our varieties of fruit comes from seedlings. The apple is one of the best and hardest fruits we have, the numerous varieties all coming from the one source—the crab apple—and though each variety is distinct in habit of growth, shape, size and period of ripening, yet if we plant the seeds of the best of them we may not get anything resembling that from which we started. We may also produce crab apples, or there may be among them something superior to heretofore known. Often over one thousand trees have been used in a single experiment, and, among vegetables, a certain seedman could only find one good potato from 8,000 plants; but that particular kind amply rewarded him for all the time and labor that had been employed in the task of selection.

Farmers are not inclined to try experiments with fruit trees, as time and patience are required, while nurserymen are particular to take advantage of all opportunities; but farmers can at least, with vegetables, select the most perfect seeds from the best plants. So far as the small fruits are concerned, they have better opportunities, for it is not required to wait a long time for results. The strawerry can be grown from seed, but the majority of the best kinds are due to chance seedlings, growing in some unobserved locality, are accidentally discovered to be of superior quality, and receive the proper care and attention necessary to propagation. As a single strawberry will produce a large number of plants from seed there can be no possible limit to the improvement of that berry, the only requisite being to trim off the seeds from the berry, dry them on paper, or mix with sand, and sow in a place. As soon as the young plants are large enough set them out and make careful observation of the growth and productivity of the vine, period of ripening, size, color, and quality of the berries. Each plant may be different from the others. All may be worthless but one, and that one may cause a revolution in strawberies.

As with strawberrics so with raspberries, blackberries, grapes, or even luckelberries. There is a wide field open for the introduction of a new blackberry equal to the Wilson, for it is fast deteriorating, and a fortune awaits the one who can improve on it, while a grape equal to the Concord, and one that will not rot, is sure to find favor. All plants that reproduce themselves from the roots, or by cutting or planting seed, have great superiority above the parents, but when produced from seed no reliability can be placed on the result, as the seed either reverts to the original stock or becomes the foundation of a superior variety.

AMUSEMENTS OF THE WORKING CLASSES.

The amusements of the working classes are often of a low and even vulgar kind; and one of the greatest improvements in their life is the adoption of some more refined and enjoyable in place of the vulgar shows, the tripping sports, and the insipid reading in which they now indulge. It is true that, in this respect, the whole American people need refining and elevating, and not the working classes alone, for many of our richest men show little more ability to amuse themselves in a refined and sensible way than the working-men do. But the rich man can, in a pecuniary sense, better afford to throw away money on unredeemed amusements and vulgar display than workingmen can, for their incomes are sufficient to admit of some waste; whereas the workingmen, if they are to get the greatest possible happiness out of the means they have, must studiously avoid all expenditure for things of no value, or they will have nothing to spend for those finer pleasures which are so much better and more enduring.

There has been of late years, we are glad to say, a considerable advance in this respect among the workingmen, as seen especially in their increased attention to music, art, and to the cultivation of flowers; but a vast deal more remains to be done to raise the amusements and recreations of the laboring class to the standard required by a cultivated taste.

But the most important source of happiness of a cheaply elevated kind is to be found in reading, affording as it does both amusement and instruction; and whoever can lead workingmen to a better practice in this regard will render them an invaluable service. A taste for reading, indeed, is even now rapidly spreading among the better portion of the working-classes; they have seen so low in quality, so little able to amuse or to instruct, that the benefit obtained from it is but trilling in comparison with what it ought to be. Workingmen read the newspapers, and thus become familiar, to a certain extent, with the course of affairs throughout the world; but the quality of the newspapers they often read shows at once the poverty of their literary taste and the meagerness of their information. Besides the newspapers, their principal reading is fiction, and this rarely of the best; while of the vast stores of information in historical, biographical, scientific, and other kinds, which European men contain, their knowledge is in general of the most meager sort. Yet the majority of working people have abundant time and energy for the prosecution of such reading, and only need to form a taste for it in order to obtain a pleasure of the noblest kind. — The Century, for July.

STATE HORTICULTURAL ASSOCIATION OF PENNSYLVANIA.

Officers and Committees for 1883.

President, George B. Shister, Reading, Pa.; Vice Presidents, H. M. Eagle, Marietta; Joseph Hoopes, West Chester; W. S. Russell, Pittsburgh; Recorder, F. M. Thrall, Harrisburg; Secretary, W. D. Brinton, Philadelphia; Treasurer, George B. Thomas, West Chester. Lit- terian, Gabriel Heister, Harrisburg.

Standing Committees. General Fruit Committee.—It is hoped that the members of this committee, especially, will make close observations on fruit crops and prospects during the season, so as to be able to report to the members the Chairman, when requested. Total or partial failures of fruits, diseases, insects, &c., should be speedily noticed and reported. E. Staterich Jakemont, Montgomery county; Chairman: A. E. Sprout, Picture Rocks, 8. M. Dunlap, 8. M., Lewistown, Square, Delaware county; Dr. Jas. Cadle, Harris- burg, Dauphin county; Dr. B. B. Eyler, Chambers- burg, Franklin county; W. S. Rhode, Lewistown, Mifflin county; J. V. Garrettson, Etta Dale, Adams county; W. L. Schaeffer, Philadelphia; E. E. Swift, Mt. Oliver, Allegheny county; H. S. Rupp, Shiremanston, Cumberland county; J. S. Keller, Orwigsburg, Schuylkill county; V. Wors, Potts- grove, Northumberland county; Basler Boyer, Lebanon, Lebanon county; J. W. Fite, Willow Dale, Adams county; W. H. A. Frease, Columbia county; Calvin Cooper, Bird in Hand, Lancaster county: Peter Lin, York, York county; A. S. Shiffer, Lewistown, Union county; Cyrus T. Fox, Reading, Berks county; H. L. Albertson, Lebanon county; J. R. Sharpe, Catacom, Columbia county; M. B. Etherington, Newport, Perry county; J. E. Johnson, Ceocimia, Juniata county.

Committee on Nomenclature.—H. A. Chase,
West Pena Square, Philadelphia, Chairman; S. W. Noble, Jeannette, Montgomery county; H. A. Longdorso, Mechanicsburg, Cumberland county; J. Hibberd Barratt, Milltown, Chester county; J. T. Smith, M'Allistersville, Juniata county.

COMMITTEE ON ENTOMOLOGY.—S. R. Baldwin, Lancaster, Lancaster county, Chairman; Ezra High, Reading, Berks county; Herman Streeker, Reading, Berks county.

COMMITTEE ON ORCHARDING.—Theo. M. Harvey, West Grove, Chester county, Chairman; John G. Engle, Marietta, Lancaster county; Jacob Heyser, Chambersburg, Franklin county; J. L. Sherry, Gettysburg, Adams county; Col. G. F. M'Farland, M'Allistersville, Juniata county.

COMMITTEE ON ECONOMIC AND AGRICULTURAL EDUCATION.—C. G. Miller, 5774 Germantown Ave., Philadelphia, Chairman; P. C. Hiller, Conestoga, Lancaster county; John C. Hepler, Reading, Berks county; George Ashwell, West Chester, Chester county; George Balderston, Columbus, Cecil co., Md.

COMMITTEE ON ARRANGEMENT AND RECEPTION.—A. A. Woods, Harrisburg, Dauphin county, Chairman; H. S. Rupp, Shremsmout, Cumberland county; E. B. Engle, Chambersburg, Franklin county.

Special Committees.

COMMITTEE ON RULES.—E. P. Swift, Mt. Oliver, Allegheny county, Chairman; Basler Boyer, Lebanon, Lebanon county; W. M. Pannacker, Lewistown, Mifflin county.

COMMITTEE TO ARRANGE FOR AN EXHIBITION OF FRUITS, &c., in connection with the Annual Fair of the Pennsylvania State Agricultural Society.—Geo. D. Stitzel, Geo. B. Thomas, E. B. Engle, Executive Committee. In addition to all the members of the General Fruit Committee, as named above.

REPRESENTATIVES TO AMERICAN POLOMOLOGICAL SOCIETY.—Beauavail meeting at Horticultural Hall, Philadelphia, September 11th to 14th, 1882.—George D. Stitzel, Reading, Chairman; H. A. Longdorso, Mechanicsburg; F. C. Swift, Mt. Oliver; L. B. Chambersburg; F. F. Morenon, Caratowski.

COMMITTEE ON INFECTIOUS BIRDS.—John Rutter, West Chester, Chairman; Geo. D. Stitzel, Reading; H. M. Engle, Marietta.

Due notice will be given to all members in case it is deemed to make an exhibit of Fruits at the State Fair to be held by the Pennsylvania Agricultural Society. By united effort on the part of members of this Association, a very creditable display can be made. We are also invited to exhibit at the Annual Exhibition of the Pennsylvania Horticultural Society, which will be held in Horticultural Hall, Philadelphia, September 11th—14th, 1882, and to take part in the Biennial session of the American Pomological Society. Liberal premiums are offered, as will be seen by the programmes and premium list for 1883.

GEO. D. STITZEL, Pres't, Reading, Pa.
E. B. ENGLE, See'y, Chambersburg.

Our Local Organizations.

THE POULTRY ASSOCIATION.

The regular meeting of the Lancaster Poultry and Live Stock Association was held on Monday morning, July 2.

In the absence of the President Mr. Schum was called to the chair. A report of the previous meeting was read and approved.

Mr. Lightly reported that sixty three shares of stock had been paid for, amounting to $315, which sum had been expended in the payment of bills. Five shares of stock had been subscribed for, but not paid, and the association still owes $15 for premiums. Mr. Lightly also reported that the charter had been granted by the Court and was now being recorded.

Martin Rudy was elected a member of the association.

The Lancaster Farmer
boil" (Harpalus Caliginosus). We have in our collection a female *Garrina* captured in a small "puddle" of water that has a tangled string of minute eggs attached to its body.

Forty years ago I tried to animate a horse by shocking it more than six months in water, but I did not succeed. The person who gave me this specimen was perfectly unsuspicious, and frankly stated that he drew it from the body of a "big black bug," such as are usually found in the *fevers* of cattle, and if not the species named above, probably a specimen of *Coccus parviflorus,* or common "Tangle-stem." I confess that little more is known specifically about these *Garrina* than was known a hundred years ago, but it is some satisfaction to be able to corroborate observations made then.

A fossil, supposed to be the stem of a plant, found in thePicture

On June 25, 1883, as an agent of the United States astronomical station, at Santiago, Chili.

Observations on the transit of Venus, December 6, 1882, and a view of the station, Santiago, Chili, City of Santiago, Chili, showing the snow capped Andes, and the entrance to the city, etc. Donated by Mr. Miles Rock per W. L. Gill, Official Gazette of the United States Patent Office, vol. 23, No. 23, June 5, 1883.

Circular of Information of Bureau Education, No. 1, 1883. Department of Science for April 30, 1883.

Lancaster Farmer for June, 1883.

American Register for May 9, 1883, published in Paris, France.

Six book catalogues, sixteen directories and prospectuses, etc.

Two envelopes of elencon scraps.

Prof. J. S. Stahr then read a paper describing the new plant of *Garrina parviflora* which he discovered in his county, on June 21, 1883, in the swamp near Diller, feeding on the brush willow. This is the "Sperandia Color," and is new for our county, it never having been found before. Dr. Rathvon and Mr. Auer, our local entomologists, have not taken the insect in this locality. It is a variety found in the Western States.

Twenty-five Southern "Fire-flies" (*Pyrocephalus centra*) from Mr. J. J. Sprunger, of Atlanta, Georgia. A letter from Mr. S. accompanied these insects, asking that when collected they were all alive and very luminous; but when they were received they were all quite dead, save one, which died soon after emitting a faint silhoutted of light.

These insects belong to the Coleopterous family Lanthribidae,* a number which are luminous, and species found in all parts of the Eastern Hemisphere, Union, and also in Europe. The emissions of light seem to be phosphorescent, and their source is located in the two or three last ventral abdominal segments of the body, controlled by the volition of the insect, but exactly how controlled, has not been satisfactorily manifest. Our most abundant species in Pennsylvania, and especially in Lancaster county, is *Pterosus scintillans,* but we also have a species (*Pterisus pennsylvanica*) much larger than those sent by Mr. S., and also more luminous than our common species, but it only occurs in limited numbers, and its stay with us is sometimes prolonged until the month of August, or first of September.

These little insects are exceedingly interesting, and are as much the harbingers of summer as the swallows are the harbingers of spring. Long before their principal enemy, the insect of terror, insects, infested into the youthful mind by false teaching, has become obliterated, the exceptional coruscations of these little insects are hailed with glee, and they are about the earliest and pleasantest remembrances of childhood. Without the insects, the insects are not vegetable feeders, hence, in their transmission it is useless to furnish them with vegetable food. They are carnivorous in their gastronomical habits, and if the adult partakes of any food at all, it would be animal.

A *soldier (Telophorus)* commonly called "star" or "little soldiers," are partially to the common "garden snail" (*Helix*). On one occasion, Mr. George Huell, formerly of this city, called my attention to about fifty *Telophorus* that had attacked a large small, and they never relinquished it until the whole was devoured—or at least, all that was accessible, for the small was partially protected by its shell.

S. P. Boy, Esq., donated an advanced specimen of *Coccus parviflorus* in the collection of Mr. E. H. Hesse, which was deposited in our library.

This may possibly be a retained specimen of Mr. Hesse's local artificial brood, which was due in the summer of 1882. Our regular seven-year brood is not due until the summer of 1868. But the regular broods are not to be expected in years, or ten years, or twenty years. The spores of one family of fungi, which have been named "Steeple," and as a kind of exclusive speculation, too often makes shipwreck of all his hopes because he has not the backbone to hold out. To make a farm pay anything on the investment, somebody must work, and work investigation, and to be fruitful, and to be successful, all are rightly applied. All sorts of crops suitable to the region and market must be grown; teams, locks, and herds must be kept, and everything done on this hand and on that to bring the dinus of profit from the stubborn soil, from meadow, from forest, and from fields. Work is the basis, the thorough, timely, and ceaseless. The farmer must put his whole soul, mind and body into his work; he must be thoroughly in earnest; determined to succeed. No half-way measures will do if you are going to make the farm pay. One cannot work a little while and then run off to find something easier or more interesting to do. In a word, to succeed in doing much with the soil, one must have a passionate love for his farm and his work.

To look at the countries where small farms and small industries so largely prevail. What do we see? The peasant proprietor or tenant gives up his time, his thoughts, and all his energy to his work. To the tillage of a few beloved acres he devotes his days, and in a great measure his nights also, and he is so occupied and able, that the united labors of wife and sons and daughters; but behold the result. They get a larger yield of potatoes or wheat than ever fails to the lot of the amauteur or half-way farmer. Every foot of his little farm tells of labor rightly applied, of labor that pays. By their perfect and ceaseless truth, these Belgian, or Swiss, or French, or Chinese farmers feed more mouths to the acre than any other people.

The inexperienced amateur must stand aside a little longer. If he has money he can quickly lose it by his experiments on the farm. It is the sum born a farmer and reared on the farm that is going to succeed best at this business. He must have been familiar from early life with the petty details. Schools of agriculture may teach the science, but they cannot impart the art of agriculture. The farmer must make his own mistakes, he must learn by the hard knocks of life, and an experienced man can readily correct the evil; he applies the proper remedy at once, and the loss is but trifling. The amateur, by not knowing what to do would suffer a great loss.

Farming is a prize fight. It brings money, independence and independence; but they come not to the uninitiated. It requires a training for the work that does not turn back from rugged labor. If one has no experience, or cannot secure the services of a trained and honest manager, we would advise them not to invest much in a farm.

**Agriculture.**

**Successful Farming.**

In farming, as in most other forms of business, the victory is certainly to the strong and persevering. It is true, every line of business will succeed, but often, to succeed, it will need hard work and the application of the whole soul. But this is the way it is with all businesses, and as a kind of speculation, too often makes shipwreck of all his hopes because he has not the backbone to hold out. To make a farm pay anything on the investment, somebody must work, and work investigation, and to be fruitful, and to be successful, all are rightly applied. All sorts of crops suitable to the region and market must be grown; teams, locks, and herds must be kept, and everything done on this hand and on that to bring the dinus of profit from the stubborn soil, from meadow, from forest, and from fields. Work is the basis, the thorough, timely, and ceaseless. The farmer must put his whole soul, mind and body into his work; he must be thoroughly in earnest; determined to succeed. No half-way measures will do if you are going to make the farm pay. One cannot work a little while and then run off to find something easier or more interesting to do. In a word, to succeed in doing much with the soil, one must have a passionate love for his farm and his work.

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**The Crop Situation.**

Since our last paper was published, heavy rains have frequently fallen. There has been enough, in all conscience, to satisfy the worst grumbler at nature's immutable, though sometimes inextricable ways—enough to satiate a duck. Of course, some complain that there has been too much. There is always too little or too much with some folks.

Whatever is right," says Festus. To clean, well-plowed, and borrowed, and hoed crops there has been just about enough rain for the present. And hence they are growing finely, and just like hard and alive after the rain. We never saw finer prospects for corn. It is from five to ten feet high, according to the time planted. Many fields are "silkling and tasselling," and, in a few days, will have zooming ears sufficiently matured to eat. The early planted is virtually ready. We see and know of nothing which can or will likely happen, which will prevent the gathering of enough to supply the country. Of course, one or
two more good rains the last week in June and early in July will greatly increase the yield. As to the average, thanks to the common sense of Texas farmers, it is a full average. We are all perfectly happy when there is plenty of corn around. Texas has not bought any in four years. Texas is therefore certainly self-sufficient and will find plenty of food, until she finds her corn crib empty. A crib of corn is worth more than its size in bales of cotton. No legions cannot be found in a farm-house without corn. You can generally trace a man’s church troubles to his failure to plant a good, healthy crop of it. He will raise too much of Texas soil and finding himself without enough money to go around, he will get drunk, go to swearing, fighting his neighbors and wife, and receive a summons to appear before the church deacons and elders.

Wheat and oats have generally been harvested. The only crop for which our state is famous is corn. We have just mentioned that corn crop is there not enough of it. That planted turned out all right. That did we not plant we are getting in stores at the rate of two dollars per flour sack. But the situation is encouraging. In another year or two our farmers will learn to supply Texas with all it consumes. The crops last year and this conclusively prove North Texas to be a splendid wheat-growing region.

We will have to “take in a good deal of soil” on the fruit crop. The heavy winds of April and May were very destructive upon it, knocking it upon the ground. It escaped the frost to be ruined by wind. What there is left is fine. We have little for export.

Our gardens are still yielding enough good vegetables for all hands, the cook and her very numerous family.—Dallas, Texas, Planter and Farmer.

HORTICULTURE.

Asparagus.

Don’t fail to plant asparagus this fall. Delicious, healthful and succulent in the spring; no kitchen garden is complete without a good sized bed.

To prepare a bed, dip the soil deep and incorporate in it a heavy coat of rotten manure of well decomposed compost. Plant the roots in rows 12 or more feet apart. The depth of the root of the asparagus varies. Some roots have four fitches deep. Cover the bed in the autumn with manure and fork it in the spring. Salt or fish brine can be used to advantage.

Conover’s Colonial is highly recommended for its immense size, and being remarkably tender and high flavored.

Grape Culture.

The grape crop of the United States, although not spoken of as a leading staple of agriculture, is really becoming so to an extent that appears to be, at least, little understood or appreciated by the miscellaneous public. Its real importance, however, was recently shown by a remark made by a leading and influential European connoisseur in wines, who had been traveling through the grape-growing districts of the United States; he was startled with the fact that our American wines ought not to be rated as inferior to the corresponding classes of foreign wines, and that he believed that in the course of time their excellence would be fully recognized and established all over the world. As he, being an authority on the subject, was able to judge and establish the culture of wines as fruit for edible purposes has made immense progress in the New England and Middle States and in the West, and although as yet we cannot say that these grapes are equal to the fine imported articles from southern Europe, they are certainly very much improved in quality and abundance as compared with the grape used for the same purpose in the same regions fifteen or twenty years ago. The manufacture of wine from American grapes has improved so much in the hands of the German, French, Spaniards, and Italians, who have established branches of this business in America, that since the grape disease began to prevail in southern Europe large quantities of American wine are used by foreign manufacturers.—Germanstown Telegraph.

Domestic Economy.

Cleaning Carpets.

In all our own experiments we have found nothing so safe and serviceable as bran slightly moistened—only very slightly—just sufficient to hold the particles together. In this case it is not necessary to dampen the bran in the bucket. We recommend sprinkling the carpet after the bran has been sprinkled over it not only cleans the carpet and gathers all the dirt into the bran, but keeps the room clean at the same time. If too dampened, and while injuring the carpet, it makes the work harder, because the bran becomes very heavy if very damp. The bran

Hot Water For Sickly Plants.

A correspondent calls our attention to the following from the Garden, and inquires whether there is anything in it: “The Florist asks, Has any one tried hot water as a restorative for sickly plants, and then proceeds to say that Mr. Willmister some time since experienced a restorative effect on a plant suffering from a fungus disease by the use of hot water. In such cases the usual remedy is to transplant into fresh soil, in clean pots, with good drainage, and this often with the best results. But his experience of several years has proved the unifying efficacy of the simpler treatment, which consists in watering with a solution of bicarbonate of soda, about 150 Fahrwilde, having previously sterilized the soil of the pots so far as may be done without injury to the roots. Water is then given until it runs freely from the pots. In his experiments the water at first came down on the plants, but after it was steadily tilled up with and grew an appreciable acid reaction. After this thorough and washed giving of vigorous growth.”

To our mind there is a great deal in it. We know to a scientific research which has led to the efficacy of vigorous health, and to the vigor of the old-fashioned German farmers of Pennsylvania, the careful boiling water on the ground about the peach tree. It cokes, of course, somewhat before reaching many of the roots. Here, however, it is believed to be beneficial by destroy- ing toxic effects. It is rather more powerful than chemically, as suggested by the extract; but let the reasoning be what it may, we are willing to endorse it as a good practice.—Gardener’s Monthly.

About Trees.

When a tree is taken up to replant it, should always be marked so as to replant as it first grew—the north side to the north. When planted in sandy or light soil, a clay basin should always be put under the tree, after the tree is settled with clay should be used for filling, to cover the roots.

“Three-fifths of the nourishment of a tree comes from the air,” says a theorizer, which is a humbug. Girdle the tree and see how long it will live. “How that rain made the grass grow,” is a very common conversation topic. But a very large forest forms a liquid solution of the fertilizing properties contained in the earth fertilizer, and the little tender fibrous soil take it up, and then up springs the beautiful tender grass. Excavate the soil of its entire fertilizing properties, and you would get no grass. The tree draws its nourishment from its fibrous roots in the same way, and not from the air; and if you wish to keep your trees vigorous and healthy, remove the soil occasionally or six fitches deep around the tree, and replace it with rich, fresh dark loam. A tree requires a shower-bath from rain or other water, occasionally, as much as a man, to open its pores; and, like a man, when it has received the bath it gives off the pent-up heat in the body, and therefore the charming odor and fragrance inhaled is accounted for upon entering a forest. Immediately after a rain shower.

Lima Beans as a Field Crop.

The Lima, the most popular bean among amateurs and market gardeners, is slow in finding its way into the north. We know that the demand for Lima beans is good for several dollars a bushel, and the market has never been adequately supplied. Lima beans are easily raised and yield as bountifully as most other pole beans, and they continue to blossom and bear until killed by the frost. We know of no reason why they should not do as well, if not better, as hops or tobacco, and grown on a large scale. They would require better soil and treatment than the common field bean, but as the price is three times greater, there could well be afforded. A rich, gravelly or sandy loam suits them best, and the phosphatic

Value of Garden Vegetables.

Nearly every farmer values the more common vegetables—sweet corn, potatoes, squashes and cabbages, but some of the finer, more delicious ones seems not to be so generally appreciated, such as celery, cauliflower, parsnip, saltwort, (vegetable oysters,) and tomatoes.

Celery is a most healthful plant; it is anti-fever; knowing the excellent research to a properly prepared, can be made to endure as well. Properly prepared it is made to endure, is to be, in all respects as healthful as the best muffin. It is used as a salad, as a dressing, and is a great delicacy to the taste, is far more delicious than any cabbage, and to the most accustomed to it, becomes regarded as one of the greatest luxuries of the garden.

Sugar beets are exceedingly delicious when properly cooked and prepared; we have eaten it when preferred to any oysters. Cut up thin, in little wafers; boil in pure water; add a little milk, pepper and salt; eat it warm; it contains a little mucilagin that is delicious, and adds much nutrient and ability to live.

Tomatoes are better known and more generally used, in various ways on the table, in sauces, stews, cateup, etc; but for our own eating we prefer them raw, with a little sugar and vinegar, to any other food.

The Hubbard squash is a great favorite with us. Many years ago, when it was first introduced, a friend bought six seeds for 85, and gave away all but two, which he planted in most favorable soil and position. They both came up well, but insects took one of them; the other grew well, and was carefully preserved for as a treasure; it threw out two thorny vines, each of which made nearly two rods of length; from these were produced over forty good, handsome squashes, varying in size from a quart pitcher to a two gallon jug. He sold some of these at fifty cents and some for twenty-five cents, reserving a large share for home use; and they proved to be the most sweet and delicious squashes ever eaten in that section; and the product of that one seed, thus distributed, seeded the whole of several counties.—Boston American Florist and Farmer. 
Take Care of Your Tools.

In a majority of cases it is the full intention of the farmer to put everything bearing a label or marking used as soon as he is done with it; but when the work is finished, whatever is being used is left until a more convenient time to put it away. Time passes and still it is not done, and finally it is neglected altogether or left so long that much injury is done. Many farmers have been known to leave the more valuable implements of the farm to rust and break, while they go to work on the less valuable implements. Fall and winter, with all their cares and rush of work, will shortly be here, finding many farmers unprepared for its appearance. Everything used about the farm should be carefully examined, and wherever a nut is off, or any deficiency whatever, it should be repaired at once, and then everything carefully stored away in some good dry place. It costs very little to prepare a place where everything used about the farm can be stored without danger of rust and decay. If a permanent building cannot be made use of, a wooden, or any similar box, will certainly be better provided. It will pay. System and care will soon enable any one to acquire the habit of putting everything in its place when not in use. As soon as any implement, tool or machine is done with, it should be removed to its place, and thus at the right time to the place prepared for it, and there let it remain, out of the sun and rain, until used again.

Household Recipes.

POOR MAN'S FRUIT CAKE.—This cake is excellent as well for breakfast as dessert. Take 8 cups brown sugar, two cups of flour, one of butter and one of chopped raisins, three eggs, three tablespoonsful of sour milk, half a teaspoonful of soda, half a cup of blackberry jam. Mix the sugar, butter and egg together first, then the flour and milk and fruit. Bake in a moderate oven.

BACON OMELETT.—Cut a slice of bacon into very small pieces, and stir it into an omelette mixture made thus: Break two eggs into a basin, add a pinch of pepper and a tablespoonful of seeded and finely-chopped parsley; beat the mixture two or three minutes, stir the bacon, fry in a small omelette pan, in which one ounce of butter has been melted.

LOBSTER CROQUETTES.—One can of lobsters, chopped; one cup of bread, softened with water; two eggs; pepper and salt to taste. Mix well together. Fry in a hot, fine, greased, steel cracker; one eaten, and mixed with the crumbs. Make the lobster into round or pear-shaped balls, and roll in the cracker crumbs. Fry in a spider with lard.

MUTTON, RICE AND TOMATO BROTH.—Take the fat from the surface of the Bqpar in which your mutton was boiled, add to this broth the bones of the mutton, half a quart of water, allow one hour and a half; strain and cool to throw up the fat, remove this, and put the soup over the fire with one quart of ripe tomatoes, peeled and cut very fine, and half a cup of raw rice; stew forty minutes, and when the rice is soft, add pepper and salt, if needed, and a tablespoonful of corn starch well in cold water; boil one minute, and pour out.

Use the first three hours and a half, four pounds of graybeets, six quarts of water, a cut of savory herbs, two small livers, two small crabs or lobsters, a large bunch of spinach, half a pound of salt bacon, a few suet dumplings of flour, beef-suet and yolk of one egg; one pound of asparagus, salt, pepper, and salt to taste; juice of a lemon. Put four pounds of graybeet into six quarts of water, with the bouquet of savory herbs; let it simmer well till all the goodness is extracted, skimming it all the time; then add the salted beef, and let it simmer as long as it will; then take it off. Put it in a medium oven, and heat it. When hot add the flesh of two of middling-sized crabs or lobsters, nicely cut up, spinach well boiled and chopped fine, half a pound of salt bacon or pickled pork dressed previously and cut into small pieces, a few suet dumplings of flour, butter, salt, egg and a little lemon. Add one pound of asparagus tops, season to your taste with salt, pepper and juice of a lemon; stir for about half an hour, stirring it constantly.

ROCK ON TOAST.—Fry the pan or skillet you wish to cook the eggs in, and salt the water. When it simmers—not boils—carefully drizzle in the pointed end at the back of the spoon not to break it. Put a good piece of butter into a dish, work it into good salt, pepper and sauce, and then pour over the top; make this of the white of an egg, a little pulverized sugar, and a teaspoonful of cinnamon; set it in the oven to brown.

TO BROIL FISH.—A clear fire is required. Rub the bars of your griddle with dripping or a piece of beef suet, to prevent the fish from sticking to it. Put a good piece of butter into a dish, work it into good salt, pepper and sauce, and then pour over the top; make this of the white of an egg, a little pulverized sugar, and a teaspoonful of cinnamon; set it in the oven to brown.

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TO ROAB FISH.—A clear fire is required. Rub the bars of your griddle with dripping or a piece of beef suet, to prevent the fish from sticking to it. Put a good piece of butter into a dish, work it into good salt, pepper and sauce, and then pour over the top; make this of the white of an egg, a little pulverized sugar, and a teaspoonful of cinnamon; set it in the oven to brown.

TO COOK SOFT-SHELL CRABS.—Open one side with the knife and remove the "deadmen:" lift up the legs and take off the skin and dark part of the shell; the whiskers : at the head there is a small sand bag: remove that, then wash thoroughly in salt water: dry well: all this must be done while the crab is alive: fry them in plenty of hot butter and sand mixed. Do not keep the crabs all night before cooking. The best shall be hard, dry and black.

CHICKEN CROQUETTES.—To one chicken, chopped: add a little salt, parsley, pepper, nutmeg, a sauce- spoonful of onion, one cup of cream, four-fifth cup of butter and one desertspoonful of flour. Pit the chicken, slices and cream on the fire; when hot stir in the flour, add the butter, stir it well for five minutes; and when cold make into balls. Beat up one egg with bread crums, dip the balls in and drop in boiling lard. Very fine for breakfast. Veal may be prepared in the same way.

BOLLES RICE, GEORGIA STYLE.—There are several methods of boiling rice, from which two are selected as good, one is to let it simmer; then the rice is placed in a The Georgia way, which gives the grains dry and separate after boiling, was learned from a colored cook of that State; the Chinese method was imparted to the author during a most interesting demonstration of culinary science by the noted gourmets who were recently students at Yale.

To boil rice in the Georgia style pick it over, wash it in cold water, put it into three times its quantity of salted boiling water, and boil it steadily for twenty minutes, without stirring it; then drain off all the water; the grains will then be hard and separate. If you want it will keep hot enough to steam for ten minutes; it will then jar right to serve. Shake it out of the boiler on a heap in the dish, but do not use a spoon to do it; put it in a saucepan, and serve it in shape; serve it as it is thrown lightly on the dish.

POPPREY—Three hours and a half, four pounds of graybeets, six quarts of water, a cut of savory herbs, two small livers, two small crabs or lobsters, a large bunch of spinach, half a pound of salt bacon, a few suet dumplings of flour, beef-suet and yolk of one egg; one pound of asparagus, salt, pepper, and salt to taste; juice of a lemon.

To make one cup of graybeet water take the graybeets, and a quart of water; when the graybeets are boiled, put them in a plate, and season with butter, salt, pepper, and a good stalk of parsley over it, and is a good substitute for potatoes.
Ox Tail Soup.—To make an appetizing ox-tail soup you should begin to make it the day before you wish to make the soup. Take two tails, wash clean, and put in a kettle with nearly a gallon of water; add a little onion, carrot, and turnips, if you choose, and boil gently until the meat is well cooked and taken out of the bones. Let this stand in a cool room, covered, and the next day, about an hour and a half before dinner, skim off the crust or cake fat which has risen to the top. Add a little onion, carrot, or turnips, as you choose, chopping them fine first; add a little summer savory may also be added and simmer for an hour and a half.

Boiled Rice, Chinese Style.—Fleet the rice over in cold water, put it over the fire in sufficient cold water to raise an inch and a half above the top of the rice, and set the saucepan where its content will be covered. Having brought the boiling point, may be dusted over the rice if desired; be sure that the rice both very slowly; the water will be partly absorbed by the rice and partly evaporated, as the vessel in which it is cooked is not covered; when it is tender it is served in the bowls as an accompaniment to other dishes, being eaten as we eat bread, while the grains are distinct they are slightly adhesive, and can easily be eaten with chop-sticks, which replace our forks.

Rice and Lamb, Armenian Style. The inhabitants of the Mediterranean countries excel in the preparation of rice, therefore a number of their dishes will be given here, as the preparation of rice is not expensive and not difficult to prepare, while they afford a welcome variety at table.

Boil about three pounds of lamb, exclusive of the weight of the bones, in boiling water with a little salt, until it is tender. Take it from the broth, put in its place a quart of rice, or a pint of rice and soaked chick peas, (large yellow dried peas) and half a cup of raisins, and boil all together until the rice and peas are tender. Meanwhile cut the flesh of the lamb in pieces an inch square and fry them light brown in hot oil, add the rice and Raise them all into the broth; mix the meat with it, highly season the dish, which is called alecans, and serve it hot.

Live Stock.

Feed the Cows Well in Summer.
The customary loss from poor and deficient feed in midsummer, when grazing is the sole dependence for the summer feed for the herd, is about two fifths of the value. Where it can be afforded, rich, green food has been supplied throughout the entire season. When a herd has been permitted to shrink from drought, it not only loses milk throughout the entire season, but the meat produced is coarse and the flesh of the animal is not as good. When a herd is fed throughout the entire season, in the driest months, the flesh of the animal is tender and the meat is of good quality. Some of the best milk and cream are produced in the summer months, and the cattle are the best for market in the fall.

Wasteful Destruction of Calves.

Thinking men are much concerned over the continual habit of destroying large numbers of calves in the dairy districts. They realize fully the difficulty of persuading the dairy farmer that it would be better to use the calves for another purpose than for the farmer who can readily sell every ounce of milk at a profit will not readily bother with raising calves. Very naturally he asks, Why should I feed $20 worth of milk to raise a $15 calf? and it is not easy to show why, for dairymen can buy milk cows when they need them for the same price. When a calf is sick and the farmer had his disposal supplied by attempting to clean the mud off his limbs with a sharp currycomb. Under no circumstances should this be done; if the weather is too cold to admit of washing when soft, allow it to dry and then rub with a rasp of hay or coarse cloth. If any of our married friends doubt our theory in regard to this matter, we suggest that they place a sharp-toothed comb in the hands of their better half, and sit down on a stool in front of her, particularly if the hair on their head is a little scarce.

How to Feed Stock.
The Massachusetts Ploughman says that some farmers have an idea that any boy can feed stock as well as a man, but the more observing believe that to feed stock so as to secure the best condition on the smallest expense requires skill as any operation on the farm, and it is a work which requires both study and practice; study to learn the nature and requirements of each class of animals, and the nutritive qualities of each kind of food; practical experience so that the particular wants of each animal in every class may be thoroughly understood. While the farmer should endeavor to have his boys feed the stock a portion of the time, and do his best to be with them to give directions and to see that the work is well done. He should know the edge of how to make cattle eat up the coarser fodder without waste, is fully possessed by some farmers, while others do not even know how to make them eat up the best hay, but keep large quantities behind them for the time. For economy there is nothing like keeping the stock lean, giving cattle only as much as they will at once eat up clean. This will apply to all farm animals as well as cattle.

Harsh Grooming.

It is a very common thing among horses that is called well-groomed, to be cross in the stable, and it is no uncommon thing to see this disposition carried into the street. Particularly do we find this fault in nearly every horse that is kept for speed, as we come to the conclusion that the ill temper is caused largely by the harsh use of the currycombs. As evidence of the truth of this, we notice that the celebrated trotting mare, Maid S., has a very kind disposition, and that those in charge of her are under positive instruction from Mr. Blair, her propagator, to be careful not to irritate the skin. The fact that race-horses are the best-groomed and at the same time invariably cross, is conclusive to our mind that the fault is in the harsh manner of grooming them. We often find horses that will stand perfectly quiet to be scratched with currycombs, and yet be cross; while in a rage, under such treatment; but the moment the currycomb is applied, they become restless, and often require secure fastenings while being curried. During the past two or three years we have had two horses that when we first got them would not allow of their feet being touched in the curri- comb, and yet would stand perfectly quiet to be rubbed with a rasp of hay or the brush, yet be carefully handled the currycomb on them we were in a short time able to curry every part of them. There is no doubt many good horse-owners would give the same]) if our married friends doubt our theory in regard to this matter, we suggest that they place a sharp-toothed comb in the hands of their better half, and sit down on a stool in front of her, particularly if the hair on their head is a little scarce.

The Glanders.

Because of the recent appearance among horses of the dread and invariably fatal disease known as glanders, and its alarming prevalence in some por- tions of the country, and in light of the fact that the means for preventing contagion may prove profit- able. A well known and thoroughly informed veterinary surgeon was interviewed yesterday by a reporter for the Times on this subject. He said:

"Of confining live stock this peculiar form of glanders is the most to be dreaded. The animal is afflicted with it there is absolutely no hope of recovery, and the only thing to be done is to limit it to the one patient if possible. This is rare, it is nearly, possible, however, for with great rapidity the whole horse is infected from the building, harness and litter. In fact, everything in the stable is liable to become infected, a thorough bath if he would not spread the disease or contract it himself."

"How may the disease be detected in its early stages?"

"The earlier stages are similar to those of ordinary distemper, and is it very apt to be mistaken for that disease even by experienced veterinary surgeons. Within a few days, however, the changes are very pronounced. The glands of the throat become swollen, and malodorous eating ulcerous form in the nostril. In a short time a drooping swelling of the joints appears, attended by ulcerations on the lymphatics of the skin. The lungs finally become infected, followed by a distressing cough, and before long the animal dies."

"When has the disease been known to exist?"

"For many years, but it appears periodically. During the war cavalry horses were killed by scores by glanders and it was no unusual occurrence for the entire regiment to be destroyed before the contagion could be checked."

"Does the disease ever originate spontaneously?"

"I hear cases of it originating spontaneously, but I have no specific contagion, but I think that such an idea is erroneous. I never heard of a case that originated with any one of the other cases which I have seen. To prevent contagion too much importance cannot be attached to a most rigid disinfection. It should be treated without exception."

"Do you think the disease is liable to extend by means of horses feeding in the same stable?"

"That will depend entirely upon the care that is exercised by the people in those districts. It is so easily transmitted in clothing and ultimately the article that a quarantine is the only method that would insure absolute safety."—Chicago Times.
A KNIFE IN THE WHITE HOUSE.

There was seen yesterday at Morses, Knife & Co.'s, factory, a magnificent concert grand, just finished by them for the late President. Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House declined, in favor of the Knife Piano, which he pronounced not only as equal but, altogether, the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case, and of a size and action—will instrument worthy in every respect the place it is to occupy. It was shipped to its destination yesterday.—Baltimore American.

COMPLIMENTARY NOTICE.

We desire to call attention to the advertisement in another column of D. M. Fanny & Co., Detroit, Mich., the great seedmen, whose mammoth establishment is known throughout the State of Michigan and the chief city of Michigan. They do the largest business in the trade in the United States, reaching across the Atlantic and Pacific oceans. The house is so reliable, and if you wish to get exactly what you order, you cannot do better than send to them for your seeds, and you may depend upon it you will get the best that the market can supply. Their seeds have become known over the entire civilized world for purity and fertility, and have gained for them an enviable reputation. Their Annual Seed Catalogue just issued for 1881, replete with pages of beautiful illustrations, will be sent on free application.

$150,000 GIVEN AWAY!

THE PRACTICAL FARMER, of an intimate acquaintance with its readers, has found there is a general desire to possess Farms and Houses in the Western States, and to this end, we give each of our Subscribers an opportunity to own one of these Farms. The Farm, a well-known, reliable real estate man has carefully selected for only 100 FARMS, to be offered this week in our present advertisement. We also offer, in connection with the Farm property, fine Steel-Plate Engravings—superb reproductions of the works of the greatest masters. They are to be sold at the same price of the paper and when we give you theFarm, you also obtain an Improved Farm, We are making The Most Splendid Offer yet to Subscribers to receive a Premium, $150,000 of WACKER, etc.

FARMERS, Tooley Creemers, Churns, Butter Workers & Butter Printers, Bull Leaders, Bull Rings, By Balls, Cow Milkers, Calf Weaners, etc., etc., etc.

For Sale by D. LANDRETH & SONS, Nos. 21 & 23 Sixth Street Philadelphia.

Now, farmer, the most important item of the season is the seed of all kinds. We have 75,000 new Subscribers in two months, and offer them the Premiums the Steel-Plate Engravings and

COMAL'S RURAL WORLD.

This sterling Agricultural paper entered its thirty-sixth year on the first of January, and appears in a new dress, and gives evidence of increased prosperity. To the Farmer, Stock Breeder, Fruit Grower and Cultivator of Sorghum for Syrup and Sugar, it is the most indispensable of all the publications; it should be read by every one owning a farm. It is published weekly, in the best style, at only $1.00 per annum, by Norman J. Coleman, State, Mo., Detroilet.

CORN SHELTERS AND SEPARATORS.

Gain Fans, 001 Cutters, Grubbing Hoes, Fodder Cutters, and for Farmers' Use, Tooley Creemers, Churns, Butter Workers & Butter Printers, Bull Leaders, Bull Rings, By Balls, Cow Milkers, Calf Weaners, etc., etc., etc.

For Sale by D. LANDRETH & SONS, Nos. 21 & 23 Sixth Street Philadelphia.

Furthermore, American.

GREAT BARGAINS.

A large assortment of all kinds of Cartypes are sold at lower rates than ever at the CARPET HALL OF H. S. SHIRK, No. 202 West King St., Lancaster, Pa.

Call and examine our stock and satisfy yourself that we carry the largest assortment of time-honored type. We quote the prices of all goods; you can see those three plus and ingrains at all prices—at the lowest Philadelphia prices. Also on hand a large and complete assortment of Rug Carpets, with satisfaction guaranteed both as to price and quality. We are located to suit you. If you order from us, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want. In fact, we can make a pleasant surprise in showing them even if you do not want to purchase. The type we quote is the type you order, and we can spare a carpet to the type you want.
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Dr. S. S. Rathvon, who has so ably managed the editorial department of the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—botanical science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this publication. He is determined to make "The Farmer" a necessity to all housekeepers.

A county that has so wise a reputation as Lancaster county for its agricultural products should certainly be able to support an agricultural paper of its own, for the exchange of the opinions of farmers interested in this matter. We ask the co-operation of all farmers interested in this matter. Work among your friends. The "Farmer" is only one dollar per year. Show them your copy. Try and induce them to subscribe. It is not much for each subscriber to do but it will greatly assist us.

All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

S. S. RATHVON,
MERCHANT TAILOR AND DRAPER,
No. 101 North Queen Street,
LANCASTER, PA.

1849.

FOUNDED UNDER THE AUSPICES OF THE LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

EDITED BY DR. S. S. RATHVON.

TERMS OF SUBSCRIPTION:
ONE DOLLAR PER ANNUM.
POSTAGE PREPAID BY THE PROPRIETOR.

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1849.
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LANDRETH'S
BLOOMSDALE SWede.

The most desirable strain of PURE TOP YELLOW RUTA BAGA. Also Flat red top strap-leaved Turnip, Strap-leaved Garden Ruta Baga, White, Red and Long French or Sweet German Turnip, Yellow Amber or Scotch Yellow Turnip, Pennsylvania or White Globe Turnip, Amber or Yellow Globe Turnip, Early White and Late strap-leaved Turnip.

A good supply of Turnips is the most nutritious and economical food for cattle during the winter and early spring months. Turnips grow broad and planted to make a valuable fertilizer. Send for illustrated and descriptive catalogue.


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Butter, Simplest and Best.

BUTTER WORKER
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Powdered Butter, Butter Pies,
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D. O. POWERS,
26 S. 16th Street, Phila., Pa.
PENNSYLVANIA RAILROAD SCHEDULE.

Trains leave the Depot in this city, as follows:

<table>
<thead>
<tr>
<th>Departure</th>
<th>Arrival</th>
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<tbody>
<tr>
<td>Lancaster</td>
<td>Harrisburg</td>
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<tr>
<td>2:40 a.m.</td>
<td>4:25 a.m.</td>
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<tr>
<td>5:00 a.m.</td>
<td>7:30 a.m.</td>
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<tr>
<td>11:25 a.m.</td>
<td>1:15 p.m.</td>
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<tr>
<td>2:50 p.m.</td>
<td>4:55 p.m.</td>
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<tr>
<td>Frederick Accommodation</td>
<td>South Bend Accommodation</td>
</tr>
<tr>
<td>7:20 p.m.</td>
<td>9:25 p.m.</td>
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<tr>
<td>Columbus Accommodation</td>
<td>Hanover Accommodation</td>
</tr>
<tr>
<td>7:45 p.m.</td>
<td>9:50 p.m.</td>
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<tr>
<td>Harrisburg Express</td>
<td>Pennsylvania Express</td>
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<tr>
<td>12:20 p.m.</td>
<td>2:50 p.m.</td>
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<tr>
<td>Allentown</td>
<td>Philadelphia</td>
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<td>12:20 a.m.</td>
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<td>10:00 a.m.</td>
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<td>4:50 p.m.</td>
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<tr>
<td>6:00 p.m.</td>
<td>8:30 p.m.</td>
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The Hanover Accommodation, west, connects at Lancaster with Hanover Express, west, at 9:25 a.m., and will run through to Hanover.

The Frederick Accommodation, west, connects at Lancaster with Hanover Express, west, at 2:10 p.m., and runs to Frederick.

The Pacific Express, east, on Sunday, when run, will stop at Middletown, Elnathan, Mount Joy, and Lampville.

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Carriages, Etc.

THE LARGEST ASSORTMENT IN THE CITY.

Prices to Suit the Times.

REPAIRING promptly attended to. All work guaranteed.

79-2.

B. C. COX,
Manufacturer of
Carriages, Buggies, Phaetons, etc.
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Large Stock of New and Second-hand Work on hand for cheap. Carriages Made to Order. Work Warranted one year.

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SOLID SILVER & SILVER PLATED WARE,
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Sold by the Armured Timed
SPECTACLES.

Repairing strictly attended to.

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Watches & Clocks
AT LOWEST POSSIBLE PRICES.

Fully guaranteed.

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Opposite Leapord Hotel.

ESTABLISHED 1832.

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Manufacturers and Dealers in all kinds of Rough and
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The best Sewn SHINGLES in the country. Also Shingles, door,
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PATENT O. G. WEATHERBOARDING
and PATENT BLINDS, which are far superior to any
other. Also best COAL constantly on hand,

OFFICE AND YARD:
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PRACTICAL ESSAYS ON ENTOMOLOGY,
Embracing the history and habits of:
NOXIOUS AND INNOCIOUS
INSECTS,
and the best remedies for their expulsion or extermination.

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The work will be handsomely illustrated, and will be put in
price (as soon as possible, and will be sufficient number of
be observed to cover the cost) so that the work as it does should not to be completed.

$5 to $20 per day at home. Samples worth $5 free.

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Roses, Vines, Etc. Besides many Delicate Novelties, as
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of Ornamental Trees in the United States. Arranged for
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OFFICE
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LANCASTER, PA.

THE OLDEST AND BEST.

THE WEEKLY
LANCASTER EXAMINER
One of the largest Weekly Papers in
the State.
Published Every Wednesday Morning.

An old, well-established newspaper, and contains just the
news desirable to make it an interesting and valuable
Family Newspaper. The postage to subscribe residing
outside of Lancaster county is paid by the publisher.
Send for a specimen copy.

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The Largest Daily Paper in the
county.
Published Daily Except Sundays.

The daily is published every evening during the week.
It is delivered in the City and to surrounding Towns ac-
cessible by railroad and daily stage lines, for 10 cents a
week.
Mail subscription, free of postage—One month, 50
cents; one year, $5.00.

JOHN A. HIESTAND, Proprietor,
No. 9 North Queen St.,
LANCASTER, PA.
The Lancaster Farmer.

Dr. S. S. BATTVON, Editor.

EDITORIAL.

WRITE FOR THE FARMER.

It will pass into history, that for a period of fifteen years at least, Lancaster county has had an agricultural journal published within its territory, which has received a respectable recognition all over the Union—indeed, could we have afforded to exchange with all who have anxiously solicited an exchange, it would have exhausted our entire issue—and yet, if an attempt is made to secure a correspondent for the LANCASTER FARMER, it may be legitimately interpreted as an evidence to that effect, our journal has never yet received a decent home recognition. When we reflect that a journal published in New England at 300l a year (see our literary and personal columns), could command between thirty-five and forty original contributions in a single number, we are overcome with a feeling of sadness that such a pail of literary indifferrence seems to hang over the great county of Lancaster. Nothing is really incorporated with, and becomes a practical part of human character in this life, and is thus transmitted to the other life—except so far as it is received and diffused—except there is an influx corresponding to the index of human thought, affection and knowledge. The physical man could no more be built up, strengthened, and rendered effective, by the mere taking of food into the stomach, without digestion, assimilation and secretion, than the mental or social man can by merely absorbing and never imparting that which has been absorbed—often selfishly absorbed. A dying man once exclaimed in his last gasp, “All that I have in the hour of death is that which I gave in the hours of health.” Our torches do not burn less brilliantly by lighting the torch of our neighbor. Light should not be hidden under a bushel, but it should so shine that it may be seen of men, and surely every one, intelligent or otherwise, may have some light that would be of value to others to know. This light should not be imparted, or given out, in occasional spasms, few and far between, but should be habitually given out, just as it has been received. The expiration should be in correspondence with the inspiration, and become as much a daily habit of life as eating and drinking, or sleeping and waking.

It cannot be possible that our farmers of Lancaster county do not think, and feel and know, or that their minds are uncultivatable deserts, destitute of herb or fruit or flower. It cannot be possible that they have no experiences, or make no intelligent observations in relation to their honorable avocations. The abundant and excellent productions of the county, all point in an opposite direction; but they do not seem to fully apprehend that in telling what they know and what they experience, not only helps their neighbors, but that it is also a moral, an intellectual and a physical benefit to themselves. Many who could write for their local journals, no doubt think, that if they cannot write a long article it would be useless to write a short one, but this is a great mistake. It is brief articles—articles illustrating a single idea—that are most desired, not only by the average reader, but also by themselves. The civilized world is a vast seminary, and every man, woman and child is it, in every possible condition, no matter whether their years are ten or a hundred. As long as reason occupies the empire of the human mind, there will be something to learn and something to teach to others: and no matter how aged the individual may become, if he can exercise his faculties at all, he will practically realize that “it is better to weary out than to rust out.”

Of course, everyone should be left in rational freedom on this subject, and hence there should be no compulsion, save that self-compulsion which every intelligent creature feels or ought to feel, as a stimulus to simple duty. Reason and sensation, or in any and all parts of the civilized world, there are many duties which society owes to itself, which are only performed at the beck of self-compulsion. This only illustrates that with all our boasted “virtue, liberty and independence,” we are still not in that state of freedom “which the truth makes free.” We have yet to learn that a voluntary and cheerful performance of duty is the result of culture—in other words, a habit directed by thoughtful method. We squander too much time on things trivial or morally hurtful. We have not a proper appreciation of the love of life, or we would not thoughtlessly waste the very stuff that life is made of in “killing time.” In conclusion, we would respectfully and feelingly admonish our patrons to try, if only for once, to write for the FARMER, and note its soothing and beneficial effects.

LANCASTER COUNTY AGRICULTURAL FAIR.

Monday, Tuesday, Wednesday, Thursday and Friday, September, 17, 18, 19, 20 and 21, 1883. It will be seen from the following clipped from the Independent State Fair Journal, that Lancaster county will have a fair this season notwithstanding its local Agricultural Society, did not feel itself sufficiently encouraged to initiate one on its own account.

And now, that the enterprise seems to be determined upon, it becomes the society, in its individual capacity at least, to heartily cooperate with the parties who have engaged in the enterprise in order that it may be a success. During the interval between now and then two hundred thousand copies of the above named journal will be issued, containing premium lists, list of officers, constitutions and rules and regulations, etc., etc.

Exhibition to be held at McGeornan’s Park, Lancaster, Pa.

Mr. Joseph Snively—a gentleman from Orrville, Ohio, who has had 15 years successful experience in organizing and conducting this class of exhibition in organizing and conducting this class of exhibition, in different parts of the country, several of which had failed under previous management, holding four different fairs this year, has consented to take charge of the Lancaster fair grounds, now for several years lying idle, and this year will devote his time and talents, with ability in organizing a collection of attractions and exhibits that will not only equal, but possibly exceed in grandeur, anything of the kind heretofore witnessed at this point made to the best advantage, to give the grounds and place a reputation that will be the means of establishing for the Lancaster Agricultural Society a name.

Believing that in the vicinity there are a sensible as well as a grateful people, neither labor or money will be spared to secure this fair.

The ardent desire of the proprietor is to enlist the active cooperation of every citizen of Pennsylvania and all other interested in its industrial growth and material welfare that this exhibition may, to a large extent, supply the wants of a State fair, and be in every particular a full and fair exponent of the character and resources of the county and of the State.

To this end the proprietor invites entries in all classes of exhibits that are shown in any of the State fairs, and confidently expects that the exhibits will be in both number and character fully up with the marked progress of the industrial age, making the largest and most splendid exhibition ever opened in Pennsylvania.

The fine half-mile track, which will be utilized, if filled, and the liberal prizes offered, attract some of the best horses in the country. Applications have been made at this early day for stablemenced.

One of the extensive stock raisers in the State have already agreed to present exhibition their fine bred herds, and strong competition is promised for the liberal prizes offered in every department.

The bulletin will be presided over by persons fully competent to arrange and form them in the finest possible condition for the accommation of exhibitors and comfort of visitors, and one should fail to contribute liberally to their domestic manufactures, fine arts, mechanical works, agricultural and horticultural products, etc., as they will be satisfactorily rewarded in the distribution of the premiums.

An ample force of first-class policemen will be secured who will pay strict attention to the preservation of the peace upon the grounds.

Different bands of music will be hired to furnish music during the continuance of the fair.

There will be a full complement of special attractions at the fair. Announcement of which will be made on the posters and bills to be issued hereafter.

We, the undersigned, are acquainted with Mr. Joseph Snively, and know of his conducting agricultural fairs at various places during the past 16 years. He has been eminently successful in managing them, the premiums and other expenses have been promptly paid, and the results have been very satisfactory to their patrons.

J. F. Luning, Attorney-at-Law, Norwalk, Ohio.
Levi Bremman, Banker, Orrville, Ohio.
D. J. Leitchkin, Grocer, Orrville, Ohio.
J. S. Edleman, Grocer, Orrville, Ohio.
Henry Shriver, Orrville, Ohio.
H. H. Strauss, Banker.
W. M. Koppes, Manufacturer.
D. G. Hurler, Banker.

OFFICERS.
Joseph Snively, Orrville, Ohio, Proprietor and Manager.
J. B. Long, Lancaster, Pa., Secretary.
THE LANCASTER FARMER.

J. B. Litchy, Lancaster, Pa., Assistant Secretary.
John enslaved, Treasurer.

DEPARTMENT MANAGERS.
John Elmor, Springfield, and Daniel Diller, Intercourse, Horses, Sheep and Swine.
Issac Murray, Interourse, Horses.
Charles Lippold, Lancaster, Poultry.
A. C. Evans and H. M. Myers, Neffsville, Machinery, Implements, 
A. D. Rohrer & Brother, Lancaster, Floral Hall.

For further particulars call on J. B. Long, No. 4 West King street, Lancaster, Pa.

EXCERPTS.

THE OLD FARM.

Out in the meadows the farm house lies,
Old and gray, and fronting the west;
Many a swallow that her home;
Twittering under the evening skies:
In the old chimney builds her nest.
Ah! how the sounds make our old hearts swell;
Send them again on an eager quest;
But the sweet wins of heaven tell
Those we have loved so long and well.
To come again to the dear old nest.
When the gray evening, cool and still,
Hushes the brain and heart to rest;
Memory comes with a joyous thrill,
Brings the young children back at will,
Calls them all home to the gray old nest.
Patient we wait till the golden mor
Rise on our weariness half confessed;
Till, with the chill and darkness gone,
Hope shall arise with another dawn,
And a new day to the sad old nest.
Soon shall we see all the eager east
Bright with the Day Star, at heaven's hebest;
Soon, from the bondage of clay released,
Rise to the Palace, the King's own feast,
Birds of flight from the last year's nest.

In Kansas the prospect for a large apple crop is good.
The tender sprouts on the main branches of fruit trees can be easily rubbed off now.
Two strawberry-growers, near Vincennes, Indiana, say they will have 1,900 bushels of berries each.

Beans that rot at the core after picking are usually picked soon enough. Many varieties are subject to this weakness. Watch them and pick while hard.
Pear trees come into bearing after planting sooner than apple trees, and annual crops are more certain with the usual treatment that both crops get. Generally, too, pears bring the best prices.

Cornelius Frantz, a Wabash county farmer, recently clipped from 19 sheep, 16 of them last year's lambs, 227 pounds of wool that sold at 20 cents per pound. His sheep are pure Cotswold.

A STRAWBERRY house is said to have appeared in the Mississippi Valley which threatens to do immense damage. It penetrates the berry, checks the growth, and causes a premature ripening at the base or on one side.

The protection of grapes by bagging should be attended to early. Paper bags, known to every grower as "two-pound" bags, should be used. After the sack is in place over the bunch one pin will serve to fasten it there.

A cow belonging to David Jacobs, of Heath township, Harrison county, Indiana, fell a distance of fifty-one feet into a cave, one day last week, and remained there for one day and night before discovered. She was hoisted out alive.

Rye in fruit orchards to plow under is a good plan. Now in late August on well-manured ground had entire success in the spring just before heading out. After heading the straw is hard, and loses much of its value. The wintering covering of the soil is beneficial. Keep up the practice year after year.

Statistin J. R. Dodge calculates that the country loses nearly five million sheep each year, mostly on account of dogs. Exposure to cold and severe storms in the West kills a great many, and Southern thieves take some. Scab, foot-rot, paper-skin, dysentery, and "scarey of grass" are also destructive. These causes bar extension of flocks, and in some sections almost annihilate this otherwise profitable rural pursuit.

One of the best coatings for tree wounds is gum shellac in alcohol. It effectually excludes air and the wound quickly heals over.

In order to raise roses in perfection it is needful to feed them well and place them in the full sunlight, and not where they will be shaded by trees and shrubs.

There is no doubt that with good crops of fruit here our export of evaporated apples can be immensely increased. In no country is fruit so scarce and dear as in England.

One of the best farmers in Maine is Miss Sarah L. Martin, of South Auburn. This lady carries on a farm successfully, and pays much attention to the raising of fine stock.

A practical farmer recommends the growing of two crops of backwheat in succession as a means of exterminating wire-worms. They will not eat backwheat, and are starved to death.

An old sod will rot more quickly if plowed shallow, provided the work is well done. In the bottom of a deep furrow, especially in early spring, the soil is too cold to decompose rapidly.

Soil is one of the best measures for house plants, and if it can be had in quantities large enough it is excellent for out-of-door use. For the latter it is best mixed with one-tenth its bulk of salt.

A New York farmer declares that an acre of Hubbard squash will fatten ten more hogs than the corn that can be raised on the same ground. He has gathered from six to eight tons from an acre.

The Dent varieties of corn are less hardy than the Flint varieties, and needed to be planted on rich, warm soil. The grain of the former is more porous and more liable to injury from water at planting or when ripened.

Corn for fodder may be sown, or rather drilled, until the 1st of July. It is a good plan to select an early sweet variety—the Minnesota Early is as good as any. Drill in double rows wide enough apart to allow the cultivator to run through.

Nearly 200,000 more hogs have been packed in Chicago this season up to the present time a year ago. Kansas City is fast gaining on Chicago in the number of hogs packed, and already stands second.

Cabbage and other plants intended for the garden should be transplanted once and their leaves shortened before being finally set out. This makes them stocky. A second removal does not injure them.

There is no more difference in men than in the soil they till. Place a good, wide-awake farmer in one of the most promising agricultural neighborhoods and he will not only make his own farm better, but also increase the value of all the land in the vicinity.

In its fright, on being chased by a hawk, a partridge flew against Joseph Brink, of Sullivan county, N. Y., with such force as to break its neck.

Charles Hedrick, of Lexington, N. C., shot an eagle which had black back, wings and tail, while its neck and breast were as white as snow. It measured seven feet from tip to tip.

In a burning cabin in Franklin county, Ga., two colored children perished, and a dog which had been left with them refused to leave them and was burned to death by their sides.

A buzzard dined on a lamb that had been killed by a dog at New Garden, Ga. In some way it got fast in the strap which fastened the bell around the lamb’s neck, and has gone jingling about with the bell ever since.

In Paducah two English sparrows tried to drown each other in a street gutter. The struggle was a long and desperate one, and finally one got the head of the other under water and kept it there until life was extinct.

There are people in Norwich, Conn.; who believe that a robin in that town fastened a string to the limb of a pear tree, wound the string about its neck, and then dropped from its perch and in a few moments died of strangulation, while its unhappy mate sang a requiem.

A Franklin, Mass., dog saw a man drop his handkerchief in the street. The dog picked it up, and going to the door of the house in which the man resided kindled by repeated raps. When the door was opened the dog presented the lost handkerchief to its owner.

The roof of barns should be steep, and if of wood the surface either painted or the shingles dipped in lime water, to make them more durable. Straw and dirt collect under that-roofed shingles and cause rapid decay.—N. Y. Times.

Galled and sore shoulders in horses are often caused by the mane working under the collar while pulling. This can be avoided by plaiting the mane and tying it up in such a manner that it cannot touch the collar. It not only injures the shoulder, but the mane also, which is one of the beauties of the horse.—Toledo Blade.

A LEMON CREAM PIE may be baked with two crusts. To one glass or cup of milk allow one tablespoonful of cornstarch, the yolks of three eggs, one cup of sugar, the juice and grated rind of a lemon, or, after grating the lemon peel, chop the rest of the lemon quite fine; the whites of the eggs should be beaten stiff and added to the rest just before putting it in the oven.—N. Y. Post.

Pretty bags for the children to carry their
books to school in are made of the various cords or twines so popular. A very inexpensive one is made of seine twine, or of carpet warp. Any open-work stitch will answer. To give the size of the box and make it keep its shape sew in two whalebones; crochet a stout handle. On the front side put two ribbon bows, one at the top and one at the bottom.

Farmers who propose to improve their fields by increasing the depth of the plowing, should, says the Farmer's Home Journal, do so gradually, year by year, if the subsoil is to be brought to the top. The depth may be increased an inch a year without detriment. If the subsoiler is to be run in the bottom of the furrow without throwing out its cut the greatest depth may be given at once.

Hunting Pudding: Two pounds of suet chopped very fine, three-fourths of a pound of flour, one pound of stone raisins, two pounds of currants, half a pound of sugar, six eggs, six spoonsful of rich cream, a wineglassful of brandy, four glasses of white wine, a good teaspoonful of cloves, a quart of sugar and cream; mix over night and boil six hours. When turned out of the bag sift white sugar over it. Use rich sauce.—Boston Transcript.

The canker-worms have plainly been left to work their own sweet will in many places, and whole orchards look as if the trees were dead, in some localities. We note now and then a place where the dark ring of dry tar or printer's ink shows that in some time past an effort was made to oppose their ravages, but the good work was not persisted in. A large orchard on the Colt place on Wethersfield avenue is a conspicuous instance of it. Now and then too, we see where thorough work has been done, and trees stand fully decked in their robe of green beside others which look almost as if a fire had passed over them. As we have said it takes time and trouble and persistence to successfully fight the canker-worm, but it can be done, and looking upon the blighted orchards where they have been at work and are likely to work again next year, we are sure it pays. But it does not pay to put one's hand to the plow and look back.—Harford, Connecticut, Farmer.

Conlributions.

Benefits and Expenses of Public Roads.

Having in my former article, published in the July number of the Farmer, adverted to the great disadvantages the public suffer from the selfish improvement of those through whose lands these roads are located, and many of which the viewers were compelled to run zigzag or crooked, over hills and dales, merely to gratify a few indolent oil hedge owners who also adjoining properties, I offer the following remarks on the same subject. As I said before, many roads require four horses to pull a two horse load, which in itself involves thousands of dollars of expense, at the present rates of horse-flesh, which is not only high in price but is also becoming scarce.

The injurious location of these roads up and down steep hills, consequently cause them to become "washed," and constantly in need of repair. Instead of supervisors grading and macadamizing, and making the roads high in the middle, with culverts at the base of hills and drains at the sides, they are merely dumped together haphazard, without regard to common-sense and durability. They are afraid of the frowns of the awful taxpayers, and run over the ground as cheaply as they can, to keep down the taxes, subjecting the roads to washes at every heavy rain, leaving them rough and full of loose stones—so much so indeed as to make it almost impossible to travel over them. Most that supervisors do is to throw up a few breaks across the road where they think they may be needed, and these so high as almost to impede driving over them with only an ordinarily heavy load, and also in light vehicles, endangering lives and other gear. I may safely say that I never saw our township roads in a worse condition than they are at the present time. This does not speak well, nor look well, for the rich and thrifty county of Lancaster. Many of our township roads, like the South Carolina squatters cabin, are only made for dry weather. Like anything else, or everything else, that is intended for the public good, public roads especially, should be constructed with regard to those contingencies that are liable at any time to occur; and this, in the end, will prove to be the truest economy.

Of course we have had recent very heavy rains, but that will not excuse the supervisors from all criticism. True, some things cannot be foreseen, but it certainly is not complimentory to the judgment of a supervisor to be compelled to remake a road after every heavy rain, nor is it economical housekeeping.

We are paying from a half to one per cent. road tax, on our entire possessions, and where is the value we receive therefor? One may say, we have roads. So we have, but not many good ones, nor yet lawful ones. We have roads washed out in the middle; the water runs over them for miles and no outlet; also full of loose stones, big and little—stones that are not only "lying around loose," but which are an absolute annoyance and a danger to wagons and carriages. Many of these stones are permitted to remain in this condition so long, and are knocked about so much by coming in contact with the wheels of vehicles, that they have become almost round, like cobble-stones and pebbles. Now, this should not be in a progressive country like Lancaster is supposed to be; but more hereafter.—P. S. R., Lititz, August 1883.

Selections.

Bees.

In order to get a succession of superior cells from my best colonies, it is necessary to keep them swarming as often as possible. To accomplish this I would adopt this plan: As soon as they have become established in their new home, say in two days after the swarm has been hived, I insert 2 frames of hatching brood in their hive, and in 3 days more I give them 2 or 3 frames more, which soon makes the hive more populous than their old home from which they issued. This causes them to swarm again in from 12 to 18 days from the time of hiving, which gives me another lot of splendid cells. Thus I keep my best colonies producing cells of the highest type as long as the honey season lasts. Thus I have given you my plan of getting queens that are acknowledged by all to be as good as any, and believed to be superior by some.

Having procured our queen cells, the next things in order are nuclei. There are many ways of making a nucleus, and the plan I see most recommended is to go to any hive populous in bees, and take from it a frame of brood and one of honey, with all the adhering bees (being careful not to get the old queen), and place them in an empty hive, adjusting the division board to suit the nucleus. In 24 to 48 hours after they will have become aware that they are queenless when a queen cell should be given them. Now, although a nucleus can be formed in this way that may work in warm weather, still in cool weather it would be a failure, and, according to my opinion, is not a good plan at any season of the year, on account of the number of bees which will return to the hive from whence they were taken, thereby devaluing it to such an extent that the brood will mostly be chilled in cool weather, and seriously weaken it even in warm weather. Bees that have been used to a laying queen do not generally take a brood for a nucellar; hence all go home that are capable of getting home. But should you happen to get the queen on these two frames, you would see that the bees would feel at home, and all but the old field-workers would stay where the queen was.

From this fact, that bees will stay with their queen, I arrived at the following: Inasmuch as a queenless colony, with seeded cells, depend on those cells for a mother, if a frame of brood containing a seeded queen cell, with all bees adhering to it, are put in a laying queen, do not generally take a frame of brood; hence all go home that are capable of getting home. But should you happen to get the queen on these two frames, you would see that the bees would feel at home, and all but the old field-workers would stay where the queen was.

Now for my plan of making nuclei! When all the queen cells are seeded in my queen-rearing hive, I get as many frames of hatching brood from different hives, in the yard, as I have cells in the hive, lacking the number of frames of brood the hive already contains. Brush all the bees off these frames of brood, and let them run back into their old hive, inserting frames full of comb or foundation in place of them. Now carefully fit one of the queen cells into each of these frames, and set all in the colony which produced the cells, and close the hive till 24 hours before the first of the cells should hatch. By this time enough young bees will have hatched to thickly cover all the cells with nurse bees. Now get your nucleus hives all ready by making all as warm as possible, and having a nice fitting division board in each one, when you will go to your other hives and get a frame of honey, brushing all bees off of it, for each nucleus. Next take a frame from your queen-rearing hive—bees, queen cell and all—and place it with your frame of honey in your nucleus hive, and adjust your division.
THE LANCASTER FARMER.

[August,

board. The next day at night open the entrance, and you have a nucleus as good as any one could desire.

I do it. We make nuclei of all the frames which contain queen cells but one, leaving that to form a nucleus on the old stand. In about 10 days your queen will be laying, when she can be used as you desire. Thus I have given you what I term good queens, which have given me the results I have reported for years past, and I claim such queens cannot be reared for $1. When our dollar queen-breeders will rear all their queens in this way, I shall be willing to say that a $1 queen will be just as good for honey-gathering purposes as a $3 queen.—American Bee Journal.

ARTIFICIAL SWARMING.

Much has been said about increasing our colonies artificially, and many that have practiced the various ways for doing so, have signally failed. Why is this? First, there are numerous ways to accomplish a desired increase, while but few methods are really desirable or practical; second, whatever course is pursued, we should imitate nature as close as possible. Not so much in allowing them a flight in the air, etc.; but the condition of the colony must be the same, both in the hive and the flow of honey; third, nature cannot be forced, but can be assisted in more ways than one.

This is the key that should be kept in view at all times. A violation of the laws of nature is the real cause of failure and disappointment in nine cases out of ten. The following is the method pursued by us:

We go to a colony that is sufficiently strong in numbers, having the combs well filled with brood, and eggs deposited in the queen cells. Remove the hive a few feet to one side and place a new hive where the one just removed was taken from, and lay a wide board from the ground to the new flow of honey; third, make a bee path by the bees falling to the ground may readily run in at the entrance. Now open the hive removed and take out one of the frames, after looking it over for the queen; shake the most of the bees off on to the board in front of the new hive, when they will readily enter their new home. Now take out more frames and proceed as before until you have about two-thirds of the bees in the new hive. As soon as the queen is found she should be placed at the entrance of the new hive and see that she goes in all right. Replace the combs, etc.; and move the old hive to a new location. If the crowd were too great, then from them should be allowed to complete the queen cells, when they can be cut out and introduced into queenless colonies or nuclei. But if you do not wish to have the cells completed then introduce a queen cell that will hatch in 24 to 48 hours. Cells should not be introduced short of 10 or 12 hours after the manipulation.

We have practiced the above method for the past 12 years and it proves by far the most practicable, and more desirable than natural swarming.

1. We have preceded natural swarming by six or seven days; thus by the above method the new hive will be well filled with the brood and honey. If the queen had not been hired, they swarmed natural.

2. We have a laying queen in the old hive, about the same time she would be emerging from the cell had the colony swarmed naturally.

3. All after swarming is completely controlled.

4. We do not have to climb trees, etc., during the heat of the day, and whenever and wherever the bees see fit to cluster, but we do this work when we are ready.—Bee Keeper's Exchange.

ARE TRICHINE KILLED BY SALT?

The prohibition of the importation of American pork by the German Government, on account of the alleged presence of the microscopic worm known as trichine has awakened a large degree of interest among pork raisers and shippers in this country. That trichine are sometimes found in pork (and in some other food flesh) is not to be doubted. That proper cooking of meats for food destroys them is unquestionable. That all authenticated cases of injury to health arising from the presence of this microscopic worm were traced to the eating of uncooked or half raw meat is a fact. But that the salting of meat destroyed the parasite is still a matter of doubt, or, at least, it is a subject of dispute.

On this point United States Consul John Wilson, stationed at Brussels, makes some statements, based on his own observations. He says:

"I have myself been present when officially appointed microscopists at some of the abattoirs of this country have been engaged in examining American pork for trichine, and have been invited by these gentlemen to see for myself, through their microscopes, the peculiar cell and spiral coil of the animal; but, on carefully examining them I have only observed, blended with the tissue and minute salt crystals, the entombed animal, evidently as destitute of life as the structure in which it was encased."

"It is claimed by most trichine observers that the process of generation and birth of this little animal invariably takes place in the stomach and intestinal canal, and that within a few days from its birth it has so matured as to penetrate the walls of the intestines and rapidly make its way through the various in tervening structures to the remote muscular tissue of the animal it infects, there to be specially encysted and endowed with a subsequent dormant existence of several years, during which it is essential to the animal little or no inconvenience of. This theory of the life and movements of this little worm I can only say that it involves an almost unparalleled exception to the law generally regarded as determining animal life, and ought not to be accepted but upon the most positive proof."

The law governing parasitic existence in living tissue usually involves the speedy death of the parasite after the pabulum upon which it feeds has passed from under the domain of vital force; hence, unless this worm constitutes an exception to this law, its life must be short after the organic structure upon which it feeds has ceased to live."

Consul Wilson very pertinently adds that if salt really kills trichine, and if it I have scarishly a doubt, it is evidently an injustice on the part of foreign governments to lay an embargo on our pork product, which, of all others, in order to secure it against decomposition on a long journey to foreign markets, is better salted than that of any other country."—Scientific American.

ANALYSES OF FERTILIZERS.

Impressed with the value and importance of the analyses made by Professor A. F. Genth, Chemist to the Pennsylvania State Board of Agriculture, under the act of June 28, 1879, this journal two years ago published a complete table of the analyses made up to that time, 121 in number.

Since that time Professor Genth has been steadily at work, and has run the number of analyses of fertilizers sold in this State to above four hundred.

Every farmer will at a glance understand the value of this table. It gives the amount of potash, ammonia and phosphoric acid, the three chief ingredients in all fertilizers, and their money value, estimated by the present price of these articles in the open market. Parallel columns show the selling prices of the fertilizer and their actual money value in the commonwealth. But it is not possible to tell whether their soils need a manure with more potash than ammonia, or vice versa, they can never determine at a glance that when they are asked twenty dollars per ton for an article worth only five dollars, that they are being cheated. Herein consists the great value of these tables. They show at a glance what a certain fertilizer is worth. By the act authorizing these analyses, every bag, box or bale in which they are contained must be plainly stamped by the analyses furnished by the State Chemist. In this way imposition on farmers is no longer possible. The worthless articles are at once exposed to the public, and are in consequence rendered unsaleable. It may be taken for granted that no intelligent farmer will buy a manure at ten dollars a ton when he sees by the analysis that its actual valuation is only thirty-two cents. Yet numbers of these goods selling from eight to twenty dollars per ton, are shown to have an actual value of less than one dollar per ton. These published tables have had the natural result of driving the worthless so-called fertilizers out of the market on the one hand, and of increasing the value of those still on the market.

Out of our last seventeen and seventeen samples recently analyzed, no fewer than sixty-nine were nearly worth the selling price nor exceeded it.

As nearly as can be ascertained, the annual consumption of fertilizers in this State is 70,000 tons, or about one-third of a ton to each farm in the commonwealth. Estimating the cost at $30 per ton, we have the sum of $2,100,000 paid annually by the farmers of Pennsylvania. It is safe to say that from five to ten dollars per ton has been paid in these items. This has resulted in an aggregate loss of $500,000 per annum, out of which the agriculturists of the State have been openly swindled by the cunningness of those who have been guilty of them. Beyond this, there is an inestimable loss which has been made good to the farmers by the prices beyond their actual value. But now all this is changed. The wide awake agriculturist need not pay one cent more for his fertilizers than their actual worth. The State has come to the farmers' assistance and saved them half a million dollars yearly. Every man who uses these commercial manures ought to keep himself posted.
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**Valuations:** Soluble and reverted phosphoric acid, 10 cents per pound; insoluble, when from bone, 6 cents, and if from S. C. rock, 1 cent; potash, 6 cents, and ammoniac, 17½ cents. [To be continued in our next number.]
LOUISIANA SUGARS.

The planters are generally represented in New Orleans by factors or commission merchants, who attend to the purchase of plantation supplies during the planting season, and the sale and disposition of the crop when manufactured.

Arriving at New Orleans, the product is landed on the levee direct from the numerous boats that ply along the upper and lower coast to Lafourche and Bayou Teche, or, if arriving by rail, it is landed on platforms contiguous to the levee. The factor or commission merchant, who is strictly the first hand, is always represented by a broker, and the lots, whether of sugar or molasses, are always offered intact in courtesy to the dealers who, for many reasons, are the most desirable purchasers, being on the spot with ready cash, and disposing with the trouble of shipping and the risks attending transactions with distant points. All sales are made strictly for cash, which by custom of the levee means on demand; and so well it is understood that terms are scarcely mentioned, and the dealer who is not ready with the cash when called for need not attempt any more purchases until he has rehabilitated himself.

The dealers having made their purchases, sort them out, and in every lot, either of sugar or molasses, the quality varies and frequently in executing orders several lots have to be sorted over in order to procure the required quantity of a certain grade. What remains after sorting is known as 'seconds' and offered for the best price obtainable, to any customer.

The classification in force on the levee is as follows: Open kettle sugars, in cypress logs, head, 12 per cent. tare. Inferior, common, good common, fair, fully fair, prime, strictly prime, choice, fancy choice.

The grades of fair and under are scarcely fit for any purpose but refining, and are usually sold to refiners to be melted and worked over.

The refiners also purchase, when values permit, the grades up to and including prime.

From fully fair to fancy choice all are known as grocery grades, fully fair being generally known in some Western markets as dry barreling sugars. Inferior and common sugars are dark in color, wet and sometimes dirty—common dry as its name implies. Fair to fully fair, bright color, dry, well-cooked, and drained and good grain. Prime to fancy choice, dry, well drained, handsome grain, bright straw color, to very bright and full grain in fancy choice.

Where these sugars have come in from the plantation and been held, and sometimes when they have come from the planter late in the season, the packages have not been re-filled after draining, and when this is the case the customary 12 per cent. tare will not cover the weight of the package. This must be guarded against in making purchases, and is a matter for stipulation between the buyer and the seller, as a condition precedent to the transaction; either the packages must be re-filled, or taken as they are at an allowance on the price.

Molasses is classed as follows: Open kettle molasses—Inferior, common, fair, prime, strictly prime, choice, fancy choice. Centrifugal molasses—Common, fair, prime, choice.

Sirop de Batterie, as the name implies, is taken from the battery kettles before the syrup has been concentrated, and is pure juice of the cane boiled to the density of syrup. It rarely finds its way to market, however, as in a very short time it granulates.

"Cuite" ("kneel") is very similar to what is known in the "sugar-bush" and in many a Northern farm-house as "maple-wax," and is taken from the coolers before granulation occurs. This also is little known beyond the plantation house, as it too quickly returns to sugar.

Sugars from the various sections present peculiarities which render them easily distinguishable by the experts. Those from the Red river parishes, for instance, where the red clay formation of the lands is so marked as to give the river itself the name it bears, are of a reddish tinge, and the same is true of the molasses which it yields.

A saline taste is often apparent in both sugar and molasses, particularly in the latter; and when this is the case it is at once known that they are from the extreme Lower Coasts, or from the Lower Teche of Lafourche, where the lands are in such close proximity to the sea that the cane has absorbed salt to a certain extent, and an undue prevalence of it is an injury to the sugar, causing a greater tendency to deliquescence.

It is not so much an injury to molasses, but impairs its flavor, and is to the distant consumer unaccountable.

Almost all the refiners brand the name of the plantation on every package of their product, and some have acquired an extensive and justly merited reputation for uniform excellence and standard quality; but a large portion of the crop comes in packages rudely marked with a brush with the initials of the planter and sometimes several different initials for the same crop where it has been made on shares, and where several parties are interested.

When the crop has been finished and all the sugar and molasses shipped to market, the basin or purgery is cleaned out, and the sedimentary deposit of the molasses, composed of sugar and gummy matters, together with pieces of brickstaves, flakes of cement dirt, sand, trash, etc., ad infinitum, and which delectable compound is known as "cistern bottoms," is filled into barrels and sent into the market, where it is bought for refining purposes, or to manufacture blacking or "essence of coffee," or other articles of domestic economy, whose obscure origin, if correctly known, would amaze the innocent consumer. But the old New England tradition, of ante-bellum days, that sunny remnants of niggers' were to occasionally found in the cistern bottoms is not sustained by investigation.

The burnt sugar or "caramel," which accumulates in the kettles, is by many of the old Crooles made into a delicate breakfast beverage, which, served hot with the addition of rich cream, is similar but much superior to the best chocolate, and proves a grateful surprise to the chance visitor at the plantation.

"Vin du cane" is a beverage peculiar to the sugar house during the sugar making, and the unwary stranger is often indolent into its mysterious effects.

It is made from the hot juice as it leaves from the "grande," and with the addition of a little plantation whisky and the juice of a sour orange, it makes a drink compared to which the Mexican's "pulque" fades into miserable insignificance, and Wabash sulphuric acid corra juice is not to be mentioned.

The stranger's "smiles" with gratification as he partakes of the delectable beverage, but "finds too late that men betray," and ever afterward remembers with unmitigated disgust the villainous dejection.—New Orleans Sugar Planter.

THE FARMER'S HOME.

The farmer's home is not a paradise; whoever attempts to portray it as such, or to conjecture it can be made such, is deluded.

I would not so attempt to picture it for such picture would be false. The farmer's home is what he makes it. A home without labor; a home of aimless ease it can never be, and never ought to be.

Two many young men and women in the farm-house look away to social life in a great city, and fancy that there could be real happiness; that, with all the facilities for social enjoyment, these contact with superior intellects, social intercourse with educated and refined men and women; opportunities to listen to sermons of great divines, addresses of great statesmen; lectures of men of men and letters; access to scientific and classical societies; mingling with literary and musical clubs—the advantages of public lectures, concerts, dinners, dances, and formals—present all there is of human happiness, but very much of all this is delusion.

It cannot be denied that intercourse with men and women of superior intelligence and education and experience to our own, is good for us, but other considerations are worthy of attention. The clergyman who accepts the charge of a fashionable church in a great city, accepts the contact with artificial society life, and while he may fancy his field of labor is broader and more comprehensive, he finds that the results of his labor are far less satisfactory and comfortable. Such souls from lives of vice and sin to lives of purity and honesty, than it would be in the country. While the lawyer or the doctor, who seeks notoriety and reputation, has more varied opportunities to advance his ambition in the city than in the country, yet the country doctor or the country lawyer, who makes his profession a lifetime of study and honest research, finds himself sooner or later, standing upon a plane of professional honor equal to that of his city colleague.

So the life of the farmer, though not so rich in advantages as the life of artificial accomplishments, is fuller in that which goes to make up a pure and noble life. He can get nearer to God and his works. Higher is the scale of mental and moral culture, nearer to manly perfections, because his life is simpler, more refined, less tainted with those things which corrupt and demoralize. I am neither a believer in total depravity, nor in human perfection. Our lives are a compromise between both; we find in all humanity, in all walks in life, in all conditions, the good and the bad. It is for us to so use the good and the bad, as to render our lives more or less
THE LANCASTER FARMER.

useful, wherever our lot may be cast. My own observation and experience convinces me that the truest happiness, the nearest to a perfect home life, can be had on the farm.

Life in a great city may be elegant, brilliant, fascinating; but it is artificial; life on the farm is real life, taking place—-it is natural. It has been wisely said, "the sum of human happiness is made up of little things." Evidently does this proverb apply to the life of the farmer.

When one travels through our agricultural country, and passes farm after farm, where the house is a box, devoid of art or beauty, or even the simplest attempt at comfortlessness; where the barn is but a tumble-down hovel; where fences are thrown together as barricades against invading animals only; where no trees, or shrubs, or plants break the monotony of the home surroundings; where the labor of farming is drudgery and daily toll only, no wonder that the children, when grown to advanced youth, come to despise them, and look forward to the time when they can forever turn their backs upon them.

I would say to every farmer, for humanity's sake, for the sake of your own happiness, for the sake of the happiness and regard of your children and those around you, make your home pleasant, attractive, homelike! Don't say you have not the time, nor the means; you have both. When you are returning from the field, you walk, or spade or until, how much time will it take for you to pull up a pretty sapling, such as you will pass hundreds of, carry it in your hand to your house; and how many minutes, while the good wife is preparing your dinner or your supper, will it take you to plant it where its growth will beautify your home?

Your forests and fields abound in flowering plants and shrubs, which every year you cut down when you cultivate the ground. It is no more expensive for you to carry one in your hand when you go home than to carry it in the pile you intend to use. To costs but the thrust of the spade to make a hole to receive it; it costs nothing to make it grow; it is only transplanted, and grows as well in the home yard as in the back lot; it will become a thing of beauty. Try it, and my word for it, you will not stop at the first trial.

When you are cutting timber to fence about your garden plat or about your house and barn, it will cost you no more time to select a few pieces, separate them from the others, for some rustic beauty or oddity, if you please, and construct them into a rustic arbor about your yard; when constructed, will present something of picturesque beauty, to throw them all together in the clumsy manner in which too many farm fences are built. When you build your house, your barn, your hen-house or pig-pen, it will cost no more material, very little more labor, only a little artistic taste to build a pretty rustic cottage structure, instead of the square, unco'box-like affair, too commonly seen as country homes.

A willow riding-stick has many a time been stuck in the ground when the rider dismounted from his horse, taken root, and grown to a magnificent tree. A hedge-row of blackberry or raspberry bushes will as effectually "stop the cattle" as an unsightly hedge of dead tree-branches.

The American forests are full of wild vines, which, if transplanted, will overrun gate-posts, rough fences, out-buildings; the transplanting may cost ten minutes of easy labor, but the cities thousands of dollars are expended in accomplishing the growth of vines, which would cost the farmer a few hours labor only each year.

Five years ago the writer planted with his own hands in the city of Washington four trees—two maples, two elms. They cost perhaps two dollars. They are now the pride of his home and the delight of his friends. Any farmer could do the same without cost, but with the same results.

Plant trees, plants, vines; plants shrubs and flowers. Your mother or wife or sister will cultivate them. All women love flowers. Your friends and neighbors will admire them; your children and your neighbor's children will grow up under and around them, will view them as a part of the house, will love you because you planted them, will love each other because love begets love. Every beautiful thing about your house will create a beautiful thought and purify the soul of one of God's beautiful creatures.—H. N. Howard.

MANUFACTURE OF AGRICULTURAL MACHINES IN RUSSIA.

Herewith I have the honor to transmit a translation of an article on the manufacture of agricultural machines and implements in Russia which recently appeared in the Russian Review:

The article is interesting as showing the condition of the industry whose development in this country cannot be a matter of indifference to the United States. It is the aim and hope of the Russian manufacturer to supply the wants of the Russian people with Russian-made goods, and however laudable this effort is, years must elapse before complete success attends it.

The whole paper shows the primitive character, not only of this industry—which has to contend against a strong foreign competition, a lack of capital and skilled laborers, an unfavorable money market, and a limited demand—but also of agricultural pursuits in general.

It is in this century a strange spectacle to find an almost exclusively agricultural country, possessing over 80,000,000 inhabitants, consuming annually not more than 3,500,000 worth of agricultural implements. But such are the conditions that is hardly possible to make for matters to be different, and, all things considered, it is a matter for surprise that the progress made should be so great as it is.

During the period of serfdom a superabundance of rich soil and laborers induced a careless and wasteful system of agriculture whose baneful influence is still felt among the peasant classes.

The reorganization of these classes is a problem which the government has long been seeking to solve, one of a nature so complex as to present infinite difficulties and thus far to elude anything like a satisfactory solution.

If an ultra simplicity and the restriction of all wants to articles of the merest necessity were indicative of the perfection attained by a nation, then Russia is indeed a Utopia, for among civilized nations it would be difficult to find a people with greater simplicity and fewer wants than the Russian peasant classes.

But this very absence of all wants is one of the greatest obstacles to the development of manufactures in Russia, and precludes the hope of the great industrial progress until the people have been educated to have other wants than those which the possession of a sheepskin coat, top boots, and a few yards of coarse cotton cloth can satisfy.

The dearth of money, when so great that an association must be formed to enable a peasant to purchase a $30 plow, must also obstruct the industrial progress of the nation.

The managing director of one of the largest iron foundries in South Russia writes as follows:

"We employ from 500 to 900 hands, and used to make horse and steam thrashing machines, portable engines, fire-engines, plows, etc., as long as we had iron free of duty, but since this privilege was taken from us, January 1, 1881, we and all our neighbors were compelled to abandon this branch of industry. Hands are far dearer here than abroad, or even in the English backwoods; this machinery from abroad enters free of duty, there is no possibility of competing. In reaping and mowing machines we do a good business with America, importing from 800 to 1,000 machines yearly. I cultivate mostly the Johnston harvester. As to portable engines and thrashing-machines, I prefer the American and да пригоднее. They are far dearer than the American ones, but also stronger and more solid.

This letter corroborates the statement of the inclosed report, and shows that high-class machines cannot be produced as yet in Russia. They are almost exclusively imported, and I have no doubt that the American manufacturers could increase their share of this import by studying the wants of this country, and by the establishment of local agencies.—Edbyr Stanton, Consul-General.

BREEDING HORSES.

It is a well established fact that many of the acquired diseases to which horses are subject afterwards becomes hereditary and descend from parent to progeny. Crabs, spavin, ringbones, heaves and the long list of defects to which every horse is liable from improper and hard usage, often become constitutional and inherent in the blood of dam, and their progeny are liable to become inoculated in the germ to the most hideous manner, the miserable practice of breathing from mares which too often come into the category of "those unfit for work, hence will do to breed from," is due in part the existence of the vast number of unsound horses which are to be found on nearly every farm, and which are heard wheezing and coughing at the hitching posts about the corner groceries. I am well aware that to the care and usage to which horse-flesh is subjected may be attributed much of the unsoundness and ugly movements possessed by the majority of horse flesh in this country, and perhaps to this small right in our own hands. The road to improvement in this matter is direct and lies straight before us.

The market demand is for good-sized and "good-stepping" horses. I don't mean by
good-stepping; competitors for the honors of the turf; but such animals as shall develop to good roadsters so the owner can, upon occasion, go to the village for the doctor or anybody else so engaged, and not be obliged to work his passage or use up too much precious time. If the horse can strike a three-minute gait it won't hurt his salable qualities at all, but he may be a good horse for all essential needs and not approximate to that time. The general farmer cannot afford to breed merely for speed. That should be left for those who have taste, time and means to devote to this work, which at best is but a lottery. If a farmer has a heavy horse which is sound and all right, he has no difficulty in disposing of him. With the small animal, unless the farmer is a good judge of his animals and proportions, he'll find customers will pass him by and seek for those of more size.

Light horses, as a rule, are not profitable to use upon the farm. Often a fine, heavy horse will do the work upon a farm where two lighter ones would be required to do the same work. It is true a large horse will usually consume more feed than a small one; and so he will do more work and the ratio of difference in work is far greater than the difference of cost of keeping, for eight times out of ten the old mare will out-eat a 300-pound heavier horse which is just bordering on his teens. "But my lighter horse is slyer, and can go around faster than your big, lumber ox fellow," you say. That doesn't always follow, neither is it more than an exception to a general rule; close observation will reveal the fact that the rule will apply as often as the other way. I believe it to be the part of economy that we raise larger, sounder and better styled horses. It may cost a little more in the outset, because we should use the best males as well as good mares, but the improvement and consequent enhanced value will more than repay the increased cost.—L. F. Abbott, in Rural New Yorker.

FEED FOR YOUNG PIGS.

Perhaps there are no greater mistakes made in feeding animals than is often the case with pigs. Indeed, we are inclined to think that the climax of expensive absurdity is reached in swine feeding. Often animals do grow and develop in spite of very bad feeding. But our swine, we almost say as a rule, do not develop. Fat takes the place of development, and somehow we get the idea that fat is growth. If we do not make this mistake almost from the beginning, we are entirely too apt to fall into this sort of a mistake in the end. It is always a very great mistake, and the earlier in the life of the pig that we begin to make it, the greater mistake it is. To expect a young pig to develop bone and muscles, without feeding it anything that will make bone and muscle, is a great absurdity. Yet that would often seem to be the theory in hog raising. After its birth the pig is either left to take care of itself, the dam not even being properly fed sometimes, or is fed upon that reprehensible theory that fat is growth. Men have been known to feed all the corn meal that the young animal would eat, just as soon as it could be taught to eat corn meal. What could naturally be expected as the result of such a course? Corn meal contains sixty-six per cent. of starch, seven per cent. of fat, ten per cent. of nitrogenous elements, and scarcely any phosphate of lime. Now a growing pig can be literally starved to death upon such a ration, although it may be so fat that it cannot stand upon its feet. Indeed, its inability to stand upon its feet would soon manifest itself, and would be an evidence that it was starved. Its legs would not be strong enough to hold it. Its bones and muscular system would have nothing to feed upon, and must necessarily grow weak, at least weak in proportion to its age and growth of fat. There would all the time be an inordinate increase of muscular and bony strength to support the growing weight, and no response whatever to the demand.

In the artificial feeding of young pigs skim milk stands at the head of food, and when there is plenty of that there need be no serious uneasiness about results. Cooked corn meal may be advantageously added in small quantities to the milk—provided there is plenty of milk, as it is the milk that will furnish the albuminoids and mineral elements. Indeed the proportion of those is so very large, that to produce the very best results corn meal in proportion to milk is the correct ratio. In a quart of milk, skim milk is very desirable. This ration equalizes the albuminoids and fat producing elements, as required by the animal system. If the farmer does not have the milk, cooked corn meal and oats in equal parts and one part of oil meal will prove to be a good ration. Some grained oats and peas together, and feed cooked, and others feed six parts of peas, four parts of corn and one part of flaxseed. If our pigs do not gain as much as a pound a day in live weight we can conclude at once that there is a radical defect in our system of feeding. The young pig should be fed liquid food, as that is more easily digested, and should after weaning, be fed five or six times a day for a considerable time, after which the number of times can be reduced.

Of course the feeder will not undervalue grass as a food for pigs. If he does, he will dispense with a very cheap means of feeding, and injure the animal besides. It will not answer to feed growing animals wholly upon concentrated food. Concentrated food enters the stomach in a solid mass, and it requires time for the gastric juice to mix with it and digest it. But if with the concentrated food grass is fed, the mass is loosened up and the gastric juices can get at it faster to attack it. And there is no other very important matter to be taken into consideration in connection with pigs running upon grass. It furnishes them exercise, and exercise, the reader need not be told, is about as important as food. It is true that a pig does not need a quarter section to range over to get exercise enough, but on the other hand, it should not be too closely confined, and if on pasture it will be in no danger of that. If it has plenty of room it is sometimes the case that soiling is very profitable. It requires less land to support a pig if the soiling system is adopted, and where there are not many pigs it is altogether practical and profitable.

THE LIMIT OF WHEAT PRODUCTION.

Dr. Max. Seriing, a scientist sent by the German Government to investigate the limitations of wheat production in America, has reached home and made his report. He gives it as his opinion, based upon investigations carefully pursued in California, Oregon, Washington Territory, Dakota and Minnesota, that the "United States is near the limit of its ability to flood Europe with cheap wheat." He argues that the great increase in the production of wheat that has occurred only in the last fifteen years, has resulted from increased acreage through new settlements, and not from any increased production per acre in the older grain fields. He might have said, further, that that has been found to be true of most of the areas upon which lands as yet untouched, much of that which has been employed in the production of wheat is being put to other uses. And still further, he might have said that by the exhaustive methods of wheat farming in America the rank productiveness of the soil is being impaired, and that other crops are proportionately more profitable. These considerations, while not mentioned, were doubtless thought of, and part of the basis of Prof. Seering's somewhat striking assertion. With him, we believe the limit of wheat production in America has practically been reached. The recent totals may be somewhat better, but we doubt if the great advances of the past ten years will be paralleled in years to come. The country will have the capacity to produce more wheat as it becomes more populous and its wild lands are put under the plow, but it will be found that wheat production on the great and exclusive scale to which it has been carried in certain localities, will not pay.

Nothing is to be expected from improved and more careful methods of cultivation of which we hear so much. Whatever the improvement may be, it will not compensate for deterioration of the soil under repeated cropping. No lands under cultivation will ever yield more than they have during the past years, and it may be doubted if they will yield as much. Certainly they cannot always maintain their present high standard of production. Besides, lands are becoming more valuable as the vacant districts of the country becomes fewer, and the country becomes richer, and after they have attained a certain value, wheat cannot be raised upon them with profit. For example, when land was worth fifteen dollars an acre in some of the far west States ten years ago, wheat was worth ten dollars an acre. But now the land is worth three times fifteen dollars per acre. While the value of the farm has increased there has been no proportionate increase in its product or the price of that product. Upon a much greater investment, the farmer does no greater business than he did ten years ago. The considerable decrease of wheat production in the States of the upper Mississippi, and the lighter decrease in Iowa, Minnesota and Wisconsin, illustrate not degeneracy of soil or lessened activity in agriculture, but that wheat is not the best crop to grow. Moreover, rapid and cheaper transportation has made it possible to dispose of products which a few years ago it was impossible to get to market in salable condition. By means of the refrigerator car, shipments of fresh dairy products from Minnesota to the great markets of the Atlantic cities is now as
easv as similar shipments from central New York. Farmers are not slow to see new opportunities, and the bad economy of relying year after year upon an exclusive crop is now generally understood.

Wheat production is naturally the first effort of the settler on western lands. The grain is easily planted, easily cared for in the field, and easily harvested, and is certain of a fair price. Where one gets the land for the mere taking, wheat-farming can be carried on with very little capital, and so, till he gets a little ahead in the world and can furnish his place with stock and can surround himself with the conditions that the latter is the settler’s most exclusive crop. But if the conditions of market and transportation are favorable, he soon branches out into more varied industry and wheat raising becomes merely an element in his business. This has been the history of wheat culture everyw here. In Oregon and eastern Washington territory wheat has been the only farm product for which there has been a certain market and very naturally, the period of its exclusive hold on the farmer has been longer there than in localities where transportation facilities have brought even the settler on wild lands into close communication with the great markets. But the conditions here are changing. Extending railroad lines will soon enable the farmer to get his fruit, vegetables and dairy products to market, and the effect will soon appear in a varied agriculture heretofore unknown in the western part of the country, and wheat will cease to be the exclusive article of export.—Laucaster Examiner.

**PROVIDE YOUR OWN LIGHTING ROD?**

Dr. Geo. Thurber gives much valuable information in an article on the above practical question in the American Agriculturist for August.

First. As to the rod itself, it is well known that copper is a much better conductor or of electricity than iron, but it is so expensive that iron is most generally used, making the rod much larger than would be necessary if it were of copper. The shape is of no consequence, and the twist and grooves in some “patented” rods are merely to beguile the ignorant. The rod may be of round 7-16 inch iron, or it may be a flat strip an inch wide and 3-1/4ths of an inch thick. If it is convenient to procure, burr iron may be used, but it should not be smaller than these sizes. It is very important that the rods be continuous. The pieces of round iron may be joined by couplings which are cut with a screw-thread on the inside, while the ends of the rods are made to fit. The portions are usually joined by welding.

Second. The manner of fastening to the building. At one time it was customary to pass the rod through a glass ring, which was fastened to the building, and the rod thus kept in contact with it, but insulated of this kind are quite useless, for it soon becomes wet they cease to insulate. The rod may be attached by staples. There is not the least danger that lightning will leave the rod to pass into the house by way of the staples. A flat rod may be fastened by a strap of iron fashioned to clasp it. Should the rod be paint-

**THE BLACK KNOT ON PLUM TREES.**

Dr. B. D. Habsted, writes of a serious pest of the orchard, in the American Agriculturist for August.

Mr. D. D. Gaines, near Calskill, N. Y., brings as peculiarly distasteful branches from his plum orchard, and complains that the trouble is a serious one, as he has over two thousand plum trees more or less affected. The cause of this distortion of the smaller branches is a fungus, and it has long been known as “Black Knot.” It has often been claimed by careful observers that the swellings were due to various insects which infest the peculiar outgrowths. The parasitic fungus attacks the young branches in early spring, causing them to increase rapidly in size, rupturing the bark soon follows, and the soft substance, coming to the surface, expands in an irregular manner, and is shortly covered with a peculiar olive-green cast. The fungus plant is like many others of the same low order of vegetation, as the various molluscs, etc., and consists of a multitude of fine threads, that run in all directions through the substance of the plum tree. The olive color of the surface is due to a vast number of bodies called spores, which are formed on the tips of the threads, and breaking away from their attachments, to propagate the trouble. After the knot has grown to some size, its soft substance offers a good home for various kinds of insects, and it is rare to find such a knot that is not thus infested. This was the strong argument in favor of the view that the knots were of insect origin. The scientific name of the fungus is Sphaeria morbus, and this, the cause of the black knot, is as much a plant as the plum tree upon which it lives. The olive surface spores continue to form through the summer, and at autumn another kind of spore begins to develop within the substance of the knot.

These are of slow growth, and are not ripe until the following spring. The only remedy thus far known is the judicious use of the knife. The knots should be cut off and burned whenever they are found. They are most conspicuous in the winter, when the branches are not covered with leaves; but when a tree is attacked, it is not wise to delay the removal until a more convenient time. The diseased branches should always be burnt. Otherwise the spores will continue to form for a year or two after the tree has recovered from the contagious past. If the tree is badly attacked, it may be best to remove it entirely.

The Choke Cherry is a favorite host of the black knot, as the neglected fence rows often show in winter. All such trees should be rooted out. The cultivated cherry trees are subject to attacks by the black knot, for which the same remedy as that for the plum tree is recommended. Use the pruning knife, always at sight, and cut several inches below the swelling, that all the infested portion may be removed.

**PHOSPHATES AS APPETIZERS.**

A little knot of farmers were discussing the other day the benefits of phosphates. One said he sowed a hundred pounds to the acre, and he had “good wheat.” Another had put phosphate in the hill with his corn, and he had “first-rate corn. It grew right along.” Another said: “I like phosphate; it is such an easy way to manure the land.” The last man put in the clincher: “I do not know that it is so much of a manure, but it is a good appetizer.” So is whisky. I do not believe in paying forty or fifty dollars per ton for “appetizers” for land any more than I do in attempting to live on stimulants. There is enough virtue in most phosphates to stimulate a crop at first and cause it to start with a more rapid growth. In the same way a good drink of stimulant will give a person a brave start, but the trouble is the effect is not sufficiently lasting—it does not hold out. In many cases this stimulated growth is a damage, for when the cause is exhausted, the plant is weakened and checked in its growth, or else it has formed an unnatural stem or stalk which the soil is not able to supply, while if there had not been this excess of stalk or stem, there would have been no check, but an ability on the part of the soil to have met all the requirements of the plant.
THE LANCASTER FARMER

[August,]

Before commercial manures were pushed up to the extent they are now, I had a notion I could make corn grow on the same principle—stimulation—and I prepared a compound, not wisely mixed, perhaps, but about as some of the modern doses which farmers swallow so easily, and I put this mixture into the hill, put earth over it, and then planted my corn. It came up so green and rank as to attract the notice of persons passing on the road, and the stalks were grand, but I never had so few ears in proportion. My compound consisted of air-slaked lime, plaster, sulphate of lime) and wood ashes. Now, a chemist can tell me just what was lacking, I suppose, and if I had put that in, there would have been a proportionate crop of ears. I should like to try it. I do not like such a foundation something. If I had kept my compound out of the hill, and had a natural growth of stalks such as the land would have produced, the crop would not have had the set-back it did, and there would have been a proportionate crop of ears. My point is that stimulating a crop is an injury, unless it can be kept up until it matures. As farmers usually use commercial manures, they do little if anything more than push the crop at the start, and often this extra growth is an injury. I watched a field of buckwheat last summer with a great deal of interest, where the seed had been drilled in with some kind of phosphate, and the strip left across the lot without any of it. The phosphated part came up first, and at blossoming time was several inches taller than the portion where no phosphate was used. The straw—mark this—was a great deal coarser, and the leaves broader, and the cluster of blossoms more scattered or wider apart. The owner said he did not think there was any better yield, and I do not think there was as good. The phosphated part grew faster, blossomed first, and was a few days riper, although it was all out at the same time.

On soil so poor in organic matter (the basis of vegetable growth,) that it would not produce a crop, chemical fertilizers no doubt could be added to cause a crop to grow. They would also help to extract plant food from the soil, but would a crop grown at such an expense pay? I do not like such a foundation to build upon. As a last resort it might do. I know there is a great deal of wisdom spread on here by professors and manufacturers of chemical compounds. To most of us it is dust in our eyes, so far as comprehending their talk; but they do succeed in selling a world of stuff, which in my humble opinion does very little good. Not one of the farmers whose remarks I quoted at the beginning of this article knows that he was benefited in the least by his expenditure for phosphates. The probabilities are that they threw away their money, and thousands of others are doing the same thing every year. Does it never occur to our farmers that possibly they may be humbugged a little? Only a few years ago there were few makers of commercial stimulants, or, as the farmers call them, "phosphates." Now their name is legion, and every third farmer is an agent. Have farmers and philosophers always been fools, or have there been new discoveries in the science of growth which can only be developed in the laboratory of some phosphate-compounding establishment?

It would be more profitable for farmers when they meet to discuss how they can increase the bulk and quality of barnyard manure, and turn their attention, straw and hay to the best account to increase growth on the farm, to exert each other to better culture, which will pay more in the end than by buying fertilizers. I do not like to see this drifting away from the old common sense and substantial landmarks and practices, which have brought prosperity to so many homes, to the uncertain, shiftless and costly ways where so much is paid out and so little returned. Would it not be a wiser policy for farmers to expend the money they pay for chemical fertilizers in the purchase of oil meal and bran to feed to their cows, and to make more manure, beef and manure? I consider oil meal at $2.50 per ton and manure at $3 per ton to be a better investment than paying $40 or $45 per ton for a small per cent. of nitrogen or phosphoric acid.—F. D. Curtis in Country Gentleman.

HINTS ON LAWN MAKING.

In making a lawn now, as at any other season, it is well to recollect that the work is to be done for many years, and that in no part of the grounds will thorough preparation, deep tilling of the soil, and abundant fertilizing, pay better than here. In a lawn of considerable extent, it is a mistake to suppose that in it is necessary to reduce the surface to a dead level. For small lawns placed on soil, places, this may be desirable, but a large lawn appears to much better advantage if the surface is gently undulating. Various mixtures of seed are offered by the seedsmen. Some of these seem to be well considered, but anything more unsuited to our climate than the "French Lawn Grass" can not be imagined. Probably not a third of the kinds of grass it is said to contain, will survive in our climate. The best lawns we ever had were sown with "Kentucky Blue-grass" and "Rhode Island Bent" (a variety of Red-top), in both cases a small amount of Red-top and Cheat was added. For very light and sandy soils, the former, for light and sandy ones, the latter, will no doubt give satisfaction. In buying grass seed for a lawn, look well to its quality. Some seed of "Kentucky Blue-grass" (the same as "June Grass") sells for twice the price of others, and is worth four times as much. Chaff does not always cover seed, and the samples should be carefully inspected. The advice to use from three to eight bushels of seed to the acre, is founded upon the uncertain quality of the seed. Probably four bushels of fairly good seed would be ample. The seed should be divided into two or four equal portions, and sow one half made, after thoroughly preparing the soil, in different directions. The seed may be broadcast in, but at this season, a good rolling will give a sufficient covering. Where the lawn borders on roads or paths, or on shrubbery or other plantations, it will be best to lay a margin of turf, six inches or more in width. For small areas, the laying of sods is advisable, and this may be done now, as well as in spring. In most localities, a common, or the road-sides, will usually afford a fine, close turf. The soil, in this case, should be as thoroughly prepared as for seeding, and the turf well beaten down, to bring its roots in close contact with the soil. If necessary to cover steep banks, sods must be used. These may be held in place by the use of pins; plaster's lath split is best. These will decay by the time the soil becomes well established.

—American Agriculturist for August.

SELECTING A FARM.

In the selection of a farm the following are some of the points to be taken into consideration: The means, experience, adaptation for certain kinds of farming, present and future fertility, and condition of soil; distance from and accessibility to home and foreign markets, school, people, local government, title of land, climate, healthfulness of place, probability of increase in value of land from surrounding causes, or internal improvement. Lack of sufficient income in farming, as in all other business, is a serious drawback, and in the selection of a farm is a most important consideration, as affecting the size and value land to be bought. As a rule all one's capital should not be put into the farm, and loss in proportion as the land is high and the increase in value of land not so important a consideration. Experience and adaptation are important factors in deciding the location of a place to farm, and they should decide, to a great extent, the kind of farming to be pursued. Fertility of land available and reserved, is not an easy matter to determine. Land at present fertile may be much sooner exhausted than land at present less fertile. For instance in new country the high lands are the most fertile, while the low swampy places being less drained become most the valuable. Roads are a matter of importance as influencing the cost of marketing of crops and sale of land, and comfort of the farmer. Poor roads prevent social intercourse. In that portion of the year when farmers have time to meet together for mutual enjoyment and to discourse subjects of interest and profit, they are very apt to have bad roads which prevent their meeting. This is one of the difficulties in the way of communication of the farmers, which is not met and diurnal for their necessaries and other purposes, and lowlands lying between the market and a farm are often a great hindrance, not only from their inconvenientness but from their established the kind of farms and farmers with whom you will come in contact. From many towns in the West produce can be shipped for the same price as from points half the distance owing to the difference in facilities for transportation.

The size of a farm should depend upon the capital you have to invest in and upon your farm, and upon your skill and ability. The proportion that can not be purchased so well in quantity and is of different kinds. For instance, one man has the ability to make a "sud-bank" of thirteen acres yield $4,000 a year in market gardening, while you can find men of equal intelligence who, if compelled to make their living off that amount of land, would almost starve to death. Again there are men whose whole life is made up of transactions on a large scale. With plenty of capital a farmer of good executive ability can hardly have too much land. The profit per acre does not depend upon the size of the farm, but the capital invested upon the land and the ability to manage it.
THE LANCASTER FARMER.

1883.

Given $5,000, one-half to be invested in land
—where shall it be invested, and what price paid per acre? Shall eighty acres worth $30 an acre be bought at Staatsville, or forty acres worth $5 an acre be bought further West? Below are given some points in favor of the latter. The remaining $2,500 can be employed more economically. Less capital will lie idle in machinery, as there will be more use for it. It can be more economically used, as the work required to use machinery in a large field is proportionately less. Farm buildings on a large farm give better returns for capital invested. The machinery necessary on the larger farm is not much greater than on a smaller farm, and the buildings necessary to take care of it will not differ much. Less fencing is required in proportion to the size of the farm. More land is available and the harbor for weeds less. More cattle can be raised from 120 acres of land that can be bought for $5 an acre, that can be raised off twenty acres worth $80 per acre, and more grain can be raised from 240 acres, minus the difference in cost of production. Furthermore, not only a large profit in the aggregate can be made, but in all probabilities, as the country grows older, and the influence of home consumption and cheap labor are brought to bear, a larger profit per acre can be made. For, before stated, not so large a proportion of the land is appropriated by fences and fence corners. More thorough machinery for cultivation and preservation of crops can be used and more economically employed. It costs less to market the crops. How much more does it cost to market 500 pounds of butter than fifty pounds? In the sale of cattle one can deal more directly with the consumer, in buying, more directly with the producer. Time can be taken to watch and carefully oversee the farm-work and other details, while on a small farm the owner is compelled to spend his time in manual labor, which, however good in itself, does not yield as good return. Time can better be afforded to obtain the best and fullest information about one's calling, and to make personal investigations as to the best of things in one's line to be obtained. The larger farm is the best adapted for the rotation of crops. In the selection of the land for different crops there is a wider range. In short, a larger effect can be produced with the same amount of capital.

Socially, the owner of a large farm has the advantage. He is less isolated from the world. His farm is really better. There are more acres of land in the Eastern States are far more isolated from the world and its doings than the owner of a large farm in the far West even. They have more frequent visits and correspondence with purchasers, which acts as a stimulus to better work. Experience of any neighborhood amply proves that the men who settled in a place when it was new and remained there, with industry and economy have become its best, most substantial and trustworthy citizens.

As to the State to settle in or latitude in which to live, there is nothing except as a general rule it is probably best to settle in a region approaching the one you are used to. But supposing this point settled, how shall we invest the remaining $2,500? We give the following estimate: House, $800; out-buildings, $250; machinery, $850; horses, three teams, $600; running expenses, $200—total, $3,500. In this estimate private expenses are not included, and no stock is provided for as the small capital would not make it advisable to handle any.

Dr. E. A. A. Grange lectured before the Agricultural Department of the Minnesota State University on "How to Select a Horse." A live horse was induced, after much persuasion, to enter the lecture room, and the lecturer illustrated the various points to be noted in the examination of a horse.

In examining horses for soundness, said he, it is necessary to proceed in a systematic manner. His own method was to begin upon the left side of the animal, and usually with the front, at the left nostril, dilating it, and looking at the inside for the rose pink color, which is the healthy condition. If the animal is suffering from any catarall affections you will observe that the nostril is inflamed. Then examine the red membranes to see if it is free from ulcerated spots. If there is any doubt whether the animal is suffering from gladers, by holding a lighted candle you can see if there is a considerable quantity of it. Then, after examining this thoroughly, open the mouth and look at the tongue, to see if it is smooth and in perfect condition. Then pass the hand down to the lower jaw and examine to see that there are no tumors in the back part—tumors there indicate glanders and a disease called distemper, which is quite common among horses.

Next examine the left eye, to observe whether the pupil responds with action of light, and if it does it is healthy. To determine that you place a hat or something of that description over the eye, and the horse becomes agitated. Then the eye should present a clear appearance. If it has a cloudy or hazy appearance, with a scum over it, it is not in a healthy condition. It will also be observed of an eye in an unhealthy condition that there is generally weeping or flow of tears over the side of the face. You must examine the poll to see if poll evil exists. The jugular vein should also be examined to see whether it exists, because from careless treatment, from irritating the vein and careless bleeding it becomes inflamed, and after the process of inflammation has been completed the vein becomes ulcerated, and the turn the horse out to pasture the head will swell up. Then you pass the hand along the back toward the tail, examining, on the way, the withers for fistula, a disease similar to poll evil, a running sore, very troublesome in its nature; examining also along the spine for collar galls.

Then, in proceeding to examine the fore leg, first of all you examine the shoulder for sweeney, which is a wasting of the muscles of the shoulder. If the wasting has proceeded to any very considerable degree the action of the shoulder is plainly visible, and is often thought by careless observers that the shoulder is out of joint. After examining the shoulder, examine the elbow to see if the condition called celled elbows exists. It does not interfere with the horse's usefulness, but looks ugly. Then pass the hand down in front of the leg. If white hairs are found upon the knee, that indicates that the animal has been down some time or other, and is perhaps a stumper. Passing the hand down, examine with the fingers the inside of the leg for ringbone. Then examine the fetlock for ringbone, comparing both feet if there is any doubt about its existence. There are two flexible plates of cartilage around the heels, which sometimes becomes diseased, in a condition called sidebone, which must not be confused with ringbone, one being a disease of the bone, the other of the cartilage. It the plates are flexible they are in a healthy condition. The hoof should next be examined for sand crack, the bottom portion of it, in clef of the frog, for thrus. Thrus is a disease of the sensitive structure above, and it is well to take a look at the limb from shoulder to foot to see if the joints are in their natural position, and that the animal does not stand over either at the knee or at the fetlock. Having done so you turn your back to the animal's head and examine the back tendons of the leg. On a well-bred animal they show almost as plainly as if the skin was removed. Then feel to see if the outlines are smooth, and that there are no lumps upon them. Lumps upon them would indicate sprain at some previous time. After examining the fore leg in this manner, pass your hand over the chest, the part from the shoulder back to the end of the ribs. Then examine the abdominal cavity to see if a rupture exists. So far as the general usefulness of the animal is concerned, unless it is a very large one, does not interfere with their every-day work. Still it is not advisable to buy a ruptured animal. Then get an assistant to take up the fore leg, holding it by the toe. The object of this is to throw the weight of the body so that it stands on the upper half of the foot, and the hind leg, passing the hand down until you come to the point of the hock. Examine there for capped hock, which, although it does not interfere with the usefulness of the animal, yet it indicates a kicker. Look also for curch, which is a sprain of the short ligament which passes down from the hock, say four or five inches, and for bog spavin. Bog spavin seldom does any harm, but in an animal required for road purposes the disease is often serious and troublesome. Then examine for some spavin too near the hoof at the frog. Stand about three feet from the shoulder and look from the inside of the hock, and if the line is ordinarly straight it is not likely to exist. You then pass the hand down the front of the hind leg and examine carefully for ringbone, the front leg being up all the time. Side bones do not occur in the hind leg. Examine also for thrus and sand crack. Having made an examination of the left, you proceed to the front and examine the right side in exactly the same manner. Then stand behind the horse a few yards and make an examination of the hind quarters and see whether it is hipped, so that the hip on one side is less than it is on the other side, and the animal is said to be down in the hip. In gray horses it is advisable to make a careful examination of the urinogenital organs.

There is a very troublesome disease peculiar
to these animals, consisting of a tumor, sometimes of considerable extent, a collection of thin mucous-like substance in which is the coloring matter of the skin. These tumors do not necessarily interfere with the usefulness of the animal, but they are unsightly and will interfere with the sale. Having then examined these parts, a look over the animal should be carefully taken to see if anything has been passed over.

Next test the animal’s wind. It is well to let the animal have a little hay. In some cases of hives there are various substances which are brought to the surface temporarily. When the bowels are empty the hives are scarcely noticed. A pall of water or three or four pounds of hay should be given. Then you examine the larynx or organ of the voice. Sometimes the larynx do not open and shut as required when the animal is unhealthy, and the air goes through with a roaring and whistling sound. After testing its breathing apparatus, it is well to throw a little hay upon the ground to see whether the lips are sound. Sometimes they are paralyzed and the animal cannot get its hay properly.—Pluier’s Journal.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular meeting of the Agricultural and Horticultural Society was held on Monday afternoon, August 6, a fair attendance being present.

The meeting was called to order by the president, Henry G. Rehsl.

In the absence of the secretary, Joseph F. Witmer was chosen to act.

On motion the reading of the minutes of the proceeding meeting was dispensed with.

Mr. Cooper, of the committee appointed to attend the meeting for the election of trustees of the State Agricultural College, read the printed report of the committee’s trip.

Crop Reports.

Mr. Cooper said the hay crop was the heaviest in his section he had yet seen. He said it was not of the best quality; the harvest has been nearly equal to that of last year; early potatoes were right good; corn has come out well and promises a full crop; young clover was never better than at present, and pastures are very abundant; the prospects of the apple crop are very good; peach crop is quite good. Pears are also better than he had anticipated; grapes, promised well early in the season, but they are now rotting badly and the mildew is affecting them. The rainfall for June was 60 10 inches; for July it was over four inches.

Mr. Kendig said the hail did considerable destruction to the tobacco crops in northern Manor, from 75 to 100 acres of tobacco having been partially cut up. The wheat crop was good; but the fruit crop will be light. The rainfall for June was 6.4 5.8 inches and for July, 8.4 10.5 inches.

Mr. Hiler did not think the corn crop was going to be a full one, for several reasons; first, it was slow growing, and second, it was damaged considerably by floods; tomatoes are not ripening well; potatoes are growing fast; the fruit crop will be very poor, and the wheat will add a failure of an apple crop out of his orchard of over 500 trees.

Mr. Cooper corroborated most that had been said, except as to the corn crop, which he said was unusually promising to his section of the country; wheat yielded from 30 to 38 bushels per acre; the hay crop was unusually large, but poor in quality; as to tobacco he had never seen a better growth at this season of the year; the fruit crop will be poor, al-

though pears may turn out better than was expected several months ago; clover is remarkably good.

Mr. Rehsl, of Pequea, reported a similar state of affairs in his section.

One of the members having asked as to the best time to plow clover under—when green or when dry—the president answered, that in his opinion it is best to do so before it is ripe, as it then has more strength; others plow it over after it is ripe, because the seed may make plant food.

Rain there were very few seasons when it was possible to plow clover dry. The seed when turned over will be beneficial as a fertilizer.

Mr. Buckwalter, of Sallsburg, said that two years ago a neighbor plowed down clover just as it was going to seed, and he had next year the finest crop of grass that he had ever seen. As to crop prospect he reported about the same as the other gentlemen.

Mr. Rehsl reported very favorably for all crops, except tobacco, which will not be full, and which will also be foxy to a greater or less extent.

Mr. Wood said the corn in his section was pushing out very well; wheat and oats were about as previously reported.

S. P. Eby said his grapes were doing very well, and he would have a full crop; peaches also promised a large crop. He was of the opinion that the fruit crops should be cultivated every year. He asked whether there was a remedy to prevent the rotting of plums.

Mr. Hiller did not think there was a remedy, for he was of the opinion that it was caused by the atmosphere. If the trees stood on ground 400 or 500 feet above the ordinary level he did not think they would rot.

Mr. Engle partly agreed with Mr. Hiler, but he thought some varieties of plums were more apt to rot than others.

The Apple Question.

Casper Hiller, to whom had been referred a question as to whether it would not be better to go to the Southern States for our winter apples, replied that in his experience it would not. He had experimented with a few varieties, and did not find that they did very well.

Mr. Engle agreed with Mr. Hiller. He thought we had plenty of apples in this county which would do very well provided the proper care was taken of them.

Mr. Eby referred to a man who had a forest planted on the north of his apple orchard, and he took occasion to cultivate his trees. He also asked whether the place of grazing had not something to do with the fruit?

Mr. Hiller replied that he did not think this was the case, and he attributed the deterioration of the apple crop to atmospheric causes.

Mr. Engle was in favor of grafting, but from healthy trees only, as the operation added the growth very much.

E. S. Hooper was of the opinion that the increase of insects had more to do with the decay of our apples than any other cause.

Mr. J. G. Rush also spoke on the subject, and gave as his opinion that the practice of allowing swine to rove through orchards was a bad plan for keeping the orchards in good condition.

Mr. Witmer said Mr. Rush’s plan might be good for the apples, but he did not think it would be good for the pork. He always found that when he allowed his swine to run about they would make no growth.

New Business.

Mr. Bollinger, of Lancaster, was elected a member of the society.

On motion of Mr. Cooper the secretary was instructed in the future to leave the minutes in the room.

Mr. Engle amended by instructing him to mail them to the society in case he cannot be present.

Mr. Eby asked what microbes exist in this soil. Mr. Hiler replied that he had seen many mole hills, but he never knew of them to destroy planks.

Messrs. Humeicker and Hoover were appointed a committee to report on the exhibit of fruit, and after examining it it was awarded first premium to Casper Hiller for the largest collection and first premium to Mr. Engle for the best plate.

After some time spent in social intercourse the meeting adjourned.

THE FULTON FARMERS’ CLUB.

This club met at the residence of Solomon Gregg, August 14, 1883, the following being present: Joseph Brown, Lindley King, Montillon Brown, Wm. King, C. C. Caufman, Day Wood, Mrs. Dr. Sidles and daughter, Mrs. Stewart, Joseph Jenkins and wife, Mrs. David Wisley, and several others. The meeting was well attended and was accompanied by others of their families, and including the visitors made quite a large company.

The minutes of last meeting were read and approved.

There being no specimen to exhibit, Wm. King asked the question, “What is the meaning or use of such a thing as a horse?” and whether it was advisable to deliver all of this quantity in with the grain?"

The members were all of the opinion that it would be better to show the grain as fine as possible, and then afterward put the plow in the yard. William King replied that he had seen in some paper that by dropping sulphuric acid on this weed would destroy it. Several others thought the only and best way was to pull them up.

Jos. Brown asked: “What kind of wheat do the members intend to sow this fall?” Jos. Jenkins said he has been sowing the Italian variety for several years; he liked it very well, and intends to sow the same this year. Several of the members said they intend to sow the same, but one present except one still stick to the Folk variety. One member intends sowing some old Mediterranean.

Day Wood asked: “What will make the best kind of fence to build across meadows that food at grass will grow?” Several present thought barbed wire would make the best as it was wire and only barbed on one side, while wood would not float away. Others ideas were more on the floodgate principle.

The late floods of this neighborhood having been so disastrous to hogs, Wm. King, Jos. Brown, said, if bridges built close to the water and substantially built and bolted down would not stand the floods better than the common way of building them?

Some thought it would.

Jos. Brown said he had a bridge on his farm that had stood successfully all the high water so far. The bridge is about as high as those on each side of it on the same stream that have been taken away.

Mr. Brown attributes this to the solidity in building it. He first imbedded very large logs to start the abutments on, with small and other very large stones. He then puts a large bolt running through the tied logs and the sleepers on top of these, thoroughly holding the bridge together.

Montillon Brown asked what time members intend sowing wheat? From the 15th to 20th of September is generally the intention.

Lizzy Wood asked whether we can use too many hops in making yeast? Mrs. Stewart thought there can be too many used, as it would make the yeast bitter. She used one handful of hops, one quart of sugar, one tablespoonful of flour, one tablespoonful of ginger and one cup of yeast. Misses Chouinard, Thomas, Christman, Griset’s recipe was: Two handfuls of hops to one quart of water; boil well and have flour enough to make a batter, to which add one teaspoonful each of ginger and molasses; pour the liquor boiling hot and influence cooled cool and add one cup of yeast. One cup of this yeast will be sufficient for a large baking.

The club then adjourned for dinner and after doing justice to the good things prepared by the hostesses the members took a walk over the fine farm of the best, viewing his crop, stock and buildings, after
which they walked to the eaning establishment of the Messrs. McQuarrie near by. The gentlemen are just starting in this business. They have put up a building 85 by 30 feet with scalehouse attached and fitted it inside with all the improved machinery pertaining to the grain trade. They have been very successful in filling all the cars on hand they will certainly do a large business. We wish them success.

After reassembling the yeast question was again brought up amongst the ladies and from what the secretary could catch each one seemed to have a different way of making great, and as all make good bread one would suppose the reedepes were all equally good.

The minutes of the last meeting held here, were then read, and critiqued called for. The host was congratulated on the fine appearance of his farm and crops.

Mr. Gregg has planted a quantity of sweet corn and tomatoes which he expects to dispose of at the canary near by. The club would be pleased if he would keep some accurate account and report if these crops can be raised with profit at the prices paid by the canary.

The host had read the address of the president of the Agricultural Association of Lancaster county, and then read an article giving his own ideas regarding the value of barnyard manure compared with that of South Carolina rock, contending that he can keep his land in good condition by the use of commercial fertilizers and sell his hay, straw and corn, and the cost will not be as great as the barnyard manure.

This is a subject on which many farmers would differ with Mr. Gregg. There seems to be a lack of knowledge regarding the cost of barnyard manure. It is certainly a subject of great importance to farmers.

Lizzie Woods read an article describing the work in which committees were introduced into this section of country. Mont. Brown read a letter he had received from Joseph Roman, a former member of the club who settled in central Missouri last spring. This letter was very interesting (as all Mr. Roman's letters are). The club would be pleased to hear from Mr. Roman again, and extend their sincere good wishes for his success in his undertaking. Adjourned to meet at Wm. King's, September 1, 1851.

POULTRY ASSOCIATION.

The regular meeting of the Poultry Society was held Monday, August 6th, ten members being present.

In the absence of the president, Mr. M. L. Grider, of Mount Joy, presided.

Mr. Long reported that the debt had all been paid and at the last meeting there was $5 in the treasury. Several persons still owed for their stock, and when they pay their subscriptions there will be enough money in the treasury to pay all the indebtedness.

It was reported that arrangements had been made with the persons who purpose holding a fair here next month by which the society would realize a profit of 25 cents for each poultry coop belonging to the society which is used at the fair.

The following persons were elected to membership: Mrs. S. T. and M. L. Davis, D. McMullen, Esq., D. M. Myers, G. Stone, Dr. B. F. W. Urban and Christian Musselman. Adjourned.

AGRICULTURE.

Tropical Farming.

Mr. Alfred Trumble describes the farming of the tropics in the American Agriculturist for August, from which we elope the following:

There is but little dignity about farming in the tropics. It is true, there are great plantations of sugar and coffee, but the owners of them are either companies, formed abroad, and represented by overseers and officers, or proprietors who are far too aristocratic to touch a hoe-handle, or harness a team. The white man does not work in the warm latitudes. The farmer proper of the tropics is in the main little better than the slaves, whose place he occupies. In the West Indies he is invariably a negro; or on the coast of tropical America there is always a half breed, or rather a hybrid, the result of a couple of centuries of Indian, Spaniard and negro cross-breeding. But wherever he is he is always wretchedly ignorant and poor. He always farms in a very small way, and by the most primitive methods. An acre of ground upper lawyerly way would be the output of these little plantations, but the hoe and spade being his only tools. He raises yams and kindred indigenous vegetables, and very good crops of them, too, for he has a fertile soil to aid him. He never plants on poor ground. If he lives near a run- ning stream his garden crops will grow in the bank. The bananas and planalt. Though these grow wild in the tropics they are improved by cultivation. The wild bananas root close to the water's edge, and a freeet can carry the plants away. We have often seen a rude cause slip by some on South American stream at early morning, carrying an empty bate, a naked boy and a leant dog for company, and when the tide is fair the party float along, carried by the current, and propelled by the wind blowing on a big planaltain leaf, which the boy holds upright, for a sail.

No more picturesque or wretched picture can be conceived than that of a farm in Central America. A hug of palm boards, with a rotten roof palm branches, swarming with bats, scorpions, and other vermin, constitutes the farm- er's home. The floor is of earth, the beds are framework of boards, on which the mantles stretch without the least appearance of untidiness. Hammocks are not as often seen as would fancy. All travelers, however, carry them, and for a dume obtain the privilege of slinging them from the beams. Many farm houses are mere sheds, with the sides open to the sky, and the ceilings are composed of the pleasing aspects of cultivated ground. The different crops grow in patches, it is true, but rank, unswept, and without care. Nature pro vides a soil so rich that man needs to give but little labor; when, after years, the ground is worked out, the farmer plows and makes it free.

Such a land as this would be a paradise for the intelligent and energetic Northern farmer, but for the fact that in this excravating and malarial climate hard labor is deadly. The white man, who settles in these countries after a laborious life in that colder climate at home soon dies, and only he who adapts himself to the listless climate survives.

Breaking up Land.

A correspondent of the farm Farmer has been utilizing his sheep in breaking up land. He says: My flock consists of about 500 sheep. Two years ago I feared them and had them used it for sheep pasture. The pasture was good until last summer. I did not think for one moment, but that the blue, joint grass was all right (it has immense and numerous roots, which are sent down deep in the soil), and that their hooves would keep it in condition. We had fifteen years ago, but I hecele ded, last fall, that the close pasturage of the sheep had killed it, the roots were rooted, and on putting in the plow the moulderest soil a farmer could desire was turned up. My sheep, in two years, had broken over 200 acres. I suppose this is not an unusual result. I have just bought 200 acres, and I put the flock in with the expectation of breaking the soil in a year and a half. The sheep is rite and at the time of flowering is, in regard to its nutritive qualities, as seven to five.

It has also been proven by experiment that the stems of tomatoes contain more nutritive matter when the plant is nearly ripe. The experiments have also been repeated that the fruit is ripe and at the time of flowering, in regard to its nutritive qualities, as seven to five.
THE LANCASTER FARMER.

While there are different times for the different varieties of grasses, the time of flowering is generally considered as the harvest time for the present. Weather conditions play a crucial role in determining the harvest. In 1878, "least危害bud Mildew" in Ohio, the farmers had to watch out for this disease. Mildew thrives in the humid conditions, and farmers need to take preventive measures to avoid its spread. In 1883, the disease was more widespread, and farmers had to be vigilant. The disease continued to be a problem in 1881, but with the help of experts, methods were developed to control it.

Avoid Farm Mortgages

Mr. H. A. Halig, the author of "Farmers in the American Agriculturist for August," explains the importance of avoiding farm mortgages. Mortgages are necessary to finance the purchase of land, but they can become burdensome if not managed properly. They may also lead to bankruptcy if interest rates rise and the farmer cannot afford to pay the mortgage.

The New-Tim Farmer and His Ways

The grandfather of the present-day farmer daily had a house-woolly snit, worn, cut and fitted by his wife; but for Sunday his glory was a suit of black, black brocado, kept religiously clean and before the fires. Nothing himself nor family bought clothing, since the farm produced all that was needed, and he thought himself ruined if he had to spend more than twenty dollars a year for necessary articles which he could make for them in time. But, for small expenses, he was scarce, but he talked much, and every item of evidence points to the fact that he was the most inquisitive man of any country or age. Every foreign traveler who visited New England in the last century has something to tell of his sufferings at the impossibility of satisfying his curiosity. The tavern-keeper, the farmer along the road, the passers-by all plied their questions, and in spite of his reluctance, usually extracted answers.

The crops in the country

Our commercial prosperity is based on the crops and the crop situation, as compared with previous years, may be briefly stated by giving the crops of past years and the expectations for this year. The wheat crop of the United States in 1877 was 365,000,000 bushels; in 1878, 420,000,000 bushels; in 1879, 440,000,000 bushels; in 1880, 498,000,000 bushels; in 1881, 535,000,000; in 1882, 515,000,000 bushels. The expectation for this year (after making due allowance for damaged wheat in Ohio, Indiana, and Illinois, and for drought in that part of the Red River Valley in Minnesota and everywhere else in the Northwest) is not less than 460,000,000 bushels. The corn crop, which is really of as much value as all the other grain crops put together, presents the following record: In 1877, 1,245,000,000 bushels; in 1878, 1,388,000,000 bushels; in 1879, 1,548,000,000 bushels; in 1880, 1,717,000,000 bushels; in 1881, 1,194,000,000 bushels; in 1882, 1,717,000,000 bushels. The present prospects of the corn crop are more favorable than at this time in the season for several years. The increase of acreage planted this year is 2,500,000 acres, or 3.8 per cent. With an average yield per acre the total yield, the total area should yield a year last year which is the best in the United States, 1,900,000,000 bushels. The New York Evening Post, from which we take the above statement, says: It will be seen by these prospective figures that, as far as the crops are concerned, the prospect for railroad traffic was never better than at present. It would require the most extraordinary change of weather to disappoint the expectations as above for the corn. As for the wheat crop, it is now past all danger of any further declines. There is, however, do not seem to count for much in the general market. While the moralized condition of the stock market, although having their effect upon the general prospects for trade.

Horticulture

The Grape Vines in August

While grape vines have more enemies than almost any other fruit-bearing plant, they are, with the exception of the little understood "rot," easily managed if taken in time. Mildew is usually prevalent this month. If neglected, but little fruit can be hoped for. Mildew is easily kept in subjection, if sulphur is used from the beginning. A good preventive is to spray the vine with 10 per cent sulphur. If a rain falls soon after sulphur has been used, the application should be repeated. If the vines are kept well dusted with sulphur, the trouble will make but little headway. The insects that infest the vines of this season are mainly large and solitary caterpillars and beetles, destructive enough, but so scattered that hand-picking is the only remedy that can be applied. Where dropings are seen on the ground beneath the vines, search for the caterpillar that made them. On old vines there are sometimes thousands of shoots from the base, or at the root, and anywhere upon the old stem. These, as a general thing, are not needed, and should be removed as soon as noticed. If the lateral continue to push out the new growth should be pinched out, leaving the best, the new shoots are trained to trellises, and have been thinned out the berries in the clusters, that the remaining fruit may attain a larger size.

Apples for Market

In selecting early apples, it is important to regard appearance, as such fruit is judged by the eye. A friend told us, a few years ago, that two trees of the "Summer Queen" were the most profitable of any in a large orchard. It is later than some others, but its size and showy character, it being hand- picked and more carefully tended, brought the highest price. Another very showy apple — and one of the most attractive — is the "Duchess of Oldenburg." It ranks, perhaps, as an early autumn rather than as a summer fruit, but is so hardly, productive, and handsome, that it should not be omitted.

Early Greens for Next Spring

The city markets in the early part of spring, and often in a mild spell in winter, abound in "greens," and there is no reason why these should not be equally abundant on every farm. Where the meadow is to a great extent salted, green vegetables are not only acceptable, but necessary to health. Cabbage is for so many indigestible, that it cannot be eaten, and where this difficulty does not exist, a large portion of the produce of the farm may be utilized for salad and potage. Lettuce, spinach, baby beet, "early Harvest," "Tendertop Sweet," "Large Yellow Bough," and "Summer Pippin," are among the best of the yellow or green apples. We have given a sufficiently large solicitation for a market orchard. If one wishes choice fruit for home use, he can find rarer and better than the "Princes," "Early Straw- berry," "Summer Rose," and "Summer Sweet Paradise," but save the second named, they are not so desirable for orchard culture. Selecting early apples, and packing them carefully in new half-barrels, lined with white paper, or in suitable crates, will greatly increase the market returns for this kind of fruit.

[August,]
The Lancaster Farmer: Preparing Fruit for Market.

Farmers are cheats," we heard a city man remark the other day, as he bought a basket of strawberries that has not the biggest and best on top, and when the peach season comes I get a dozen or two of five peaches at the top, while the rest of the basket is filled with small, green and gaudy fruit; they are all cheats. The very next day after hearing this remark we were among the fruit mission houses, and in one place saw some young men, who had bought several crates of berries to peddle. They had a lot of smaller baskets, to which they transferred the berries from the larger ones that had shrunk, and as they filled these they toppled them with the largest berries with surprising dexterity. We concluded that all the cheating, in strawberries at least, was not done by the farmers. That there is much "decaying" (the market phrase for top) of peaches and other fruits, we do not doubt, yet the tendency is all in the other direction. Take peach growers, for example, those who are regularly in the business, and expect to continue it, strive to make their brand upon a crate or basket a guarantee of honest packing. This is insisted upon at all the meetings of peach-growers. One recent paper received by a fruit-growers' society in North Carolina, in which this point, honest packing, was dwelt upon at great length. "Honesty is the best policy," is not a proverb of the highest moral tone, as it implies that it pays to be honest, but the peach-growers are willing to adopt it. In packing peaches the first point should be to assort them, making as many grades as the condition of the fruit requires. When brought to the packing shed, the fruit is at once thinly spread in the shade, in order that it may cool as much as possible. In assorting, any that are poor are put aside, to be left at home, then two or three qualities, extra, firsts and seconds, are made, and with the best growers, the packages of each are alike in all things. It is allowable to turn the colored sides of the top layer uppermost in one day that the fruit buy a basket is not to be left to select large specimens for the top layer. Those who send peaches to market for the first time, will find it to their advantage to observe this rule. In packing grapes for market the box is opened at the bottom, five large bunches are laid in and the paper is applied. This is not done in order that the fruit, when the top is taken off, may present a good appearance, and if the filling is done with good fruit, even if not the most select, there is no harm done. But if, as is sometimes the case, the paper is found to be much too large, and used to fill up, the grower will in time find that his brand is not in demand in the market. The fruit-grower, who expects to continue in the business, can not afford to pack his fruit dishonestly.—American Agriculturist.

Pumpkins Among Corn.

Although some farmers reject the long and well-sustained practice of planting pumpkin seed among the corn, on the ground that it detracts as much from the corn product as in the profits it adds to the stock of provender, still it is the general method pursued to get a crop of pumpkins. Besides, from our own experience, we have had good crops of corn with as without the pumpkins. It may appear at first thought as if the land could not sustain two full crops of anything; but this is not so in all cases, as in those where the two crops do not require the same manorial stimulants, inasmuch as a portion at least that one will take up will not be required by the other. Of course, it is very good land to raise pumpkins; but even in this case, though an extra crop of manure may be needed to be applied to the corn ground where pumpkins are to be planted, there will be a saving in the element of time, and, instead of one crop from the land in a year, we gather two. The objection that some make that the vines shade the ground while the ground requires all the heat well found, and that the corn itself furnishes perfect shade without the vines, which really can add little more to the injury of the crop. It is far more probable that the objectors to this double crop who fail in getting all they want, owe their lack of success to poor land, or negligent cultivation, and not that the vines and pumpkins constructed their system by manuring and cultivating more, and then wait and see.—Germanntan Telegraph.

Household Recipes.

To Make Coffee.—Mix the coffee with one egg (not beaten), then add half a pint of cold water; mix thoroughly; put in the coffee boiler and pour on one pint of boiling water, and let it boil fifteen or twenty minutes, then set it where it will not boil, and add half a pint of cold water. After standing a moment or so, it will be ready to serve. The strength of the coffee will of course, depend on the quantity used.

For very strong coffee use half a pint of ground coffee.

Chocolate.—Heat together half a pint of milk and half a pint of water until they nearly boil. Scrape into this, while on the fire, an ounce of Chocolate, stirring quickly till dissolved. Then boil two minutes.

Snow Cake.—One and a quarter tumblerfuls of pure saccharose; one tumblerful of flour; white of two eggs, one teaspoonful of cream of tartar, one teaspoonful of lemon extract. Beat the white to a stiff froth, mix the sugar, flour, and cream of tartar well together and stir in the whites of egg quickly and put at once in the oven to bake.

King for Cake.—For a large cake, sift a half-pound of white sugar with four spoonsful of warm water, add the whites of two eggs beaten and mixed well; and when the cake is about cold, dip a feather in the icing and cover the cake. Set it away in some dry place.

Cocoa Nut Cake.—Three eggs (the whites of two of them for frosting); two-thirds cup of sugar, two-thirds cup of sweet milk, one and a half-fourth cups of flour, three-quarters teaspoonful of cream of tartar, half teaspoonful of soda. Bake in three round tins, spread frosting on each layer, and sprinkle cocoa nut in the frosting.

Corn Starch Cake.—One cup of butter, three cups flour, one cup of corn starch, whites of twelve eggs, one teaspoonful of cream of tartar, one teaspoonful of soda, 1/2 a cup flour, and half a cup molasses. Bake in one round tin 40 minutes.

Ginger Cake.—One cup of sugar, one cup of butter, one cup of molasses, one cup of milk, four egg whites, one teaspoonful of cream of tartar, one teaspoonful of sody, four cups of flour.

Graham Cake.—Take one quart of corn meal and two tablespoonfuls of common wheat flour (not prepared); add salt to taste, and mix thoroughly with a sufficient quantity of buttermilk to form a batter. Next melt a heaping tablespoonful of lard, stir it with the batter well, and bake on a hot griddle, pouring them thin.

Best New England Johnny-Cake.—Take one quart of buttermilk, one teaspoon of flour, two-thirds teaspoonful of saleratus, one egg (beat, of course). Then stir in Indian meal, but be sure and not put in too much. Leave it thin, so thin that it will almost run. Bake in a tin or copper, and tolerably quick.

Rice Pudding.—One quantity of a pound rice; one quantity of a pound butter, one quantity of a pound sugar, five eggs, a pint and a half milk, one teaspoonful mixed spice. Boil the rice till very soft, and set it away to get cool. Stir the butter and sugar together till very light; add the eggs and beat, the sugar and stir them gradually into the milk. Then stir the eggs and milk into the butter and sugar alternately with the rice. After it is baked, grate nutmeg over the top.

Entomological.

The Grape Vine Plume.

A caterpillar with a very long name (Pelicopus pericloodes) works in an interesting manner upon the grape vines. About the time the third cluster is ready for picking the luipet is known as the Grape Vine Plume. The large batch soon after the grape leaves begin to expand. At first the caterpillars are nearly smooth, but after each change of skin the hairs become larger and more numerous. They feed
The Sheep Grub.

During the hot days of mid-summer, sheep often rub together with their noses upon the ground, or in some other constrained position. This is done partly, at least, to secure them from the attacks of the pestering Caddie (Grypus oris), which is the parent of the annoying Grub-in-the-head. This insect is closely related to the fly, that deposits its eggs upon the neck, shoulders and forelegs of hogs, from which they are removed by the teeth of the animal, to allay the itching, and are taken into the stomach, and develop into the troublesome bots. The female sheep grub—a minute depositing eggs in the ears, etc., of the animals apparently aware of the effects to follow, try to prevent it. If the eggs are hatched, the young soon hatch, and the grasses assent to the nostrils, greatly to the distress of the affected sheep. The "worms" attach themselves to the host in a manner similar to the means of attaining to the place in the horse-bog, and live upon the muco-scaters of the irritated surface to which they cling.

When fully grown, the grubs work their way down through the narrow openings by which they entered, when first hatched, and again cause the sheep much pain and discomfort. They feed upon the ground and burrowing for a few inches, become chrysalids, which develop into perfect flies in about two months. The grubs pass from the sheep in early summer, and the flies come out of the ground from July to September. A dab of tar upon the nose is the best preventative and should be frequently applied during the summer months. This may be done by sprinkling meal or salt over the tar in a trough, when the sheep will apply it themselves as they eat the meal. Some farmers pour furnaces in the pasture, to furnish the sheep a good place to bury their noses. The sheep grub is very prevalent, and doubtless has a bad effect on the general health of infected sheep. If any one desires to study the grubs, he may find them in many of the heads of the sheep killed at the shambles.—American Agriculturist.

Tomato and Tobacco Worms.

The great, green, ugly tomato worm loses a large amount of its reputation when we have seen and known it in its perfect state. How many people have watched with joy and pleasure its hovering at twillight over their flowers, extracting the honey there from, and from its sweet lips have drawn the "evoking humming bird," little dreaming that this lively little creature and the show-moving tomato worm were the same thing presented in a different form.

The tomato and tobacco worm are divided into two divisions, or castes, as the social scientists call them. By scale winged insects we mean such as the butterfly, from whose wings the scales (frequently called "feathers") may be easily rubbed. To the naked eye these scales appear as fine dust, but under the microscope the butterfly's wing resembles a fanny shingled roof. It is on this scale that we usually find the tomato worm. A great many species in the larva or worm state have the habit when disturbed of drawing the head into the first segment, raising the forepaws of the body, and striking violently from right to left. Some species also remain quiet for hours in this raised posture, and Limurus, the great naturalist, imagined they then resembled the Sphinx of Egypt, so he gave name of Sphinxes to them.

The tomato and tobacco worms are so nearly alike as to be easily mistaken one for the other. They both grow to the same length, from three to four inches, and are provided alike with a spine or horn near the posterior part of the body. Neither are at all poisonous though some persons believe they feed parasitically on tobacco, tomatoes, potatoes, etc. The tomato worm is rather light green, with yellow oblique stripes on the sides, while the tobacco worm is dark green, wrinkled somewhat in appearance, and with whitish dots and oblique lines. We have seen a tobacco worm so dark in color as to be almost black.

When fully grown the worms descend into the ground a few inches, and form oval, earthen cells. In these cells they change into chestnut brown chrysalids or pupa, about two inches long. The chrysalids have a darkly incrusted top, and are about one inch in length. It is about this time that the tobacco worm is said to be poisonous, but how so is not known. The case is about the same as the harmless caterpillar, the chrysalis of which is so poisonous.

When the worms are full grown they begin to change their shape, to secrete a horn, etc., to show the formation of the new worm. This is generally followed by a slow movement, which differs very much from the movements of the larvae. If this period is watched and young, very promisingly promising, and the old, vastly aged, and the worms are very much in these reports that are only of local value to readers, except as consumers.

The Sprat.—Published weekly by the Cape May Improvement Company, Cape May Point, N. J., devoted to the Improvement and advancement of the interests of Cape May Point and vicinity. Price 1 pound. A half a dozen of such pamphlets, printed on paper of good quality, and carefully printed on excellent paper and admirably executed.

Interesting to those who can afford to visit Cape May, or sojourn there for the season, and especially those who hold, or desire to hold property there.

On Fiske’s Health Monthly.—A semi-quarto of 10 pages, at 50 cents a year, and devoted to mental and physical health. No. 7, vol. 8, for July, 1883, contains a synopsis of the proceedings of the Third Annual Convention of the Institute of Heredity, held in Wesleyan Hall, Boston, Mass., May, 1883, in which there was an address on what is generally regarded "Avoided Subjects."

Western Plowman, for July, 1883.

Circular, and list of officers and committees of the American entomological Society, 1883.

Good Cheer.—A monthly journal for the people. Published at Greenfield, Mass., by Henry D. Watson. Edited by Mrs. Kate Upsom Clark. Subscription, 50 cents a year. Single copies, 5 cents. Devoted to the interests of the country, and after General Washington, "the strength of a nation is in the homes of its people." A 16 page, 4 columned, quarto, typographically well executed, and replete with romantic, sentimental, domestic and practical literature, literally interspersed with choicest poetry. The vogue of the title is enhanced with a "coddy" looking bird ("pears have been on a "dark") but, nevertheless, a jolly good looking bird, whose "song brings good cheer." On the whole Good Cheer is a capital family paper, conducted with ability and adapted to the wants of the young and old.

There is one feature of this journal that speaks well for the intellectual status of the community from which it hailed, and must prove a chief element of success. Nineteen contributions are certainly furnished by female writers, who in the capacity of anonymous, in addition to those the editors herself is by no means idle in that respect. Could we exist such literary support, it would eminently be "good cheer."

Texas State Farmer. A 20 pp. quarto, published monthly at Fort Worth, Texas, by the State Farmer Printing Co., at $1.00 a year, in advance. W. J. Saunders, business manager. Office, south-west corner Second and Houston streets, next door to Traders National Bank. This is a remarkably neat and well gotten up journal, and after General Washington, "the strength of a nation is in the homes of its people." Its literary contents would be a credit to the most advanced region of our Union, and it be regarded as a true reflex of our agricultural civilization, Texas must be counted in the front rank. No. 3, vol. 1, for May, 1883, is on our table, and it indicates that Fort Worth is a place where people live, have something to sell and know how to produce and use it. Fort Worth, that only a few years ago—within our own lifetime—had neither a local habitation nor a name, is now a large and growing city that became only prominent in the annals of our country, during our war with Mexico.

With such journals as the Texas State Farmer, and the Texas Farm and Ranch, Texas is bound to become an agricultural success.
THE LANCASTER FARMER

Cathalogue and premium list, of the Pennsylvania Horticultural Society for 1883.

The American Agriculturist for August opens with a spirited full-page engraving of the two fastest teams in the world. We allude to M. S. and A. A., belonging to Mr. Wm. H. Vanderlip, and Edward and Swivelier, belonging to Frank Work. This pleases our life for the American Agriculturist, by Edward Forbes, is the only one ever executed. The teams are in motion, and present a most animated, breezy appearance. Among the leading writers are: Dr. Stockwell-The Bacon; A. B. Allen—Improvement of Jersey Cattle; H. A. Hagg—Avail Farms Mortgages; J. M. Stahl—Early Flow- ing for Wheat; Joseph Harris—Twenty Years in Switzerland; Dr. Geo. Thurber—Various Horticultural Topics, etc.; Dr. B. D. Halsted—The Liver Fluke, Black Knot, etc.; Orange Judi—Comments on the Markets, etc.; Prof. A. J. Cook—Fruit Notes; S. R. Read—A Double $2,500 Cottage, with four Engravings; H. A. Hammond—A Daisy Ice House, illustrated; F. Grudy—A Root Cellar, with eight Engravings; Mary Branch—The Six winged Butter- fly; E. F. Ruxford—A Cabbage Cutter. Alfred Tremaine—"Proprietary Farming" and G. R. Halm attractively presents "Summer Days in the Country." Among the 100 original Engravings are those of the Cotton Flower and Boll; A Shoulder Yoke; New York Weevil; "Club footed" Cabbage; Fruit Evaporator; Wooden Bridges; Chicken Yard we find Illustrations of the Mourning Iris; Seaside and various Farm Devices. Among Plants, Flowers, Tongue Orchi; Paper Mulberry, Coldsot, and Cocoa Plum. "The Household" and "Boys! and Girls!" Columns are filled with interesting and valuable matter well illustrated. Sundry Humbugs con- tinue to find space given them in this stirring home Journal. The prairie farmers have been favored with a call from one of the editors, who writes at length of his tour through many of the Western States. Published by the Orange Judd Co., 351 Broadway, New York. $1.50 per year; single numbers 15 cents.

Sparrows on Toast.

The English sparrows, which have been condemned in this State to extermination, twitter as incessantly as ever, and, notwithstanding the law which permits persons to kill them by wholesale, there has been no general onslaught upon them. "It is much easier," said a scientist, who has assisted in the crusade against the sparrows, "to make a law than to make away with the little pets. There are millions and millions of them, and they multiply so fast that it will require a hard and unceasing fight to exter- minate them. However, in a contest between society and the sparrow, society, backed up by law, should certainly win." The farmers, truckers and gardeners propose to make an effective fight by going at the root of the matter. They do not propose to waste powder and shot on the bird midges, because that would be a tedious and expensive way of ridding themselves of the pests. They propose to destroy the nests and eggs at breeding time. Cruel as this method may appear, it is said to be really the only effective one. A popular French cook of this city, who knows something about sparrows, says the new law should be hailed with delight by all good citizens. The spar- row, he says, is not only good to eat but is really a great delicacy, and in France nothing enjoys greater popularity among gourmands than the sparrow when properly prepared in pot pie or fricassee or on toast. It is a secret of the American kitchen that young sparrows have not infrequently done good service in the seasons when the tender and succulent red bird has been less plentiful than usual. A well broiled young sparrow is easily mistaken for a Dela- ware reed bird. All this to a French cook's idea is worth considering when the druggist of the little birds really commence, if it ever does, and he thinks that if the little pets must go they may as well be put into the broiling pans of the kitchen as to be thrown away.—Philadelphia Record.

DR. JOHN BULL'S

Smith's Tonic Syrup,
FOR THE CURE OF

FEVER AND AGUE,
OR CHILLS AND FEVER, AND ALL MA- LARIAL DISEASES.

The proprietor of this celebrated medicine justly claims for it a superiority over all remedies ever offered to the public for the Safe, Certain, speedy and Permanent cure of Ague and Fever, or Chills and Fever, whether of short or long standing. He refers to the entire Western and Southern country to bear him testimony to the truth of the assertion, that in no case whatever it will fail to cure if the directions are strictly followed and carried out. In many great cases a single dose has been sufficient for a cure, and whole families have been cured by a single bottle, with a perfect resto- ration of the general health. It is, however, prudent, and in every case more certain to use, if he now is con- tinued in smaller doses for a week or two after the dis- ease has been checked, more especially in difficult and long-standing cases. Usually this medicine will not re- quire any more than one dose for the cure. If the patient, however, require a rathaurie medicine, after having taken three or four doses of the Tonic, a single dose of BULL'S VEGETABLE FAMILY PILLS will be sufficient.

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All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pennsylvania, and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

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CONTENTS OF THIS NUMBER.

EDITORIAL.
Write for the "Farmer" .......................... 139
History of Lancaster County .................. 139
Agricultural Fairs ............................. 142
Recipes ........................................ 142
Insect Pests ..................................... 142
Credits .......................................... 142

CONTRIBUTIONS.
Insect Pests ..................................... 130

SELECTIONS.
Pear Blight ...................................... 135
Feeding Value of Ensilage ..................... 137
Valuable Table of Information for Farmers 137
A Coming Wheat Country ...................... 137
The Science of Dairying ....................... 137
Woodman Spare That Tree ...................... 137
Old Meadows .................................... 137
Moral Influences of the Orchard ............. 137
Value of Cotton-Seed Meal .................... 137
Raising Large Crops of Potatoes ............. 137
Bermuda Onions and Potatoes .................. 137
Sorghum for Feed .............................. 137
The Future of the American Hog ............. 137
Rotation of Crops .............................. 138
Growing Cabbage ............................... 138
Tea Cultivation ................................ 139

OUR LOCAL ORGANIZATIONS.
Lancaster County Agricultural and Horticultur- 140
al Society ...................................... 140
Crop Reports—Planting Wheat Like Tobacco—Ref- 140
red Questions—Egyptian Wheat—Testing Fruits. 140
The Poultry Association ....................... 141
The Fulton Farmers' Club ..................... 141
Viewing the Farm—Literary—An Invitation Ac- 141
cepted.

AGRICULTURE.
Take Care of Your Tools ........................ 141
Sweet Corn and Sorghum ........................ 141
How to Exterminate Sorrel .................... 141
The Hay Crop ................................. 141
Wild Tobacco in Nebraska ..................... 141

HORTICULTURE.
Transplanting Celery ......................... 142
Peas in the Fall ................................ 142
Conrad's Fancy Apple .......................... 142
Calla Lilies .................................... 142
Native Lilies ................................. 142
Moore's Early Grape ......................... 142
Honeysuckles ................................. 142
Summer Lettuces .............................. 142

DOMESTIC ECONOMY.
Spilled Ink .................................... 143
Glass Staining .................................. 143

The Troy Pound ................................ 143
Peanut Flour ................................... 143
ENTOMOLOGICAL.
The Buffalo Moth or Carpet Beetle ............. 143
Literary and Personal .......................... 143

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On and after Sunday, June 24, 1883, trains leave the depot in this city, as follows:

**Westward.**

Pacitic Express
   - 8:30 a.m. Out. 10:10 a.m. Arrive.
News Express
   - 6:30 a.m. Out. 8:30 a.m. Arrive.
Way Passenger
   - 5:50 a.m. Out. 8:00 a.m. Arrive.
Mail Train via Mt. Joy
   - 9:30 a.m. Out. 10:50 a.m. Arrive.
Mail No. 2 via Columbia
   - 9:35 a.m. Out. 11:00 a.m. Arrive.
Niagara Express
   - 9:40 a.m. Out. 11:05 a.m. Arrive.
Hanover Accommodation
   - 9:45 a.m. Out. 11:10 a.m. Arrive.
Past Line
   - 10:30 a.m. Out. 12:00 a.m. Arrive.
Frederick Accommodation
   - 1:30 p.m. Out. 3:00 p.m. Arrive.
Lancaster Accommodation
   - 4:00 p.m. Out. 5:00 p.m. Arrive.
Harrisburg Accommodation
   - 7:00 p.m. Out. 8:00 p.m. Arrive.
Columbia Accommodation
   - 7:10 p.m. Out. 8:10 p.m. Arrive.
Harrisburg Express
   - 7:40 p.m. Out. 8:40 p.m. Arrive.

**Eastern.**

Lancaster Express
   - 12:10 a.m. Out. 1:10 a.m. Arrive.
Philadelphia Express
   - 2:25 a.m. Out. 3:25 a.m. Arrive.
Past Line
   - 5:35 a.m. Out. 6:35 a.m. Arrive.
Harrisburg Express
   - 8:00 a.m. Out. 9:00 a.m. Arrive.
Columbia Accommodation
   - 9:00 a.m. Out. 10:00 a.m. Arrive.
Seashore Express
   - 11:25 a.m. Out. 12:25 a.m. Arrive.
Johnstown Express
   - 2:00 p.m. Out. 3:00 p.m. Arrive.
July Express
   - 5:15 p.m. Out. 6:15 p.m. Arrive.

The Frederick Accommodation train, comprising the Lancaster with the entire line, leaves at 1:30 p.m., and runs to Frederick. Hanover Accommodation, west, connecting at Lancaster with the Newark Express, will leave at 9:45 a.m., will run through to Hanover daily except Sunday.

The Johnstown Express leaves at 1:30 p.m., has direct connection to Columbia and York. The Johnstown Express leaves at 1:30 p.m., will run through to Columbia and York.

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WRITE FOR THE FARMER.

If it were not for the proceedings of the local agricultural societies and clubs of Lancaster county, regularly published in the columns of the Lancaster Farmer, together with an essay or report read, now and then, before one of the home or State societies, or perhaps an occasional paper or statistical table inserted in a local history or a United States census, there would be little or nothing go down to posterity to indicate that Lancaster had ever been a great agricultural county, or that any resident of its territory had ever distinguished himself as one of those who had tilled the soil.

But, in these proceedings the names of the individual men who devoted their lives to agriculture are recorded, their experiences, their sentiments, their successes and their failures, are transmitted to the generations of the future, in a compact, durable, and accessible form. It is true, other local papers also publish these proceedings, essays and reports, but they are not contained in as convenient and as durable a form as they are presented in the columns of the Farmer. Out of the many thousands of folios published in Lancaster county, how many of them are preserved and bound into volumes? Except the copy carefully preserved by each publisher, precious few indeed.

No agricultural publication in Lancaster county has maintained an existence, by ten years, as long as the Lancaster Farmer, and if that journal is suffered to lapse for want of moral, pecuniary and literary support, no one in the near future will feel encouraged to initiate a similar enterprise.

We have farmers competent to fill our county offices, our legislatures, and other offices of the State, and it seems a reflection upon the honorable calling—which has made them what they are—to practically ignore it, as a subject unworthy of their literary elucidation. Send in your "desultory dotting down," if only five or six lines at a time—always provided they express an idea, and that idea contains a fact.

HISTORY OF LANCASTER COUNTY.

We have examined an advance copy of this work, published by Everts & Peck, Philadelphia, from the press of J. B. Lippincott & Co., and it would be safe to say, that no historical work yet issued, relating to Pennsylvania or any portion of the State, makes any approximation to it, either in quality, mechanical execution, or interesting contents. The volume is a Royal Octavo of 1101 pages, and printed in fair type, on fine white calendered paper, elaborately illustrated, bound substantially and ornamentally, and finished with gilt edges. The work includes 77 chapters, devoted separately to each township, city and borough in the county, beginning with the Indian, and subsequent civilized occupation through successive periods down to the present time, including the topography, geology, history, biography, military record in the revolutionary war, the war of 1812, the Mexican war, and the great rebellion. The immense scope of the work may be inferred from the fact that there are nearly nine hundred subjects referred to numerically through its copious index. Conspicuously are also noted its agriculture and agricultural products, its manufactures, and its minerals and mining resources, its internal improvements, its public buildings, its educational and literary institutions, its benevolent and religious associations, its civil and political history and the prominent characters who were actors in its past and present development. Although time may demonstrate that there are some things omitted that should have been included to make it more complete, yet we feel assured that the reader will be astonished to find so much relating to its natal domain of which he never had a previous knowledge. No public or private library, in Lancaster county at least, can be regarded as complete without a copy of this work; and as a book of reference it will be found invaluable. Its value as a historical work is enhanced from the fact that nearly the whole volume is made up from the contributions of local writers and their assistants. In a few days the work will be delivered to subscribers, and those who have not subscribed should avail themselves of the first opportunity to secure a copy. The work is not only a credit to the publishers, but also to the great county and the people, whose history it portrays.

AGRICULTURAL FAIRS.

Sixty-six fair days in Pennsylvania this year.

The above very small but very significant "triumph" we scissors from the variety column of the Public Ledger of the 14th, inst. Notwithstanding the local indifferance (if not local contempt), it appears there, in the State of Pennsylvania sixty-six counties that hold their annual agricultural exhibitions the present season. While this number of the Farmer is running through the press, the so called Independent State Fair is in process of being held in the McGrawn Park, in the eastern suburbs of Lancaster city, therefore, we are unable to chronicle its success or failure, but we hope to do so in our October number. We hope, however, for the credit of Lancaster city and county, it shall have been a success. This Fair, our readers are aware, is a personal enterprise, and all the responsibilities of cost and conduct will devolve upon those only who have undertaken the enterprise. We hope that the idea of its being a mere "foreign speculation," will not have prevented any of our people from placing a liberal quantity of their meritorious products on exhibition, because, should it have failed in material, a greater or lesser share of the responsibility will be imposed by the public at large, upon the citizens of Lancaster city and county, and they will hardly be able to shake it off successfully, however little they may have been instrumental in originating it. We know that there are some people who argue that State and County Fairs are merely selfish organizations that belong to the past, and that "they must go." No man is able to say truly what the state of agriculture and the social and domestic condition of the farmer would have been, had these Fairs never been instituted and held. They are infinitely more legitimate and civilizing than base-ball clubs, boat clubs, tennis-lawn associations, &c., which the public press is so much exercised about, and the details of which are more conspicuously spread in its columns than any special incalculations of moral, physical and domestic use.

In conclusion we submit the following from the columns of a most worthy contemporary journal, as german to the subject:

"If the agricultural fair is not an educator, the fault lies in its management; yet it is a
miserable is not too much to say that a wide awake society is a power for improvement wherein inaction is a burthen. The following remark was made the other day by a breeder at the close of a neighboring exhibition: “At the opening of this Fair, ten years ago, a few people were interested in the production of good stock, and the idea of registering anything grown here was an almost entirely new one. Now we have as good stock as is to be found anywhere.” And he reasonably attributed the change in part to the influences of the fair. The developing influences of these exhibitions appear to be very beneficial. Those who superintend that feeling of pride which prompts every live man to desire to possess as good as the best. (3) They furnish an opportunity for those disposed to improve to compare breeds and make such selections as they may deem best suited to their wants. (4) The premiums and competition have a general awakening influence the effect of which is most wholesome to us. For these and other reasons, such as the acquaintance which farmers thus make with improved machinery, and the stimuli furnished the improvements in production, the fair is a good thing, and no good one should be allowed to die without arrangements being made for something at least equally good to succeed it.”

RECIPIES.

The recipes, from time to time published in the columns of the Farmer, as well as those published in other journals, are, no doubt, all of them, excellent in their way—indeed in reading over the various compounds we feel that many of them at least, are very good. But, at the same time, we cannot resist the notion that a large number of them are entirely impracticable so far as they relate to the wants of small families, and especially the poor. For instance, some days ago we read in one of the best columns of a “family paper,” a recipe to prepare stuffed egg plants, containing in this wise: “Take six egg plants,” &c., &c., without any qualification whatever in regard to the size of the egg plants. An hour before we had passed along the Northeast Market and saw four egg plants which completely filled a bushel basket. Six of those stuffed would have made an ample “Fourth of July Dinner” for twenty men. What is the use of enumerating such an indefinite quantity, seeing that egg plants in our markets vary in size from a common goose egg, and the stalk is often as large as one’s wrist? On another occasion one of these domestic recipes commenced thus: “Take five pounds of the very best beef,” &c., &c. Now, only about one family in a hundred can afford to buy the very best beef, and a less number still can afford five pounds, for any purpose, at a single meal. True, it may be said that any one at all gifted with conceptions of mathematical proportions can for themselves reduce numbers, weights and quantities, so as to bring them within the amounts specifically required, but there are a great many whose notions in this respect are so crude that they would find it a difficult matter to discard the whole batch of domestic receipts with disgust. Information of this kind should be adapted to the wants and the abilities of the masses and on the plane of domestic economy. It is easier for the affluent to increase the quantity and quality of ingredients in culinary preparations, than for the indigent to diminish them in their proper proportions. There are many “Cook Books” in the world, but there are very few of them that are adapted to the general wants of the people, and it is they that form a cordon of protection and support around the circles of communities. States and Nations. We still need an economical Cook-book for the million—something to devise nutritions ten or fifteen cents dinners for the people.

INSECT PESTS.

Our venerable correspondent, or contributor, J. B. G., of Columbus, seems to have been the special victim of “insect pests” during the present season, and from the proceedings of the September meeting of the Agricultural and Horticultural Society, it will be perceived that one or more of its members makes a somewhat doleful report of the ravages of the “Colorado potato-beetle.” We confess that we are not greatly surprised at this, for in each case there is an implied acknowledgement that there has been a relaxation of that precaution which the farmer possesses, as the price of liberty,” or an immunity from the depredations of insect pests.

Every intelligent and vigilant farmer knows exactly what to do in order to forestall the potato-beetle, and also when to do it. If he neglects this, then the consequences must fall upon his own head. From the antecedents of this insect (with which every intelligent farmer ought to be tolerably well acquainted at this time) if undisturbed in its destructive peregrinations, there is little prospect of its dying out, or becoming obsolete. We are admonished in the sacred oracles that the poor we have always with us; and perhaps, if we look to the objects of our benevolent ministrations, in as emphatic a sense the potato-beetle, and many other insect depredators, we have also ever with us, and hence they should become the objects of our most searching and unrelaxing vigilance. During the present season we crushed a number of potato-beetles crawling on the pavements in the very heart of Lancaster city, whilst dozens of people passed and repassed them without seeing them, or heed ing them, and it is very possible that many farmers may look upon a single beetle as an object too insignificant to elicit any special attention, and, perhaps, be surprised, later in the season, to find two or three hundred beetles, or their larvae, preying upon their potato vines, possibly the progeny of the single beetle they may have neglected to destroy earlier in the season. In the degree that the farmer educates himself into the doctrine that the potato-beetle has “come to stay,” in that degree will he continue to exercise his vigil ance in counteracting the beetle’s destructive progress. It cannot be extinguished by the omission of cultivating the potato, because it is not a one-ideaed insect, it can adapt itself to other means of support than the potato alone. We are deeply indebted to our friend J. B. G., of course we can only infer that the “insect pest,” so injurious to his curt aunt bushes and their fruit, is, or was, the larva of the “Imported Currant Saw-fly,” (Neonatus ventricosus) and of course, also it is too late to lock the stable door after the horse is stolen. His sin of omission was in not destroying the few he noticed last year, as by that means he might have prevented the many he had this year, that is, provided it really was the caterpillar of the imported Saw-fly that ruined his currant crop, because, in addition to the aforementioned, the larvae of the “Native Currant Saw-fly,” the “Ohio Currant Saw-fly,” also the “Currant Saw-span worm,” the “Sphincter Currant Caterpillar,” the “Currant Angerona,” the “Currant Amphidipsis,” the Cercropia and the Is, “Emperor Moths,” the “Leaf-roller Moth,” the “Gooseberry Fruit Worm,” the “Currant Fly,” and the “Gooseberry Midge,” &c. We refrain from mentioning the Scientific names of these depredators, lest we “make confusion more confused.” Amongst all these, perhaps, the most destructive to the currant and the gooseberry, is the imported Currant Saw-fly, of which we have given the Scientific name above. The coincidence is indeed singular that imported insects are usually more prolific and more destructive than representative native species, indeed, more so than they are in their native country. But the currant worm yields an entirely applicable to the upper Hellebores, administered after a natural or artificial shower, or in the morning while the plants are covered with dew. Some pref er a liquid application, say an ounce of Hellbore to a common pint of water. Hot water not too hot to scald the plants, is also recommended as an effective remedy if used plentifully. A tablespoonful of carbolic acid in two gallons of water, is said to prove as destructive to the currant-worm as hellebores.

The green “cabbage worm,” which our friend complains of, is most likely the larva of the “Imported White cabbage-worm,” (Pieris rape) and this also, with proper vigil ance, may be nearly or quite exterminated by the use of the remedies already mentioned, although the experiences of some have demonstrated that it does not yield as readily to Hellebore as the currant worm does, hence Paris green has been recommended. If a solid head is developed there is little danger of the poison penetrating it, for the case has been satisfactorily tested by intelligent experimenters in this county: moreover, as cabbage continues to grow late in the fall, the rains will wash the poison off the crop before the worms will appear.

But the partial butterfly of this green worm is so well known, that it perhaps would pay to hire boys to capture them early in the spring, when they only appear in limited numbers; thus resorting to that “ounce of prevention” which is always “worth a pound of cure.” But, this worm passes into the pupa form in the vicinity of
the cabbage-patch—are times even adhering to the undersides of the leaves;—hence, if the first brood of chrysalids are searched for, gathered and destroyed, it would prevent the second brood, whether in the blossom or nearly all the insects aforenamed, have parishes which prey upon them, and in some localities these parishes are said to have nearly exterminated their hosts. Returning to the first brood of the currant worm, they spin their cocoons on the ground, under the leaves and grass beneath the currant or gooseberry bushes, and are not hard to find; but the second brood goes into the ground, spins a cocoon, and there hibernates during the winter, the flies appearing during the following spring when their food plant is in foliage. Insects thought will be exterminated until the millennial, whenever that may be, nor will they be held in wholesome check until their histories and characters are better understood by the masses than they are now, and an intelligent and systematic warfare is promptly and perseveringly waged against them. No sane man expects a crop of anything unless he digs, plants, manures, cultivates and gathers it. He must also regard insect contingencies as important factors in his crop calculations, and make the necessary provisions to cope with them.

Through a combination of meteorological, climatic or incidental causes, certain species of insects become almost or quite extinct in certain localities, and nothing may be seen of them for a long interval of years, and then they suddenly reappear in immense and destructive numbers. We may instance that in the years of 1855, 4 and 5 the maple and Linden trees in and about the city of Lancaster were so badly infested and diguared by a certain species of "sawb " or " Barklouse," (Pulicaria inacervorala) that many of them had to be cut down (notably a row in East King street) but in a few years thereafter they entirely disappeared, and only reappeared the present season, but not nearly so heavily as they were on the former occasion. But this suddenness in the appearance, or reappearance of insects is only a seeming; for if we have had our eyes about us, we will find that for two or three previous seasons a few of them had been observed. We noticed a few of these insects in 1881 and 1882, and as nothing was done to destroy them the present season, they possibly may occur in greatly increased numbers in 1884, and possibly also they may not; and it is these remote possibilities resolving themselves into mere probabilities, that fill the mind with anxiety.

In conclusion, observations upon insect development, their histories, and especially their destructive characteristics should be initiated and conducted by the young and sharp-eyed. As we become advanced in years, in their early stages they are out of the focus of vision, and we only become sensible of their presence when they have advanced very far in their destructive development. On one occasion an elderly lady called our attention to a favorite rosebush, the leaves of which had been skeletonized by the "rose-slug." She had passed it and reported it daily, and wondered what was the matter with it, and was perfectly surprised when we raised up one of its branches and exhibited some fifty of these

EXCERPTS.

Cabbage, if fed in two large quantities, is certain to injure the quality of milk.

A large and good "batch" of cookies can be made from this receipt: One cup of butter, two cups of sugar, four eggs, two tablespoonsful of baking powder sifted together, two-thirds cup of lard, two cups of sweet milk, and one teaspoonful of salt. Should only the half be required, be sure and use the one egg.—The Household.

Purselake, or "Pussley," as we were taught to call it, is, like green clover, excellent for pigs. Hens in confinement also eat it readily. It is a great nuisance in the garden, and the best way to get rid of it is to cut it off with the hoe or pull it up and take it to the pig-pen or poultry-yard.—Prarie Farmer.

HOME is not a name, nor a form, nor a routine. It is a spirit, a presence, a principle. Material and method will net and cannot make it. It must get its light and sweetness from the sympathy there, which will settle in the exercise of sympathy, can lay aside the tyranny of the brawn, and the awful duty of endless scrupling.—Cincinnati Times.

The following remedy, when applied within six hours after a bite from a rabid animal, has been successful in preventing hydrophobia: Make a strong wash, by dissolving two tablespoonfuls of chlorate (chloride) of lime in half a pint of water, and instantly and repeatedly bathe the part bitten. The poison will in this way be decomposed. The fact that chlorine has the power to decompose and destroy the deadly poison of the saliva of the mad dog" was first published in this country by Prof. Silliham.—N. Y. Tribune.

A CEREMONIAL military surgeon recommends for quenching thirst and sustaining strength oatmeal water as superior to any other; and that for invalids or convalescents, a quantity of the meal in two or three quarts of water, and one and a half ounces of sugar, if sweetening is desired; use cold in summer and hot in winter, shaking before taking. If a supper is to be missed, or extra demand made on the system, as some day in harvest time, the portion of meal may be advantageously increased to half or three-quarters of a pound.—Exchange.

For mice-graved trees, a correspondent of the Germantown Telegraph recommends covering the wounds with grafting-wax at once, then pile earth and pack it around high above the place to keep covered, as it will wash down some. This, if done early, will save thousands of trees that have been injured by mice and rabbits. Make wax of one pound beeswax to four pounds resin and a half pint of linseed oil. If it is soft, add more resin; if too hard, more oil. The wounds must not be neglected until they are hard and dry.

As an old soil will rot more quickly if plowed shallow, provided the work is well done. In the bottom of a deep furrow, especially in early spring, the soil is too cold to decompose rapidly.

The Hungarian wheat crop is estimated at a full average and the Austrian crop at fifteen per cent, below the average. The amount of wheat available for export is estimated at 5,500,000,000 centals, and the amount of barley of 3,000,000. It is expected that no rye or oats will be available for export. The International Corn and Seed Market has been opened in Vienna.

A few small boxes filled with charcoal, ground bone and pounded oyster shells, and placed within reach of poultry, will be of great service during this season, when the fowls are molting.

TOBACCO smoke prevents the attack of all insects that infest plants, and does no injury to the plants unless they are confined in it for too long a time. While it often keeps off insects it does not always destroy them, though it is fatal to many.

THE Elimi Farmers' Club has been discussion the barbed wire fence question, and arrived at the conclusion that the wire furnished with flat pointed pieces of metal so attached that they project above and below the wire, was a dangerous material to employ, whereas the wire bars, pointed sharp, were much liable to injure stock in case of accident or entanglement.

O. M. TINKHAM, Secretary of the Vermont Dairymen's Association, has devised some improvements in packing butter. Instead of lining his packing-boxes with muslin he uses a certain kind of brown paper, which is odorless and tasteless, and costs very little. He also lines his cases throughout with a layer of felted half-six-inch thick. This, he is alleged, keeps out the heat and effectually.

ORCHARDISTS are more thoroughly convinced than ever that orchards should be spread broadcast with manure when the trees are set out, that the extremities of the roots may be benefitted. Manuring heavily a certain section about the tree—and this applies also to trees that are in bearing condition—tends to aid only the immediate part affected. It is much better to stir up the entire orchard than to cultivate a small circle at the foot of the tree.

SOUTH CAROLINA is going into truck farming somewhat for the Chicago markets. Arrangements have been made with a railroad running in that direction to take the truck to Chicago and bring back dressed beef. At a recent meeting of farmers and railroad officials 4,906 acres were reported to be planted with watermelons, 126 in round potatoes, 15 in cabbage, 18 in cucumbers, and 3 in onions, all within ten miles of the road, and, we believe, all in one county.

One of the most satisfactory methods of growing young vegetables or flower plants is
to plant one seed in a half egg shell or in a hollowed piece of turnip or beet filled with a little earth. The plants can be transplanted by simply breaking the shell, or, if in turnips, the receptacle will rot away, supplying nutri-
tive material to the plant. This practice is followed to a considerable extent among small gardeners.

Plants grown in this manner are sure to live when transplanted.

Experiments were made at the Massachusetts Agricultural College in girdling surplus branches which were to be afterward cut away. A revolving knife cut rapidly a ring of the bark a fourth of an inch wide just below the bunch of fruit about midsummer. This treatment was performed on twelve rows of grapes. The enlarged and early fruit sold for $36 more than the same amount of the common or main crop, the labor being less than half the sum. No injury has been apparent to the vines so treated, the girdled canes being cut away when done with.

A New York farmer declares that an acre of Hubbard squash will fatten ten more hogs than the same area can be raised on the same ground. He has gathered from six to eight tons from an acre.

The striped bug, which destroys young plants, is a great obstacle to cucumber culture. Various expedients are resorted to in attempts at protection against this pest. An ancient remedy is sprinkling the plants and surface of the hills, while wet, with ashes, soot and superphosphate. There is probably no better remedy than soot when this can be obtained in sufficient quantity. Boxes with mosquito netting or glass for the top are cheaply and readily made, and when placed over the hills prevent the bugs from their work of destruc-
tion.

A Correspondent of the Ohio Farmer gives the following about the peach tree borer: "The beautiful blue fly, resembling a wasp, which lays its eggs just at the surface of the ground in the stem of the trees, may be seen occasionally at this time pursuing its allotted task. The simplest remedy, or rather preventative of its attacks, is a piece of stout wrapping paper a foot wide wound around the stem of the tree just above the ground. A little dirt should be drawn up around the bottom of the paper, while the top can be tied with a cotton string.

Caterpillars are devouring the foliage of the trees in City Hall Park, New York. It is pertinent to inquire what the festive English sparrows, who their admirers say will eat anything from a grub to a grasshopper, proposed to do with this.

A Quart of good milk should weigh about 2.15 pounds, or nearly 2 pounds 2 ounces. If milk is weighed, this rule will give the monthly yield in quarts more exactly than measur-
ing.

Most fruits need a good deal of water to ripen a full crop, but not many will do well on land naturally wet. They want water, but it must not stay long enough to become stagnant water.

Immersion, for at least five minutes, of the vessels in which milk is set will, it is asserted by a member of the French Academy, destroy the organisms which in the form of dark blue spots distress dairymen.

Do not leave any unoccupied land to grow a crop of weeds. When an early crop is removed sow at once any crop that will keep them down. Buckwheat and peas are good, and may be turned under before frost.

Superphosphate, or bone meal in any form is used for turnips or rutabagas.

English farmers discovered this and now apply bone manure to their root crops instead of to wheat, as is usually the practice here.

The Gardener's Monthly says that a little windmill, such as some boys can make with a jack-knife, will keep birds out of a cherry tree in case a tiny bell is attached to it. It is better than a stuffed cat or an imitation hawk.

A butter-maker, writing to the Iowa Homestead, says the best butter color is a pail-
full of cornmeal mush, fed warm once a day, the corn to be of the yellow variety; adding that it will increase the milk and butter as well as give a good color.

It is noted that in Georgia an acre of land, which in 1880 produced only 500 pounds of seed cotton, was manured by having fifty sheep penned on it twenty nights, and in 1881 it produced 1500 pounds of seed cotton. This virtually tripled the annual value of the land.

Leading members of the Kansas State Horticultural Society agree upon the following discases apart from plant trees: Apple trees, thirty-two feet each; a strong ash, pear, ten feet; peach, twenty feet; plum, ten feet; cherry, twenty feet.

A Yates county, New York, correspondent of the New York Tribune reports that a quince bush grafted on common thorn and without being cultivated, has borne regular crops of fruit for over forty years. He thinks that this points a moral to nurserymen, as the quince upon its own roots is uncertain and short-lived.

When an old fence has been removed the crop the first season is no sure test of the quality or fertility of the soil. It takes one year of thorough culture to clear out the sods, bushes and rubbish that accumulate in such places. After this is well done the fence row will usually be as fertile as any other part of the field.

Hog manure should not be used on land intended for cabbages at least one year before the crop is grown. Its premature use is a mistake commonly made by farmers who drew manure for the garden from the hog pen. Hog manure breeds worms that work at the roots of cabbages plants and render them worthless.

The Source of Trichina.—J. E. Morris, M. D., in the Clinical Brief, says in regard to trichinae in swine that it is a well-established fact that the real source of infection in swine lies entirely in the rat. A committee of Vienna physicians found in Moravia thirty-seven per cent of rats examined trichinous; in Vienna and its environs ten per cent. The well-known voracity of the hog, and its special fondness for meat, causes it to feed upon the flesh and excreta of other animals infested with these parasites, and especially rats and mice. To prevent trichinae, swine, it is highly important to cut off all sources of disease in the diet of these animals.

Cucumbers, according to M. Delille, caterer of the New York Club, should be peeled and put to soak in ice-salt water at least an hour before served. The salt extracts the poison and ice renders them brittle and easier to be digested.

For breakfast try this: Take the skin off a nice piece of salt codfish; wash it in several waters, and lay it on a gridiron to broil. It should be broiled for about twenty minutes, and must be turned often to prevent burning. This is nice for tea also.—Chicago Journal.

A correspondent of the Husbandman uses his buckwheat chaff as an absorbent in cow-stables. One and a half bushels will be sufficient for ten cows over night, keeping them clean and dry. In addition to his own he buys from his neighbors, paying one dollar for a load of fifty bushels.

It is advisable to give the chicks which are with their mother a feed early in the morn-
ing, another feed in the middle of the fore-

noon, then at noon, followed by a feed in the middle of the afternoon, and again late in the evening, Cincinnati Times.

To expedite the making of a lemon pie use hot water in place of cold, stir the cut-up lemon, the sugar and corn-starch or flour and eggs together, as if you were making pudding sauce; then pour in hot water; if the mall or basin containing this is then placed in a vessel of boiled water it will cook in five minutes. — N. Y. Post.

If it is possible so to arrange the order of dinner serving, do not swell the peas until a few minutes before they are to be cooked. They lose much of their fine, distinctive flavor if shelved some time before cooking; and do not wash them. What water is so clean as the living of the pot?—Exchange.

Early Hogging.—By this we do not mean hogs early in the season, but early in the morning. In the early morning the dew is on, and this is charged with an available amount of ammonia, which, of course, feeds the roots below. If the surface is neglected a crust forms and the air does not circulate in the soil. Get the farm hands to begin work a couple of hours earlier in the morning, and give them the same time at noon to rest.—N. Y. Herald.

Farmers, observes a recent writer, are very negligent in regard to keeping well-informed as to prices. Two cents, or even one cent, on the yearly butter product of twenty or thirty cows, is no small loss for any ordinary farmer. No loss can be averted and gain insured without radical improvement in the manufacture of the butter. The best brings the top prices; the poorest is hard to sell.—Prairie Farmer.

Contributions.

For the Lancaster Farmer.

INSECT PESTS.

Prof. S. S. Rathvon, Dear Sir:—You can give the Latin names of the hosts of insects that bother the farmer and fruit-grower, but as I am no Entomologist I can only say bugs, worms, caterpillars—some old acquaintances, and some new ones. I do not know if these pests are doing as much injury in other places
THE LANCASTER FARMER.

1888.

as they are doing with me, but such hosts of certain species of insects I have never before seen. I had noticed in the papers for several years in various sections some kind of a worm was defoliating the currant and gooseberry bushes, but only last year I noticed some of the leaves on a single gooseberry stalk a few of them eaten off by some insect, but paid no attention to the matter. This summer, however, these worms came in countless thousands and eat off every leaf on all our currant and gooseberry shrubs. They only appeared when the fruit was full grown, so I did not venture to make use of poison, and the red currants on a row through the garden, 80 feet long, hung on the bushes fully exposed to the solar heat, and did not ripen properly. A writer in some paper says, strong soap-suds will kill or drive them away. If this eating off the leaves will continue for a few years, the bushes will die. I fear we will have to say "good bye" to currant pies, jelly and currant wine.

A worm on the grape vines is also in millions eating the leaves. The worm I have seen a few every year but never knew them to eat more than a leaf here and there, but this season they take all the leaves for yards on the trellis. I pull of the leaves where I see them and crush them under foot. Thousands have I killed in this way, but it don't appear to lessen their number. Not even their voracious tite in the least. The little gall insects on the underside of the leaves too are more numerous than ever.

Apparently a new insect has made its appearance on the wheat, just before harvest; I have not seen it, but they tell me that a worm an inch to an inch and a half long, crawls up the stem, bites off the ear, which drops to the ground. The worms then crawl down another stem, performing the same operation over and over again until the ground lays full of wheat ears—doing much damage in spots.

Apple worms, codling moths and worms at the roots of trees, are also more numerous than ever before. Then the "yellow" on peach trees are sweeping that fruit from the county, and the early peaches all rotting.

And as to apples, such knotty fruit as we now have, and dropping from the trees half grown—hardly fit for logs to eat—I have never seen before this season. Fruit growing is getting to be a precarious business.

But on the other side we have no potato bugs to do injury, and there will be a large crop of "murphies," which is some consolation, at least to those who are fond of the tubers.

Cabbage worms, too, are very few, and we may hope for a large return of cabbages, and plenty of sourkraut.

Squash bugs are nowhere, but the vines of squashes, cucalash and cucumbers, are running "to the end of creation," if there is an end, but produce no fruit as in former years. Celery is growing rampant, and weeds are not slow.

In general, a prolific season for vegetation of most kinds of vegetables, also weeds and grass, but fruit is scarce. Pears are bearing a fair crop, are cracking and dropping from the tree at half grown. Plums, as usual, of no account, and grapes bearing only half a crop, and will probably not come to their usual perfection on account of those worms eating off the leaves. Our Bartlett pears are lying thick on the ground, half grown, and none on the trees.

But you may say "I am getting off the track," as this was to be an insectivorous letter, still as insects and vegetables, as well as fruit and grain, are necessary for insect life, it is natural to notice them together. But what is the world, or at least this locality, coming to? If these insect pests continue to increase, and every year bringing us new ones, will, in a short time, have neither fruit nor vegetables for human sustenance; but it is useless to anticipate the evils we know not of, for to predict the "good and evil" in store for us in the future, we might be placed in the same category as the weather prophets who pretend to tell us what the weather will be a year or a day in advance.

"Sufficient for the day are the evils thereof."

Respectfully.

J. B. GARRETT.

COLUMBIA, PA., AUGUST, 1882.

[The apparently new insect on the wheat was probably the "white lined army worm," and those on the grape vines the "Grape Ica beetle," the American Procris," or the "Grape Sandy dusty."

This loose allusion to insects in August and September, which ought to have been attended to in the earlier part of the season cannot end in very satisfactory results, for, at best, we only can guess what insects are meant.]

SELECTIONS.

PEAR BLIGHT.

The growing of the pear in grass as a protection against blight, must be upon the principle that cultivating the soil stimulates a more copious flow of sap. In our mind, it is an excessive supply of sap, uncarbonated, that, in a sultry, still time starts the blight. Grass, so far as keeping the ground cooler, checks an excessive flow of sap. Our experience is that grass tends to keep or cause the ground to become dryer. And that also is a check to an excessive flow of sap, at a time when the atmosphere is not in motion, but still and not coming in rapidly-changing contact with the trees, leaves and branches, enough to carbonize its sap. At such times we think that the newly-formed cells are surfeited to bursting.

The admitting of a healthy vigorous growing pear branch to artificial heat, equal to the atmospheric heat that they often have to pass through, its effects upon the leaves and soft tissues of said branch will be exactly like that of the natural blight. Small patches of blight are giving way of limbs, while the balance of the pear trees will produce perfect and healthy and vigorous, I regard as indicative of a previous hot, still condition of atmosphere at a time when there was a large flow of sap, the weather changing, breezes springing up and giving relief by enabling the leaves to utilize sap before the bursting of the new sun-cells became general and the blight extensive.

The pear is a native of a northern climate, and is said to flourish at 57 degrees of North latitude, and even that far north it may not be exposed to as great extremes of cold as with us. As I am told that in Denmark, 55 degrees North, there is seldom snow enough to run a cutter, and seeding is at times done by Christmas and New Year, and yet Denmark lies from ten to fifteen degrees north of us.

Subject a vigorously-growing pear tree branch to a certain degree of low temperature or so subject it even after the sap has commenced movement therein in the spring, and the effects will be precisely that of pear-blight.

Hence, it is suggested that to avoid as much as possible the pear-blight, is to avoid, as much as possible these extremes in their planting, and in their culture and their too rapid growth.

Ye ago I was informed that charcoal dust mixed in the soil about pear tree roots was the best preventative for pear-blight. I have since been told by those who have given it a fair trial that with them it had proved a success, and not one have I heard claim that he had given it a fair trial, and that it had not been successful.

I have just read Henry Wilson's article on "Blight-proof Pears," and then came up the question, "what varieties that are generally cultivated blight soonest, or are more subject to blight, than the Bartlett, Clapp's Favorite and Flemish Beauty?" It would be a source of information to find such a list in the Telegraph; also the increasing of the "Blight-proof Pears" list over the Duchess, Seckel, Pears, Chairage and Winter Nells. Can Mr. Wilbur, or any other reader of the Telegraph, add to said list?—Z., C. Fairbanks, in Germantown Telegraph.

FEEDING VALUE OF ENSILAGE.

We have inquiries concerning the feeding value of ensilage, some of which show some confusion of mind in regard to the subject. Bearing in mind a few general principles will help to a better understanding.

First—The value of food preserved in a silo depends very greatly on what was put in—its value may be confirmed. The material used and the degree of maturity of the crop will greatly affect the value.

Second—Putting grass, cornstalks or other substance in a silo does not add anything to the nutrient contained in the material. We cannot take out what we did not put in. Cutting and storing the green food in a silo may make it more digestible; may and often does make it more palatable than when the food is dried in the open air. Letting the moisture dry from the meadow grass or from green cornstalks in itself, should not make these substances less desirable as food. In fact it does make them less palatable. Prepared silage and this moisture in the ensiled food may be a help.

Third—If fermentation goes on in the silo to any considerable extent there is absolute loss of food value.

Fourth—Reason and experience alike lead us to conclude that we cannot make ensiled grass or cornstalks alone fully take the place of good grain feed. The latter should be given in connection with the former.

Fifth—Reason and experience alike show that almost any palatable, nutritious, succulent plant, kept in a silo, with reasonable exclusion of the air, makes a palatable and fairly satisfactory food. —Breeder's Gazette.
### NAME OF FERTILIZERS

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<thead>
<tr>
<th>Name of Fertilizers</th>
<th>Name and Address of Manufacturer</th>
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<tr>
<td>Star Bone</td>
<td>J. E. Tygart &amp; Co., Philadelphia</td>
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<tr>
<td>Soluble Pacific Guano</td>
<td>Soluble Pacific Guano Company, Boston</td>
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<tr>
<td>Star Granular Bone</td>
<td>J. H. Day &amp; Co., Baltimore</td>
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<td>Lorentz &amp; Ritter, Baltimore, Md.</td>
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<td>Tyler's Fertilizer</td>
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<td>Pure Ground Bone</td>
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<tr>
<td>Pacific Granular Bone</td>
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<td>L. L. Crocker &amp; Co., Buffalo, N. Y.</td>
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<tr>
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<td>Whelan &amp; Armstrong, Landenberg, Md.</td>
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**Tabulated Analyses of Fertilizers Made by Prof. Genth, State Chemist, from Samples Published and Selected in Accordance with the Act of June 25, 1879.**
A COMING WHEAT COUNTRY.

Within the memory of thousands of the readers of the "Lodger," Lancaster county, in this State, was the banner wheat county of the United States; but the greatest wheat-raising region has since then moved westward through Ohio, Indiana, Illinois, to the Kansas-Iowa-Minnesota district; and the last decade has seen the tremendous development of California as a grain-growing State, and the rapid rise of the Northern Pacific wheat fields.

The grain, vast enough to affect the supply and consumption of the world, and to enter into serious competition with the United States and Russia—the two leading wheat-exporting countries of the world—now shows in sight in Mexico, and appears to be coming to the front as part of the great commercial and industrial reconstruction of that land by the American railways. The physical formation of Mexico is simply an extension southward of the great Colorado mountain base plateau. Wheat grows on the plateau of Mexico at from 8,000 to 10,000 feet above sea-level, and between the 18th and 24th parallels of latitude. Corn grows everywhere, except on certain waste districts along the northern frontier, where the soil is the same as the alkali plains of Arizona and New Mexico. The wheat growing area of Mexico, par excellence, extends from, say Puebla nearly to Colima, about 500 miles east and west, and from Southern Miehacan to Zacatecas, about 400 miles north and south. This plateau is broken by mountain ranges into a number of rich districts specially adapted for the growing of wheat, notably, the Iberia Valley, roughly, 200 by 16 miles; the Bajio (Northern Mieramcan, Jalisco and Southern Guanajuato), 200 by 200 miles, Aguascalientes 50 by 50 miles; the San Luis Potosi and Queretaro District 150 by 30 miles. Total, say 52,000 square miles. Of this immense field of rich and arable land one-third, it is believed, could be readily put into wheat with due regard to the other agricultural interests of the country.

Under the Mexican plan of cultivation three crops are taken off the land every two years—one crop of wheat and two crops of corn. The average wheat yield of Mexico now does not exceed 20 bushels to the acre. Corn on irrigated land runs about 50; on dry land about 25. The mode of cultivation is similar to that of the Egyptian thousands of years ago. Wooden beam plows are used, with a small iron shoe, which scratches a furrow five inches broad by five deep. Five men are used and five yoke of oxen, where one would be needed in Pennsylvania. Nevertheless, the wheat raised is of the very finest quality. At the Centennial Exposition Mexico took the first prize for wheat. Threshing is done by driving mares around over a circular track or stone floor, winnowing by men tossing the grain and chaff into the air with scoop shovels, and transportation from the field to the farm house or railway station is on ponderous two-wheeled ox-carts, in which the ox pulls about three pounds of cart to one pound of load.

Apart from the 52,000 square miles spoken of above, which is the choice wheat producing area, there is sufficient outlying wheat, barley and corn land now under actual cultivation to supply the present population of Mexico, ten millions. Some of them are at present fed on grain raised just where they live, having been up to this time no organized machinery for transport of products from one part of the country to another. It is a natural step in the organization of a civilized nation, seven-eighths or more of the people living habitually on tortillas. Were this wheat area cultivated to its full capacity, namely, 17,333 square miles, it is estimated that it would yield, under present conditions, 20 bushels of wheat and 40 bushels of corn per acre, as follows:

- First year, wheat crop, 321,899,690 bushels.
- First year, corn crop, 435,733,320 bushels.
- Second year, crop, 443,733,320 bushels.
- Or say an average of 110,000,000 bushels of wheat and 440,000,000 bushels of corn every year.

But under the modern conditions of agriculture, with improved machinery and systematic feeding of the soil, a much larger yield is anticipated. By the end of 1884 Mexico will probably enjoy a reasonably thorough railway system, viz.: Two trunk lines at least, from the capital to the United States, having also good branch links to the Gulf ports of Vera Cruz, Tampico, and Matamoros.

The land of Mexico is largely held in huge estates, often like those of the great land owners of England. The Bustamante estate, for instance, extends over portions of three States, and the line of the National Railway runs through it for fifty miles. These vast estates, with the fact that in the central part of Mexico at least, they are cleared land, will enable the wheat growing area to be put rapidly under cultivation once when the railway opens up a market for wheat.

The Mexican wheat raiser, however, is seriously handicapped in one respect, i.e., by the vicious system of haciendas with which he is taxed over all the Republic. Some States tax the production of wheat, others the importation of it into or through their borders. This tax is certain, varies with every State and is burdensome. Men who have lived long in Mexico, and are well acquainted with the country, allege that it is very high impossible to codify or keep track of these State imposts, which are laid without system or any broad knowledge of political economy. They compute, however, that they can be roughly estimated at about one cent per bushel, on the value of nearly everything raised or brought into the State.

This is one of the things which keeps Mexico so poor, relatively to her large population and immense resources.

THE SCIENCE OF DAIRYING

All the progress that has been made in the dairy—and it has been very great—is the fruit of thought and hard study; and whatever progress is expected in the future will likely spring from the same conditions. Occasionally people stumble upon success, but as a rule success comes only from hard work. The dairy is a scientific process, and the competent dairymen a scientist. He is familiar with the whys and wherefores. He expects certain results because he creates certain causes, and he is able to explain the details with as much precision as the college professor explains a science which he teaches in his class room. Now if the dairymen cannot do this, he is at work in the dark, and is con-
stantly exposed to the danger of serious loss; and his interests demand that he shall at once become a close student of the science or sciences that apply to this business. A man who does not understand his business is at a helpless disadvantage. He may be thoughtless in his choice of a machine about whose construction he knows nothing. The machine fails to work properly. Numerous possibilities of defects suggest themselves to the operator, but in his ignorance he may not even dare to attempt to apply a remedy. A mechanic is called, and thoroughly understanding the matter, restores the machine to perfect usefulness by the simple turning of a screw. No one ought to be content to manage a dairy in ignorance of the necessary conditions. It is a fact that tons of poor butter are made because the butter-making is done on the hit or miss plan. There are well digested works on the dairy giving the results of close study and extended experiment, and the agricultural press gives large space to the dairy interests. Dairymen should avail themselves of the opportunity thus offered to become familiar with the secrets of successful dairying. The age in which we live is eminently a brain age. It is the man who uses his brain that is the successful man. He will achieve success and become rich, while taking life comparatively easy, when the man who thinks little and works like a slave will get poorer and poorer every year. He will spend two hours in thinking and one in manual labor, than to reverse it.—Western Rural.

"WOODMAN, SPARE THAT TREE."

In the August number of Forestry appears an important article on the destruction of American forests by Mr. William Little, of Montreal. The constant drain made upon American forests for white pine—a wood that furnished three-fourths of the building timber in the United States and Canada—has at last, he says, occasioned a scarcity which compels economists to point to a time in the very near future when its total exhaustion may be predicted. The entire supply of white pine now growing in the United States does not exceed 80,000,000,000 feet. The annual production of this lumber is not far from 10,000,000,000 feet, and the demand is rapidly increasing.

Fatal inroads have already been made into the great pine forests of the North Atlantic region. Its wealth has been lavished with an unsparring hand; it has been wantonly and stupidly cut as if its resources were endless; what has not been sacrificed to the axe has been allowed to perish by fire. The pine of New England and New York has already disappeared. Pennsylvania is nearly stripped of her pine, which only a few years ago appeared inexhaustible. The Great Northwestern pine States—Michigan, Wisconsin and Minnesota—can show only a few scattered remains of the noble forests to which they own their greatest prosperity, and which not even self-interests have saved from needless destruction. Canada is almost in the same deplorable condition as the United States as regards its stock of valuable pine timber.

Notwithstanding the fenses of wire, the use of iron in building, the terra cotta and straw lumber, the consumption of wooden lumber increased nearly 50 per cent. in the ten years from 170 to 1880, the former being 12,755,543,000, and the latter 18,093,356,000 feet, and though it has always been claimed that iron and lumber keep together—cheap lumber accompanying cheap iron—we now find iron so low that producers claim that they are at the lowest rate in years, and timber, which has advanced in America in three years fully 50 per cent., with every prospect of further increase, and yet we are informed that we are within seven years of the time when the supplies of white pine and spruce (which are, in the North, the great stock of this indispensable material) must cease, and this is not the statement of interested parties, which might be open to suspicion, but of those specially employed by the Government of the country to ascertain the true condition of the forests.

OLD MEADOWS.

A correspondent has a meadow which produces about a ton of hay per acre. It has been down eight years, and the clover and timothy have died out, and their place is occupied with June grass. He asks whether top-dressing with barnyard manure and re-seeding will bring it to bear good crops. Top-dressing would improve it very much, but it would doubtless pay better to break it up and reseed fully. It would not be advisable to break it up this spring, as the tenderest roots of the June grass would not be likely to get a thorough rooting in the summer, if, indeed they were all killed. It would be better to mow it this year and break it up in the fall and next year follow it, plowing and cultivating often, selecting the driest weather to do the work. This will kill out and rot the June grass roots and enrich the ground for new service. The seeding will best be done about the middle of August or as soon as the summer drought is over. The loss of a grain crop, while preparing to reseed, will be more than paid for in the improved condition of the soil. Ground which has lain long to grass becomes exhausted of available fertility, and needs thoroughly stirring and aerating to bring its valuable facilities into proper shape. All food, which lies dormant in the soil, unavailable and useless, until made available by exposure to the air. It is not good policy to let either pasture or meadow lie too long without breaking up and pulverizing the earth anew. Modern science and the best practice agree in maintaining that the quickest and cheapest way to enrich most soils is to thoroughly cultivate and stir them, to hasten the decomposition of mineral matters which serve as plant food. What may be gained by fallowing and the rottening of grass-roots will put the meadow in proper condition and ready for seed for a series of years. We would advise keeping this fact in mind while working the soil. Ashes, leached or unleached, make an excellent fertilizer for either meadow or pasture if sown upon ground which is naturally dry. They are as valuable for the grain-grower as the dairy man. Leached ashes by the load are worth about twice as much as barnyard manure, and unleached twenty-five cents a bushel. The immediate effect of ashes is not equal to that of manures, but it continues much longer. Coal ashes are chiefly useful for their mechanical effect in loosening a compact soil.—Chicago National Live Stock Journal.

MORAL INFLUENCES OF THE ORCHARD.

While there is so much of the practical to demand space in a journal wholly or partly devoted to horticulturists, it is by no means useless to give some attention to what are regarded as the more moral and social aspects of the subject. To those who have watched the influences of horticultural pursuits, however, their moral aspects are by no means harmless. Horticulture has a substantial moral influence upon both the horticulturist and the community. If there is a person living who ever saw a well-kept bed of strawberries or a grand orchard about the home of a thoroughly bad man, he has the advantage of us. Fine fruit growing and worthlessness of character do not, and cannot, harmonize; and we have seen clippers that have been polished, and manners that have been improved, and morals that have been strengthened by the preaching and influence of lovely fruit. There is no mistake about this matter. A community is greatly improved by fruit. Go into sections where there is no fruit, and no attempt to grow any, and, unless it is a new community, you will find it anything but pleasant in almost all of its characteristics. But a neighborhood that has fine orchards and fruit gardens will be a superior neighborhood in every respect—intelligent, moral, and public spirited.

The reasons are well defined reasons, too, for some of these results. A fruit eating people are a healthier people than those who are not; and people will not eat fruit unless it is fit to eat. When it is really fine they cannot resist the temptation to partake. Hence in a neighborhood of fine fruit growing, the people will be large consumers, good health being thus assured, increased intelligence and morality result, for a mind unclouded by a sluggish or feeble physical system is necessary to the former, and a stomach unclouded can almost be said to be necessary to the latter. A healthy person has a better chance to do the right thing. He has a longer life to be in, and a wider prospect, as well as more moral influence. No mistake about the matter. Dysteomia makes some people not only very disagreeable, but it positively makes them wicked. Therefore, in a moral point of view, we believe fruit growing of vast utility to the country.—Western Rural.

VALUE OF COTTON-SEED MEAL.

I wish to relate an experiment made by a neighbor in feeding cotton-seed meal to cows, which, although a small one, yet, owing to its having been made with perfect accuracy, justifies the conclusion that it serves the same purpose as hay but a little land, and only keeps three cows. He was in the habit of giving one-third of a quart night and morning of cotton-seed meal to each cow. For a few weeks he got out of this, when the cows immediately fell off one and a half pounds of butter per week, and fully one quart per day in milk. He then began feeding cotton-seed meal again, when they immediately came back to their yield of milk and butter. The price he gets for this extra pound and a half, sold in the village near by, is a little more than the cost of the ration of cotton-seed meal he feeds. But this is telling only half the story, for be
RAISING LARGE CROPS OF POTATOES.

Until the present year, I have never succeeded in raising more than two bushels of potatoes to the square rod, or 250 bushes per acre. A soil which has been bench-marked on small portions of the field, the average for the whole lot never having exceeded 250 bushes per acre. I will confess I could hardly believe reports, which have been published, of yields of four, five, and even six hundred bushes per acre. But I shall be more ready to believe such reports in the future, as I have just measured the ground and picked up and measured the potatoes, where they yielded over three bushes of large potatoes to the square rod, or 500 bushes per acre. The small ones, from the size of a hen’s egg down, were not picked up. We tried it on several square rods, and in the presence of reliable witnesses, so that we can prove it. This was the very best portion of the field, so far as we could judge from the vines. A measured quarter of an acre, not all of it the best, filled 192 bushes boxes with large potatoes. The secret of the great yield is found in the adjective “large,” twice used in connection with potatoes. When there are several potatoes to a hill weighing from half a pound to a pound each, and the hills are as close together as they will bear to put, one does not have to go over much ground to get a bushel. There are two things that can be done this fall, which will help to make potatoes, and consequently a large yield next year. I will speak of these in particular this time, and other points in due season.

The first thing is to select for seed good sized, perfect shaped, well matured tubers, with large, strong eyes. I know there is a great difference of opinion on this point. A single experiment may not show any decided results in favor of the large, choice seed, particularly if it is a very favorable season, or the trial is made on very rich ground; but any one who will select such seed as I have described, and follow it up for ten years, taking as good care of the choice seed as he does in the selection of seed, will get his reward. Five hundred dollars is a good deal of money for a farmer to get in a lump, but so sure am I that I am right on this point that I would not take that sum in addition to the market price for my seed potatoes this fall, after they are selected, and run the risk of buying new seed. Every one has probably noticed, when digging potatoes, that some hills, without any apparent cause, perhaps, will have several large, fine potatoes in them, while their neighbors will not yield half as well. My way of selecting seed is to walk along after the diggers with a small basket and pick up the choice potatoes, of perfect shape and with large eyes, from these hills. When the basket is full, it is carefully emptied into a bushel box, and the boxes are kept covered if the sun shines. As soon as a few are filled they are taken to the cellar and set away till the tubers are through sweating, when they are laid (not poured) in barrels and covered up from the air, not to be moved again till planting time.

This is too much trouble, some one may say. Well, my friend, if you are satisfied with an average crop of say 50 or 100 bushes per acre of rather inferior potatoes, do not read any further. If you want to raise a big crop, and have fine potatoes, you will have to go to a good deal of trouble, but if you manage rightly it need not cost you anything. The progressive successful potato raider raises more money. The “average” one will have to figure closely to show any profit. Whether the tubers for seed are kept in pits in the field, or in the cellar, the point is to keep them at a low even temperature, so they will be sound in the spring, and the eyes just beginning to sprout when you want to plant. We take pains to get them from the cellar into the ground without warming them up any more than we can possibly help. They are brought from the cellar, cut and planted, usually, the same day.—Country Gentleman.

BERMUDA ONIONS AND POTATOES.

It has been about twenty years since the first shipment of onions (from Bermuda) in quantities to the United States, and from that time to the present the trade from year to year has increased till the shipment now reaches 300,000 to 400,000 boxes of fifty pounds each per annum. The seed used is grown in the Canarv Islands and is imported in the months of August and September, costing then from sixty cents to one dollar per pound. It is the only seed found to answer the purpose, as it matures earlier and produces a mild onion. Italian, Portuguese, and Madeira seed has been repeatedly tried and found not to answer, being too late to command a remunerative price in the American market. The seed is sown in the months of September, October and November, thickly in beds, the ground having been heavily manured with stable manure two or three months before sowing. The white seed is sown first, and produces the earliest crop, the shipment of which commences in March. When the plants are sufficiently large—about six or eight inches high—they are transplant- ed into beds four feet wide, the plants being set about seven inches each way. The plants are set in the late spring and early summer, as early as they are large enough, and the ground can be made very rich. Those from the red seed should not be transplanted before the 1st of January, and the ground requires to be only moderately manured. If transplanted too early, and the soil is too rich, the bulb is likely to split into several pieces, and is worthless. After transplanting, the soil requires to be lightened once or twice, and the weeds removed before they mature. As soon as the top begins to fall, they can be pulled, and should lie on the ground two or three days, or until the tops are wilted, when they are cut and packed in boxes of fifty pounds each, and sent to market, and sold or delivered to an agent, who ships them on the producers account. The earliest usually command the best prices, and they are frequently sold before they are ripe, cut, packed, and sent to market the same day.

Such unions, if care is taken in packing, as it usually is, are deceptive in appearance, and after a few days they become slack in the boxes, with long sprouts, and when opened are unsatisfactory. When the crop is large and the market good, a large profit on the outlay is realized—an acre of ground sometimes returning $600 to $800, but the business is to a great degree hazardous, particularly when the crop is a large one, as the only market is the United States. Potatoes are more certain of finding a remunerative market than are onions. Where the land is cropped to potatoes, the farmer can be sure of a market for his potatoes. The seed was formerly nearly all imported from the United States, but of late years has come largely from New Brunswick, Nova Scotia and Prince Edward Island, as it can be obtained cheaper from those places, and is found to answer as well. The first crop of Early Rose, which is usually a small one, not averaging over four barrels from one of seed, is planted in October, and is taken off in time for the second or principal crop, which is planted in January or early in February. The seed for this crop is almost wholly the red garnet, and ten from one is considered a good return, although much more is sometimes raised.

The potato requires a deep soil, well manured and sheltered from the high winds, and as a large portion of the ground susceptible of cultivation is too much exposed to the winter gales, and manure in sufficient quantities is too expensive, most of the planters prefer raising onions. The ground for potatoes is usually plowed or spaded and raked, the seed cut in pieces with one or two eyes, and planted by forcing into the ground with the fingers to the depth of about four inches in rows about twenty inches apart and about eight inches in the rows. From six to eight barrels of seed are used to the acre. When the plants are a little above the ground the soil is lightened between the rows with a fork, and when about six inches high the earth from between the rows is hoe’d around the plants. Only one hoeing is required. The potatoes grown here, if left in the ground until fully ripe, are of a superior quality; but as a few days oftentimes make a great reduction in the market value, there is an incentive to get them to market as early as possible, and a large portion of the crop is gathered when they are ripe. It is only injuring the market value, but the reputation as well.—United States Consul Allen.

SORGHUM FOR FEED.

The following statement is from the first quarterly report of the Kansas State Board of Agriculture. The writer, Mr. G. E. Hubbard, of Pawnee county, has been growing sorghum for seed, annually, during the past
six years, and has not only met with a single failure. He says: "I plant any time between May 20 and June 20 using a corn-planter, and planting one quart of seed per acre. Cultivate exactly as you would corn, and make thorough work. The plant will be ready to put in shock; by September 1, at which time cut and shock the same as corn, letting it remain in the field until it is wanted for feed in winter. It makes excellent feed at any time, and especially when the ground is covered with snow. I only feed sorghum during late weather, unless I have an unusual supply, when I feed it at all times. It makes a very rich food, and all kinds of stock will eat it with a relish, eating it clean, stalks and leaves."

"Another method of growing sorghum for feed is to prepare your ground by plowing fine and deep immediately after harvest. Plant with a corn-planter as fast as you plow until you have the number of acres you intend to put to this use. About the 1st of August the sorghum is nicely up; then harvest it thoroughly lengthwise of rows. By the 15th of August the sorghum will probably be from six to eight inches high, at which time proceed to seed the field with rye. Drill one and one-half bushels per acre; then, when the cold weather comes, turn your stock in upon it, and you have an excellent pasture. I consider this latter mode one of the best and most profitable ways of cultivating sorghum for winter feed. It does away with the expense of the corn-planter. When planted on or before July 29 the sorghum will mature before the frost sets in, and a field thus planted will secure you a great amount of valuable fodder for all kinds of stock in winter."—Farm and Fireside

THE FUTURE OF THE AMERICAN HOG

The fear is expressed by some of our American papers that the agitation against American pork in Germany and elsewhere will have the effect of both curtailing the demand for our swine product and stimulating the growth of hog-raising beyond the Atlantic, ultimately so crippling our export trade as to necessitate a curtailment of production, and creating a rivalry in other countries which will forestall us in the markets of the world. This is an alarmist view of things, and we believe is wholly unwarranted. It is true that in nearly every country to which our pork has been shipped, influences have developed which are hostile to its admission. It is true that the bulk of our foreign trade is held in the face of bitter opposition, and that in some places our products are narrowly watched to find some pretext for their exclusion. Yet we have the greatest confidence in the future of hog-raising in the United States. For this there are several reasons: 1. We can raise corn and hogs at a less cost and furnish pork to the people of Europe at cheaper rates than it can be done by any rival or by the consuming countries themselves. 2. The peasan-
try of Europe have had abundant opportunity to test the quality of our pork, and profit by the low prices at which it has for a greater part of the time been furnished, and Governments cannot permanently maintain a policy of exclusion which directly contravenes the best interests of the masses. 3. After all the holl about it, there is less disease among American swine, proportioned to the number grown, than in those of any other country, and nearly all the pork exported is a high-class article. The opposition to it on sanitary grounds is therefore exaggerated and contrived. 4. The late decline in pork values has largely increased exportation, showing high prices have had as much to do as anything else with our restricted trade. For these and other reasons, it is evident that the supremacy of this country in producing swine and marketing pork is in no danger of being lost, nor is there any probability of there being a necessity for lessened production as the country grows older. On the contrary, the business has a grand future before it, and is destined to add vastly to our agricultural wealth in the coming years. Our exporters can do much for her advantage by seeing that nothing except strictly first-class product is allowed to leave our shores; farmers, by breeding up their stock to a higher average grade of excellence; and the Government, by so improving its sanitary regulations as to furnish the best possible facilities for removing disease wherever it may appear. Without expecting too much, it is reasonable to look for some advance in all of these directions, and every such step tells solidly for the welfare of the business.—Western Rural.

ROTATION OF CROPS.

Why does a farmer change the crops of each field every year? He has the drawer clover and grass and then to corn, then oats, and lastly, wheat or rye, and again seeding down to clover and grass? It is because he knows that these crops succeed better when thus grown, and that he cannot grow the same crop every year on the same ground with profit. There is a good reason for this. It is because the nature of each of these different crops is not the same; that one seems to rest the soil, that others actually leaves the soil better than it was before, besides adding to it in shape of roots, stems and leaves, a large quantity of valuable plants food for the corn which follows it; that the culture of corn kills a vast quantity of weeds, cleans the ground, and prepares it for the oats and wheat; that after the oats have been grown the soil has given up to that crop all the strength it possessed, and that it then requires help to restore it. This is given by the manure and fertilizers used to prepare for the wheat or rye and the clover and grass after it, and that by this treatment one can go on year after year, for a whole lifetime, growing crops, and then leave his farm still fertile and useful for his children, who may do the same, to be followed again by their children. This system of culture is called the rotation of crops, and the usual rotation consists of the four crops mentioned, viz.: clover and grass, corn, oats and wheat. This is called the four-course system. Some farmers add other crops and so lengthen the course with great benefit to the soil; because in the four-course system there is too much grain and too little领域 for feeding cattle and making manure, without which good crops can not be grown. There are also not enough of the renovating crops, as those are called in which either the soil is manured or restored and re-

GROWING CABBAGE.

Late cabbage is a more important crop than that which is early, as it is not required to market them at once, which enables the grower to take full prices for the crop during the winter season, when most vegetables are scarce. Nor does the late crop require a hot-bed for forcing, nor come in competition with the southern product. The preparation of a field for cabbage should be very thorough, deep plowing and frequent harrowing being necessary to get the soil in proper condition. As the cabbage plant is a gross feeder, any quantity of manure may be used without danger, and it should be well worked in and incorporated with the soil. They should be set in rows of sufficient width to allow a horse
and cultivator to pass through with ease, as it is upon the cultivation of the crop that the grower must depend for success. Too much cultivation cannot be given cabbage, for the other the soil is stirred the better, and especially in a dry season. No other plant should be allowed to grow in the field, as nothing succeeds quicker to weeds than cabbage.

The best manure for cabbage, if size without quality is desired, is that from the hog pen; but if good, crisp cabbage, of fair size, is preferred, manure from the stable, that has become fine and well rotted, is sure to give good results. Of fertilizers a mixture of superphosphate, plaster and guano will be found excellent, and it is better to apply the fertilizer at intervals during the growth of the crop than at one operation.

The obstacle in the way of growing cabbages at present is the cabbage-worm. Tenacious of life is this pest that no remedy is known that may be considered entirely effectual. The free use of saltpetre, dissolved in water and sprinkled well over the plants, is recommended by some, and, if it does not prevent the ravages of the worm, is an excellent substitute for the guano as a fertilizer. Paris green, London purple and hellobore should not be used on such plants, as it is dangerous.

Professor Sturtevant, in detailing the results of his experiments, found that hot water applied to the cabbage destroyed a portion of the worms, but caused the leaves to turn yellow. The most satisfactory remedy, though not entirely effectual in all cases, consisted of half a pound of dry charcoal and three quarts of water in three gallons of water; but as the growing cabbage presents such a mass of leaves, within which the worm may be concealed, the application should be repeated occasionally. The worm will be killed if the solution can only be made to reach it.

In saving seed select, late in the fall, the best heads, and cut off the stalks close to them; then place the heads on the ground (which should be slightly elevated) and cover well with earth to protect during winter. As soon as spring opens remove the covering, cut the cabbage crosstails with a sharp knife and it will soon sprout to seed, a single cabbage yielding quite a large quantity. It is necessary to give some kind of support to the seedstalks, however, and the pods should be picked or carried to the barn and the seeds beaten out on a clean place.

TEA CULTIVATION.

Tea is one of those common things about which some points are not commonly known. In China it has been used for more than a thousand years, but there is nothing that is well authenticated about the discovery of it by the Chinese themselves or of its use prior to its introduction into the civilized world. Before the middle of the 17th century it was not much known in England. Pepys' Diary, under date of September 26, 1661, contains the entry, "I sent for a cup of tea (a China drink) of which I had never drank before." It was at first pronounced bug, as Pope indicates in his lines:

"Here thou, great Anna, whom
Three realms obey,
Dost sometimes counsel take,
And, sometimes, tea."

Two pounds and two ounces of tea were sent, 1661, by the Dutch East India Company as a rare gift to the King of England, and six years later it entered upon its traffic, followed by the British East India Company. The English people at that day used as their common beverages ales, and meads, and wines imported from France. They also imported quantities of sassafras from Virginia, the colonists having discovered that the bark of the sassafras root made an aromatic tea, to which they attributed great virtues.

The East India Company, which embraced several influential members of Parliament, succeeded in having onerous taxes placed on home-brewed ales, imported wines and sassafras, and thus augmented the traffic in Chinese tea. The unpleasantness that resulted from the attempt to connect taxes and tea in Boston and Greenwich, New Jersey, harvesters, less than a century later, need not be more than referred to in passing.

The Tea Plant.

Though there are numerous tea plants, the word tea, in its general acception, is applied to the shrubs grown in China and Japan, the teas of commerce. These are Ths Viridis and Ths Bosea, though these are held to be varieties of the same species, Ths Sinensis. In his "Treasury of Botany," A. Smith objects to the practice of some modern botanists in combining the well-known generia thee and camellia under the single genus camellia. In a paper prepared a few years ago A. C. Jones, of the Department of Agriculture, Washington, after careful examination of the matter, expressed the conclusion that the species are essentially identical, "the difference in the article produced depending upon the period of gathering, qualities of soil and the process of manufacture."

In its wild state the tea is scarcely classable as a plant, for, while the ordinary height of the cultivated shrub is from 3 to 6 feet, the "plant," when left to natural growth, attains a height of twenty, and, in some instances, even thirty, feet, and a trunk of from 8 to 10 inches in diameter.

The leaf, the valuable part of the plant, does not during life throw out that peculiar aroma or flavor that is its marked characteristic when prepared. This flavor is the result of the judicious application of heat, which develops an essential oil from the resinous matter of the leaf. The process of preparation or manufacture is one requiring time and care. The leaves are first exposed in open-work bamboo trays or baskets to the action of the sun and air for two or three hours, then beaten between the hands, this process being repeated three times; they are then placed in the pan, under which a brisk fire is kept up, and as soon as they become brown, being meanwhile rapidly turned with the hands to prevent scorching, they are brushed out on a closed-worked bamboo tray; this process is also used three or four times, and is repeated after the leaves have been rolled. Finally, the tea is placed in small bamboo sieves, and dried over a charcoal fire, and then separated and packed.

Shipment of Cargoes and Samples.

Long before the introduction of steamships and the submarine telegraph China was the only country that exported tea. Then the oft-fashioned slow sailing "East Indiamen" were the carriers of the precious cargoes of tea, silk, essential oils and other valuable and luxurious products of the Celestial Empire. In the early history of the trade Canton was the only point of entry to that exclusive country, and the vessels engaged in the trade carried to its peculiar people from this country and Great Britain, cargoes which would find ready and profitable sale among them, and particularly Mexican, rix or silver dollars, to pay for their produce. The arrival and departure of an East Indiaman was then quite an event, not only on account of the time consumed in the voyage, but because of the peril such vessels ran of attack by pirates that infested the China Sea and Indian Ocean. In course of time the ports of Shanghai, Foochow, Amoy and Tamsui were opened to foreign trade, and the East Indiaman was superseded by the fast-sailing clipper ship, which in turn has been superseded by the steamship. The result is that the tea from China to the United States, instead of taking, as it did in former times, from four to six months, is now accomplished by way of the Suez Canal in about 52 days. The changes that have followed rapid transportation have revolutionized the trade. Tea can now be laid down in New York, from Yokohama, Japan, via the Pacific Mail steamers and the Pacific Railroad, in 30 days, while telegrams can be sent to China from this city and replies had in less than 24 hours.

The samples of tea are sent in advance of the steamer. Directly from China or Japan via San Francisco by mail or ocean steamers reach her ten days or two weeks before the steamer reaches New York. On each of these boxes of tea samples are such legends as "Bengal No. 45," "Nova Scotia No. 10." The words are the names of the steamers on which the tea was shipped, and the number represents a grade of tea. A steamer will bring over from 30,000 to 50,000 packages of tea, the freight on which may amount to $20,000. When the cargo arrives five or seven chests of tea are taken at random, the tea is emptied out and weighed, and the chests are also weighed. From these five chests, which are marked "muster packages," an average is struck as to the net weight of each chest, and this average serves as the standard for all the rest of the cargo. The above refers to China teas, whereas the net weight of its contents is marked on each chest of Japanese tea. As a rule, tea comes in straw-covered half-caskets containing from 50 to 75 pounds, but the variety known as English order tea comes in chests without any covering.

Features of the Trade.

A noteworthy feature of the trade has been the remarkable increase in the consumption of Japanese teas. Prior to about 30 years ago China furnished all the tea consumed in the United States and Great Britain. In 1883 Japan commenced the exportation of teas to this country. The second lot, consisting of 50 packages, consigned to Cary & Co., New York, was sent in 1887; now that country furnishes us with 35,000,000 pounds of our total present annual consumption of 75,000,000 pounds.

Out of the total annual importation of 175,
000,000 pounds of teas into Great Britain, that country takes some 50,000,000 pounds of India teas, and but a trifling quantity from Japan. This country consumes only about 1,500,000 pounds of the India production while the consumption of Japan, in round numbers, as before stated, 35,000,000 pounds, equal to about 600,000 chests. Comparatively little of the Japanese teas are sold in Philadelphia or its vicinity. The bulk of them is consumed in New England and throughout the Northwest. In Philadelphia, and in most large cities in this section of the country, Oolong is the popular tea. Oolong is a variety of black tea, supposed to possess the flavor of green tea.

The great bulk of the tea imported into this country is by steamer, via the Suez Canal, to New York. The last direct importations (and they had also been the first for thirty years,) into the port of Philadelphia by sailing vessels were made by the firms of John H. Catherwood & Co., and E. C. Knight & Co., per bark Guerini, in 1872, and Kate Carusie, in 1873, each vessel bringing a cargo of about 12,000 chests. Since then the former firm has imported all its teas into New York, and the latter firm has retired from the business.

Varieties and Qualities of Tea.

The varieties of tea are numberless, and the buyer and broker must become familiar with them. Of the China teas there are the gunpowders, therupic, the Oolongs, the Formosa, the Transport teas, and the canton teas. Of the Oolongs there are the Formosa, the Foochow and the Ansonia varieties, named after the localities where they are grown. The Formosa teas are the finest and most expensive. Of the Japan teas there are the colored Jap, the basket fired, an expensive black tea cured in a peculiar manner in baskets, etc. Japan dust is the sweeping from the floors of the tea houses. Pekoe tea, cured in a peculiar manner and flavored by burning flowers beneath it, is used by merchants to mix with and flavor other teas. Besides all these varieties, the buyer or broker has to distinguish between the first or second grade of the leaves, that shoot forth in April or May, and low medium, gathered late in the season from the lower part of the bush. A variety of tea grown on low, marshy land looks as well as some of the more expensive brands, but it is said to be the poorest tea on the market. The general appearance of tea has something to do with its value. Indeed, green tea is colored in order to improve its appearance. A pound of homely black tea of the variety known as basket fireed, however, may be worth two pounds of green tea, but it might not sell as well among those who are accustomed to green tea.

Cultivation of Tea.

Tea has been successfully cultivated in various parts of this country, not as a means of profit, but for the sake of having the ornamental and rare shrubs. Some years ago the Department of Agriculture endeavored to have made a systematic series of practical experiments in the culture of tea in Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Alabama, Tennessee, Kentucky, Arkansas, Missouri and a portion of the Pacific Coast. The calculation was that as the sections correspond geographically with the latitude in which tea is successfully cultivated in China, Japan and Assam, and the conditions of temperature, soil, etc., are about the same this country would be suitable for the growth of tea. There was annually draining some $20,000,000 from the United States. Propagating plants were distributed, but no practical success towards establishing the industry as such resulted.

The condition of the tea trade is not what may be termed satisfactory to those engaged in it. The consumption has not kept pace with the increase in population, and prices of all grades have struck a lower average than has been known for the past thirty years. Teas have sold (wholesale) as low as $3 per cent pound recently, and they range from that to about 80 cents per pound. One fact that may not be generally known is that the finest teas never come to this country, but are sold in China and Japan from $5 to $14 per pound. These will not bear transportation across the ocean.

Adulterated Teas.

The law recently enacted by Congress to prevent the importation of adulterated teas into this country is one that interests the trade closely. On this point Mr. Catherwood, head of one of the oldest and most extensive tea-houses in this country, said:

"In the early days of the China trade pure teas only were experienced. Hysons, the Ceylon market, and competition in the business led John Chinaman to learn and practice tricks that have demoralized the trade, by furnishing unprincipled dealers with such large quantities of adulterated and spurious teas that Great Britain a few years ago passed an act excluding from entry for consumption into that country all spurious and adulterated teas. These, in consequence, found their way to this country, to the great detriment of the trade and the injury of the public health. To remedy the evil Congress passed, at its last session, a law to prevent the importation of adulterated teas into an industry that should be rigidly enforced, as it should be, it cannot fail to prove of great benefit to the trade, and insure a rapid increase in the consumption of tea in the United States, by securing to those who use it a pure and wholesome article instead of the trashy stuff that, in recent years, has been sent here in such wholesome quantities." — Philadelphia Ledger.

Our Local Organizations.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

A stated meeting of the Lancaster County Agricultural and Horticultural Society was held in their rooms in City Hall on, Monday, September 31. The following named members were in attendance:


Calvin Cooper, of Bird in Hand, reported the apple crop a failure, peaches are fine on healthy trees, peaches and apples but some little rot, corn very promising, tobacco mostly housed, and of good quality, grapes badly damaged by mildew.

Casper Hiller reported that the condition of the corn had greatly improved since last meeting, late plantings are a good stand with the exception of the wheat which is very low, and a subsequent baking of the ground causing them to rot, peaches are fine, but not abundant.

Levi S. Reist said that six of his ten pound apple trees were laden with fine fruit, the Smith Cider apples also bear well, but other varieties are a failure, Goshen apples very abundant.

Henry M. Egan said that grapes with him were a partial failure, being badly affected by mildew and rot; the pear crop is very good; peaches pretty good; corn as good a crop as ever grown; grass holds out well; the clover is better than it has been for years. He believes the bitter weed which is so annoying to farmers, because it overruns the wheat stubble, might be exterminated by cutting it before it seeds.

James Wood said the corn crop is a very good one; the clover is growing finely but has little seed; the apple crop is a failure, few peaches are grown in this neighborhood; potato bags have been very numerous, and eaten up the vines; there are grapes enough for family use, but not many to sell.

J. Hoffmann Hershey reported the corn crop good; grass plentiful; potatoes very abundant; pasture excellent; plums and prunus fine; pears very fine; apples scarce; peaches ordinary; tomatoes an immense crop; grapes indifferent.

Joseph F. Linnville said the roseguts, early in the season, destroyed one-half of his grapes, the other half are looking well; pasture is very good; he had planted his early potatoes rather late, and they turned out very well; the top of the late potatoes within two weeks past had blighted, become black and died.

Cyrus H. Noff reports an extraordinary crop of corn; a good crop of tobacco, amounting to about one-half of which has been harvested.

Planting Wheat Like Tobacco.

F. R. Diffenderfer called attention to an article he had read in the American Miller, relative to wheat-growing in Belgium. It stated that the Belgians set out their wheat plucks much the same way we set out tobacco plants in rows six inches apart, the reaping being two and a half feet apart. They grow from 100 to 150 bushels per acre. He suggested that some of our Lancaster county farmers give the plan a trial.

Some discussions followed, but none of the members present seemed inclined to adopt the suggestion.

Referred Questions.

The following questions were referred for answer at next meeting:

1. "When corn is sixty cents per bushel, what is the value of a bushel of potatoes as feed for stock?" Referred to Cyrus H. Noff.

2. "What is the best method of curing grapes in the cluster for winter use?" Referred to H. M. Egan.

The chair appointed Johnson Miller as essayist for next meeting.

The chairmanship of the committee of three, of which the President shall be Chairman, was appointed to represent the society at the fair of the Lehigh County Agricultural Society, to be held in Allentown, commencing September 29th inst. The chair named H. G. Rush, Johnson Miller and J. H. Landis as said committee.

James Wool, W. H. Brinns and J. C. Linnville were appointed to a committee to represent the society at the Oxford Agricultural fair, to commence on the 26th of September.

The chair appointed Casper Hiller and Calvin Cooper were appointed a committee on nomenclature, to name new varieties of fruits and test fruits exhibited at the meetings of the society.

Calvin Cooper presented a resolution, which was adopted, authorizing the committee on nomenclature to award premiums at their discretion to those who..."
THE LANCASTER FARMER

The Lancaster Poultry Association held a stated meeting Monday morning, September 5, in the office of J. B. Long, Keene's building.

The following gentlemen were present: J. A. Stober, president; J. B. Long, F. R. Diffender, Charles Lippold, Wm. Stoneberger, John E. Shum, John S. Humphreville, J. S. Witter, John Solomon, M. L. Greger.

The secretary stated that only two bills, for which the society had not been paid, were still outstanding, and that they would shortly be liquidated.

Mr. Long referred to the action taken at last meeting relating to loaning the society's coops to the Independent State Fair, and said that several members of the society thought they ought to have the use of some of the coops in which to make their own exhibits. On motion it was ordered that members have the free use of as many coops as they may need for their exhibits, provided they take the ground, return them and repair any injury done them at their own expense.

The secretary was authorized to take the necessary steps to have printed a catalogue of premiums for the next annual exhibition, with advertisements inserted, provided the same shall not be an expense to the society.

The secretary of Directors was directed to prepare a premium list for presentation to the society at its next meeting.

J. B. Long was appointed essayist for the next stated meeting.

Adjudged.

THE FULTON FARMERS' CLUB.

The September meeting of the Fulton Farmers' Club was held at the residence of William King, Little Britain township, on the 1st instant, all the members being present except Lindsey King. Visitors present by invitation: Isaac R. Kirk and wife, William Coates and mother, Jonathan Pickering and wife.

Day Wood exhibited three varieties of potatoes and Livingston's Favorite tomato.

Jonathan Brown, very fine Mammoth Pearl potatoes, some of which weighed 15 pounds each.

Mulliont Brown, two varieties of potatoes. J. R. Blackburn, Burbank, Victor and another variety of potatoes, and Diana, Telegraph and Concord grapes, and Hedges prolific wheat.

Emil Vahl, growing members for milk, Winking, Mammoth, Pearl and Burbank potatoes, and several varieties of grapes.

Ed. Gibson, one peck of Peckless potatoes, which had been raised from two; also, Victor potatoes.

Some reported quite a large yield of potatoes, and the same exhibited were very fine.

Solomon L. Gregg asked if there was any better harrow for all purposes than the oil-fashioned A harrow.

Mulliont Brown has a double A which he likes better than the single A, but the Acme beats anything that he has tried as a pulverizer, where it is

easily or tough. It is hard on the team if rode upon, but if not it was no harder on either. Joe Wishman: The single A does very well if the teeth are kept sharp; never used any other.

Jonathan Pickering: The double A is better than the single, but the Acme beats both.

Joseph P. Host and Isaac S. Kirk prefer the twin harrow to the A.

C. C. Kinneman asked if fertilizers could not be obtained at a reduced price, if purchased in large quantities. It was generally thought that they could, but that there would not be a sufficient quantity of any one for by members of the club to make it an inducement.

Wm. King: Comparatively, how near do potatos equal corn in value? Answer: About two bushels of potatoes to one of corn for feeding, with all their profit. H. H. Haines mentioned that the composition of potatoes was three quarters water. Some feed with corn and think them profitable.

Viewing the Farm.

The criticism on the farm was favorable. A new hen house having been mentioned as a place for dirt and vermin, one member said that, in his opinion, hen and hog houses had not yet been invented. One thought a hen house should be fixed in such a way that they could be completely cleaned. It was argued that poultry receives less care than hogs and is more profitable.

Ben Hill spoke of H. W. Berchee's hen parlor. His hens entirely quit laying thus: one, however, got out and stole her nest, laid, hatched and raised her brood, being the only chicks he had.

Literary.

William King read a selection. M. Brown, How much wheatseed per acre? Will B. Coates, a letter, written by his brother at Dayton, in which the listeners were told how strong the bonds existing between the two settlers and Satan were.

An Invitation Accepted.

A communication from the Octoraro Farmers' Club, extending an invitation to the members to meet with them and assist in their programme at a public meeting to be held at Hayenville, September 15, was read. Wm. King, Day Wood and H. H. Haines were appointed to represent the Fulton club, and to carry with them whatever they consider of interest.

The Acme harrow was on exhibition by Howard Coates, who, in the afternoon, exhibited it at work. The members expressed themselves as well pleased.

Adjudged to meet at C. C. Kinneman's on the first Saturday in October.

AGRICULTURE.

Take Care of Your Tools.

In a majority of cases it is the full intention of the farmer to put away any tool or machine being used, as soon as possible after work is finished, with it, but when the work is finished, whatever is left should be left until a more convenient time to put it away. Time passes and still it is not done. Many farmers when asked to subscribe for a good agricultural paper will plead poverty, when at the same time plows, harrows, cultivators and other farm implements, when piled up in the fence corner, or some other out-of-the-way place, there to remain till wanted next year. The loss by such practices amounts to enormous in one year in many cases, to pay for one copy of half the agricultural papers published in the country. It is not possible to recommend a person to see in many cases, and especially in the West, wagons, sleighs, shovels, mowers and reapers, and much other valuable machinery, left to take their chances with other less valuable farm implements. Spring and summer, and the close of work, will shortly be here, finding many farmers unprepared for its appearance. Everything used about the farm should be critically examined and wherever a nut is off, a bolt lost, or any deficiency whatever, it should be repaired at once, and then everything carefully stored away in some dry, good place. It costs very little to prepare a place where everything used about the farm can be stored without danger of rust and decay. If it is not done, it cannot be made a temporary one, and use it until a more permanent one is provided. It will pay. System and care will soon enable any one to acquire the habit of putting everything in its place when not in use. As soon as any implement, tool or machine is done with, if it has been used again for a few weeks, take it right to the place prepared for it, and there let it remain, out of the sun and rain, until needed again.

J. F. Hunt.

Sweet Corn and Sorghum.

Mr. A. E. Allen writes to the New York Tribune as follows about sweet corn and sorghum cane for sugar feed cows: 'I found last season that sorghum cane of the amber variety—the barrel-stick variety—I know and as sweet as any I have tried—endured drought better than corn, but that hay stock preferred the latter, which was contrary to the experience of a friend, and was doubtless because I choose it for feeding green the best sort of sweet corn, there is no over-thick in dribs three feet apart, and cut the stalks from the time they begin to thicken till the grain is in the milk; never let it pass this stage. The stalks do not grow over a half to three-fourths of an inch per day at that rate, but they are consequently tender and sweet their whole length, and they are greedily eaten up from one cut to the other. There is one advantage of growing amber cane over corn in the latitude of 39° and lower—we can get two crops of it from the same sowing in a season, provided it is an average one, no unusual late frost in May or an early one in October. Prepare the land as for corn; strike out shallow drills with the plow three feet apart, and drop the seed sufficiently close to have the stalks stand about an inch apart in the drills. A hand seed drill may be used for this purpose. Some say that it is not necessary to cultivate, and it should not, therefore, be sowed so early. Others say the growth for the first few weeks is very slow. I find, thus far, neither of these assertions true. I sowed at the same time as corn; it came up quickly and grew right off, and I earnestly advise my fellow-farmers to experiment with this plant forage.'

How to Exterminate Sorrel.

Many farmers are greatly troubled with a growth of sorrel upon their lands, which is an indication of neglect and exhaustion of fertility. The best way, however, appears upon land in good tillth in seasons when extreme drought prevails, or upon siltaceous dry ridges. The best way to exterminate the pest is to sow bone dust mixed with ashes and plaster. One part of raw bone dust (made by roasting bones) and half a barrel of plaster will serve to kill the sorrel on a quarter of an acre of ground, if applied after deep plowing.

The hay crop of this country ranks next to that of corn in value. In 1881 the value of the hay ex- exceeded that of the cotton crop by $90,000,000, and in 1881, 14,000,000 tons of hay, weighing ten tons to the car, were brought into New York city by rail. It was estimated that in 1882 147,000 tons were received there. In the month of December last 144,000, and it is reported the crop in New York city in 1882 are said to have reached beyond it of $25,000,000. The shipments by water from New York were about 100,000 bales.

Wild Tobacco in Nevada.

In the vacant lots, ravelins, and favorable spots in and about Austin, as also in all parts of the state, native wild tobacco grows profusely. It seems to require little or no water, but the fresh, green look- ing, flat leaf is not too much liked by the sleeky, jolly men everywhere. It is simply a juicy plant, which few respectable animals care to browse upon. Over in Como, where I was twenty years ago, an old Missourian, who knows all about tobacco, headed down and trimmed some of the most vigorous plants

1883.
Horticulture

Transplanting Celery.

The soil best adapted to the perfect growth of celery is a deep, meadow, sandy loam, rather moist in character, but well drained. The soil, of whatever character, should be rich and thoroughly pulverized. Late in the season, it is much to the advantage of the crop to allow it to get a good chance to grow through and render the stalk pliable instead of crisp.

In the Northern States celery plants are set during the middle of July and at the South a month or six weeks later. Deep trenches have, for the most part, been abandoned for the less laborious and expensive mode of furrows drawn the same as for beets or mangolds.

Select cloudy or wet weather for transplanting celery when possible. If done in dry weather the plants will require repeated waterings and shading until they are established. The rows may be marked off four or five feet apart, and the plants separated eight or ten inches in the row. Many cultivators practice cutting back the tops at transplanting to render the plants stocksy.

A mixture recommended by some of our correspondeents is to incorporate with the manure used in the furrows consist of soil, sandy loam, and leaf mold. This is, I believe, not only act as a preventive to worms, but promotes the growth of the plants.

There is no doubt but that the rust on celery is caused by particles of earth which fall in among the stems of the plant. In process of blooming when there is rain or dew on the plants the remedy is obvious; avoid Hiring or earthing up the plants except when they are quite dry, and at the final occasion, gently slant and smooth the soil so as to throw off the moisture.

Peas in the Fall.

The way to raise the finest quality of peas is, after the first sowing, to plant them deep and wash them, so that the peas not only have good and moist roots, but the beard plant in September and in due time are for sale in our markets, are really delicious in flavor and fairly melt in the mouth. This is the result of cool soil. But were these beans planted three and four inches deep, as we have mentioned, the results would have been much better. Throughout the season, and matched in the hottest portion of the month when we could have, as with the peas, these vegetables at all times up to November in perfection.—German- town Telegraph.

Cornell's Fancy Apple.

Among what may be called early apples is one which is not yet well known, because it is not so old a sort as many are. It is, however, one which would give entire satisfaction to its owner. Many of the early sorts are not well colored, but this one, Cornell's Fancy, is an extremely handsome looking fruit. The fruit is fit to eat by the middle of August, but if not needed then it can remain on the tree for some time later. It belongs to the class of apples known as sweet, but it has not the objection made to some sorts of being too sweet. So far it is best known in our own State and Maryland, though it finds much favor in New York, Michigan, and some of the Southern States. In small gardens apples are not so satisfactory as they are on about the space they occupy when a few years planted, but where the proper room can be afforded this variety of apple would be very satisfactory.

Honeysuckles.

The calls lily, old as it is, is a favorite flowers, especially with those who have plants for window decoration. It is a plant requiring but little heat, has leaves of such a deep green color, setting off so much advantage its pure white blossoms, that no one wonders at the estimation it is held in. Although it will live in the heat of the southern States as well, as often grown in foundations in Europe, it does extremely well in pots. The plants are usually set away without attention in the spring and allowed to wither up, so far as the tops are concerned. In the fall they are repotted, and watered regularly, and on the approach of cold weather taken into the house.

They like abundance of water while growing and flowering, but not too much heat, as stated above. A moderately cool room, with the pot set in a saucer of water, is what suits them.

Native Lilies.

Those who are familiar with the growth of our moist woods must have seen and admired the beauties of our native lilies. There are two sorts common here, the Superb and the Cardinale. It is only the former sort however that may be said to be common, for the latter is a very abundant, is but seldom met with in any woods visited by the public. The Superb grows to a height of five to six feet in its native woods. The flowers are brilliant scarlet, appearing about the first of August. The Cardinale does not grow so tall by two feet. Its flowers are yellow, not so large as the former, and bell shaped, the segments barely reflexing at their points, while it is the character of Superb to reflex, the tips of the segments turning back to the stem. There are other old sorts of native lilies, but they are not found about here. There are the Purple, Orange, Yellow, Black or the Florida Lilies, and the Paqueui, which thrive very well with us, out of doors with our own. Lilies transplanted from the woods to our gardens grow very well, but they do not grow so tall as when wild. The fall is the best time to get them. These are found by their flower stems. They should be planted quite deep, for the bulbi will not thrive unless cool. Cover them with the winter leaves, and during summer with some material such as short grass, to keep the ground cool and moist. Thus treated they grow and bloom well throughout the season. Another common lily found in gardens, called Tiger Lily, is quite distinct from the secret one of which we write.

Moore's Early Grape.

Since the advent of the Hartford Prolific grape, there has been a great advance in the production of early ones. The Telegraph speaks of no less than the same time as the Hartford Prolific does. Both of these are very good sorts. The former is more growth than the latter, yet it does not suit market men very well, because the berries soon drop from the bunches. A slipper would find his returns less than they should be because of this defect in the bunches. There is another grape, yet new to many, which will no doubt, become popular. It is the one whom name heads this article—Moore's Early. This grape is already known to many of late it was sent out with a great deal of merit claimed for it which it does not possess. It is not a better flavored grape than the Concord, yet this was claimed for it. But undoubtedly it is an extra early grape, ripening in this vicinity about August 25th. The writer tasted some on August 16, which were good eating though not ripe then. It seems of very good flavor, bunches not extra large, but berries large and of firm texture with the idea that it will make an excellent sort for market. It is a black grape. While so much other fruit is so obtained grapes are not much sought for, but it does not harm to have one sort to come in early, and this one may safely be Moore's Early.

Honeysuckles are old favorites in gardens, and many suppose there is nothing new to be said about them. But there are now more kinds known than there were a few years ago, and some of the newer sorts differ in many respects from the older ones. The Chinese and the Japan sorts are probably the best known of all, with the addition of the Belgian. The two former flower at the same time in spring. Both are desirable, and are often planted together, on account of the contrasting color of the leaves and flowers, the Chinese having red stems and leaves of the same tint, while the Japan is of a dark shining green. The Japanese is of a very dense growth, and is the more desirable of the two when the object in view is to form a screen as well as to have bloom. Then too, the Japanese is very hardy, and of course much sooner to flower than the Chinese. It has a honey scent to the flowers, and it blooms occasionally throughout the summer. But for a succession of flowers, there are none equal to the newer, one called Halliana, or Hall's honeysuckle. This does not commence to bloom so early as the others named, but then its flowers so profusely, and the blooms have time to come more or less all summer, that it is a sort which cannot be done without, where flowers are an object. It is not alone its overblooming qualities which recommend it. It is a very strong, thriving plant, and branches or cuts made from it will grow, and of the sorts. The leaves are not of such a glossy green as those of the Japanese, but they are very persistent in the winter time. It is a sort which please all who have it. There are other kinds of honeysuckles available for collections and for certain places, such as our native snakeroot and yellowwood, which are yet occasionally met with in the woods heretofore. It will be a long time before any vine is found to supersede the honeysuckle for planting about our homes.

Summer Lettuces.

Every one who has had anything to do with the raising and growing of lettuces knows how difficult it is to get a good, large, crisp, and well bloomed head, only when treated in the ordinary way, that is, by sowing them in seed beds and transplanting, a method of treating them that is far from the best. The system I have always pursued, and it is one I can strongly recommend, is sowing the seed in drills in the mud, as high as possible, the plants are to stand, by doing which much time and labor are saved, and the young lettuces are left with their tap roots intact. These drive straight down into the earth, and as the plants receive no check they grow very fast and attain a large size, and are at the same time well bloomed, and, as a natural result, tender, crisp and juicy when cut up for use in the salad. Transplanted lettuces are generally the reverse of this, the reason of which is that they fly through transplating; as the roots and leaves are to be penetrated deeply into the soil and search for food and moisture below, they are entirely dependent on what they find within their reach above, and the supply often fails. Distressed and checked by sun and wind, they grow with small heads and few leaves, while the lettuces in beds are in consequence tough and indigestible and unfit to eat. The best place to get good lettuces at this season of the year is on ridges between rows of celeries, as there they have great depth of soil, owing to the addition of that thrown out from the trenches, and as it is principally surface material.
THE LANCASTER FARMER.

1883.

DOMESTIC ECONOMY.

Spilt Ink.

Spilled ink upon a carpet or other woolen article may be entirely removed in the following manner: While the ink is still wet take clean blazing hot paper or cotton batting and carefully soak up all that is possible; then pour a little warm milk on the article and sop it up with clean cotton batting. This must be done several times, each time soaking the milk up with fresh blotting and using fresh milk. When the milk is removed wash the spot with clean soap and rub dry with a clean cloth. If the ink had become dry the milk must remain on longer and used often. With perseverance, however, it will all disappear.

Glass Staining.

Glass staining may be done at home by the following process: Spill upon the glass a strong gum water, and when dry lay it over the paper on which the design is sketched, and trace with a fine hair pencil all the outlines. Dip the tube-like pencils in the colors, and let them flow out upon the glass; have a careful brush at hand and fill in the pencil's set down. The lights and shades are produced in a variety of ways; one of the easiest, and especially to beginners, is to take a coarse quill cut in the shape of a pen, without the slit, and with it carefully take out the lights by lines and little dots. This part of glass staining is the most exciting and difficult, as much of the effect depends upon the shading. The glass is then ready for the gilt.

The Troy Pound.

The Troy pound, still used in this country for weighing the precious metals, is believed to have been derived from the Roman weight of 5739.2 grains, the 125th part of the Ahimadat talent; this weight, like the Troy pound, having been divided by the Romans into twelve ounces. The earliest statute of this kingdom in which the Troy weight is named, is the 2 Henry V, statute 2, chapter 4, but the Troy weight is universally allowed to have been general use from the time of King Edward I. The most ancient system of weights in the Kingdom of England, was the money-pound or the money-pound of the Anglo-Saxons, which was continued in use for some centuries after the conquest, being then known as the short pound, and was standardised in 1327 by statute of Henry VIII, which first established Troy weight as the only legal weight for gold and silver, and from this time to the present our system of coinage has been based on the Troy weight, the Troy pound containing 5,710 grains.—Nature.

Peanut Flour.

No doubt there long "peanut flour" will be an important product of the peanut fields this year, for this year this crop in the southern states, and particularly in Texas and Georgia, where it is eaten largely by the negroes, is said to be much more abundant than ever before. The amount of destruction effected by these insects is almost incredible. Dr. Parshad, in speaking of an invasion of a dwellings in Cobb County, Georgia, dur-
The Lancaster Farmer

[September, 1883]

this report we learn that the total crop of what in the State of Kansas, the present year, is 28,382,919 bushels, a decrease of 7,000,000 bushels on the crop of 1885, and that the average is 18.3 bushels per acre. Oats estimated at 29,321,362 bushels. Corn could, of course, not be even approximated, but there are 4,000,000 acres of corn in the State. The rye crop was demoralized, 14,046 acres being winter killed, 36,979 acres used for pasture, and not harvested; 270,480 acres made a yield of 4,532,296 bushels, averaging 17.9 bushels per acre. Barley, so far as heard from, 15.25 acres yielded 211.9 bushels. Millet and Timothy, grown, yielded 280,904 tons, averaging 2.17 tons per acre. Irish potatoes—50,545 acres under cultivation, being 21,382 more than in 1882. Sorghum—102,042 acres under cultivation, being 35,108 more than in 1882. In other crops there was no marked change this year, especially in buckwheat and tobacco. The fruit crop refers to the 31st of July, as it had been a month earlier.

FOURTEENTH and County Fairs were presen to the present season, between September 3d and October 28th.

The Grasses of the United States being a synopsis of the Tribes and Genera, with descriptions of the Genera, and a list of species; prepared by Dr. Geo. Vasey, Botanist of the Department of Agriculture, Washington, D. C. Special report, No. 61, uniform with other members of the series; pp. 47. Whole number of known genera 114, and of species 880.

Observations on the soils and products of Florida, by William Saunders, Superintendent of Gardens and Grounds, etc., Department of Agriculture, Washington, D. C. Special report, No. 62, pp. 30; an interesting bulletin, and very useful, especially to those who may contemplate a settlement in Florida, with a view to cultivate its soil and general products.

REPORT on condition of crops, "American competition," and freight rates of transportation companies, August, 1883; being special report, No. 64, Department of Agriculture: 50 pp., octavo, Washington, D. C.

The general average of cotton crop had fallen from 90 in July to 84 for August. The presence of the caterpillar in the Gulf coast States were numerous, and, of course, correspondingly destructive. This perhaps will always be so, somewhere, notwithstanding all the remedies and appliances, and all that has been, and will be, written and published upon the subject. But the United States, and the entire religious, it does not depend so much on what we know, as upon what we do, in our efforts to effect a regeneration. Taking the whole area together, the condition of corn had advanced from 8 to 89 per cent., of a perfect crop. The general average for spring wheat, August 1, is 97, the same as in 1882. The condition of oats is represented by 100, and barley, 95, the same as in 1882. The returns to August 1 indicate a full development of the potato crop, being 101. Buckwheat is 90 and tobacco at least 75, the best yields in the entire season, and the average condition of sugar-cane is 96.

From Maine to Virginia the condition of timothy on August 1, indicated 100, and a heavy growth of clover had been secured. The highest mark for the whole country is West Virginia, 108. These reports ought to be taken not only as indications of current condition, but to be read by all the cultivators of the soil at least; but, have they access to them, and if so, do they read them?

CIRCULAR of the Pennsylvania State College, 1882-83, with a statement of the courses of instruction, 40 pp., 8vo, entirely made up of statistical tables; from which it appears, that the corn product in that year was 57,451,676 bushels; Wheat 450,483,137 bushels, and oats 407,538,999 bushels, grown in 48 States and Territories, under the United States Government. The cereals grown in 1882 were 14,523,000 acres, and the wheat 55,430,355 tons. In addition to these, there were 1,907,737 acres in barley, yielding 41,976,495 bushels; 484,389 acres in buckwheat, yielding 11,817,267 bushels, and 1,824,285 acres in rye, yielding 19,513,595 bushels.

Investigations of Sorghum, as a sugar producing plant during the season of 1882, by Peter Collier, a practical farmer, of the Alleghany Valley of Pennsylvania. 54 pp., Table of Contents, 40 pp. in one large fold. Of 307 acres planted, the production of over one ton of sorghum sugar from an acre of ground, is far beyond the results, or even the hopes of most of those interested in its cultivation, and yet the averages shown in summary experiments illustrate that such a result is by no means impossible.

That the Sorghum and Best sugar industry, being a record of practical experiments conducted under the direction of the Commissioner of Agriculture, 50 pp. 8vo. This pamphlet goes into the details of some of the most important experi- menteries and necessary machinery, process of manufactur, profit and loss, expenses and outlay, tests and a hustled matters connected with this industry, throwing light upon the subject upon which those interested to engage in it may need, and should avail themselves of before they embark in it.

The Sugar Beet, 16 pp. quarto. Fourth year, No. 3, August, 1883, Philadelphia, Pa. This is an able advocate of the beet sugar industry, exceedingly open up, and always interesting and instructive.

American Journalist.—Published monthly by the American Journalist and Printing Company, at 506 Chestnut street, St. Louis, Mo., at 25 cents. (Destinately in advance.) P. Yorkston, President and Treasurer. C. C. Howes, Vice-President; W. H. Kern, Secretary; R. P. Yorkston, Editor. A two columned Royal quarto of 28 pages, in fine tinted covers, and the typography and material of which, "is an honor to the craft." No. 1, vol. 1, of the most interesting and useful things that working writers of the press throughout the land; to bring into communion him who does his work on the Atlantic coast with his contemporary laborer on the shores of the Pacific; and to constitute such a medium as will give to the toilers of the pen just what they expect from the services they are devoting to mankind. A very interesting paper on the journalism of Missouri, embellished with fine portraits of George Knapp, William Hyde, Daniel M. House, Joseph H. McCullagh, John N. Edwards, and John W. Willard, all distinguished names in our State—constitutes the initial article in this first number; followed by a paper on French Journalism, by E. J. Bidde; Sporting Journalists, by David L. Keel, and Old Hats in Printing Machinery, by a Mechanic Engineer. Among "newspaper letters" from Pennsylvania, was one of a "fact, fiction, and file" nature, which is entitled: "The three oldest living newspapermen in Pennsylvania reside in Harrisburg. They are Gen. Simon Cameron, aged 86 years; George W. Scott, aged 85 years, and Jacob Baib, aged 83 years." A " anew paper" established there were 2 columns, in which "only the staffs of daily papers taking press dispatches will appear." Thus far, only eight have reported from Pennsylvania, the nearest to us, of which is Harrisburg; but other towns of less population than, Lancaster are represented. This department of course, is still incomplete, but it will be revised and corrected to date of each monthly issue. This number is the beginning of an important undertaking, and no doubt it will ultimately be a big one. Thus, one by one, the vacancies in the list will be filled when they are discovered, and will be filled. The world moves.

SPIRIT OF THE FARM.—A weekly journal, devoted to agriculture and live stock, Nashville, Tennessee, September 9, 1883, No. 1, Vol. 1, 16 pp. royal quarto, published by the "Spirit of the Farm Publishing Company," southwest corner Church and College streets, is a good agriculturist, by F. E. Vanderlaan, assistant. The editor says: "It will be my earnest endeavor to make the Spirit of the Farm what its name literally implies—the spirit of the farm in every way. Born of the farmers, it shall be for the farmer, and to the farmer from the farmer, and shall contain the results of those lessons learned from the best of all teachers—practical experience in the field. We sincerely wish he may realize all his anticipations, and that his subscribers may never be wanting. Farmers are the only men, in the main, to make up a notable and practical agricultural paper. The Spirit of the Farm makes a creditable beginning.
Lucky Expositors.

Prizes Won at the Lancaster Fair

Full List of the Awards of Premiums by the Judges of the Independent State Fair.

Below will be found a list of premiums awarded by the committees in charge of the several departments of the Independent State Fair. The list is copied from the official records, and where not otherwise specified the awards were first premiums:

**Class 1—Herd.**
Best herd, 1st, M. L. Greider, Mt. Joy.

**Class 2—Ducks.**
Cow, 4 years old and over, and Dunlap & Bro., Lancaster.

**Class 3—Jerseys and Alderneys.**
Bell, 3 years old and over, 1st, Lemuel Zook; West Earl, 2d, B. J. McGowan, Lancaster; bull, 2 years old and over, 1st, Lemuel Zook; bull calf, 1st, M. L. Greider, Mount Joy; cow, 4 years old and over, 1st, M. L. Greider, Mount Joy; 2d, B. J. McGowan, Lancaster; cow, 3 years old, 1st, B. J. McGowan; 2d, M. L. Greider, Greider, beifer, 2 years old, 1st, B. J. McGowan; 2d, M. L. Greider, beifer, 1 year old, 1st, M. L. Greider; 2d, B. J. McGowan; beifer, calf, 1st, Lemuel Zook, Mount Joy.

**Horses.**

**Class 7—Roadsters.**
Stallion 4 years and over: 1st, C. H. Robinson, South Street, Lancaster; 2d, J. E. Lewis, North Street; stallion 3 years and over: 2d, D. C. Carter, Woodstock, W. Va; stallion 2 years old and over: 1st, D. C. Carter; gelding 4 years old and over: 2d, Joseph Hendheimer, Lancaster. Mare 4 years old and over: 1st, D. C. Carter.

**Class 9—Draft.**
Stallion 4 years old and over: 1st, John Best, Lancaster; 2d, C. A. Robinson, Rockville; stallion 3 years old and over: 1st, C. M. Moore, Woodstock, W. Va; gelding 4 years and over: 1st, John B. Keadig; 2d, M. H. Wenger.

**Class 10—Carriage Horses.**
Carriage Animal, Joseph Hendheimer, saddle horse, 1st, J. S. Greene, Woodstock, W. Va; carriage team, 1st, M. Moore, Woodstock, W. Va.

**Swine.**

**Class 15—Cherest Whits.**
Boar, 6 months old; sow 1 year and over; sow, 6 months old; sow under 6 months; brood sow and piglet, 1st, M. Greider.

**Class 21—Vehicles.**
Single top buggy, Norbeck & Mileyi; phaeton, Edgerly & Co.; two horse family carriage, Norbeck & Mileyi; family carriage, 2 horses and 4 horses stationary, Edgerly & Co.; single top buggy, Edgerly & Co.; family buggy, spring, Norbeck & Mileyi; family buggy, 2 horses, Dennison; Wageningen hardware company; platform wagon, S. B. Cox; wagon, 2 horses, G. M. Dieter; 2 horse, H. A. Diller; display of farm carriages, Edgerly & Co.; carriage wheels, diploma, Dipl. H. M. Power.

**Class 22—Furniture, Etc.**
Ironing table, J. K. Worth; breakfast table, extension table, table, table, drawer, bed set, bedroom set, J. M. Keiper; coal oil stove, J. Hiesten Stufler; display of stoves and tinware, Robert Stufler; wash stand, H. A. Herr; H. A. Herr; for sale, George A. Geyer; sideboard, marble top table, J. M. Keiper; antique furniture, Aug. P. Reinequi; table and desk legs, library extension table, combined table, sewing table, J. M. Greider.

**Potatoes.**

Snowflake; Bliss Triumph, S. Len Fry; Esphra; Early Yorkshire; White Espbha; Violet; M. L. Greider; Peerless; Jacob M. Mayer; David L. Ginger; Jacob M. Mayer; White Star, S. Len Fry; White Elephant, Jacob M. Mayer; Espbha Valley Champion; Superman, Orange, J. M. Greider; American Giant, State of Maine, Early Vermont, Early Sunrise, Boston Market, Magnam Bonum, lavender, Jacob M. Mayer; Quoerus, Mammouth Pearl, Eosy Morn, Buckeye, S. Len Fry; white meat, J. L. Greider; red meat, M. L. Greider; winter squash, Herman Wanet; tomatoes, M. Jacob Mayer; pork, G. M. Dieter, Jacob M. Mayer; onions with D. Ritter, Merchante Grove.

**Apples.**


**Grapes.**

Concord, Keyston Seedling, Moore's Early Samsun, Martin, Seedling No. 7, and J. Perkins, John and Leonia Bell, Wm. Weidle; Hartford, Lady Jacob M. Mayer; Clinton, Jacob M. Fantz; Trench, B. H. Aitkenhouse; Robinson's Yenger.

**Peaches.**

Best Plate, Fanny Kready; Susquinou, Crawford, Late, Schuler, Pouter, Lamb of Peaches, Stamp the World, Seedling, Wm. Weidle.

**Pears.**

Best plate, Chas Lippold; Buero de Hiver, Vicar of Wakefield, Angelenoue, Buero Esther, J. Vert vegetable, Hubbardston, Nonsuch, D'Jersey, Steveva Guineaus, Sheldon, Hewell, Buero des Roses, Chas Lippold; Buero Baccus, Glore, Montecarlo, Kready, Henderson, Greece, Quincy, Brockworth, Buffou, Flemish, Pears of Christmas, Kready, Wm. W. Weidle, Urbansmte, Buero d'Anyou, Dyemose Baccus, Mrs. Chas B. Long; Bartlett, Mary Brain; Mrs. J. H. Stein, Long; Pluas, Raspberries, Figs, John Kready.

**Class 30, 31, and 32.**
Woolen and silk and woolen work, Philip Schum, Son & Co.; work thoroughly made, Seabury, Salisbury; door mat, Mrs. Clara Leibiger, Philadelphia; Miss J. Reinstein; pair socks, pair mittens, Mrs. Jacob Mayer; egg, satin quilt, Janet Hess; sycamore, Miss H. A. Martin; pillow shaw, Mrs. C. E. Hulsh; silk quilt, silk hat, Mary L. Her- ler; counterpane, Philip Schum, Son & Co.; silk purse, infant's shirt, stamped napkins, doll's stocking, pillow cases, Mrs. Jacob Engel, Jersey, knitted coat and cap and stamped satin, Miss J. Reinstein; pair cushions, Mary Bachler; dress, Mrs. J. B. Keadig; woolen work, Miss H. A. Martin; embroidered work, Miss Lansdon, Rittenhouse, embroidery; needle work, Mrs. J. C. Detweller; display of needle work, Mrs. J. B. Keadig; sofa cover, Mrs. Clara Royer; sofa cover, Mrs. Clara McCrumb; work basket, crochet strap, slippers, emb, table scarf, specimen out-lining, Mrs. Jacob Engel; stripe-carpet, Mrs. Mary C. Bear, Leacock; table spread, Mrs. R. A. Malone; lamp shade, worked chair seat, embroidered pillow, Mrs. Jacob Engel; table spread, Mrs. C. Bear; turned work, Lizbeth Bear, Kohnenhorst; chair cover, Mrs. Leonard Bower, twin scene, Mrs. J. C. Detweller; tidy, Mrs. J. B. Keadig; mat, matlicher, lambroughe, Lizbeth Bower; embroidered towel, Mrs. J. B. Keadig; door; sour; coverlet; table spread, Mrs. J. B. Keadig; lamp shade, Mrs. J. B. Keadig; crocheted work, embroidered flowers, Mrs. A. F. Spen- cer; seed wreath, Agnes Single; fancy bal- loon, Mrs. Jacob Engel; hair flowers, Mrs. Clara Libiger; case dyed feathers, E. Thomas; preserved flowers, Elia S. Bowers, Millersville; woven plaid, Mrs. J. B. Keadig.

**Fine Arts.**

Pew drawing, H. C. Weidiger, Lancaster; pew- dul, J. P. Abraham, J. J. Abraham; J. P. Abraham; India ink drawing, W. D. Mosser; oil portrait, Julia A. Keller; water color, E. W. Weaver; pastel picture, E. W. Weaver; Richards; pastel picture, Indian ink picture, J. P. Abraham; display of instantaneous photo- graphs, J. E. Racine; portrait, W. D. Mosser; crayon portrait, W. H. Weible; blackboard surface, E. Beckinger; pastel water color portrait, Mrs. Jacob Engel; pastel animal painting, J. P. Abraham.

The judges names are in the entry of the respective premiums: S. S. Royer & Son, Mount Joy, shafts, George Flick, Lancaster, a grower of fine potatoes, J. B. Keller; D. J. Bun- dins, ground; Frank Crome, Lancaster, Sue oil paintings; Gurtile & Son, for fine grading and favorable mention for water strips, Lt. Commander, Zutman, Nazareth, for grain tools, 1st premium, E. W. Weaver, Eden nursery, for display, J. J. Abraham; Christmas, E. W. Weaver, Eden nursery, for display, S. S. Royer, st. Mt. Hyatt, quinces, 1st premium, William J. Kirk- pile, tobacco scrap cutter, favorable men- tion.
THE LANCASTER FARMER

[September 1883]

IV

Where To Buy Goods
IN
LANCASTER.

BOOTS AND SHOES.

MARSHALL & SON, No. 12 Centre Square, Lancaster, Dealers in Boots, Shoes and Rubbers. Re-ceiving promptly attended to.

M. LEVY, No. 3 East King street. For the best Dollar Shoes in Lancaster go to M. Levy, No. 3 East King street.

BOOKS AND STATIONERY.

JOHN BAIRN'S SON'S, Nos. 19 and 17 North Queen Street, have the largest and best assorted Book and Paper Store in the City.

FURNITURE.

HEINITSCH, No. 255 East King st., (over China House) is the cheapest place in Lancaster to buy Furniture. Picture Frames a specialty.

CHINA AND GLASSWARE.

HIGH & MARTIN, No. 15 East King st., dealers in China, Glass and Queenware, Fancy Goods, Lamps, Burners, Chimneys, etc.

CLOTHING.

MYERS & RATHFON, Centre Hall, No. 12 East King St. Largest Clothing House in Pennsylvania outside of Philadelphia.

DRUGS AND MEDICINES.

G. W. HULL, Dealer in Pore Drugs and Medicines, Chemicals, Patent Medicines, Trusses, Shoulder Brace Supports, etc., 15 West King St., Lancaster, Pa.

JOHN F. LONG'S SON'S, Drugists, No. 12 North Queen St., Drugs, Medicines, Perfumery, Spices, Dye Snuffs, Etc. Prescriptions carefully compounded.

HATS AND CAPS.

C. H. AMER, No. 39 West King Street, Dealer in Hats, Caps, Furs, Robes, etc., Assortment Large, Prices Low.

JEWELRY AND WATCHES.

H. Z. ROATH & BRO., No. 4 West King St., Watches, Clock and Musical Boxes. Watches and Jewelry Manufactured to order.

PRINTING.

JOHN A. HIESTAND, 9 North Queen st., Sale Bills, Large prints, Posters, Cards, Invitations, Letter and Bill Heads and Envelopes neatly printed. Prices low.

BOWMAN & MUSser, Successors to E. F. BOWMAN, Wholesale Dealers in

WATCHES & CLOCKS

AT LOWEST POSSIBLE PRICES.

Fully guaranteed.

No. 23 EAST CHESTNUT STREET.

Opposite P. R. R. Depot.

GREAT BARGAINS.

A large assortment of all kinds of Carpets are still sold at lower rates than ever at the

CARPET HALL OF H. S. SHIRK,

No. 202 West King St.

Call and examine our stock and satisfy yourself that we can show the largest assortment of those goods, three plies and bargain at all prices—at the lowest Philadelphia prices.

Also on hand a large and complete assortment of Bag Carpets.

Satisfaction guaranteed as to price and quality.

You are invited to call and see my goods. No trouble in showing them even if you do not want to purchase.

Don't forget this notice. You can save money here if you want to buy.

Particular attention given to customer's work.

Also on hand a full assortment of Crape, Oyster, Oil Cloth and Blankets of every variety.

E. J. ERISMAN.

GLOVES, SHIRTS, UNDERWEAR.

SHIRTS MADE TO ORDER,

AND WARRANTED TO FIT.

17 West King St., Lancaster, Pa.

[July-1-1883]

E. J. ERISMAN.

Thirteen Varieties of Cabbage; 26 of Corn; 26 of Cume-

BER; 41 of Molasses; 33 of Peas; 23 of Beans; 17 of

Squash; 25 of lettuce and 40 of Tomatoes, with various other vari-

ties in proportion, a large portion of which were grown on

my five acres of land, will be found in my Vegetable

and Flower Seed Catalogue for 1883. Send fifty

cents to all who apply. Catalogues of last season need not

write for it. All Seed sold from my establishment war-

anted to be fresh and true to name, so far, that should

it prove otherwise I will refund the cost. The

original introducer of the early Ohio and

Burbon Potatoes, Marshland, Early Corn

the Hubbard Squash, Marblehead Cabbage,

Phinery's Melon, and a score of other New Vege-

tables, I invite the patronage of the public. New Vege-

tables a specialty.

JAMES J. H. GREGORY,

Marblehead, Mass.

ERISMAN.

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EVAPORATE YOUR FRUIT.

ILLUSTRATED CATALOGUE FREE TO ALL.

AMERICAN DRIER COMPANY,

Chambersburg, Pa.

$72 A WEEK. $12 a day at home easily made. Costly


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ATTORNEY-AT-LAW,

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Nov-1

CORN SHELLERS AND SEPARATORS.

GRAIN FANS, ROOF CUTTERS,

GRABBING HOES, FODDER CUTTERS,

PICKS AND MATTOCKS,

COOLEY CREAMERS, CHURNS,

BUCKET WORKERS & BUTTER PRINTERS,

BULL LEADERS, BULL RINGS,

OX BALLS, COW MILKERS,

CALF WEANERS, etc., etc., etc.

FOR SALE BY

D. LANDRETH & SON'S,

NO. 21 & 23 SOUTH SIXTH STREET,

PHILADELPHIA.

Special Inducements at the

NEW FURNITURE STORE

OF

W. A. HEINITSCH,

In all kinds of

Furniture, Picture Frames, &c.

A general assortment of furniture of all kinds constantly

on hand. Don't forget the number.

28 East King Street,

LANCASTER, PA.

1840.

1883.

DR. JOHN BULL'S

Smith's Tonic Syrup, for the Cure of

FEVER AND AGUE,

OR CHILLS AND FEVER, AND ALL MA-

LARIAL DISEASES.

The proprietor of this celebrated medicine justly

claims for it a superiority over all remedies ever offered to

the public for the Safe, Certain, Speedy and Perma-

nent cure of Ague and Fever, or Chills and Fever,

whether of short or long standing. He refers to the

Entire Western and Southern country to bear him testi-

mony to the truth of the assertion, that in no case

whatever will it fail to cure if the directions are

strictly followed and carried out. In a great many cases a single

dose has been sufficient for a cure, and, while families

have been cured by a single bottle, with a perfect re-

storation of the general health. It is, however, prudent,

and in every case more certain to cure, if in use is con-

tinued in smaller doses for a week or two after the dis-

ease has been checked, more especially in difficult and

long-standing cases. Usually this medicine will not re-

quire any aid to keep the bowels free and of proper

order. Should the patient, however, require a saline

medicine, after having taken three or four doses of the Tonic, a

single dose of BULL'S VEGETABLE FAMILY PILLS

will be sufficient.

The genuine SMITH'S TONIC SYRUP must have

Dr. John Bull's private stamp on each bottle. Dr.

Bull only has the right to manufacture and sell the

original JOHN BULL'S TONIC SYRUP, of Louvi-

erville, Ky. Examine well the label on each bottle.
If no private stamp is not on each bottle do not pur-

chase, or you will be deceived.

DR. JOHN BULL

MANUFACTURER AND VENDOR OF

SMITH'S TONIC SYRUP,

BULL'S SARSAPARILLA,

BULL'S WORM DESTROYER,

The Popular Remedies of the Day.

Principle Office, 831 Main St., LOUISVILLE, KY.

[August 1883]

1840.

1883.

S. S. RATHVON,

Merchant Tailor,

No. 101 NORTH QUEEN ST.,

LANCASTER, PA.

DRAPER.

1840.

1883.
SEED WHEAT!

We desire to call the attention of farmers to a new variety of White Winter Wheat called

LANDRETH’S WHITE WHEAT!

It is of vigorous growth, early, hardy, stiff straw, free from rust, produces largely and makes good flour.

Price, $1.50 per peck, $5.50 per bushel, or $10 for two bushels. Bag free.

SEND FOR DESCRIPTIVE CIRCULAR.

D. LANDRETH & SONS,
Nos. 21 & 28 South Sixth Street, and Delaware Ave & Arch Street,
PHILADELPHIA.

WIDMYER & RICKSECKER,
UPHOLSTERS,
And Manufacturers of
FURNITURE AND CHAIRS.
WAREROOM:
102 East King St., Cor. of Duke St.
LANCASTER, PA.

For Good and Cheap Work go to
F. VOLLMER’S
Furniture Ware Rooms,
No. 309 North Queen St.,
Opposite Northern Market.
LANCASTER, PA.

Also all kinds of picture frames.

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**OFFICE**
No. 9 North Queen Street, LANCASTER, PA.

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One of the largest Weekly Papers in the State.

Published Every Wednesday Morning,

Is an old, well-established newspaper, and contains just the news desirable to make it an interesting and valuable Family Newspaper. The postage to subscribers residing outside of Lancaster county is paid by the publisher, send for a specimen copy.

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Two Dollars per Annnum.

#### THE DAILY LANCASTER EXAMINER

The Largest Daily Paper in the county.

Published Daily Except Sunday.

The Daily is published every evening during the week. It is delivered in the City and to surrounding Towns accessible by railroad and daily stage lines, for 10 cents a week.

Mail Subscription, free of postage—One month, 50 cents; one year, $5.00.

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#### PRACTICAL

- **Carriage Builders,**
- **Cox & Co.'s Old Stand,**
- **Corner of Duke and Vine Streets,**
- **LANCASTER, PA.**

The largest assortment in the city. Prices to Suit the Times.

**Carriages, Etc.**

Repairing promptly attended to. All work guaranteed.

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<td>$5</td>
<td>Cigar Box Manufacturer, 49 West Lemon Street, LANCASTER, PA.</td>
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**SILVER & PLATINUM PLATED WARE,**

**CLOCKS,**

**JEWELRY & TABLE CUTLERY.**

*The only trains which run daily.*

---

### G. SENER & SONS,

Manufacturers and dealers in all kinds of rough and finished **LUMBER,**

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**ESTABLISHED 1832.**

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Embracing the history and habits of:

- **NOXIOUS AND INNOCUOUS INSECTS,**

and the best remedies for their expulsion or extermination.

By S. S. RATHVON, Ph. D.

LANCASTER, PA.

This work will be highly illustrated, and will be put in press (as soon after a sufficient number of subscribers can be obtained to cover the cost) as the work can possibly be accomplished.

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**THE LANCASTER FARMER.**

**Pennsylvania Railroad Schedule.**

On and after SUNDAY, JUNE 24, 1883, trains leave the Depot in this city, as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>To</th>
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<tr>
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<td>Lancaster</td>
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<td>6:23</td>
<td>Harrisburg</td>
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<td>4:30</td>
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<td>8:15</td>
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<td>12:30</td>
<td>Philadelphia</td>
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### THE LANCASTER EXAMINER

**OFFICE**
No. 9 North Queen Street, LANCASTER, PA.

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### JOHN A. HIESTAND, Proprietor,

**No. 9 North Queen St.,**

LANCASTER, PA.

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**1883—SPRING—1883.**

Now is the time to prune your orchard for New and More Fruit and Ornamental Trees. Shrub, Evergreens, ROSE, VINES, etc. Besides many Delightful Novelties, we offer the largest and most complete stock of Fruit and Ornamental Trees in the United States. Call and examine!

*ELWORTHY & DEER, ORANGE STREET, Mt Hope Nurseries, Rochester, N. Y.*

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The Lancaster Farmer.

Dr. S. S. BATHVON, Editor.

LANCASTER, PA., OCTOBER, 1883.

Vol. XV, No. 10.

EDITORIAL.

ARTIFICIAL EGGS.

"Mer manusz mer mist pouzit marrish site." The following from the Manchester (N. H.) Mirror and Planner, is certainly a "new wrinkle" in domestic production, and no wonder the said old Lancaster county dame should give utterance to the above significant expression. She had heard of wooden hens, nutmegs and cucumber seeds, and also of porcelain "nest eggs," but edible artificial eggs, approximated the chemical process of producing butter from grass or hay without the intervention of the cow; and here were eggs without the intervention of rooster or hen, goose or gander, duck or drake, enough to shake the powers of human reason to believe, even in this progressive age.

"Farties in Paterson, New Jersey, have an establishment in which artificial eggs are manufactured, and a large amount of business in this line is done. The yolk mixture consists of corn meal, cornstarch and several other ingredients. It is poured into an opening in a thick, mushy state, and is formed by the machine into a ball and frozen. In this condition it passes into another box, where it is surrounded by the white, which is chemically the same as the real egg. This is also frozen, and by a peculiar rotary motion of the machine an oval shape is imparted to it, and it passes into a next receptacle where it receives the thin filmy skin. After this it has only to go into the sheller, where it gets its last coat, in the shape of a Plaster-of-Paris shell, a tripe thicker than the genuine article. Then it goes out in the drying trays, where the shell dries at once, and the inside thaws out gradually. It becomes to all appearances a real egg."'

"About a thousand eggs are turned out in an hour, and orders are so numerous that the firm cannot fill half of them. The price charged is $13 per thousand. By a little flavoring and change of size, it is claimed that the eggs may be made to taste like goose or duck eggs. It is said the eggs never spoil, and, being harder and thicker in their shells, will stand shipment better than real eggs. The firm has just received an order for a lot of different colored Easter eggs."

Good by "hibebidies" and "shabebities," good by the Soronous crow and the big cackel, good by the gallic refrain and the motherly cluck, good by, your "occupation's gone."

What next? Oleomargarine butter and cheese supplant the caw. Artificial eggs supplant the hen, the duck, and the goose, and we are still within the last quarter of the nineteenth century. Who knows but that the ingenious inventors of these edible compounds will have monuments erected to their memories before the century closes? There is no chest in these productions, as there is in wooden hens, horn guntlins, and maple cucumber seeds. They are substances that will satisfy hunger, fill the stomach, and afford nutriment. We drink flavored dish-water and call it wine, aqua fortis and call it whisky. Why not oleomargarine and sham eggs?

GLASS ROOF-TILES.

"Wonders surely will never cease," for, although glass roof-lights, glass floor lights, and similar applications of glass were very common, yet in these progressive days we are having entire roofs of buildings covered with glass-tiles. Mr. Jacob Rupp, of West Earl township, Lancaster county, has had a large barn entirely covered with glass-tiles. These tiles are made in different colors, similar to those used for church and car purposes, except that they are not so ornamental, being merely corrugated or grooved and ridged crosswise diagonally, allowing all the water to run off immediately. We have specimens of two of these glass tiles, in fragments before us; namely, the green and the brown, and there seems to be no question about their adaptability and durability, always, perhaps, provide the possessers of such roofs observe the old saw—"those that live in glass houses never should throw stones." From their texture and appearance, however, we have reason to believe that they will resist a more violent concussion than slate. And as to expansion and contraction from intense heat and cold, they are, perhaps, less liable to injury than metal, the tiles being in small individual units, and the heat can only be communicated to the various fragments. Another advantage, we opine, is in their ability to transmit light, for although in five different colors, yet they are not opaque, but allow a soft translucent light to pass through them. Being in a variety of colors they also allow of a variety of ornamentation, and thus break the sombre monotony of slate, metal, or shingles. Besides, they are non-corrosive and need no paint.

THE LATE INDEPENDENT STATE FAIR.

So far as we have been able to learn, the late Independent State Fair was, at least, a financial success to the conductor of it, and, on the whole, the display, except in a few essential specialties was about equal to exhibitions of this kind in general. It seems to illustrate one thing very forcibly, and that is, that the people of Lancaster county—at least the young and middle aged portion of them—require an outlet for "fun and frolick" about once a year, if not oftener; and, that they are not very particular who furnishes it, or at what cost. It also illustrates that such an exhibition will be financially encouraged, if not amply remunerated, when the proper attractions are furnished to draw the people who patronize it; but just how far it may advance the cause of agriculture, is a question upon which there may be divergent and diverse opinions. It is said by those who profess to be "posted" on the subject, that Mr. Snively realized a profit on his exhibition, of not less than ten thousand dollars, which, we opine, is fully nine hundred per cent, more than was ever realized by any agricultural fair held in the county of Lancaster since its first organization, except those held in it by the State Society. Of course, all this profit was carried away from the county of Lancaster, and there was a "balance of trade" of just that amount against her, unless she was compensated in new and advanced ideas in agricultural, mechanical, and domestic uses. It is probable, however, that the great bulk of the sustaining element of such exhibitions has very little regard to use, except so far as it may contribute to amusement. Seeing that amusement is a fundamental element of humanity, and that its gratification will be sought for, and paid for, it becomes a matter of anxious concern how to cater for and regulate it. It seems impossible to repress it, because it constitutes the very warp and woof of the mental constitution of man, whether a saint or a sinner. The difficulty seems to be in fixing its limits and its quality, because every free-born man or woman, claims the liberty of fixing that for themselves. One thing seems to have been confirmed by experience, and that is, no agricultural exhibition—except perhaps in a large city—can hope to be a financial success, without the elements of amusement.

Another important lesson is involved in the late fair, and that is uniting personal energy. Except until the gates of the exhibition were opened to the public, the press of Lancaster city and county was almost silent upon the subject, therefore, the "writing up" of a fair means nothing, unless it is backed up by enterprise and personal energy; and, it becomes a question whether all such enterprises had not better be carried through by individual contract; because, as a general thing, "too many cooks spoil the broth," or, "What is everybody's business, is nobody's business." Farmers who till their own lands, and who furnish the agricultural material which goes to make up such an exhibition, cannot afford to fritter away a whole week in attending to the details of a fair at a season when they are most needed on their farms, and those who do not personally till their acres, do not feel sufficient interest in the progress of such exhibitions to give their time and attention to them.

Whatever evils may incidentally be attached to these gatherings, it is very certain that the progressive farmer may glean better ideas of stock, implements, machinery, and the various domestic contrivances, from seeing them and witnessing their operation, than he can from the most elaborately written description; and, the inventors, contrivers, and builders of them, cannot advertise them more satisfactorily than they can by a personal and practical elucidation on a fair ground, where they can command an audience. But here comes in the "rub." If an inventor, or manufacturer, may exhibit and illustrate the
quality of his machinery, what is to prevent the Stockman from exhibiting the qualities of his stock, whatever they may be? And are the discriminators between stock, shall cattle, sheep, and swine be admitted, and horses be interdicted? If it is legitimate, and even praise-worthy, for a locomotive to make its mile, or its ten miles, in the shortest tenure of time, why may not a horse do the same, seeing that there are proportionally as many necks broken by the one as by the other? These are the questions that must first be satisfactorily settled in Lancaster county before she can have a successful home-fair; until then, she may expect to be "bled" by foreign enterprises.

LITERARY PIRACY.

For a pure and unadulterated article of check, we are willing to award the persimmon to the former editor of the Lancaster (Pa.) Farmer, who, in his issue for September, transfers our "Horticultural Department," of September 5, without a change or a word of credit, to the Pennsylvania Ledger, Live Stock Journal, Country Gentleman, Farm and Fireside, Indiana Farmer, Virginia Enterprise, London Garden, Nature, U. S. Council Allen and others, not one of whom, perhaps, was taken from the papers in which they originally appeared. We employ and pay Mr. Mechan, a skilled horticulturist, to edit our department, and Dr. S. S. Southwick, who else is responsible, is guilty of an act of piracy unworthy the paper he is supposed to edit. All we desire is proper credit for what costs us money and time, in the same manner as every paragraph from other papers, and if we are not treated with like courtesy, we will show up the journalistic pirate who takes our matter. A single article might be clipped unthinkingly, but when a whole column is taken without credit it is simply theft.—October 6, 1883.

The above savage paragraph, from the Germantown Independent, was sent to us by mail, and we exceedingly regret that there was a seeming necessity to write in such a strain. Knowing how a man feels under such a castigation, we thank God that we have never written such a paragraph, although we have frequently had provocation to do so; but we argued that the articles must have some merit or they would not have been appropriated, and knowing that the result would only be a wider diffusion, we have always been content.

In our September number we reprinted articles credited to the Germantown Telegraph, Breeders Gazette, Western Rural, Philadelphia Ledger, Live Stock Journal, Country Gentleman, Farm and Fireside, Indiana Farmer, Virginia Enterprise, London Garden, Nature, U. S. Council Allen and others, not one of which, perhaps, was taken from the papers in which they originally appeared. But the same process we also frequently appropriated articles that are not credited to any journal. And in pursuance of this we have been subsequently reminded that we omitted to credit them to their proper sources—sources that we never knew. We cannot say how it occurred that the Independent's excellent Horticultural articles were inserted without due credit being given. We acknowledge that we "scissors" all, or nearly all, that goes into the columns of the Farmer, and we endeavored to give every one the credit due them; but, we are an editor, or as it were, by our own sufferance, our so-called, where all our literary and scientific labor is performed by the "midnight lamp," is a mile from the printing office, and very often we have time to read no proof but that of our own articles; and yet, we would scorn to resort to any subterfuge through which the responsibility for these omissions would be imposed upon the writer.

If we know the intents and purposes of our own heart, we are not, and never have been, a "literary pirate." If any thing in our course and conduct has such a seeming, it is so inadvertently, nor do we believe that those who know us will accord to us any remarkable degree of "check." If editing an Agricultural paper were our special avocation, and we had nothing else to do but that, we, perhaps, might avoid these errors and omissions, but it is far otherwise with us, nevertheless we do not claim any special indulgence on that account and are willing to bear the responsibility.

We insert the above paragraph, and the purloined articles may be found on page 142 (September number) of the Farmer, wishing that the whole may be transmitted to posterity just as they occurred; and we do so without the least hesitation or misgiving; because, so far as we are concerned the act was unintentional, and also because we wish the impartial reader to judge whether such an offense, under all the circumstances, deserved such a punishment. And, to make the thing still more explicit, the articles in our Horticultural department entitled "Cornell's Fancy Apples," "Calla Lilies," "The Native Lilies," "Moore's Grape," "Honeysuckles," and perhaps others, were written by Mr. Mechan, for which he was paid, and were inadvertently copied from the Germantown Independent, without credit, by the Lancaster Farmer. We don't wish anything to appear in the columns of the Farmer, as "original," that is not original, nor does the bare fact that they are found in our Horticultural columns assert any such claim. It is not for us to say whether the Independent has done right or wrong in handling us so roughly, it all depends upon which foot is on, or whose ox is gored; but, if it should have been more considerate if reproach had come in a different form. Doubtless, per se, there is too much literary theft in these United States, to be morally healthful or honorable, but there surely must be some difference between an intentional and willful theft, and one that is unintentional, or the result of accident. Professional editors, however, look at these things differently. On one occasion we were answered thusly: "Oh, well, your article must have had merit, or it would not have been copied without credit, and that ought to be a sufficient compensation."

DO HUMMING-BIRDS FLY BACKWARDS? 

[From Science for September, 1883.]

The Duke of Argyll, in his Reign of Law (p. 115), lays it down in italics that "No bird except a fly backwards." He says: "No humming-bird as appearing to do so, but maintains that in reality the bird falls, rather than flies, when, for instance, he comes out of a tubular flower after making a meal. While watching the motions of a humming bird (Trochilus colubris), it occurred to me to test this dictum of the Duke; and, unless my eyes were gorged with ague, I saw a genuine fly backwards. He was probing one after another the blossoms of a Petunia bed, and more than once, when the flower happened to be low down, he plainly rose, rather than fell, as he backed out of and away from it. I stood within a yard or two of him, and do not believe that I was deceived."

This is the only test of the Duke of Argyll's objections seem to be purely theoretical, since the "Reign of Law" was published in 1886, and it was not till 1879 that the author came to America and saw the first living humming-bird.—Bradford Torry, Boston, September 14, 1883.

Of course this has little or nothing to do with the advance of improved agricultural ideas, but it is nevertheless interesting in point of historical fact, or what has a strong seeming in that direction. We could say, also, if one eye did not deceive us, that we could not out correct the errors of these publications, but we could go a little farther and suggest that the humming-bird can not only fly backwards, but it can also fly sideways.

It does not actually drop out, or back out of a flower, for the simple reason that it never gets into any one farther than the whirring motion of its wings will allow—and that is with the tongue, the bill, or the front portion of the head, according to the size of the flower. On several occasions last summer we noticed humming-birds visiting low flowers, such as petunias, jessies, verbenees, and on one occasion one of these birds approached so near to us that we almost quite reached it by the extension of our arm. We were on the spot when it came, and as we stood "stalk still" it probably took us for a statue; at all events it left without a consciousness of a living presence.

We also observed that this bird did not always approach the flower with the body in a horizontal position, as they usually represented; especially not when they visited low flowers. The body had a sort of oscillating motion, between a horizontal and a vertical plane, with the tail drawn well under, and the head and bill at a right angle from the body; these positions were, however, rapidly changed while the bird was poised on the wing; and in these positions it moved forwards, backwards and sideways without any motion that looked like dropping. In higher and larger flowers, and where there were a number on the same horizontal plane, the bird backed away from one and entered another, evidently flying backward, forward and sideward, and when at length it flew away the wings seemed to cease their rapid, see-like motion, and it glided off in an ordinary bird flight, but much swifter. Whilst this was so, or seemed to be so, yet even the opening of the flower hung much downward the bird did seem to drop, and there was the faintest and most momentary sensation of the vibrating motion of the wings, but this does not militate against the fact that the bird can back outward and upward when it has occasion to enter flowers above.

The humming-bird, however, is not the only animal that possesses this power, although it may be the only one among the feathered tribes. Certain species of insects, especially among the Nectar- tere and Diptera. The Libellulae, for instance, will poise themselves in mid-air, darting backward, forward, or sideward, cluding the attacks of their enemies, or in pursuit of their prey. Some of the two-winged flies will poise themselves in a similar manner for hours, darting after and
EXCERPTS.

Fruit men all say the best way to treat trees infested with borers is to remove the earth about the base of the trunk. Fill up the hollow after freezing weather is well under way.

Mr. T. B. Wales, Jr., of Iowa City, publishes a sworn statement that his Holstein cow Mercedes, 723, made 90 lb. 6 oz. of butter during the thirty days from May 13 to June 11, being equal to the enormous average of 3 lb. 5 oz. per day for the entire period.

The Mark Lane Express, Monday, August 20, prints reports from 501 districts in England and Wales in regard to the harvest of 1885. In 240 districts the indications are that the wheat crop will be under the average; in 89 there will be an average yield, and in 33 the crop will be about the average. Many of the reports state the wheat is thin, blighted and mildewed. The other crops are reported above the average.

The value of farms, including fences and buildings, in the United States in 1840, was $10,197,000,000. In 1850 it was $26,045,000,000, an increase not quite equal to the increase in population. According to the census report, Illinois pays out more money for fences than any other State in the Union. Pennsylvania comes next. There are in the United States 6,000,000 miles of fence, and it has, in all, cost something over $2,000,000,000. During the census year alone $7,629,000 was expended for fencing purposes.

An exchange claims that a full feed of hay to horses, following the feeding of concentrated food, is wasteful, for the reason that it crowds the first out of the stomach before proper digestion has been accomplished. And so, in order to secure best results, hay should be fed at first and the concentrated food afterward, which leaves it to become digested with no danger of being crowded away or out of the performance of its desired purpose.

Experiments at the Missouri Agricultural College show that meal-fed steers gained in sixty-one days seventy pounds more on 380 pounds less of fodder than steers on whole corn. The cost of grinding was $2.50; value of the extra seventy pounds $3.00—a dollar gained in flesh, and 380 pounds of fodder saved. Wheat straw was fed to the cattle in both cases.

Now that harvest is over, there is a considerable amount of time that can be employed in various ways that will tell to the benefit as well as convenience and comfort of man and beast.

1. Drop a few loads of gravel about your stables, wells, gateways, etc., or in any low places, where it has been muddy heretofore.

2. See that all the fence corners are cleaned of briers, elders, weeds, etc., and look over the pasture fields for any stray thistles or docks that are left to scatter their seeds.

3. Overhaul all tools and repair them, either with wood or iron work, as needed. Some need a coat of paint. Rub all plows over with a greased cloth and see that all are properly housed. The sun, rain and dew spoil more implements than are worn out by actual use.

4. Attend to opening or cleaning out open ditches, fix up all watering places, gates, etc., and look to the fences.

5. Pay special attention to the watering of all stock. Good water and good feed now will tell next spring in the improved salable qualities of anything designed for the tables.

6. After cutting the corn see that you have a good supply of good, dry wood, or plenty of coal, for all uses, as a nice pile of wood goes a long way toward making a good-natured cook.

7. Shape up the work for winter. Some of your sheds or outhouses need repairing. Also any hauling can be done while the roads are good.

8. Sort up the sheep. Breed only the best and sell or fatten the refuse. Select only first-class rams; even if they cost more, it will repay you in the end.

9. Give patkeys and patent right agents a wide berth.

10. Select good books and plenty of agricultural papers for yourself and family. In fine, be one of nature's wide awake and reliable noblemen.—Practical Farmer in Pittsburgh Stockman.

The average weight of an adult is 140 lbs., 6 oz.

The average weight of a skeleton is about 14 lbs. Number of bones, 240.

The skeleton measures one inch less than the height of the living man.

The average weight of the brain of a man is 3-1/2 pounds; of a woman, 2 lbs. 11 oz.

The brain of a man exceeds twice that of any other animal.

The average height of an Englishman is 5 ft. 9 in.; Frenchman, 5 ft. 4 in., and of a Belgian, 5 ft. 6-3/4 in.

The average number of teeth is 32.

A man breathes about twenty times in a minute, or 1,200 times in an hour.

A man breathes about 18 pints of air in a minute or upwards of 7 hogsheads a day.

A man gives off 4.68 per cent. carbonic gas of the air he respires; respires 10,666 cubic feet of carbonic acid gas in 24 hours; consumes 20,000 cubic feet of oxygen in 24 hours, equal to 123 cubic inches of common air.

A man annually contributes to vegetation 124 lbs. of carbon.

The average of the pulse in infancy is 120 per minute; in manhood 80; at 60 years, 60. The pulse of females is more frequent than that of males.

The weight of the circulating blood is about 25 lbs.

The heart beats 75 times a minute, sends nearly ten pounds of blood through the veins and arteries each beat; makes four beats while we breathe once.

Five hundred and forty pounds, or one hoghead one and one-fourth jints of blood pass through the heart in one hour.

Twelve thousand pounds, or 24 hogheads 4 gallons, or 10,742 1-2 pint passes through the heart in two hours.

One thousand ounces of blood pass through the kidneys in one hour.

One hundred and seventy-five million holes or cells are in the lungs; which would cover a surface thirty times greater than the human body.

About Water.—A curious fact about water is that it is the rust of the metal known as hydrogenium. When oxygen combines with iron it forms a reddish rust, and the metal becomes in time disintegrated. In this condition it is said to oxidize. Now, water is simply oxidized hydrogenium. This metal is present in the sun and all the planets in enormous quantities. Indeed, it is said that the human body is composed of 93 parts of water, mingled with some lime, iron and various salts. Chemistry has revealed to us many marvels, but none greater than the composition of common water.

The Agricultural Fair.

(See following pages for a list of gentlemen who have been engaged in the manufacture of farm implements.)

There is a need for a fair, and it is worth while to hold one. It is a natural demand that the rural community has for the best in farming machinery and implements. It is a great demand for the best in household machinery. It is a demand for the best in all things. It is a demand for the best in every line of manufacture.

The fair will be held in the city of Lancaster, and will be a great success. It will be a great attraction to the people of the county and the surrounding districts. It will be a great benefit to the fairgrounds and the city of Lancaster.

Contribution.

For the Lancaster Farmer.

Societies and Fairs.

Has the Lancaster County Agricultural and Horticultural Society been an injury or a benefit to the community? This question has been asked and referred to some one, but has not been answered yet so far as my knowledge extends. Are agricultural fairs an injury or a benefit to the community? They might also be as properly asked. I will only
SWEET AND SOUR.

I had heard years ago, that there were apple trees which bore fruit that was sweet on the one side and sour on the other side. It was said that they existed in Canada, and also near Quakertown, Bucks county, Pa. I obtained a young tree from Mr. Wm. E. Withrow, of Lehigh county, Pa., which was to be of that kind. The tree has now fruited, and in testing it before our local society, I confess I was partly disappointed, as the fruit was wholly either sweet or sour, but in testing the apples at home, I found that it was really so. You will find that in testing the fruit one apple may be a sweet one and the next a sour one, but you will also find a few that are sweet on the one side and sour on the other. How is it done? My apples are yellow in color. The man who brought this about took grafts of a yellow sweet apple and a yellow sour one. The grafts were split through the middle of the bed, or eye, and the two different varieties spliced together; and, if the operator is successful in getting them to grow, the result will be sweet and sour in the same fruit. The fact that some apples are all sweet, and some all sour, may be the effect of imperfect fertilization, or imperfection in the original experiment. I am convinced that my tree bears some apples that are sweet on one side and sour on the other, whatever else it may do.—L. S. R.

SELECTIONS.

WEEDS.

In American farming losses from weeds are beyond computation. There is hardly a single farm crop that is not diminished by weeds. The slightest observation must convince any person acquainted with farming that weed growth sap the whole industry, reduces its profits and threatens further damage as weeds gain the ascendancy, and to this they are coming in many of the most fertile districts of the country. The time is approaching when organized warfare will be made against them, or, in the older portions of the country, farming will cease to be a profitable industry. It is time now to institute such warfare. There comes a period after harvest and fall seeding when well-directed efforts toward weed destruction are reasonably sure to be rewarded by a fair measure of success. The custom of sowing grass seed with grain crops interferes, it is true, with the destruction of weeds because the grass seeding is of too much value to be wasted, and it is, therefore, suffered to take its chances with harder growth much to the detriment of the more valuable.

What can be done with weeds in the autumn months applies mainly to stubble fields not seeded. It is true something may be accomplished in meadows where fall growth permits the use of a scythe, but nothing like thorough work can be done except in fields where plowing is permitted. Efforts should be directed principally toward the vegetation of seeds and subsequent destruction. To effect this, stubble fields should be plowed as soon as possible after the crops are removed and every encouragement given to the growth of weeds; then with the barrier, or any of the improved cultivators, complete destruction of all the weeds that appear above the surface is possible. After this effect is another plowing will make the work more thorough, because it is realized that in the first place had not the requisite conditions of germination may have been provided, and the growth destroyed by freezing, or spring growth by the harrow. It is true this plan will not cleanse the ground thoroughly, but it will reduce crops of weeds materially.

The only means of thorough and complete destruction is the summer-fallow, and this, unfortunately, is not in favor with farmers, because, as they allege, it withdraws the ground too long from use. At this season it is not worth while to enter into argument to prove that summer-fallowing is the best means of weed destruction, because this means is not now available. The nearest approach to it, however, is the best method that may be employed now. This plowing and harrowing, the process repeated so long as it brings results, that is to say, so long as the seeds of weeds germinate, is the best way to direct operations in autumn.

The main question for consideration is the importance of destroying weeds in order that their interference with more profitable crops may be prevented. In some cases it will help materially to drag the ground raw to induce vegetation of seeds, then drag to destroy growth. Any way, no matter what, anything that effects the object is commendable, but that which will do the most work at least cost is best.

When we reflect upon the abstracted fertility lost in production of weeds, the space occupied by pernicious growth, the reduction of yield in all grain crops through interference of weeds, the necessity of destruction appears clearly. This is the first thing by which the mind must be impressed before organized warfare begins. Perhaps it is within the truth to say that in the older States, where weeds have obtained ascendency, the profits of farming are reduced one-half through their prevalence. If the use of other crops, instead of their destruction is very great. In any case, weed ground ceases to be valuable in farming in exactly the proportion that weeds take up plant food and occupy space that should be taken by more profitable crops. When American farmers apply thought to this question they will see the importance of beginning efforts for weed destruction and continuing them until their farms are practically clear from weed growth.

CONCERNING LEAVES.

Leaves have a peculiar and special share in the work of vegetation; every leaf is constructed of an intricate network of "veins," running through a soft, pulpy substance. This framework is composed of woody fiber, its purpose being to support and distend the softer parts of the leaf. Accompanying these fibers through all their branchings, and usually running a little beyond their extremities into the green tissue, are minute tubes or vessels. Follow these back to the midrib of the leaf, and we find that they continue still farther, connecting with the circulatory system of the stem, which in turn extends down to the roots. This line of vessels, therefore,
provides a direct course for the passage of the fluids absorbed by the roots, to the most remote portions of the plant. Other important functions of the leaves is the collecting of carbonic acid gas from the air, and by the action of their green coloring matter, to combine it with the elements of the sap to form the constituents of growth. These compounds containing carbon form about fifty per cent. of the bulk of the plant, so we see that the leaves are really the most active portions of the vegetable organism, collecting fully one-half the food, and combining it with that furnished by the roots into the complex constituents of the perfectly developed plant. The chemical processes, which occur in the leaves, are not set free from the same quantity of the largest supply of available matter from the several kinds of feed allowed to stock will derive more satisfactory results than those who feed as a routine, without having any special purpose to accomplish by so doing. Although animals are not confined to any particular diet exclusively where they can be obtained from the feed, whether it be concentrated or bulky, is classed under the heads of protein, cross-hydrates, fat and ash. Protein is that substance which is principally found in lean meat, the white of eggs and in the blood, being nitrogenous, while the carbohydrates include starch, sugars, &c. These two of the principal elements of the feed is the name from the fact that they are composed (no matter in what form we possess them) of carbon, hydrogen and oxygen. Fat exists in plants, also, but in small quantities. Ash relates to the mineral substances, which supplies the bones and tissues.

As the matter which is appropriated by the animal is composed of these four substances—protein, carbo-hydrates, fat and ash—it is at once apparent that, in order to feed to the best advantage, some consideration must be given the character of the food allowed, and instead of feeding indiscriminately, certain quantities of each proportioned, may be required. Many valuable experiments have been made for the purpose of testing grains and fodders, in order to estimate their value for feeding, and we are gradually arriving to that point at which the aid of investigations will be used in order to feed animals according to age, period of growth and weight of carcass. For instance, by the use of 100 pounds of ordinary hay the supply of digestible nutrient will be a fraction over five pounds of protein, forty-three pounds of carbo-hydrates and about a pound of fat. While only a pound of protein can fully supply the needs of the procuring of digestible material in mangolds, with ten pounds of carbo-hydrates and no fat. The difference between the nutritive matter of hay and mangolds at once enables the stock-breeder to discard the mangolds altogether or use a less quantity of hay and supply the deficiencies with grains. Any number of substances can be used, provided they are fed proportionately to value, the object being to have an excess nor deficit of any substance that enters into composition of the body.

What is given in shape of bulky material, such as hay and straw, can also be found in grains, which possess nutrient in a more concentrated form. Using wheat straw as compared with corn, the straw contains about three pounds of protein to the 100 pounds, while corn contains over ten. It is necessary, therefore, to ensure that the straw contains sufficient corn to complete the proportion of protein; and as the straw contains about 40 per cent of crude fibre, which is almost useless, while corn contains less than 2 per cent. the waste in the system is much less from the corn. The straw, though containing less fat, contains a larger amount of ash, and there is no kind of material used that is deficient in one direction but what is abundant in another.

By directing attention to the study of food composition there is another object to impress on the stock-breeder, which is that by feeding more wisely the animal will grow faster, fatten more readily and keep in a healthier condition than by using a single article of diet. Although it is not every farmer who makes it a duty to feed for nutritious value only, yet they know by experience that certain foods give certain results; but the field is still open for more knowledge in that direction, and every farmer should avail himself of the privilege of obtaining it. —Philadelphia Record.

Pennsylvania Lands.

The Bradford Era is authority for the statement that there are in Bradford county alone 100,000 acres of land, regarded as barren by most who see them, but which can, nevertheless, by means of careful farming, as such is given to lands here in Lancaster county, be made to produce more wheat, corn, vegetables and all other crops than twice the number of acres of those lands which western railroads have to sell. We haven’t the least doubt about it. In northern, central and northwestern Pennsylvania there are hundreds of thousands of acres of virgin soil that can be converted into the most productive farming lands in the State. These lands are very cheap, so cheap, in fact, that there seems to be no inducement to the farmer who proposes to migrate to a country of cheap lands to do so. All that is needed is careful methods and plenty of work. The two things will not only bring large crops of all kinds, but the lands themselves will rapidly grow in value. To these strong inducements may be added many others. The man who goes there can hardly be said to have sought a new home. He remains in his own State. He does not go among strangers; he knows the class of people among whom he casts his lot; he is virtually free from all the difficulties he would have to contend with in a new State.

New Era.

How Sweet Potatoes Should Be Kept.

As this matter is now to be considered, and as the farmers outside of sweet potato regions find much difficulty in saving the few that they raise for their own consumption, as well also when they wish to put up enough for winter of other people’s raising, we have to say that we have seen a number of methods recommended, and have some experience ourselves. The following looks as though it might answer very well, and it is adopted by an experienced Jersey grower, and we think that there is little risk run in following it: The potatoes are dug after the first sharp frost, and left to lay as dug until near evening, when they are covered with the vines. In the morning the vines are removed and the sun goes on with the drying process. This is pursued for four or five days, when they become thoroughly dry. They are then carefully carried into the cellar, where they are put on shelves in single layers. Any potatoes that are not perfectly dried may begin to sprout; these can be easily seen and removed, and the air has free circulation. Warmth has a great deal to do with preserving the sweet potatoes; hence, if the cellar is not naturally warm, they should be put into a
cellar in which there is a heater. They bear considerable heat without sprouting, but it should not get beyond fifty nor below forty degrees.

We have also known them to be packed in boxes, each potato being wrapped up in paper, and then placed in cellars where there is no danger of freezing, as this potato is very susceptible of being nipped, and yet once touched they decay rapidly. And the temperature should not be warmer than is mentioned above. We have ourselves tried them packed in paper and put in barrels, also with fine shavings and placed in a cellar well ventililated, but they would not keep. We have found—residing we may say at the headquarters of the sweet potato region—that the surest way to obtain good, sound potatoes, was to buy them in the market from Jersey growers just as we need them—say a peck out of a bushel at a time. But this system can be adopted only where the conveniences are at hand.

Forking-Up the Garden.

Gardeners understand the good effect of turning up the soil late in the fall has upon the next year's crops; but there are many others—those who have small gardens, and in this class are many of our well-to-do farmers—who, by neglecting this work only raise half a crop of vegetables, and these of an inferior quality, and then they wonder why their more-keeping neighbors have a better harvest. Hence, we cannot too often repeat the advice that if they will use the garden fork, and turn the soil up for a fork deep late in November, allowing it to remain in mumps all winter exposed to the frost, it will have much to do in putting the ground in excellent condition, and tend greatly to add to next year's crops. This is especially the case where the ground is not so treated at all; but we would mention that to do this once in two or three years, instead of every year, as some gardeners do, will produce equally good effect. Gardens—and especially old ones—should be limed about once in five years, though but lightly, say at five bushels per acre, and lightly saluted every other year at the rate of from six to eight bushels per acre, applying it evenly to avoid injury. Keep the salt coming in contact with box edging and all other evergreens, very small trees, &c. Such a course will recuperate your old gardens in a surprising manner.—(Ger. Telegraph.

FARMERS' ORGANIZATION.

Organization is one of the salient marks of the civilization of the past two centuries. By it, the various results of labor—affairs of capital—have been accomplished. To it owe the birth of American constitutional liberty and free government. It is by the united effort of labor and capital that our great railway system have been built, canals dug, ships constructed, and the wild wastes of the unsettled wilderness made to bloom and blossom as the rose. Truly, in organization and co-operation there is strength. The trade-unions of Europe were efforts of men combined together to improve their social condition and advance the standard of their workmanship. The trade-unions of this country are similar in their object, and have left their impress upon the social life of their members, advanced their wages, and created a spirit of emulation that results in better and improved workmanship.

But these are facts apparent to every reader of Southern Industries. Now, if such great results arise from organization, it is not possible that the farmers are more thoroughly organized into societies for their mutual improvement and protection, for the dissemination of practical agricultural knowledge, and for the discussion of questions that enter into the practice of every-day life? Tho' no profession, business, or calling, where so much is neglected of vital importance, where more is to learn and be learned. Seventy-two per cent. of the people of this country are farmers. The interests depending upon farming are more important than upon any other calling that make up the aggregate of our national life. Farmers are the food-producers, in fact, the bed-rock, the foundation and source of all wealth, all power, all business, all professions, and every calling in life. The products of their labor feed and clothe the world; and yet they are nowhere recognized except as the blowers of wood and drawers of water for the unprincipled political scheming demagogue who rides into power by their votes, and the mighty corporations that feed, and fatten and glut over the ill-gotten gain wrung from their hard earnings. The owners of the vast machinery propelled by the mighty water-power at Lowell are not more esteemed in their influence of that power than the politics of the ring-master, the monarch, and the monopolist, who reap their rich harvests of wealth from the submissive indolence of the farmers, who unconsciously do their bidding. And who but the farmer is to blame for all this? He is the power. He holds the majority in every rural district, and with his co-laborers, the artisan and the mechanic, in every other legislative and Congressional district in the United States. No legislator, State or national, can be elected without his vote, and yet our legislative halls are seldom graced with his presence, or by a representative true to his interests. Hence we cannot consider as a class, against any other class, but to remind him of his power, and for him to act in obedience to that God-given right of striking a blow for self-preservation.—Southern Industries.

WHAT ONE COW WILL DO.

A garden of one acre may be kept richly manured by the droppings of one cow. For five years past I have reserved one pet Jersey cow for the use of the house and have kept her up in a stable near the house and fed her on hay and the grass, with the vegetable waste of the house and garden. The produce of the acre is more than sufficient to feed the cow the year round with the help of four quarts daily of feed. This amounts to about one ton per year, costing about $25. I estimate the milk, cream, and butter of a good cow to be worth to a family $100 a year. That is, it would cost that sum to purchase the amount of these used in a family. There will be a surplus of milk or butter to be sold equivalent to a further sum of $90. The manure for one acre of garden will pay all for the labor of attending to the cow, and in 10 years will pay for the cow besides. So that a good cow, when well cared for, will produce in 10 years the actual sum of $1,000, besides paying for herself, her feed, and attention. Then there will be eight calves and if sold for milk to partly feed a pig or a flock of poultry. And then the comfort and pleasure of it!

I am already feeding down a small piece of orchard grass under some apple trees the third time, by tethering the cow upon it. Some of the grass I have just cut the second time and some will give a third cutting. Fifty rows of sweet corn are now beginning to yield boiling ears and the stalks and husks go to the cow. There are peas, beans, beets, potatoes, and other vegetables as well as fruits to feed the cow luxuriously, and in this way the family have cow and milk during the whole year, while her manure will keep the whole acre growing richer every year and will provide a liberal quantity for the flower-beds and shrubs and dwarf pears on the lawn. A very large quantity of the best manure is made by throwing the weeds with all the soil attached to them, the leaves that are raked up, and the wood ashes from the house, together with as much soil as may be needed into a shallow pit in the cowyard and leading the drainage from the manure gutter into it. If a farm were only managed as one manages the garden, every acre might be made more useful than the whole farm, and yet be not to be had, and one pair of hands cannot do it for more than five or six acres. But the time will come when it must be done; when the land becomes fully occupied and this great country has its 500,000,000 of inhabitants, a number which it can sustain with the greatest ease and with a thorough system of cultivation.—Cor. N. Y. Times.

OSTRICH FARMING IN CALIFORNIA.

I have thought that an account of a visit to an ostrich farm near Anaheim, California, might interest some of your readers and give some information that would be useful by the farmers as well as the practicality of ostrich breeding in this country. I have some years ago by a young gentleman fresh from college, who has since taken orders in the Episcopal Church, and who prepared for me a statement of the case as it then stood, showing conclusively enough to warrant the experiment that a new industry of importance might easily be built up in various parts of the United States. Having therefore recommended the business and tried without avail to have the General Government do something to promote ostrich raising, it may be under the interest enough in the ostrich to go out of my way to visit him in his new home near Anaheim, California.

Leaving Los Angeles on the 10 A.M. train, I arrived at Anaheim at 11:30, having passed through a flat, well-cultivated country largely planted to citrus fruits and vines. Noticeable among the improvements is the very large new vineyard of Mr. Nedeau, who has three thousand acres newly planted to vines mostly, and who has shown his faith in the old Mission variety by putting out most of his cuttings of this kind. Anaheim is one of the oldest American agricultural colonies in Southern California, and was founded in the year 1854 by a colony of naturalized Germans from San
Francisco. The town has water rights for 1,150 acres, and is laid out in twenty acres lots—all in the highest state of cultivation. Here I left the rail and hired a carriage—a four-spring gypsy-top wagon—which gives free wheeling, and which makes a very pleasant ride in the sun. No rain need be guarded against, for none will fall until next October or November. The cold wind from the Pacific Ocean is here, twenty miles inland, pleasant and exhilarating, blows steadily from the west by night every day; and now it tempers the heat of the sun as we drive westward over a level plain of light soil well adapted to the growth of small grains and the delight of alfalda, the roots of which will find water if there is any within fifteen or twenty feet in such soil. Water of good quality is obtained in moderate quantity at a depth of from four to twelve feet, and flowing wells are obtained at a depth of sixty feet. The farms are generally small, and the division lines and roadsides are planted with eucalyptus and poplar and the beautiful Monterey cypresses and graceful pepper trees.

As I drive toward the new unprinted buildings in view a half mile away I see sign boards with notice that all dogs found on these premises will be shot. And this emphatic notice is strictly enforced, much to the surprise of confiding sight seeing people who have not yet learned that the notice means death to any and all dogs which may come within range of the shot gun or pistol of the guardians of the precious feathered bipeds. Only a short time before a dog was shot at the side of his buccolic master, who could not comprehend the necessity of guarding the breeding birds from the sight of any animal of the dog kind. As I approach the house I see that it is one of the San Francisco "ready-mades," built of red-wood. Ordered by telegraph from San Francisco, it was shipped by rail and set up ready for occupancy within four days from the giving of the order. It is a unique and tasteful rectangular structure one-story high; single roof with gables; a well made chimney; one door, divided into brackets and cornice; a passage-way six feet wide through the centre; two rooms on each side, each twelve feet square; and the whole building set up on the ground cost $400! One is used for a reception-room, one for sleeping, one for kitchen and one for the incubator and egg-room. On the work done in this room depends the success of the ostrich farm.

The Incubator.

A broad shelf on one side contains about fifty ostrich eggs and any number of eggs of the brown leghorn chicken. The incubator has been used for hatching these eggs prior to this the more valuable ostrich eggs to its maternal care. These ostrich eggs are a wonder to all who see them for the first time. They are regularly elliptical in form, weighing about three and one-half pounds, measuring in circumference 18&frac12; inches, and with holding capacity equal to a full quart measure. The color is a creamy white and the shell is equally pitted all over and pors in appearance. Sixteen eggs have been put in the incubator up to the time of this visit, June 20, and the remaining eggs, and what more may come, will wait for the Haberle ostrich incubator, which has made a favorable reputation in Cape Colony in the specialty of hatching ostrich eggs and which is daily expected.

The sixteen eggs were placed in the incubator on May 14th, 15th and 16th, and their period of incubation has nearly passed for the first eggs are ready for the advent in California life. One came at 0400 yesterday, and to-day a beauty is its kind. He is covered with speckled brown downy feathers except on the head and neck and legs; he is as wild, shy and active as the young antelope fawn, and only a day old, is as large a full-grown Leghorn hen. Uneasy and restless, in constant motion, and with inquiring eyes, he no doubt waits impatiently the companions who are to join him in his feather-producing career.

Preparatory to any nourishing food he has been placed where he might sit about twenty-four hours old a tray of small gravel stones and crushed sea shell; subsequent to this tonic, he was a handful of chopped alfalfa. This lays the foundation for a meal of cracked corn and water, and when this has been eaten the bird is considered on the straight road to distinction as the first ostrich hatched in America. The bird will no doubt conduct himself or herself as the case may be (for the sex is not distinguishable for some months) in accordance with the rules and regulations prescribed and enforced for the success of the promotion of the health and profit properly due the enterprising gentlemen who initiated this new industry.

Paddocks and Farm.

Leaving the front door looking east I turned to the south, and before me was an inclosure of four acres in L form, made by a post and rail fence only four and a-half feet high. But this fence is made of three good sound, twelve-inch wide redwood boards, well nailed on. A kick from an irritated ostrich would break an ordinary fence board in splinters. These parallelograms making the L are divided into twelve paddocks in which the stock of twenty-one ostriches, eleven hens and ten cocks are placed. Each paddock contains a pair of birds, one having two hens and one cock. The paddocks are bare and sandy, but surrounding the breeding grounds is an excellent growth of alfalfa, turnips, cabbages, onions, mache and beets, all of which have been planted and grown since March 25th, and are on time for the voracious chickens which are expected to rally round their exemplary parents in an all-summer campaign against the fifty-four acres of green food provided for them.

In close proximity to the paddocks is an artesian well 300 feet deep, which discharges four feet above the surface 12,000 gallons of water each hour—sufficient to irrigate in this locality from two to three hundred acres of land planted to ordinary crops and with the average rainfall. The entire farm is a mile square, or 640 acres, and is a level plain.

A Successful Enterprise.

It may be as well to remind you that these are the ostriches the arrival of which in New York last November attracted so much attention, and which Dr. Protheroe, of Buenos Ayres, and Dr. C. J. Sketchley, both former of the Transvaal, Africa, brought to this country with the hope of forming a stock company to engage in the business of breeding fowls and raising feathers. A company was formed at once in San Francisco with a paid up capital of $10,000, Drs. Protheroe and Sketchley retaining an interest and Dr. Sketchley giving the benefit of his experience as superintendent of the farm for the present.

This enterprise may be fairly pronounced a success, for the company has more orders for birds than it can promise to fill this season, and at its own prices, which are $100 to $120 for a healthy chick four months old. These chickens will yield their first feathers when eight months old, which picking should bring at present market prices from $7 to $10. The next picking, eight months after the first, should bring from $40 to $50, and in two years they can be sold for $500 or $600. At this time the birds, if kept in good condition, is expected to be in full plumage and to yield annually $200 worth of feathers. Ostriches raised when four years old, and from a pair is expected an average of fifty healthy chickens every year for twenty years.—William G. LeDuc, San Diego, Cal., July 28, 1883.

LOW GRADES AND THE CANNING BUSINESS.

It is no doubt a fact that the canning of meats, which has been carried on so extensively during some years past, has furnished good return for a large portion of the inferior stock that has been raised. This business has indirectly, then, encouraged the production of low-grade meats, because it is only the lower class of stock that is used for canning purposes, this being bought at low figures. The process of cooking and mincing, salt and other seasoning being added, combine to obliterate traces of the low quality, though upon the taste of those who have learned what flavor goes with the higher classes of meat, no successful deception can be practiced by any process of seasoning whatever. The insipid taste, always found in the canned meats, is an exposure of it to those who are accustomed to eating meats of the higher grades.

It is the common belief that anything is good enough for making soup. No mistake could be greater than this. No soup is first-class except it be made from the carcass of a beast whose lean flesh is full of rich meat juices. The inferior portions of a well-bred, well-fattened beast will make better soup or a better stew than the choicest cut from the skinny carcasses generally bought for canning, for even the neck of the superior beast has more flavor and odor of high-class meat. No part of the carcass can escape this, while no portion of the low grade can possess it. Yet the canning process makes the market, as stated, for inferior cattle, and in so far as it does this it, of course, encourages their production, and probably, in a degree, helps to keep up the price of inferior stock, directly an apparent benefit, but indirectly a bar to improvement. The eye is a guide when looking at a work of art, but the senses of smell and taste are alone able to make apparent the difference that exists between high-class and low-class meat. Chemists who prepare extracts of meat, now kept by druggists for making beef tea, and for preparation in other forms for use by the sick, are
THE INFLUENCE OF FORESTS UPON RAINFALL.

There is a great deal of crude opinion about the influence of forests on rainfall. The truth is, we have too little definite knowledge, hence this credulity of opinion on a subject that excites more and more attention. Observations have not been made over such extended periods of time as must necessarily be required to establish the truth or falsity of the various theories entertained concerning the influence of trees upon rainfall. The common assumption is that large tracts of forests promote rainfall, and there are many evidences that, in a greater or less degree, go to establish the truth of this theory. But whatever effect forests may have upon precipitation of moisture, there is one known fact hardly less in importance than their assumed influence upon rainfall. It is a fact that forests retard the flow of water, and so extend it over longer periods of time; thus continuing sources from which; through evaporation, rain is produced. This tends, indirectly, to establish the theory that trees really do increase the rainfall. There can be no doubt that they equalize it to some extent. There are few neighborhoods in which some of the rainfall cannot be accounted for by the flow of water, since his first observations were made. Streams that fifty years ago furnished water a greater portion of the year, in amount sufficient to turn water-wheels and supply power for mechanical uses are now dry, except during the melting of snows and a short period after, or during times when heavy rains occur in other portions of the year, and this, too, in localities where considerable areas of land were cleared a half century or more ago. Taking away the remains of the forests, or detached forests tracts, has wrought the change partly.

Another cause is the heavier character of lands kept in cultivation, over which the water has unobstructed flow to natural channels. One result of this change is enlarged area from which evaporation for cultivation is carried. The whole question is one that deserves extended study. Observations should be made by men employed for that purpose. The Government is doing something in this direction, but much more remains to be done. Forestry conventions exert wholesome influence. By every available means it is extremely desirable that we gather greater store of facts bearing upon this very important matter.—(Hudsonian, Elmira, New York.)

DAIRY SCHOOLS.

American dairying will never be a fine art or a successful business until we have a large number of dairy schools, and we shall never have such until dairy farmers have learned how much they need to know. Everything learned of foreign dairying and dairy schools may tend to hasten this time. In an interesting account of a Danish dairy in the Royal Agricultural Society Journal, (England,) the following, in regard to a dairy school, is given:

"In consequence of Mrs. Nelson's extended reputation as a first-rate dairy woman, she generally has about a dozen farmers' daughters as working pupils, who are boarded and lodged in the farm-house, remaining for various periods, extending from six weeks to two years. The pupils who remain only a short time pay for their instructions a consider- able amount relatively, but they will work as hard as an ordinary dairymaiden could be expected to. Their usual length of stay is six months, and vacancies in their ranks are always immediately filled up. I inquired the position of the parents of these girls, and learned that most of them were peasant farmers, keeping from ten to fifteen cows; but some have large farms. One girl was indicated to me whose father kept forty cows, she was about to be married, and her parents thought fortunate in being able to learn this as the position of her a future home could be turned to the most profitable account.

"Each pupil has five cows allotted to her in rotation, and the results of the several milkings are carefully noted, the produce of each cow being separated and kept in the pan, and considered as the property of the pupil. Mrs. Nelson thus has a practical knowledge of whether her pupils can perform satisfactorily one of the most important, as well as one of the most fundamental and most neglected operations connected with dairy farming. The knowledge that the results of their milking are 'booked' also produces a spirit of emulation among the girls, which gives far better results than any system of emulation.'

What a vast scope there is for such a spirit of enterprise among the millions of small dairies in America!—The Dairy.

SOME THINGS I HAVE LEARNED THIS YEAR.

That tomato plants in the same hill with squashes, cucumbers, and pumpkins will not keep off the bugs.

That an application of air-slacked lime will not keep bugs away from vines, cabbage plants, radishes, turnips or egg plants. That sulphate of iron will not accomplish anything in that line. That coal oil for that purpose is also a failure.

That good application, repeated three times, of reasonably strong liquid manure does well, and that an application of fine sulphur sprinkled over the plants and vines will greatly help in getting rid of these pests.

That a reasonable application of wood ashes is very beneficial in a garden. But that it is comparatively an easy matter to make the application too strong, especially if the ashes are uncleaned.

That it is useless to plant sweet corn before the ground gets warm enough; as when the weather, as corn planted weeks later will come to maturity just as quick with the same soil and cultivation.

That there is a very decided advantage in good, sound, quick germinating seed corn, and this will be evident from the time the corn begins to sprout until it matures.

That peas will not do as well on new, rich ground as on old.

That I can raise more and better Lima beans by planting in a row, the plants six inches, than in hills with three or four beans in a hill.

That it pays to sow sorghum seed twenty-four hours in water before planting.

That tomato vines will grow faster and blossom quicker if a little manure is worked into the hills than if set out without.—N. J. Shephard, in Farm and Garden.

THE SEED TEST.

Prof. W. Carruthers, consulting botanist to the Royal Agricultural Society of England, gives this plan for determining the germinating power of a sample of seeds, together with an illustrative example of the importance of such tests. We quote from the summary of The Mark Lane Express:

"Let 200, or 150, or 50, as may be thought best, of the seeds be counted out and placed one deep on the surface of a plate. This plate should then be placed in a larger plate or in a shallow pan, containing about a quarter of an inch in depth of water, and over all there should be inverted another pan, sufficiently large to entirely inclose the vessel containing the water. The depth of water should not be sufficient to allow of its overflowing into the plate containing the seeds. The whole arrangement should then be set in a moderately warm place, and thus the seeds will be subjected to all the conditions favorable to
germination, namely, air, moisture, darkness and warmth. The air will circulate freely beneath the edges of the inverted pan; the atmosphere inside the pan will be quite saturated with moisture; for evaporation will continually go on from the surface of the enclosed water; light will be excluded by the inverted pan, and the temperature of a regularly used kitchen will very well suffice to induce germination.

A little fresh water should be poured in now and then to replace that which evaporates, the cover-pan being momentarily removed for this purpose. Even in one and the same sample some of the seeds will be found to germinate before others; but when the young shoots of the first to germinate have attained a length of from half an inch to one inch, it may be fairly concluded that all the seeds capable of germinating have done so, and then it is only necessary to count the number of seeds which have not germinated, and to estimate the percentage of failures. An exact number of seeds need not necessarily be taken, and, indeed, it is safer to take a spoonful haphazard out of the sample, count these, and place them all in the germinating apparatus. Suppose 143 seeds have thus been taken, and that 10 of the seeds are found to germinate; then out of 143 there are 14 failures; so that we should infer that about 2% per cent, of the seeds in the sample would not germinate when sown. A more correct result is obtained by conducting two, or even three, distinct sets of experiments simultaneously, and striking a mean between the several results, which, by the way, should not show much variation.

The report states that in several samples of seeds of Alopecurus pratensis, the common and useful meadow foxtail grass, a very small percentage—sometimes only one or two—of the seeds were able to germinate. This is attributed to the fact that the seeds were gathered unripe, and in many cases the sample consisted only of empty glumes, so that it was like chaff without any grain. Possibly, however, there are still some traders who adopt the pernicious practice of working off their old stock by mixing old seeds with new ones, just as grocers mix their old Barcelona nuts with the new season's arrivals; and if the old seeds have lost their vitality the sample is, of course, seriously depreciated. If the practice of determining the germinating power of seeds before sowing was more generally followed we should probably hear less of the plowing up of land on which sowen seeds had failed to "strike." 

A LESSON IN HORSE MANAGEMENT

Young man, I see you are about to take a drive this morning, and will offer you some advice. Your horse is restless and wants to be off before you are ready; you may as well break him of this now as at any time, and hereafter you will find that it has been a half hour well spent. Just give me the reins, while you put your foot on the stirrup, as if to get in; the horse makes a move to go; I light the reins and say "whoa." Now put your foot on the step again; the horse makes another move; I hold the reins and speak to him again. The horse is getting excited. Pat him a little on the neck and talk to him soothingly. Put your foot on the step again, and repeat this process until the horse will stand still for you to get in and adjust yourself in your seat and tell him to go. A few such lessons will train him so that he will always wait for orders before starting.

Now, as your horse has just been fed, drive him a very gentle pace for the first two or three miles, until he warms up and his body becomes lighter. But, before you start, let me show you how to hold the reins. Take them in your left hand, have them of equal length from the bit, and to cross each other in your hand, the off side resting on your first finger, the other on the fourth finger, the third being off. Now, in guiding the horse, you have only to use the wrist joint, which will direct him either right or left, as you wish. Keep your hand steady, with a gentle pressure, on the bit—no jerking or switching of the rein. If more speed is wanted, take the whip in your right hand, to be gently used for that purpose; be careful not to apply it any harder than necessary to bring him up to the required speed.

Speak to him soothingly, and intimate in the most gentle manner what you want him to do, and he will try to do it. So noble an animal should not be handled so roughly or overworked.

When you return you have the harness removed at once, and the horse rubbed down with a wisp of straw or hay. Give him a bite of straw or hay, and let him cool off before being watered or fed. Every one who handles a horse, or has anything to do with one, should in the first place cultivate his acquaintance; let him know that you are his friend, and prove it to him by your kind treatment; he needs this to inspire confidence, and when that is gained he is your humble servant.

If your horse gets frightened at unusual sights or noises, do not whip him, for if you do so you will connect the whipping with the object that alarmed him, and he will remember it for a long time, or even after. If he merely shies at an object, give him time to examine it, which, with some encouraging words from the driver, will persuade him to pass. You get frightened, too, sometimes, and would not like to be whipped for it.—Stock Journal.

THE CREDIT SYSTEM.

Since the first issue of the Farmer it has not failed to impress upon the minds of its readers the ruinous and bankrupting tendency of the credit and mortgage systems. There is nothing fragmentary in its results to farmers buying on credit. It encourages extravagance, frequently destroys confidence and lowers moral worth in men who would otherwise be our best citizens. The man who owes a just debt feels it to be his duty to promise to pay at a certain time. The rust takes his wheat, the drought reduces the yield of corn and cotton; he contracted debts with the expectation of a full crop. He fails to keep faith with creditors, they become dissatisfied and exacting, and the poor farmer thus burdened, is humiliated by the fact that he is unable to meet his obligations with his fellowmen. He becomes dissatisfied with himself, out of honor with his creditor, sour with his wife, and cross with his children, and unless he has a full share of moral courage is on the road to a life of dependence and servitude, enslaving his wife and children when all might be made happy and independent by a due regard to moral and economical duties. A young man starting out in life should do as he would avoid a venomous reptile. It will enslave your bodies, destroy your peace of mind, degrade your morals, your wife, your children, and bring a reproach upon the mother that bore you. It will weaken your influence as a neighbor and make you less useful as a citizen; it will tax the very air you breathe, the love you have for your home, your time, your energies, the clothes you wear, the food you eat. It will tax your health, and the medicine that is administered to your diseases. It leaves a chair that supports you at your own table and upon the bed on which you languish and die, and will leave your home, your wife, your children burdened with taxes after you have been laid under the soil. Young man keep out of debt.—Texas Farmer.

OUR GARDENS.

One little realizes the nationality of some of the most familiar things in our daily fare! Who would have said that beans blossomed first within sight of the Sphinx, or that the egg plant, with its purple and white fruit, was found under the African sun? Or have you thought that celery, once known as smallage, so useful as a winter vegetable, was manuced by many an ancient Druid? From China and Japan the first radishes were introduced in Europe, and Arabia gave us the spinach, while parsley, the prettiest of greens calls Sardinia its native home. Egypt claims the onion for her own! Asparagus comes from Russia and Poland, while carrots, beets, parsnips and turnips, are all natives of Europe, the former especially growing by the hedges as common weeds. Horseradish, with its little white flowers, like candytuft, which in Old England in flower season, is so good as to roast-beef, may be found by the sides of ditches and other waste places all over Southern Europe.

Corn and potatoes can claim no foreign pedigree. They have been ours from time immemorial. Very many of the vegetables we grow for our tables are to be found wild. Not so well flavored or so large, to be sure, but the same in all other respects. Along the sea-shore may be seen on many a cliff a small, cabbage-like plant, with a cluster of yellow flowers, but one could not for a moment imagine it was the parent plant of all the large vegetables of the table, cabbage, cauliflower and sprouts—that have so prominent a place in our gardens! It only shows what cultivation will do. It is not more than a hundred years since this sea-kale was first introduced into the garden from its home in the sand. What you see on the table is only the tender shoot which has been bleached white by keeping the plants covered up from the light.

Turning to the herb-bed, we find there many foragers growing side by side with the plants. Sweet marjoram is a common flower in a country bouquet in the fall of the year; and, though we had to bring our peas from abroad, yet the mint, so often cooked with them, may be gathered from many a marsh or river-side, where, in company with
the well-known peppermint, it flourishes well.

Another wild plant is the taxey, with its yellow blossoms and strong odor, so used by our ancestors for pudding and tarts, and which may now be found in some old-fashioned gardens. But tastes change as well as fashions; and, perhaps, our ancestors might not like many things we approve of now, as we should object to taxey puddings, saffron cakes, pickled ash-reed, "locks and keys," as the children used to call them.

And as for trees, from the wild crab-apple, with its lovely blossoms and hard, acid fruit, having sprung, by grafting and cultivation, all the many kinds of apples so much prized, and so we might go on with trees imperishable.

If we cannot boast of some of the grand trees and flowers of foreign lands, we can show a very good list of useful ones, all of very great benefit to man, and all by him taken into the garden from their homes in foreign soil.—N. Y. Observer.

GRASS OR CULTIVATED GROUND FOR PEARLS.

Nothing seems more surprising than the rapid movement which seems to have been made the last fifteen to twenty years in favor of growing pear trees in grass. We well remember, when the subject was first mooted, what a storm the suggestion made. It was looked on as the height of absurdity, and those who recommended it were thought to be lunatics of the most confirmed description. We never took any sides on this question until our own experience proved its value, and when we had successful instances of pear culture in grass, as we often have. We do not deny that there are some good cultivators who have excellent success in what is called clean culture of pear orchards. Their error has been in regarding it as the only successful plan. As we have said, it is rather remarkable how great is the change the other way; and we should not be surprised one of these days to find the public running to the opposite extreme, and insisting that in grass only can pears be grown. We are confident that the crops are more regular, the fruit more perfect, and the trees are better protected against blight. We do not, in fact, ever remember having a pear tree to die of blight—not that we have that grass is a perfect protection, only that such is the fact. The ground is uniformly cooler in grass than in cultivated land, and generally is more moist, and then, too, the roots are never disturbed. We have lost several standard and a number of dwarf trees by blight; in fact, latterly not a year passes that there is not a diminution of our trees in this way; while in grass nothing but old age seems to cause them to succumb, when we say that we have three trees on our premises said to be full 150 years old, in good bearing condition, one of them apparently as good as ever it was, we think there is good ground for our opinion.

BRING OUT THE DEPOSITS.

All good housewives are now submitting the "camphorated" chests and presses to the annual autumn examination. It is necessary, before the fall and winter purchases are entered into, to know "what is in the house," and to what use it may be put in the way of saving new outlays. The great majority of the civilized world find economy a necessity and a duty, and nobody, however large the income he enjoys, should permit anything useful to be lost or wasted.

With the approach of winter, the needs of the poor will be pressed upon the attention of the public. Thought in time may not only prevent spasmodic and lavish donations, but may also double the value of what is given. And not only so, but the deserving and the industrious, who never appeal for charity, may be remembered on the ground of friendship; and seasonable and grateful assistance may enrol persons this winter among givers, who would, else be among sufferers. Every head of a family has a right to one article of clothing may be made to serve as an argument to keep as many as possible children as they come forward, and to look neat and feel comfortable upon each.

"In the course of human events" small children go out of fashion in the household, and there is nobody with a "reversionary right" to the articles which the grown folks must lay aside. But children are always in order somewhere; and every manager knows that an adult garment will sit "as good as new," if abridged for a juvenile. In the over-hauling of ward-robos many things capable of a "conversion" as this will turn up and everybody knows somebody's children who would be well-suitied with the useless garments of their elders.

There is a wide field for choice and discretion in the application of such superfluous things to a useful purpose. The little nephew who is ashamed to wear uncle's coat reproduced, or the little niece who rebels aunty's turned frock, is not born to "good luck," unless, indeed there is such a competence of fortune as to make such economy unnecessary. But if one has no connections to whom such things would be acceptable, then think of somebody not a relative, who would appreciate as friendship what could not be accepted as charity.

Even for articles which are too much defaced to be disposed of in this way there is a demand. If the householder knows of no family whose necessities would make such donations acceptable, there are societies which include in their charitable operations the clothing of poor children. Such organizations can make good use of anything in the shape of partially worn garments. There is no discarded fabric in any comfortable home which would not be of utility somewhere, and also it is unquestionably a poor charity which gives away any kind of clothing. It is a wise economy to find a use among others for what to the giver is useless. By so much as is saved will the charitable be able to give in addition.

The utilization of waste products in arts and manufactures is considered justly to be the creation of wealth. And so in an economical view is the utilization of the discarded or superfluous clothing, furniture, fuel and food of the rich and the comfortable a creation of wealth. Waste (wherever it can be avoided) is a sin, and none of the applications for which it must be permitted to remain useless while there are fellow creatures who need. An outcome of the useless contents of chests and ward-robos would be quite as great an event to some people as the release of "greenbacks" from their hiding places would be to general business.

COMMON AND THOROUGHBRED CATTLE.

No one with half an eye can fail to be favorably impressed with the ponderous weight of some blooded cattle, the beautiful forms and fine flesh of others, while others still are valued and admired for the extraordinary quantity or quality of their milk, or for usefulness as beasts of burden. All this is the direct result of persistent application of a course of treatment devised from a knowledge of the laws of life, and intelligently and skillfully executed. Put into the hands of unskillful men, such enterprises will be sure to run down, and in a few generations revert to the level of indifferent treatment. There has been the lamentable fate of a vast number of the improved animals distributed through the country, and it constitutes the most formidable obstacle to their successful introduction. There has been thoroughbred stock enough, it is believed, imported into and bred in the State of New York to have stocked every farm in the State by this time, had it been kept up to its high standard with an average fruitfulness; whereas, it has so rapidly degenerated under mismanagement that it is now supposed to constitute only about 1 per cent. of the stock of the State.

Until disposed to bestow upon it the thought, observation and care indispensable to success, the average farmer may as well let thoroughbred stock alone. The common stock fills a place in his farming for which there is no substitute. It is just on the level where his rough, inconsiderable and indifferent management compels it to remain. With better treatment it would immediately improve; with worse, it would sink lower. The experience of thousands has proved this. The cattle have the elements of progress within them, and are not at fault for what they are, but are not to be turned back control so long as they are only held down by their breeders. The most efficient way to improve the stock of the State, whether for milk or beef, is to improve the men who grow it. Until they can be educated to give more consistent attention and treatment, there is no use of selfishly seeking to thrust upon them breeding animals whose progeny would be sure to depart till it could not be distinguished from the native stock. The most efficient way to inspire the needed education is not by despising the men or their animals, but by arousing their attention by a fair statement of facts.—Professor L. B. Arnold.

SHALL WE PRUNE IN AUTUMN?

To the above question, which comes from several subscribers, we say decidedly, yes, provided the question applies to newly planted trees, those set last spring, or within a few years. The sooner such trees have their final shape given to them the better. This should have been done when they were planted, but between the hurry of spring work and the timidity of the inexperienced, who are afraid to cut trees, are quite too often set out just as they come from the nursery. Such trees must sooner or later be put into their final shape for bearing, and the sooner this is done, the
better. Some books on fruit culture, the French especially, give diagrams of the trees and show how the branches grow. These are as good as suggestions, but as no two trees grow precisely alike, the only guides in such matters are, a general idea of the laws which regulate tree growth, and common sense in their application. Working to pattern can not be followed. If one has a young orchard, the first point to be considered is the height at which he will make the heads of its trees. In localities where the summer is long and hot, it is claimed that low heads shade the trunk, and thus are a benefit. Others wish to have the heads high enough to allow of the passage of teams between them, and there is objection to cultivating crops in a young orchard, and indeed it is better to do this than to neglect the soil entirely, the prctice is becoming more general of seeding the bearing orchard to clover, and using it as a pasture for swine, to the mutual benefit of pigs and trees. The height of the heads being decided upon, all branches that start below this should be removed. The next point should be to secure an open and well-balanced head, with the main branches evenly disposed. Beyond this, all branches that crowd, or cross one another, all, water-shows, and branches that sometimes start up in the growing season, should be cut away. The season's growth being completed, the removal of branches at this time will cause no check, and as the branches to be cut away are all small, no large wounds will be exposed. Hence we say, by all means do such pruning in autumn, while the weather is mild, and other farm work is not pressing.—

American Agriculturist for August.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL SOCIETY.

A stated meeting of the Lancaster County Agricultural and Horticultural Society was held in their room in city hall Monday afternoon, October 1st.

The following named members were present: John C. Linville, Gap; Henry M. Angle, Marietta; M. D. Keddell, Crossville; W. H. Brosius, D. W. Dickey, D. B. Miller, John Wood, Little Britain; W. W. Greist, city; F. R. Diffenderfer, city; S. P. Eby, city; John H. Landis, Millersville; P. S. Relt, C. L. Hunsicker, Manheim township; Dr. W. H. Bollinger, city; Ephram S. Hoover, Manheim township.

In the absence of the President, Henry M. Angle was called to the chair.

The Lehigh County Fair.

Johnson Miller, from the committee appointed to represent the society at the Lehigh county annual Fair, sent to a paper which was read. It states that the committee, consisting of Messrs. Miller, Landis and Brosius, visited the fair and found 25,000 persons in attendance. The fair was in every respect a great success. The floral department was magnificent; the horticultural department showed 977 plates of flowers, and 1082 specimens of fruits and vegetables, and 100 stables of superb horses; the cereal and vegetable departments were very well represented, as were also the household, machinery and other departments; the grounds and buildings are complete in every respect, and are valued at $1,800.

The fair was attended by 30,000 persons, and gave a flourishing condition.

Mr. Landis, from the same committee, read a supplementary in which it was stated that notwithstanding the immense crowds in attendance the order and decorum on the ground was of a most marked character, and conduct of the people being unexceptionable, and the presence of the rowdy element scarcely observable. To answer to a question Mr. Landis said that there were trials of speed of horses at the fair, and there were the customary sideshows on the grounds.

THE OXFORD FAIR.

James Wool, chairman of the committee appointed to attend the Oxford fair, reported that he had been there, found a very creditable display of stock, a rather small exhibit of farm machinery, a poor representation of household manufactures, and other articles usually seen at fairs. The order upon the grounds was good.

CROP REPORTS.

M. D. Keddell reported that in Manor township the corn crop was a fair average and had escaped any serious damage by frost; the farmers are now busy seeding, this work having been put off longer than usual, by the late frequent rains. The pear crop is abundant, there are a few peaches, but scarcely any apples. The pasture is excellent; potatoes are very plentiful and of good quality; nearly all the tobacco has been safely housed and is curing well—no frost bitten patches being yet seen. J. C. Linville said the corn crop in Little Britain was on the whole very fair; in some fields the yield was extraordinary, though it was rather slow in ripening, and not more than one half of it has been as yet cut off; it received but little injury from frost; the squash were, badly nipped; tomatoes, of which there is an immense crop, escaped injury thus far.

Levi S. Reit reported the corn to be generally very good, but owing to the latesness of the season he thought there would be a great deal of soft corn, and advised farmers to be careful in selecting their seed next spring.

Wm. H. Brosius said the corn in Drumore was very fine and had not been hurt by the frost; the grass and the clover are excellent; the fall wheat is yet too young to say much about.

John C. Linville said that in Johnstown it was a fair average in Salisbury, but some of it was frost bitten. Taking the farm crops altogether, he would say that all were good and some very extra.

S. P. Eby said he was more fortunate than many others in that he had practically no losses. In regard to other crops he endorsed what other members had said. He added that the scoro crop, which is not often referred to, was a very large one.

Henry M. Angle reported the corn crop along the river in the vicinity of Marietta as unusually good, and some farmers suffered a little from frost. He never saw the grass and clover more luxuriant, from young clover sown in the spring he had cut two good crops of green feed for his cattle. The seeding of fall grass has been late, on account of rain. The rainfall for the past month was three inches.

DARWINISM IN THE CORNFIELD.

John C. Linville, in his paper on "Darwinism in the Cornfield," said: "We often hear the remark that the "weeds grow faster than the corn" or the "weeds grow but the beans do not," and surprise is manifested that such should be the case. We need not go far to ascertain the cause. It is a striking example of the "survival of the fittest," and would be in the "struggle for existence" among plants.

Most of the weeds are native, although many of them have been imported, and finding a congenial home here have become adapted to their environment and are well sured up against any competition. The herbivores crowd out the less vigorous ones whether they be "weeds or not. A weed has been defined as a "plant of place." Tobacco is very properly called a "vile weed," but if left to struggle with ragweed, toad flax and Canada thistle "weed" soon ceases to have such distinction.

Another reason why cultivated plants so soon succumb to the encroachments of weeds is that by artificial selection and careful culture an enormous development of fruit has been obtained partly at the expense of the hardiness of the plant. The environment of the plant has been so changed by high fertilization of the soil and thorough care that there is necessarily any necessity for that vigor of constitution found in the plant in its wild state. If the wheat plant was left to fight its way with the many weeds found in our fields it would rapidly deteriorate into a condition similar to the wild wheat from which it was derived; but the cultivated plant in this struggle would, if it did not become extinct, develop a fruit probably utterly unfit for human food, and yet it would be a survival of the fittest.

In that sense, the fittest is the plant which is best adapted to its environment, and can best reproduce itself under the circumstances. The human will would soon become a bowing wilderness, as was the abode of animals before the moon.

A free discussion.

At a former meeting of the society a question was referred for answer to W. H. Brosius as to whether the meetings of the Lancaster county Agricultural Society were of any benefit to the community, and if any were not there were none. Mr. Brosius, not having been present to answer the question at last meeting, Levi S. Reit prepared a paper which he read at this meeting. He showed at some length that the society had been of great advantage to the community, having introduced among the farmers many valuable suggestions of the use of grasses and vegetables unknown to them before the society was organized; and further that many valuable suggestions had been made and essays read before the society which had been published in the society's publications and spread throughout the people.

He thought the society and the public owed much to the newspapers for the full reports which they published of its proceedings. And yet this was, perhaps, one reason why the meetings were not more largely attended by farmers; they all take the papers and expect to see the proceedings of the meetings published in them. Another reason for the slight attendance may be that younger and more vigorous men are needed at the head of society than the old members who organise and have thus far carried it along. For one, he had done what he could for the paper by printing the weekly reports, but he was ready at any time to give place to younger and more vigorous leaders; but he would not like to see the old society go down, even if it could not get up great fairs like those of Lehigh and other counties.

Mr. Brosius, after apologizing for his absence at the former meeting, said that it does not argue because Lancaster county is behind Lehigh and Chester and Lebanon in getting up big fairs that we are behind them in agriculture. On the contrary we are in the lead in many respects when others are lagging behind. While it may not be true that our precedence in this respect is due to this society, he felt sure that the society exercised great influence in this direction. A large proportion of our farmers are plain people, who dislike parade and show, who keep themselves informed on agricultural matters, and give as much attention to horticulture, agriculture, but take no interest in fairs, horse racing and sideshows.

S. P. Eby, Esq., said that the local society was doing good work, and its members need not be ashamed of it. They had organized great shows like their others at Lehigh and others, but the fairs are a fair test of excellence. The markets are a fairer test, and he was quite willing to compare the products of the farm brought to our markets two, three or four times a week, with the goods exhibited at our local or state fairs. He had attended the fair lately given in this city and regarded it in most respects as a show. He had seen nothing worth noting except the agricultural implements and the live stock, and he would be very sorry to see this society attempt to get up such a fair with its sideshows and horseraces and sideshows. It would be below the dignity of this
society to get up such a fair. He is sure he is more
cliffed and he believes the community receive more
benefit from reading the reports of the proceedings
of this little society than they could possibly receive
from attending fairs, like that lately held here.

The discussion was further continued by Messrs.
Brooks, C. L. Harris, Wm. L. Reid, and James
Henry M. Engle, all of whom agreed that the
true sphere of the society was not to get up
fairs, but to meet for mutual improvement, and the
dissemination of useful knowledge among the farm-
ing community.

Mr. Reid read the following paper in answer
to the question "What is the best method of
curing grapes in the cluster for winter use?"

"The question should have been put: How can we
grow grapes that will live? The fact is, we can
keep no grapes satisfactorily that are not well
ripened, and even when grown to perfection, there
are only some varieties that possess good keeping
qualities.

"At present there is no grape that will succeed
and mature better than Concord, but it is no good
keeper; on the other hand, there has thus far no
grape been thoroughly tested that will keep better
than Catawba where it will grow to perfection, and
scarce one of better quality. Any grape of good
keeping qualities may be kept until midwinter when
well matured by placing the bunches in shallow
boxes with fresh grape leaves between each layer,
and placing them in a cool room that is neither too
dry nor too moist.

"The new method of bagging the bunches early
on the vine is an excellent one, as it prevents birds
from injuring them, and although they will not ma-
ture quite so brightly as those not bagged, they
are in better condition for keeping.-They may be
left on the vine later and an ordinary frost will not
affect them, and I have found no method to keep
them longer than by butting the bunch and bag
placing them in boxes as above, except without the
foliage, then they do harm and might keep them
longer than is necessary."

Mr. D. Kendall said he had kept grapes till after
the holidays by packing the clusters in kgs and
burying the kgs in ground beneath the reach of frost,
in the same manner that apples are sometimes kept

Mr. Litvillie said the best keeping grape is the old
Diana, a secedding from the Catawba. The Catawba
is also much better for keeping than the Concord.
His plan is to box them and set them in a cool place.

Dr. McLaughlin read that the Chinese
method of preserving grapes for winter use was
to cut a hole in the side of a pumpkin with a thin
rind, scoop out the seeds and place the clusters
grape inside setting them in a cool place. Thus
preserved, it is said they will keep till after mid-winter.

Other County Fairs.

The secretary read a communication from the
Berks County agricultural society enclosing Ticket
of admission to its annual fair being held this week,
and requesting the society to send representatives
to the fair. The invitation was accepted and the
chain appointed C. L. Harris, Levi S. Reid and E. S.
Howard as representatives.

Messrs. M. D. Kendall, James wood and H. M.
Engle were appointed to represent the society at
the York county fair.

Messrs. H. L. Lawd, Wm. H. Brooks, and E. S.
Howard were appointed to represent the society at
the Lebanon county fair.

Considerable闷ment was caused by reason of
these gentlemen asking to be excused, as having
important legislative duties to attend to at Harris-
burg! Of course excused.

A Sweet-Sour Apple.

Levi S. Reid presented to the society an apple,
one-half of which was sour and the other half sweet.
The apple was tasted by several members of the
society and a representative of the "Intelligence" and
there was certainly a marked difference in the taste
of the two halves—the one being a dead sweet and
the other deckedly.

Mr. Reid said he got the

money, the cost of wine, storage room, not adapted
to berry farms—taking all these things into considera-
tion he is of the opinion that self-binding harvesters
are more expensive than the old way.

Club then adjourned for dinner. After enjoying a
splendid repast, it being stormy, the usual after
dinner walk over the host’s farm was limited to that
portion about the house.

Afternoon Session.
The minutes of the last meeting held here were then
read and the criticisms were all of a favorable
character. Some improvements was noticed since
the last meeting. The host’s stock was favorably
spoken of. The house has been newly painted and
a substantial new fence erected around his barnyard,
be of all of and a selection entitled "The New Agricultural
Editor." Carrie Blackburn favored the club with a very
fine recitation, "Why Not Save Mother!"

Ester Haines read from the "Practical Farmer,
“Education of Girls.”

Mr. Wood read from the Lancaster Examiner
“Housekeeping.”

Rebecca King, read "Spike That Gun.

Wm. King read "Mark Twain’s Bad Little Boy."

The Old Woman, whom we had all thought had
not survived the last summer’s cares and hardships.

was more keenly interested in hearing what she and the old
man saw in the Oxford Agricultural Fair. She says this fair
was given up by some of the smartest men of Oxford and some
of the best farmers in that section. She objected to the
small size of the cows they called Jerseys. She had always
heard Jersey was a poor place, and she ex-
pected they brought the best they had. She saw
where the boys and even the men were paying five
cents to throw balls at a monkey, tied to a stake.

She thought this was very cruel, but considering the
man’s health was gotten up by the smartest men of Ox-
ford for advancing agriculture—she said it was for
the best. She was astonished at the many novel
ways these smart men of Oxford had invented to
amuse the boys and interest them in farming, and
thought these smart men of Oxford deserve great
credit in doing so much for the rising generations of
farmers.

Club then adjourned to meet at the residence
of Day Wood, November 3, 1883.

THE LINCÆAN SOCIETY.

The Linæan Society met on Saturday afternoon,
September 20, 1883, at 2½ clock, in the Museum
room, after a recess of three months, the President,
J. H. Wickersham, was in the chair, and read his
and minutes of previous meeting read and approved.

Donations to the Library.

Proceedings of the Academy of Natural Sciences,
Part 1 from January to May, 1883.

Official Gazette of the United States Patent Office,

Isothermal lines of the United States, No. 2, from
1871 to 1890 quarto with 12 maps, United States
Signal Bureau.

Lancaster Farmer for July, August and Sep-
tember.

Prospectus, title page and contents of "Mines,
Miners and Mining Interests of the United States.

Inaugural address of Charles D. Thompson, de-
duced before the Rose Polytechnic Institute, March
7, 1883.

Circulating Paper from the Bureau of Educa-
tion, United States, No. 2, 1883.

Lippencott’s classified catalogue of publications.

Lippencott’s bulletin for August and September,
1883.

Highway book circulars and minor catalogues.

Four newspapers of historical value, namely:
The New York Sun of September 3, 1883, and fac-
simile of its first issue, August 3, 1883.

The Baltimore American of August 20, 1883, its
110th birthday, and a historical sketch of the paper
and the city. Also No. 1, of a new paper (initial num-
ber) called The Father Columbus’s Paper.
and 5 contain various species of Colocrypta, Hymenoptera, Hespera, and Arachna, conspicious among which is Eippleus lattem. No. 7 contains 50 species of the order Araneida, of which 12 belong to the class Myriapoda, representing two families commonly known as "Hellepedes" and "Centipede."" Four bottles of insects and others, collected in the vicinity of Lancaster city, in July, 1882, taken by Mr. J. H. G. Deems, contain 50 common tarantulas, Horned Toads, and some species, common, or "Sow-bug" and "Pill-bug." These latter animals, which had for many years been classed with the Myriapoda, are now classed with the Crustacea, and are referred to the order Amphipoda. These two "departure groups," as they are called by the Austrian authorities, are actually not insects, but belong to the class Crustacea (Aentopoda). It contains a miscellaneous collection, mainly small chrysomeloids. No. 11, Arachnida, female specimens, with their cocoons, or egg bags, attached to them. No. 12, small specimens of the larva of Eristalis delicata, the tobacco hornet. No. 15, containing "scale" or "eab" insects, belonging to the Coccus family. These were found on small oak twigs, by Mr. T. A. Auxer, in June last. They are species of Pulvinaria. A few days after I received them (six weeks old), I put them upon millions of minute whitish animals, too minute to be detected by the naked eye—which, under a strong magnifier exhibited considerable activity. They had a dark longitudinal line on the back, slightly bristles and antennae, and two longer sets or bristles projecting from the caudal segment.

In connection with this subject I would mention that I donated a specimen of the Hoary Bat to this society about sixteen years ago, which was subsequently entirely destroyed by the "Museum Beetho." (American Museum of Natural History.) We can now see its appearance, at the present time, both the band on throat, and the spots on the wings, were absent; nor was the color of the hair as dark as it is in this specimen, but the size was about the same. These two are the only specimens of this bat I have ever seen, and, from the fact that during the long interval of sixteen years more than a score of bats were brought to me or sent to me, but none of this species, we may infer that it is by no means common in Lancaster county although it may not be rare here, but is for some reason local.

Mr. Mayer informed me that he fed this animal about a week on "bread and milk," and that it devoured it readily. Bats generally are insectivorous animals, although there are large foreign species which are frugivorous. This appropriation of bread and milk seems to indicate a step towards domestication.

A bottle containing a specimen of the "golden carp"—Carpinus aurata—from "our aquarium," where it very suddenly died about a month ago. It probably died as a result of being kept a long time, and not a longer time than when we obtained it. Its death could not have been caused by the unhealthy condition of the water, because other specimens in the same tank still survive. The color is so completely destroyed by the alcohol that it looks like an old looking calculator.

Seven bottles of insects in alcohol, collected at "York Furnace Spring" during the Tucumcian excampment, in July, 1885. No. 1 contains 3 species of Calosoma Seretus, one of the handiest species of beetles, of whole coleopterous order, and this combined with its symmetrical proportions, its curvatures powers, its head-foot character, and hence its usefulness places it far in advance of any other known species. No. 2 contains 16 species of Chrysocephalus luridus. This is also a very pretty insect, but is a vegetable, confining itself to the "Dogbane." This insect could be easily set in jewelry, and allied species are extensively so employed in Brazil. No. 3 contains Prionus latiusculus, Lucanus dama, and Cleda canaeusculus, from the same locality. Nos. 4 and 5 contain various species of Colocrypta, Hymenoptera, Hespera, and Arachna, conspicious among which is Eippleus lattem. No. 7 contains 50 species of the order Araneida, of which 12 belong to the class Myriapoda, representing two families commonly known as "Hellepedes" and "Centipede." Four bottles of insects and others, collected in the vicinity of Lancaster city, in July, 1882, taken by Mr. J. H. G. Deems, contain 50 common tarantulas, Horned Toads, and some species, common, or "Sow-bug" and "Pill-bug." These latter animals, which had for many years been classed with the Myriapoda, are now classed with the Crustacea, and are referred to the order Amphipoda. These two "departure groups," as they are called by the Austrian authorities, are actually not insects, but belong to the class Crustacea (Aentopoda). It contains a miscellaneous collection, mainly small chrysomeloids. No. 11, Arachnida, female specimens, with their cocoons, or egg bags, attached to them. No. 12, small specimens of the larva of Eristalis delicata, the tobacco hornet. No. 15, containing "scale" or "eab" insects, belonging to the Coccus family. These were found on small oak twigs, by Mr. T. A. Auxer, in June last. They are species of Pulvinaria. A few days after I received them (six weeks old), I put them upon millions of minute whitish animals, too minute to be detected by the naked eye—which, under a strong magnifier exhibited considerable activity. They had a dark longitudinal line on the back, slightly bristles and antennae, and two longer sets or bristles projecting from the caudal segment.

The late J. Duncan Putnam, of Davenport, Iowa, in his "Notes on Coccids," states that Dr. V. Sig- noret has brought together descriptions of eighteen species of Pulvinaria from different parts of the world. Let us see if we can determine five groups, or species, that infects the oaks of Europe, namely P. Ianatanus. I propose for this subject, if it proves to be new, Pul- vinaria querordetia, and yet it may be Ocellus lanitsus introduced into this country. These scales are a chestnut brown in color, and very much more frequent—in fact, is generally only a little on the side that adheres to the branch, and so thickly crowded together that in some places the branch or twig is entirely concealed. Whilst the branch was standing erect on a small shelf, 6. M. Senor and myself noticed at its base, what appeared to be a small accumulating pile of Dust, and on a closer view we found this apparent dust animated and spreading itself over a rapidly increasing area.

Two bottles containing insects taken in the county of Lancaster, and brought to me by different persons.

No. 1 contains (one small al- d of Attacus ecreata, eggs of "narrow winged katydid," Phylloptera oblongifollis; one specimen of Balanus nasur, or "chestnut weevil;" one of Or- chelium, and one of Rudstrum raptitius.

No. 14 contains the larva of Philgidia satellita, found by Miss Bechgard, a species of the order Lepidoptera, the act of injuring, being of a brilliant pink color. A specimen of Mydas flava and one of Tabanus strata, usually called black "Horse-fly."

A large half-gallon bottle from H. A. Rhavon, of Carson, Texas, containing four or five repiles belonging to the order Collembo- lides, is another apparent- ly immature specimen of Pharynomaya or "Horned Toad." A fine large specimen of the "Texas centip- peds" (Scolopendra heros); three "Tarantulas" (Mygale hentzi) and two very large Hymenoptera, commonly called the "Tarantula Kilers—Pomilus-

In explanation, I would remark that the contest between the "Tarantula" and the "Tarantula killer" is the same irrespective of the fact that the former is a native human, or even many other animal intelligences. The primum actus in such a struggle would be, as in the case of man, to wound, and in the case of the animal, to wound or to wound and capture. This latter will not be productive, for the insect can not be felt, and the animal is not likely to notice it.
THE LANCASTER FARMER. [October,

given in books as 15 inches. The class Batschias is subdivided into three conspicuous orders—namely, Ancora, or taxilless; Uroidea, or tallied, and the Apodas, or shankskipe, being entirely destitute of limbs. The Batschias, which subject then belongs to the tallied order of Batschias, and to the family Amphibulids, or gills, breathing through a branchial orifice instead of gills, at all periods of their existence. They are most "unwelcome guests" in the Susquehanna, or any other streams, for they are voracious devourers of fish, mollusks, and other small water animals. They live entirely in the water, and have a very de
defective locomotion out of it, and yet it is conjectured that they must have somehow passed from the head waters of the Allegheny to those of the Susquehanna. Batschias of some sort were in the Catalogue of the United States National Collection of Insects donated by Geo. Flick. Two birds nests collected in Lancaster county, in July, 1883, and four mounted specimens of Exotic Forns donated by S. M. Senes. Specimens of Dobocathecian Media and seed stem of family Breeders was presented by Mr. Mrs. Gibbons. Specimen of Junco Bethie, found in Diffirelangeville, per Dr. S. S. Rathvon. Specimens of "Thrydop
terix eupharmiformis," by Prof. Stahr. Piece of coal and splinters of a mast from wrecked vessels on Atlantic coast from C. A. Heinich. Two old fire bricks, one old fire brick and a fire box (which was presented to the Union Hose Company by Thos. E. Franklin, in 1840) purchased for and donated to the Lisbon by C. A. Heinich. A paper entitled "1nate Notes" was then read by Mrs. Gibbons, and an article on the picture of the Indian altar was read by W. L. Gill, Robert C. Bair, of York Farmes, was proposed as a correspondent, and Walter P. King, of Lancaster, as a regular member. Laid over for one month according to constitution. Two communications from the Department of the In
terior in reference to exchange of publications were then received, and Secretary Davie sent them a copy of LANCASTER Farmer monthly. Action on amendments to constitution deferred until next month. Action of curators in purchasing some Indian relics was approved and bill for same, and also bill of $1.25 for taxleumy and alcohol, etc., ordered to be paid. Report of Department of Agriculture, last meeting he had 29 serial volumes bound, and would present bill for same at next meeting. The adjournment was made to Junior, October 27, at 2 1/2 P. M.

STATE ORGANIZATIONS.

Pennsylvania Wool-Growers. At a meeting, August 13th, 1885, at the Fulton House, Washington, Pa., of the Executive Committee of the Pennsylvania Wool-Growers' and Sheep Breeders' Association, it was

Resolved, That the organization of the Pennsylvania wool growers can only be attained by united effort to assist organization in the different counties represented through the State Association, and that the State Executive Committee have powers adopted to the use of the different counties of this State. PEO. Fisher and others desiring to organize auxiliary associations to the State Association, through the secretary of the State Association. Resolved, That the time and place of meeting be ar

ranged for by the members of the Association, or for some other person corresponding with the Secretary of the State Association. Resolved, That the J. J. McNary, Wm. A. Heerdt, Executive Committee.

STATE BOARD OF AGRICULTURE.

The following is the Erie Gazette of August 12th is of interest to all Agriculturists. The State Board of Agriculture was in session in this city last week, and with much routine business, many valuable papers were read. On Wednesday the board visited W. L. Scott's farm and inspected it generally, pronouncing it one of the best farms in the country. We make a few extracts from their doings as being of both general and local interest.

At the discussion of "birds vs. Insects," by Prof. W. A. Buckhow, entomologist of the board, the following points in his掠中被电磁波的干扰

Agriculture.

Corn Fodder. When the farmer has stored up the ears of corn in his barn he has laid only two-thirds of the feeding value of his crop. The stalks that bore his corn hold another third. This means that when the corn is hauled away it is called, is worth nearly or quite one-half the grain for feeding stock. Governor Boutwell estimates the value of his fodder at one-half the value of his hay; that is, if hay sold at $20, fodder was worth $10, and when he sold his hay at $22 his corn fodder brought him in cash $13.20 a ton. Yet so many farmers ignorant of its true value regard it only as a necessary evil, and waste it away. But when the bucking time comes with as much certainty as the grain. The few who have large barns and only mod

strate, to make the corn and barley suit the home market for cattle, it is only that the fodder is a usable commodity. The value of corn for foes is not to be destroyed. The corn must be restored to its original condition by sending in water. —Toube's Manual.

How Much Wheat Seed Per Acre? Where wheat is not at all crowded, in a rich, mel

low soil, and the tillering is not impaired, the average number of stems per foot is about sixteen. Each one produces a head or car, containing on an average, under reasonably favorable conditions, fifty grains. Thus one grain yields eight hundred grains. At this rate, the man who sows two bushels to the acre, would have about eighteen hundred bushels per acre, or else much of the seed is lost. The average yield of the country, however, is less than fifteen bushels per acre. A bushel of wheat contains, ord

inarily, seven hundred and fifty thousand grains; two bushels, or a million five hundred thousand grains. A bushel of wheat contains sixty million square inches. So that each plant has four square inches from which to derive sustenance. Measure that on the ground, and see how small it is. Can you expect the plant to make a vigorous growth on four square inches? Can you expect it to tiller and produce sixteen stems? Can you expect it to mature full heads? The result of this crowding is plain. The plants cannot gain nutriment when growing so densely. Some must die, and the others may live. The strong triumph, and the weak succumb. The life for life begins as soon as the plants appear above ground. As the plants grow larger, they require more room, and others must give way, and very few, if any, attain a full growth. All are cramped and starved. Tillering is impeded; many plants do not tiller at all, and the

case is clearly decided. The same is true of earing. Full ears cannot be expected. An acre of wheat contains about eight hundred thousand heads. It is safe to say, that, on account of tillering, these
are produced by three hundred thousand plants. Consequently, only one-fifth of the grain sown pro-
duces mature plants; these plants produce less
than one-fifth of the proper number of stamens by
sterility, and these produce imperfect heads. This is almost
terribly caused by crowding.
Two quarts of seed sown on an acre have produced
fifteen bushels of wheat. Where all the conditions are
favorable, it is possible to have more than a half bushel
per acre. But agricultural re-
forms are never sweeping; therefore let the wheat-
grower try one bushel per acre.—American Agricul-
turist.

California Chicory Farming. Chicory farming promises to be one of the coming
industries of California farming. Chicory was first
planted in that State about fifteen years ago, but
since that time it has been extensively raised on the
San Joaquin and Sacramento rivers. Chicory is
cultivated on a small scale in some of the Eastern
States, and in some places in that section grows
wild in abandoned fields and orchards. It grows
very luxuriantly on the bottom lands of Louisiana
and Texas. The root of the plant, when being pre-
pared for use, is cut by a machine into small square
bunches, washed, dried, and then roasted, and finally
ground in a mill. Chicory pos-
sesses few elements in common with coffee, and yet
it imparts a taste to it generally finer than that of
coffee drinkers in Europe. In France and Belgium
to-day half of coffee is consumed in this way, without
chicory with the coffee they drink that they prefer
so prepared to the beverage in its pure state.
Travelers in those countries, even when they pur-
chase pure coffee for their private consumption, find
that the cooks will mix chicory with it, even after
having received strict orders to the contrary.—San
Francisco Chronicle.

How to Destroy the Germs of Rust and
Smut. No farmer should omit to steep his seed wheat in
some earthen solution that will destroy the germs of
rust and smut. It is not yet known fully how the
seed is impregnated with smut, or if the smut infects
the seed within as well as without. But in any case
it is positively known that some substances destroy
the spores or seeds of the minute plant that produces the
disease. A solution of salicin—potash and nitre
vitriol—sulphate of copper—dissolved in a gallon
of water for each five bushels of seed, which is steeped
in it until it is absorbed, has been found the most
effective. Strong lime-water, salt brine and old
chamber-lye, which contains a large quantity of
alkaline earth, have all been used with benefit. Smuts
are rapidly increasing. Few grain crops are free from it,
and all we can do to help ourselves to prevent it
is to use these precautions.—New York Weekly
Times.

The Best Rotation Crops. The following is from the prize essay of T. O.
Nourse, written for the Massachusetts Agricultural
College:
There was an old practice, prevailing to give the land
three years before running it. This, however, is
going out of practice, from the fact that it gives so
great a chance for loss by draining. Now a general
farm does not offer the same chance for losses, for it
is very easy to adopt a system so that a crop may be
kept growing all the time; for if a crop comes off
carrying the season, but not early enough to allow
another crop to ripen, it is very easy to sow rye,
and either feed it off in the fall or spring, or plow
under for green manure. It has been found from
repeated experiment that one crop will not grow on
a piece of land for a long series of years and give
good results. This is probably due to the fact that
a large proportion of the particular elements needed
by the plant are exhausted, while if these are rotated
with those of another nature the farmer will again
soon grow as well as ever. For a rotation of crops,
the following may be a good one in many locations:

---Horticulture.---The Profits on Small Fruits.
In illustrations of the profits in cultivating small fruits, we refer to the
Orange County Farmer, Independent, a statement that in a garden at that
place, L. A. Hemenway is raising strawberries at a basty profit. The paper
says: "Upon the three-fourths of an acre, which are now ripening, the weekly yield is
one thousand boxes. These are of the choicest variet,
y the Monarch of the West. Mr. Hemenway has
sold already this season over 8750 worth of berries,
and the vines promise to yield as much more before
their annual period of rest. Almost the whole work
of preparing the land, constructing water ditches and
fences for irrigating purposes and to some extent
continuing to them when growing, has been done by Mr. Hemenway alone. Since the
berries commenced ripening they have required the help
of man. Besides this, Mr. Hemenway has at-
tended to his other crops, doing the whole work con-
nect with ten acres of hay, three acres of corn,
one acre of vineyard, four acres of pumpkins, and
five or six acres of apricot and walnut trees, which
are now beginning to bear most bountifully. In
this way, upon a small piece of land, he is making more
clear profit than many of the so-called large farmers
who are sowing two or three hundred or one thou-
sand and acres of wheat or barley and paying out almost
the entire receipts for hired help, harvesting, thrift-
less, sacks, transportation, commission, etc.

Shooting Worms. The increasing prevalence of "worms nests" or
tent Caterpillars in fruit trees is bringing out vari-
ous suggestions, from those who have had experi-
ence, as to the best mode of destroying them. A
writer in the Pittsburg Stockman comes to the front
with the shot gun method, as follows: "An ordinary shot gun loaded with a small charge
of powder, a little experience will determine the
amount, with a little or no wadding (if any, a little
upper is best), held from one to three feet from the
tent and fired, will completely destroy the tent and
all the interior inhabitants, thus delivering a
triumphant victory to the tree. The result is a sudden column of
fire, accompanied by an explosion, too short to burn,
and too weak to injure the tree, and yet strong
eough to destroy utterly and completely the worms."
The writer quoted above describes the process
quite clearly, but fails to mention one important
feature, the proper time to do the shooting. Our
own experience in that business in our boyhood
years proves that this little time was spent by the
drizzling rain preceded by a draft, foggy night.
The fog and dampness of the atmosphere drives all
the worms into the nest, and the rain keeps them
there. Thus a well-directed shot effectually exter-
mates the entire nest.

Experiments in Cultivating. W. W. Higher of Vermont, writes to the Practical
Farmer, giving some of the results of his experi-
mments in cultivating orchards, which, although ac-
cording to the experiments of others, may be use-
ful if briefly stated in enforcing their teaching. Bowing
wheat in an orchard always seriously check the
deciduous trees. Any two, and three of the
most common spores of the black budding
powder, scented measure. These of the two
eezes, well-beaten, should be added last. This recipe is
especially nice for any kind of layer cake, or when
baked in large square pans and thickly iced.

Mayonnaise Dressing for Tomatoes.—To the
yolks of three hard-boiled eggs, smooth to a paste,
add the yolks of one raw egg, three tablespoonfuls
of vinegar, one of melted butter or oil, and salt,
pepper, and mustard to taste. Mix thoroughly and place
over the tea kettle until heated, stirring all the time.
The whites of the hard-boiled eggs should be chopped
d and piled upon the slices of raw tomatoes. When dressing is added, the result is not only an
appetizing but an ornamental dish, the mixture of
brilliant red, yellow and white being, in itself, al-
most sufficient decoration for a tea-table.

To Clean and Freshen Old Matting rub it
with a cloth wet in salt water, being careful not to
allow any drops of water to dry in the matting, as
they will leave spots difficult to remove. Heavy,
unwoven matting may be washed in the wood-
matt, for even good varnish, becoming soft in
warm weather will stain the straw. Matting may be
turned if the loose ends of the cords are threaded in
a large needle and drawn through to the other side.

Hard Boiled Eggs, when placed in water just
below the boiling point for threequarters of an hour,
are much more tender and palatable than when
cooked in the ordinary way, and also more
digestible.

Take large, ripe tomatoes, cut them in half, and
with a spoon scoop out the centre. Chop any kind
of cold meat very fine, and mix with it a teaspoonful
of chopped onions, some crumbs of bread, a little
salt and pepper, and a well beaten egg. Fill up each half of a tomato with this mixture, scatter
bread crumbs over the top of it; put a small piece
of butter in the centre, and bake in a slow oven
for forty minutes. Put the tomatoes in a buttered bak-
ing tin. Serve on a hot platter, garnished with
sprigs of parsley or water cress. This makes a c
side dish for a family of four or five.
AN EXCELLENT Pudding is made of Bart apples stewed, and then put in layers with fine cracker or bread crumbs. While the apples are still hot stir in 100 grains of sugar, and let the whole be baked for half an hour. A little sweet cream is a great addition, but it is good without any sauce.

Corn Bread.—One pint meal, 3 tablespoons flour, 1 egg, piece of butter size of an egg, 3 teaspoons baking powder sifted with the meal and flour, and not quite 1 pint sweet milk.

SAUSAGE MEAL.—For one hundred pounds meat, twelve ounces, pepper six ounces, sage four ounces.

**Live Stock.**

**Thrifty Pigs.**

Pure air helps to make pure blood, which, in the course of nature, builds up healthful bodies. Out-of-door pigs would not show so well at the fairs, and probably may be passed over by the judges who have been taught to admire only fat and helpless things, which get the prizes. Such pigs are well adapted to fill large keds, whereas the standard of perfection should be a pig which will make the most ham with the least waste of fat, the longest bacon, and the best meat. This kind of pig should have bone enough to stand up and help itself to food, and carry with it the evidences of health and natural development in all of its parts. Pigs which run on a range of pasture have good appetites—the fresh air and exercise give them this.

Take six of these—six is the most practical number—and keep them in a box. Fill the body of the pigs with this stuffing; over them with a few bread crumbs; put them into a roasting-pen and wet them with a little sweet oil; then into a quick oven for about ten or fifteen minutes, to give them a nice color.

**Lemon Whey.**

Take milk and water, a pint of each; add to it the juice of two lemons, and let the mixture boil for five minutes; strain and sugar to taste. Recommended for a cold.

**Fotted Chicken.**

This is an agreeable relish in autumn when traveling. Take a roast fowl and carve off all the meat. Take two slices of cold ham and chop it with chicken; add to this one-quarter pound of best butter; add salt and pepper to taste; now pound this altogether to a paste; put the mixture in a jam pot; cover closely. It will keep in a cool place ten days, or long enough for any moderate journey.

**Eve's Pudding.**

Pure, corn and chop half a dozen apples, take six ounces of finely-grated bread crumbs, six ounces of washed and picked fante currants, half a nutmeg, a good bit of sugar, and a quart of new milk. When the milk becomes warm, add the flour and curtain, and in two hours or longer. This is especially good on a rainy day.

**Handing Young Stock.**

I have read with much interest your remarks in the February number, page 64, upon Matter Edith. I would like to do this by the by, which make us turn over to see whether I had not got into the horse department, as we, in England, call only the horse stalls the stable, and the dwellings of our cows, heifers and calves the byre, or cow-house. The young stock manager of a large stock must notify that the handling you advocate is most important, and I would add to your suggestions about the heifer'sudder just this: That the milkmaid or herdsman who attend to the heifer about the time of calfving, and milk her constantly after calving, will keep the fat quarters of the udder. Being a little more difficult than the hind quarters, the milk not running so freely as from the latter, are often neglected; the milk does which he is nearest to do is to encourage the flow of milk to the hinder parts of the udder. This is caused they see so many unshapely udders, deep shrunken, and small, in the front, and the yield of milk is absolutely less than when the fore-parts are trained to contribute their fair share. The fore-quarters should be milked first and "striped" afterwards, and the hind quarters, though it will not seem to neglect the mature cow in this respect. I have known serious accidents happen to heifers in traveling, from neglect of handling and hating at an early age, and bulls to become permanent and ungracefully vicious from want of exercise and the handman's frequent companionship. But in all these very necessary "handlings," I would forbid the use of the stick. Both heifers and bulls are amenable to kindness judicially exercised. I never knew it fail, even with animals neglected until they were half grown, and consequently very excitable and wild. Cautious approaches, with firmness and gentleness, will enable a man to get perfect control over the most unruly, provided that the stick or, still worse, the boot, has not already caused a lifelong dread of all mankind.—Live Stock Journal.

**Salt.**

"Salt is good," no doubt, and a grain of it should be taken with the statement which is widely circulating that "Prof. Joseph E. Johnson says 57 per cent. of the blood of an animal consists of common salt, which is partially discharged every day through the kidneys and the skin." As an ordinary man has about 22 quarts of blood, the Stands of 88 to 90 pounds in the reins, if 57 per cent. of this consists of salt an animal would be a sort of living salt spring. The truth is that blood contains only 1 per cent. of solid matter, of which less than one-seventh part is chloride of sodium or salt. But while salt is indispensable to supply even this small quantity, without which an animal would become diseased and die, it is also requisite to a greater extent to enable the stomach to digest food. For salt not only assists in the solution of food, but it contributes to the hydrochloric acid which it contains to the gastric juice, and to that extent contributes to the digestion of food. It assists it in the production of one or more of the digestive juices of the body, the one known as the bitters, and in the production of the stomach acid, which is produced by the chief, and is the same body, when it comes to the stomach, that contributes its sodas to part in the bile. And as the bile is an important agent in digestion it is seen that salt is indispensable necessary to the welfare of an animal.

**Vaccination Live-stock.**

M. Pauteur tells the Academe des Sciences at Paris that wonderful results are being obtained in the work of vaccinating live-stock as a preventive against disease. During the past year 80,000 sheep, about 4,000 head of cattle, and 500 horses have been vaccinated. Before this the annual loss from luer rot in one department was 9 per cent., while the loss since then has been reduced over one-half. Among flocks partially vaccinated the loss is one to ten between the vaccinated and unvaccinated. The experiment was fairly tried, the cattle receiving in the vaccinated food the same treatment. Among the 4,962 head of cattle vaccinated during the year there were but 11 deaths, the rate of mortality being reduced from 7.8 per cent. to 24 per cent.

**Water for Stock.**

Animals need good water as well as men and dangerous diseases come from its use, perhaps more than from any other cause. Box in with animals.

We believe, says the Kansas Farmer, and our belief is founded on many years' observation, that most of the fervers in cattle, sheep, horses and hogs are caused by the drinking of impure water. We have lost cattle that we believe died from that cause alone. Only four years ago we lost a good cow, and no cause could we find that could have possibly produced the fever of which she died, except the standing water she drank out on the open prairie. We have seen many instances of supposed Texas fever in places where no Texas cattle had been for years.

**LITERARY AND PERSONAL.**

PHILADELPHIA Stock News, edited by John Wannamaker; a quarterly of eight pages, highly illustrated. From the title of this paper it might be supposed that it is the organ of the interests of Philadelphia in general, but, in reality, if this initial number (vol. 1, No. 1, September, 1883) may be taken as a true reflex of its future, it is wholly and solely devoted to the interests of John Wannamaker's "great friendship for the Market and Thirteenth streets, in the city of Phila- delphia, and hence only an advertising sheet. It does not say so, but we presume it is issued for gratuitous circulation, and well it might, for we cannot conceive of anything more useful and courte-
A HOME ORGAN FOR FARMERS.

THE LANCASTER FARMER,

A MONTHLY JOURNAL,

Devoted to Agriculture, Horticulture, Domestic Economy and Miscellaneous.

Founded Under the Auspices of the Lancaster County Agricultural and Horticultural Society.

EDITED BY DR. S. S. RATHVON.

ONE DOLLAR PER ANNUM,

POSTAGE PREPAID BY THE PROPRIETOR.

All subscriptions will commence with the January number, unless otherwise ordered.

Dr. S. S. Rathvon, who has so ably managed the editorial department in the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that science of which he is so thoroughly a master—agronomic science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this publication. He is determined to make "The Farmer" a necessity to all households.

A county that has so wide a reputation as Lancaster county for its agricultural products should certainly be able to support an agricultural paper of its own, for the exchange of the opinions of farmers interested in this matter. We ask the co-operation of all farmers interested in this matter. Work among your friends. The "Farmer" is only one dollar per year. Show them your copy. Try and induce them to subscribe. It is not much for such a subscriber to do but it will greatly assist us.

All communications in regard to the editorial department should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

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LANDRETH’S WHITE WHEAT!

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LANCASTER, PA.
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On and after 4th Day, June 24, 1853, trains leave the Depot in this city, as follows:

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This work will be highly illustrated, and will be put in press (as soon as a sufficient number of subscribers can be obtained to cover the cost) so that the work can possibly be accomplished.

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Two Dollars per Annum.
The Lancaster Farmer.

Dr. S. S. BATHYON, Editor.

LANCASTER, PA., NOVEMBER, 1883

Vol. XV. No. 11.

EDITORIAL.

HOW TO "STOP THE PAPER."

The way to discontinue a subscription to a newspaper, magazine, or other serial publication, is an exceedingly simple one, and yet, many otherwise intelligent—or even intellectually sharp—subscribers, often sadly bungle therein. Unless from the nature of the contract between publisher and patron, the latter is bound for six months, a year, or to the end of a series, the modus operandi is merely to pay up all arrearages, and order the publisher or proprietor to "stop the paper." It is a matter that relates strictly to the business department of the paper, and therefore, the representative of that department is by all means the proper, and in many cases the only proper person to be addressed; and the paper itself will somewhere in its columns designate who he is, and where he is. If published by a company, of course, the company becomes a person, and should be addressed as such, unless supposed that a socially individual to act as its agent. On matters relating to subscriptions, advertisements, or anything else of a secular character, the Editor should never be addressed—unless he is also the publisher—because, as Editor, he is not supposed to know who the subscribers or advertisers are. He may reside miles away from the office of publication, and even never visit it, from one year's end to another. All matter intended for publication, however, whether in the form of correspondence, communication, or contribution, should be addressed to the Editor, for these come directly within the sphere of the editorial function. These rules constitute the common law of literary publications, of whatsoever character they may be, over the whole country; and, the subscribers to a book might with equal propriety address the writer or writers of it, declining to take it, or finding fault with it, as for a newspaper subscriber to address the editor on a matter strictly between him and the publisher. All this has been repeated hundreds, yea thousands of times and still it is systematically unheeded by those who certainly know better. Cut this out—paste it inside on the crown of your hat, and act accordingly.

SMUT IN WHEAT.

We insert with more than ordinary pleasure the communication of our correspondent from Brookville, because it seems to have a good, intelligent, and practical Lancaster county farmer—ring; and, if Lancaster county farmers would only condescend to make their sentiments freely and liberally known, through the medium of the press, we feel assured that they could honorably occupy the exalted position of teachers, instead of mere freshmen in agricultural lore. Of course, it is not to be supposed that we would purpose to endorse the doctrines embraced in the various paragraphs we quote from other journals, any more than we are supposed to endorse the sentiments of all our contributors and correspondents. But, finding these paragraphs in respectable journals we suppose them to have a respectable character, and hence we give them places for what they may be worth, knowing that if they cannot bear a practical test, they come to naught. According to some of the most unquestionable authorities on the origin and germination of "rust" or "smut," our correspondent is right; nor can we see, any more than he can, how the small quansitum of spittle of copper which may adhere to a grain of wheat, can have any beneficial effect upon a disease that is only banefully developed some eight or nine months thereafter. There is not a more subtle development in the vegetable kingdom than that of mold, smut, or rust, under whatever name, or in whatever form it may appear. Its development seems to be entirely under the control of surrounding conditions, and as these conditions cannot be seen six or eight months in advance, it would seem futile to depend upon any remedy involved in "seed-steeping." These cryptogamic parasites may be found in the seed-cavities of apples, pears, and quinces; in the cells within a loaf of bread, or an English cheese, or within the abdominal cavity of an insect even before it is dead. This would imply that the spores or germs had been in the air, and that their development was entirely dependent upon surrounding conditions, and these conditions would more likely exist in a damp cellar than in a dry garret. Of course, any chemical application that would stimulate the healthy and vigorous growth of a plant, would advance it farther beyond the injury of rust, than if it were in an enervated condition. It is true also that often the most vigorous plants become affected with rust, but then this may occur through excessive stimulation, and a protracted humidity in the surrounding atmosphere.

NOTEWORTHY.

Mr. Miles Rock, assistant astronomer of the U. S. Naval Observatory, sailed October 1st, to accept the position of astronomer on the survey of the boundary between Guatemala and Mexico. The work will occupy one or two years. He will also make ethnological observations and photograph ruins for the Smithsonian Institution. —Scientific and Literary Gossip, Oct. 15th.

Mr. Rock is a Lancaster countian, and a brother to Allen Rock, of North Queen street, Lancaster city. He was at one time an active member of the Linnean Society, and is now one of its most distinguished correspondents, and has made a worthy record in contributions to its museum and library.

None congratulate him on his scientific advancement more earnestly than his old-time friends among the Linneans, and they recall with special gratitude his remembrance of the society on his last visit from Cordova, South America, where he assisted in making observations on the transit of Venus in 1874. His contributions to natural science, and especially to astronomy, on that occasion were valuable and were duly appreciated, not only by the Government, but also by his private benefactor. Lancaster County has lost a friend in Mr. Rock, and the National Capitol has not alienated him from his friends in Lancaster county, and they look upon his scientific and social progress with a solicitude that is second to none. He has the unqualified sympathy in his undertakings of all who know him in this community, and, not least, of the members of the Linnean Society, who feel that he is competent to the discharge of any duty that may devolve upon him by his own consent. The boundary between Guatemala and Mexico will present a new field of scientific operation, although it may be a rough one, and we await with interest its ultimate results. Independent of the skill of the mere mathematician it will be a prolific source to the naturalist, a line of observation and research in which Mr. Rock is not a stranger, although he may make no special professions in that direction. The web of natural science is so intricately woven together, that no one can explore one of its threads without feeling or cultivating an interest in collateral fibers.

EXCEPRTS.

This year's crop of Rio coffee is estimated at from 3,000,000 to 3,500,000 bags.

The horse population of the United States is now over 11,000,000, or about one horse to every five human beings.—Chicago Inter-Ocean.

There is no better food for chickens than skim milk.—Chicago Journal.

Last year Kansas had 62 tornadoes; Illinois, 54; Missouri, 44; Iowa, 31; Indiana, 27, and Minnesota, 21.—Prairie Farmer.

Dickey County, D. T., one year ago had a population of 200. Now it has 5,000, and more coming.—Dakota Journal.

New York eats $5,000,000 worth of oysters a year. Philadelphia $3,500,000. Baltimore $2,000,000. Boston $1,750,000, and about $85,000,000 worth of beans. How grateful the Boston oyster must be to the bean.—N. Y. Times.

Seven tunnels, with an aggregate length of about seven miles, will be built on the line of the Harrisburg & Western Railroad between that city and the Youghiogheny River. The road is to cost $20,000,000 or about $1,000 per mile, and is to be completed within two years.—Philadelphia Press.

There are about 500 fancy biscuit lakershops in this country, each of which has a capacity of from 100 to 600 barrels of biscuit a day. Crackers cut into faneful designs are carried around the world by travelers and, a baker says, are not only a thing of beauty, but a joy forever.—Detroit Post.

In 1850 the best railroad time between New York and New Orleans was five days, and a passenger had to make nine changes, many of them long rides from depot to depot. In 1850 the time was reduced to four days; in
The food eaten by the animal imparts flavor to the meat to a certain extent, and this difficulty is increased when sheep are slaughtered just after being fed.

There is no occasion for deriding "scientific farming," as is sometimes done. It is only common sense practically applied, and it is only to the extent that it is scientific that any farming is successful.—Farm, Herd and Home.

The Soja bean, which has been so highly recommended, does not ripen in New Jersey. At least it did not do so in some parts this season. It may serve well, however, as a green manurial plant, as it produces abundantly of foliage.

There is a kind of clover called German clover, which was introduced in Virginia several years ago. It thrives best when sown in the fall. It is ready to be cut by the first of May, grows high, yields heavily, and is relished by all classes of stock.

Mutton to be good and devoid of rank flavor must be prepared quickly, says the
THE LANCASTER FARMER.

through which they began to rot. Many of them were perforated, and firmly adhered to each other where they came in contact, but with very little of the silky fiber which usually characterizes the work of the "Grape codling," or, "Grape-berry moth," (Pseudita cinnibana, Pack.) or, (Eulithis bosrana Schiff.) when they tie the grapes together, and where they pass through the discolored berries that I opened contained at least one small Lepidopterous larva, (some contained two) mainly agreeing with the descriptions of the insect, or insects above named. These discolored grapes I placed in three small wide-mouthed jars, or cups, with glass covers. Two of them developed nothing so far (Oct 19.) but green, and white mould; but the third one developed a multitude of small Dipiterous larva, from the pips of which evolved as many small two-winged Flies, but not a particle of mould, of any kind. In these berries that I opened, I observed neither dipiterous larva or pupa, nor did I detect anything on the outside of them that could be recognized as eggs, and yet in the cluster which I enclosed, eggs may have been present without having been discovered by me, on account of their minuteness.

On Sunday, Oct. 14, the weather was exceedingly warm; and had been so the two previous days. On that day I noticed the first evolution of these little flies, and as there were only a few of them I supposed they might have been parasitic on the bodies of the "codling" worms, but at the present date (October 19) they are two numerous and too large, to have all subsisted on the bodies after metamorphosis. There are hundreds of these larva, and they seem familiar, although I can't name them. Many of the maggots are crawling up the sides of the glass jar, some of which pass there into the pupa state, and from that into the imago. This seems a necessary preliminary, to illustration and description.

These larva are of the ordinary maggot shape—as they are usually found in the Muscid—small or attenuated at the anterior end and increasing in size until the middle is reached, and from thence to the posterior extremity of a nearly uniform size, and there terminating by an abrupt truncation, except that there is a small projecting prominence from the anal end, akin to an ovipositor in some species of Lepidoptera. The immature larva is almost transparent, and the contentions of food inside. There are abundant dark straws, or hairs, visible through the skin. The head is very small, dark in color, and very retractile, and are also three of the anterior segments. Two divergent dark straws are seen through the first cr second anterior segments, and just behind them two others, larger and more diverging. When the larva becomes mature it becomes white, and nearly opaque, and is then about five m. m. in length. On opening one of the grapes I found within it, buried in the decayed pulp, more than twenty of these larva, but no pupa—they seemed to prefer pupating outside of the grape—but on the bottom and sides of the jar, or on the skin of the grape they were abundantly found.

The pupa is a trifle shorter than the mature larva and of nearly the same color, and is prominently distinguished by two slightly divergent spines projecting from the upper extremity; the anterior end being more obtuse than it is in the larva.

In the imago there are two forms, which are unmistakably small. Although there is very little difference in size. The body is four m. m. in length, and the inner expansion is six m. m. in some specimens more and in others less. The thorax, the head and the ventral portion of the abdomen, are a honey yellow, darker in the male than in the female. The dorsal portion of the abdomen is dark swarthy—darker in the male than in the female. The head is proportionately large, and the eyes are very prominent—indeed, the most striking feature of the whole insect—being a bright, waxy scarlet red, about the color of red currants, and when crushed on white paper, they leave a scarlet streak: the tigula, or proboscis, is large and retractile, working in and out, up and down like a bellows. The antennae are quite small, and bristle like, scarcely distinguishable from other dark, forward, projecting bristles on the head. The feet are all whitish, and in the males the tarsi are dark. In the females there are a few hairs, pointing backward, on each side of the thorax, and also a few on the abdomen, fringing the segments.

The dorsal portion of the female abdomen is glossy and she is provided with an excised ovipositor, similar to that of a female "wheat-midge" (Cecidiomyia triticis). The thorax and abdomen of the male have many bristly hairs, inclining backwards, arranged along the posterior margins of the abdominal segments, and the abdomen terminates somewhat out of. All the hairs on both sexes are of a dark color, but not black. The halteres are prominent in both sexes, and the wings are longitudinally nerv'd, with a few transverse nerves, and of a beautiful hyaline, or iridescent in coloration, but after the insect dies the iridescence passes away, and they are simply a dull transparent.

The larva has great power of extension and hence moves rapidly, and, although entirely footless, can crawl upon the glass sides of a jar with perfect ease. The fly is dexterous in its cursorial movements and alert in flight.

There were seven or eight grapes in the jar; two of which were immature, and unripe. These latter driz generally developed nothing, and after five were developed about two hundred, or more, flies, of which I secured twenty-five or thirty, and the others escaped; I also secured about the same number of the larva, and a few pupa.

The eggs of these flies must have been deposited in or on the grapes before I received them, for after they were enclosed in the jar nothing could have approached them. When the flies were developed it was impossible for them to escape, hence no fly could have gotten into the jar.

It is possible, however, that these flies only deposit their eggs in grapes after they have commenced to rot; a condition produced by other causes.

October 31st I introduced a number of the above described flies into one of the jars in which there had been no evidence of the presence of the flies on the 19th of October, and to my great surprise found almost 100 per cent. of the flies and also a slightly increased number of the perfect flies, from which it is apparent that under favorable conditions, they pass to the pupa state at least, in the short space of about ten days, from the egg. This is further evidenced by the fact, that in the jar in which no flies were introduced the grapes are rotting away without developing anything but a crop of fungi.

Another coincidence is the fact, that after the flies were introduced into the jar no more fungi were developed, in that on the 21st there was a tank crop of this cryptogame, whilst on the 31st there was little or none visible in a living condition. No sound grapes were placed in either of the jars, so that I am not able to state whether these flies deposit their eggs on sound fruit or not.

But what became of the larva of the "Grape codling," or "Grapeberry moth?" As before stated, some of the grapes dissected, at the time of bottling them, contained these larva, and I expected to develop the moths, but none have appeared, nor was a vestige of them present in any of the grapes infested by the maggots of the flies, all of which were thoroughly explored. Did the maggots and were subsequently devoured by the maggots? Possibly none of the bottled grapes contained them, but they presented the same appearance as those that did contain them. I record another fact in regard to the tenacity of this fly. I confined some of them in a small tin box, where they have been kept for ten or eleven days and they are not now only alive, but also very healthy.

If this fly deposits its eggs on sound grapes it may become the most formidable enemy to that fruitful fruit that it is known to have, for it is capable of rendering a brood every ten or twelve days from the first opening until the first of November, if not longer.

I had seen similar flies frequently, but I knew not from whence they came, but in this instance I observed the development of the insect in all its stages, except that of the egg, and I concluded my observations on the 21st of October. Whether the evolution from the pupa would have occurred the present season, had the grapes been left out in the weather is more than I can attest, but they were brought into the house. Their evolution, however, commenced in the absence of any artificial heat, and at a place where the temperature was lower than it was out in the sun. A "grape maggot" may be common, but its identification with the fly that produces it, is new to me, hence this recorded experience.

1This is without a doubt, the "Wine-boring maggot" fly (Drosophila ampelophila) referred to in the U. S. Entomologists Report for 1881-1882. See proceedings of Linnaean Society in November number of the Lancaster Farmer.

To PREVENT IRON FROM RUSTING—Kerosene applied with a cloth to stoves will keep them from rusting during the summer. It is also an excellent material to apply to all iron utensils used about a farm.
CONTRIBUTIONS.

CORRESPONDENCE ABOUT RUST.

Dr. S. S. Rathvon.—Dear Sir: I see by the Lancaster Farmer, for October, that some one in the New York Weekly Times, suggests the propriety of testing a solution of sulphate of copper, and other mixtures containing ammonia, for the prevention of rust and smut, on the plants grown from seed, so treated. As I see it, I don’t go much on such recommendations. The spores or germs of mildew, rust and smut, are aloof in the atmosphere, and take root on any plant that is in a condition to admit of it—that is, in a wet time, when the stems and leaves are soft. These fungi are parasitic in their habits. In foggy weather, nearly all kinds of plants, especially kitchen garden vegetation, are liable to be affected by the growth of these fungi on the different parts of the plant. If it is true that germs take root on branches by coming in contact with the exterior of the different parts of the different plants; then, upon what principle could treating seed in this way do any good? One of the best remedies that I know of is to furnish the soil with such chemical compounds as the plant wants to give its stem a coating of glass, such as cornstooks have. The silicates, especially of potash, furnish what the plant wants to protect itself from the exhausting effects of this growth, white sand and wood ashes furnished the soil, is a good application. Remedies for this, as well as for human ailments, consists in assuming nature in this work of protecting itself.

Philosophers have, already, enumerated more than 150 varieties of these fungi. The science of Mycology, as the study of these almost microscopic cryptogamous plants (concealed flowers) are called, is one of the most recondite of sciences. When we are advised to do a thing, before we do it, we should always first ask ourselves, does it look reasonable, or have we a reason for the faith that is in us.—C. G., Brookville, O., October 27, 183—.

CORRESPONDENCE ABOUT APHIDS.

S. S. Rathvon, Esq.—Dear Sir: We have been greatly annoyed in this section of the state the past growing season, and injured indeed by the black aphides on our fruit trees; but more particularly on the cherry, in their first years growth of budding and grafting on their tender succulent terminal leaves. They increase rapidly, and so entirely exhaust the leaves of their juices, as to stop the growth of the branch, or stem upon which they are feeding. You will greatly oblige by a line, advising me of the best method of getting rid of them early in the season, of their first appearance. On examination since our late severe frosts up here near the mountains, I still find some left, and apparently as active and lively of a way as they appeared earlier in the season; but nothing like so numerous. As they appear so soon in spring, I infer that many of them survive the winter and commence their depredations to some extent on the first opening leaves of early spring, as the Peach tree aphids, which produce the curled leaf. I have your paper and accompanying illustrations, on insects injurious to fruit

trees, read and presented to the Fruit Growers Society of Penna, several years ago, but I cannot place my hand upon it, and I am sorry for it, for I am only troubling you for what I want, and which I suppose is there fully set forth. I tried “London Purple,” but put it on too strong I suppose, as it not only destroyed the insect, but the leaves and succulent shoots—this was done late in the season. If they appear in spring, I will try the experiment again in a more mild form. The “curled leaf is pretty bad on the peach, have you a certain cure for it. I have heard of “Prof. Culver’s insect unaniistate to trees and plants,” do you know anything about it? I forward you with this a copy of my book on the Culture and diseases of the Peach.—Yours Truly, J. Ratter, Manney, Lycoming Co., Pa., Oct. 22, 183—.

REPLY.

Yours of the 22d last, was duly received and I don’t know that I can make very satisfactory reply; because, of late years the secular occupation has very much interfered with my experimental entomology. Although the aphids and coccids that infest the various fruit trees, shrubbery and plants are, or are supposed to be, different species, yet they all succumb to the same remedies; but, even if a certain remedy is known much depends upon the intelligence and practice of the experimenter. He should know exactly what strength of solution, decoction, emulsion or dry remedy, the various plants infested can bear, at their different periods of growth—a young leaf or spring cannot bear as strong an application as an older one—and your experience with “London Purple” has been one step in that direction.

The particular species of aphid that infests the cherry tree (Black Aphids) is the Myans ceranis, Fab.; that of the peach, Myans persico, Sulz. These insects occur from early spring until late autumn; indeed, in some instances, they have been known to bring forth young as late as the 1st of November. But finally they yield to the cold weather, and none of them survive the winter. Before they pass away, however, a brood of males is produced; these fertilize the females, and they then deposit their minute eggs about the base of the buds, and in the small fissures of the bark of the branches, where they remain all winter, and no amount of cold usual to this latitude can adversely effect them. But as soon as the genial warmth of spring swells and bursts the buds the same warmth also incubates the aphid eggs. It would be almost useless to apply a remedy to the eggs, unless you rubbed it in with a stiff tooth-brush, and if the trees were small and of special value it would pay to go to that trouble; but when the young appear they are easily destroyed—heavy showers of rain even sometimes destroy millions of them. But the impregnation, or fertilization of aphids, is one of the most wonderful things in nature. The first brood evolves the spring, and are all impregnated females, and thenceforward no more eggs are deposited until late in autumn, but each female brings forth her young, one at a time, perfectly formed, and this is also an impregnated female, and in due time brings forth another; and this continues unto the thirteenth or fourteenth generation, or until the end of the season, when males are produced, as and for the purposes above stated.

These aphids are visited by many ants, which eagerly lay up their exudations of “honey-dew,” but they are also visited by many parasites which feast upon them. For instance, the thunbergi and larve of “Lady-birds,” the larvae of “Syrphus” and “Lace-wing” flies, and also species of minute “Chalcis flies.” These parasites often entirely destroy whole colonies of aphids, but still a remnant may remain, and that remnant is capable of originating a new colony later in the season, when the parasites have disappeared, either by transformation or departure in quest of additional food, for when the aphids are consumed there is no inducement for them to stay.

Among the artificial remedies for the extermination of aphids are decoctions of tobacco, Pyrethrum, and Cayenne pepper, or solutions of whale oil or weak lye applied with a garden syringe, and drenching thoroughly. These will destroy all the insects they come in contact with. According to a series of experiments made under the direction of the U. S. Department of Agriculture, much stress is laid upon emulsions of kerosene oil, as a general insecticide. As follows: I gal. kerosene, 1 gal. cow’s milk—fresh or sour—and stir them thoroughly until they present the appearance of thin butter. One pint of this mixture is then diluted with ¼ gals. of water, poured in gradually, and rapidly stirred, until all is poured in; applied as aforesaid, or by a portable force pump. This is particularly recommended for scale insects, but for aphids it might be further diluted, say two gals. of water.

I know nothing about the merits of Prof. Culver’s remedy—practically or otherwise. I have seen it advertised, and that is all I know about it.

With thanks for your work on “Peach Yellows,” I am yours truly, S. S. R.

FOR THE LANCASTER FARMER,

ON WHEAT-GROWING AND THE HESSIAN FLY.

It seems the Hessian fly was first observed in New Jersey, soon after the army was removed from the neighborhood of Trenton. It was the supposition that the soldiers from the continent of Europe emptied their chaffbags, that had been filled with straw by the Hessians in the English army, and that said straw contained the eggs or pupa of the fly, or perhaps both.

The fly made its first appearance in Lancaster county in 1806 or 7, and ever since that period, more or less of them have annually appeared in different localities. In some years when the wheat would not thrive and properly “joint,” the farmers used the German phraseology—“Der weiten hot der stedl;” the wheat got “bogy”—it ceased growing. From 1806 to 1820 the farmers of Lancaster county cultivated a white wheat, which was the leading variety, but it was so thick in the husk, and the grains adhered so tenaciously, and withal were so difficult to tramp out by the horses, that they discontinued its cultivation. It would, at the
present time, not be so objectionable on that account, since we have efficient machinery. The red, bearyed wheat, was next introduced, and generally grown on oats-stubble; and the so-called "stubble-wheat" was supposed to thrive better on "stubble-ground, or on ground not too rich. Up to the year 1825, it was considered the wheat; but from that period to 1835, the smooth-chaffed blue-stem took its place. In 1827 the winter was so mild that the growing oats did not perish in the field during the winter, so that in the following harvest the farmers had a full oats crop mixed with their wheat, and the wheat itself was one of the best crops they had for years. The oats having had the whole winter for its development, it ripened simultaneously with the wheat, and was taken from the fields at the same time. This year the wheat was a total failure throughout Lancaster county and elsewhere, and flour went up to $14 per barrel. Cargoes of wheat were imported from the Mediterranean, and some of our farmers obtained seed and sowed it, hence it was called "Mediterranean wheat." It subsequently became an object of general culture in the county of Lancaster until 1858. A farmer in Paradise township picked out some extra ears of wheat in his field which was a redder color than usual, and on cultivation it turned out to be a great improvement on the old. It was extensively cultivated and took the name of "Red Mediterranean wheat." It is now very extensively cultivated, and the same kind of wheat is still extra, and makes better flour than the "Foltz wheat," and brings from five to ten cents more per bushel. The Foltz wheat was first discovered by a workman named Foltz, in one of the river valleys. He noticed a bush of wheat in harvest time which was different from that around it, which he secured and took home. His sons urged him to plant it; he did so, and was successful in raising a new variety. It is now very extensively cultivated, and with it has yet displaced the Mediterranean wheat. It requires a very good and rich soil to thrive. There is still another "Red-chaft" wheat cultivated in the counties of Lancaster, York and Lebanon, which does very well and is a little longer in the stem than the Foltz. It is known under different names, and I hope some one will give it a history of it. In 1845 we had a good wheat year, but in June after it had headed a white frost occurred, and all the wheat on low grounds was damaged or destroyed—there was nothing but empty stiff straw. I believe the best thing that could be gotten up by agricultural societies would be to offer premiums for the best new varieties of wheat. This would encourage farmers, in harvest time, to look for and collect the best stray heads of wheat in their fields. I believe by such a process we might get wheat to yield from thirty to forty bushels per acre. L. S. R., Oregon, November, 1883.

We have no prejudices or partialities in the matter at all. We desire to publish the truth as near as we can get it. If what we have published comes short of the truth, it seems to us it ought to be easy to disprove it. But Dr. Porter’s version has been standing since February last, and we have seen nothing that authoritatively contradicts it. Something like it does occur to the authority, and we consider Dr. P. is entitled to the highest consideration, because we do not believe he would write upon the subject as he does, without knowing something very definite about it. He was intimately acquainted with Dr. Foltz, and therefore ought to know something about the wheat named after him. An honest workman is of no less consequence than a Doctor; and a Doctor is of no more consequence than an honest workman, in any matter relating to a real discovery; but, positive testimony is always of more consequence than merely ‘hear say’ testimony, until the former is successfully rebutted, and the latter corroborated.

SELECTIONS.

MAKING COMPOST.

Making compost and making manure are two different things. It was once considered that only turf was compost, but farmers now prepare compost from every available substance. What is best known as compost on the majority of farms at present is made by the mungling of manure with other matter, the whole to be finally brought to a fine, well-rotted state.

Barnyard manure, if dropped into a cellar with the liquids flowing off in another direction, would soon become tough and elastic, and a fork could no more enter it than it could a hale of cotton, but by mixing the manure with an absorbent, and making the mass in the shape of a mound, the volatile matters are retained, while the manure is more or less disintegrat and broken up. The importance of utilizing the liquids is also taken into consideration while making compost, as they are not only absorbed but assist in rottling the solids. Moisture being almost absolutely essential to the decomposition of the heap, it is best to apply the liquids from the stable. Composts admit of the use of a large amount of absorbent materials, for, along with the solid and liquid manures from the stable, all the dirty water, soapsuds and other refuse matter should be added to it, nothing being omitted that is supposed to contain fertilizing matter of any kind.

The compost, as stated before, should be very fine. Long straw and whole cornstalks are not of use in the compost heap, but answer admirably when passed through the fodder-cutter, and well saturated with liquid manure, which quickly rots them when so prepared. Such coarse material belongs to the manure heap. Leaves make an excellent absorbent material, and even road dust is valuable, not for its fertilizing qualities so much as for its power of absorbing and retaining liquids. But one of the best materials from which to make compost is marr, which is, possibly, cheaper than anything else for the purpose, considering its chemical value. As it is almost as fine as dirt and easily handled and incorporated, the manure and other matter, it not only assists in saving the valuable gaseous substances but adds itself to fertilizing elements that are often lacking in the manure to a certain degree. Although
marl contains no ammonia. It contains quite a fair percentage of potash, phosphoric acid and lime, all of which, though partially insoluble in the marl, are changed in conditions by the chemical action of the compost heap. If marl were a soluble material its price would be high, but as it must be made available by being composted it is one of the cheapest items in the whole list of fertilizers.

To properly make the compost heap put down a layer of marl, then a layer of manure, then any other material that can be raked, scraped, and gathered up. Pour over it the liquids, but not too profusely, as they may soak through it, if the heap is small, and flow off. After the lapse of a week mix the mass well together and place it over a layer of marl. This is the beginning of the general heap, and each successive addition should be treated likewise—that is, first thoroughly mix the ingredients in small heaps before placing them on the larger ones. The compost heap must never become dry, but should be protected from the sun and rain. If the whole heap is occasionally worked over so much the better. Just as you are applying it to the soil it should be made very fine, if required, and a little plaster sprinkled through it while it is being handled. Should marl not be used obtain dry earth instead. Do not add lime to the heap at any time, nor wood ashes, as the articles may do more harm than good unless the heap contains a large amount of absorbent matter and is kept moist all the time.

The value of compost is largely due to its retention of that which is commonly wasted; its facility for being hoarded and spread by reason of being fine; in thorough decomposing, and, permitting of its use on all crops and at any time, and of its being a factor within which a large amount of insoluble material can be made available as plant food. —Lancaster Invader.

WINTER DAIRYING.

Milk is not the only agency employed in successful farming. Mind must direct and control all exertion, if it be productive of good results. What distinguishes men most in this age is their ability to think, to plan, to "lay wires," and the reward to such a farmer is thrift and comfort, influence and wealth. The keen eye, the deft hand, the mature judgment, of the thinking farmer, tell in every part of his labor. It is this advanced thought amongst us that is rapidly taking farm labor and methods onto higher ground, dismissing much drudgery and tedious, profitless toil.

Among the multitude of interests fostered and pushed in the West is the dairy. What a wonderful revolution in the methods and results of this branch of industry! Cultivated grasses and nutritious foods; improved breeds and extra care of herds; scientific attention and careful, constant attention, have increased the number of cows and the annual yield per cow; have improved the quality and price of butter, and made the country, in many ways, more prosperous. One million cows, with well nigh one hundred million pounds of butter annually, in Iowa, show the ponderous proportions of this business. The purpose of this article is to raise the question—and settle it—whether it were not possible and advisable to carry on much of our dairy work in the fall and winter.

Now, the intelligent, progressive farmers who have not already given close thought to the subject, and have made some experiments in that line, will at once consider it. They will weigh the subject, and if the claims of its advocates are plausible, they will try it.

Why should we engage in winter dairying?

1st. In the fall and winter, farmers are free from the worry of the cropping season, and can give proper attention to the business. The women and children are not then the sole operators. It will not then be a drudgery to milk, for the heat and burden of the day have not been endured. It will then be of importance, since nothing is of special interest.

2d. If the cows drop their calves in October and November, they are in good flesh and strength, and give the offspring good life, and, because of liberal and proper feed, will start them off well for the winter. In March and April cows are poor, from lack of food and exertion, and it is difficult to get the sufficient quantity to produce free flow of milk, and both the cow and the calf get a bad start for the summer. By the time the May and June grasses have brought the cow to moderate flesh and flow of milk, the hot weather, dry grass, insufficient water, and hard flies, set in, and then comes another check to business.

3d. Since, in profitable dairying, the calves must be fed, the fall and winter season is proper, for the men have time. The calf can be fed and do well. The old notion that a calf must suck is only a notion. One of the most successful stockmen of our country has just told me that the calves he feeds are not better than those that follow the cow. Many other progressive men practice the same way. It must be left for another article to tell how calves shall be fed, but it can be done, and is done every year successfully, even by fine-stock men.

4th. Every cow must be fed and sheltered in winter, if she is to yield any revenue to her owner. If she be well fed, she will yield richly, and the product is always more valuable than in warmer seasons. Then she will milk longer, and, when she goes unto grass, will give a good flow of rich milk, because of the excellent condition in the spring. Just so much food is required to sustain all the vital processes in normal condition. Whatever she gets above this will yield a return in milk. If she does not get the extra food, then she gives no milk or she draws upon her reserve vital force to yield the milk, and reduces her life powers—flesh, strength, etc.

If the cow goes dry for six or eight weeks, it will be in hot, dry, flies, time, when there is not time to milk her, and when butter and cream are least valuable.

5th. The skimmed sweet milk of the dairy is of great value as feeding for not birth piglets, young fowl. The calf, before fed during the winter is, by the time grass starts nicely, ready to leave the milk and live in the field on grass and grain, and come out worth from $30 to $50 for beef at a year old. Just as the calf leaves the milk the pigs and young fowls come on to use it, and it is utilized all the year round.

Now that we have told why we should more generally engage in winter dairying, let a line of advice be given. Be sure to manage well. Use the most approved apparatus for setting milk—deep setting cans, 41 gallons, with proper gauge, and no cover on while the milk is cooling; a good tank, that puts abundance of water about and over the milk, yet ventilates it every hour of the day. Situate the milk out of the cellar or cow, and where no impure air can reach it. If butter be made at the farm provide a thermometer, a good barrel churn, and numerous other things, and do it well. George Washington’s goods passed down the river from Mt. Vernon place without inspection because they were his. Make your butter of good flavor and grain, and it will be “gilt edge.” When Dr. Browe was asked how he mixed his paints, he answered: “I mix them with brains.” Butter is made in much the same way.

But farm butter-making is only profitable near large places, where a good local market is sustained. The creameries of Iowa have done much for our farmers in giving them a proper price for their milk. To secure the lowest cost for winter cream, and the creamery system in country places is the only correct one; therefore, patronize them, and thus foster one of Iowa’s first interests.—J. W. Johnson in Dairy and Farm Journal.

ON CROSSING BREEDS FOR DAIRY PURPOSES.

Farmers who are breeding for dairy purposes are ever anxious for the best stock, which is found to be the most profitable at the milk-pail and churn. In selecting cows to begin with, they have generally to be content with the best common stock that can be picked up here and there among their neighbors, or that they have raised from calves and have selected as the most promising among their young heifers. To get several number of one breed in this manner, has been a long and tedious business. But almost every farmer has one or more such cows, which he refuses to part with at any price. And this is a wise procedure, for first-class cows are worth three medium cows as any one can see at a glance. Say such first-class cow will produce ten pounds of butter per week; three medium cows would produce five pounds each or a total of fifteen pounds. Say it costs in feed, work, care of milk, etc., fifty cents per week to keep each cow. The butter produced from the ten-pound cow will be worth, at twenty cents per pound for 500 pounds, $100, giving a net profit of $74. The butter from three five-pound cows will bring $150 for 750 pounds, leaving a net profit of $72, or $2 less than the ten-pound cow gave. The calves I have counted for nothing, for, if sold to the butcher, the milk in fattening would be worth more than the calf brings. The net profit per cow of the latter would be $24, while that of the first-class cow is $72, or as much as $48 and $2 over. If such a cow costs $100, the income would be seventy-four per cent. net. At the same rate, the others would be worth, only $32.30 each. Such being the case, it becomes a matter of vital importance to raise first-class stock in breeding for the dairy.

I have said nothing of that class of cows, which are kept by the thousand, that only produce three or four pounds of butter per week. Such hardly pay for their keeping.
1883.

Now, what is to be done in stocking a farm where money is limited? In the first place, procure the very best common stock that your means will allow. Don’t be afraid of giving double for a good one what you would for a common or poor one. Then procure a bull from the very best better family within your reach, and breed your cows to so select a sire, until your herd before containing fifty, sixty-five, and eighty-seven and one-half per cent. of his blood. Don’t be afraid of interbreeding so long a you bull is strong, vigorous and healthy. Castrate the male calves, or dispose of them as you would common stock; but keep their heifers, by all means, for your future dairy cows.

For the above purposes there is no strain of cattle at all comparable to the Jersey breed. They have been bred for hundreds of years for milk, cream, and butter mainly, and, of course, excel in every particular. The castrated males will make as much beef in proportion to the food they consume as any other race. A bull can be procured of a reliable breeder for from $50 to $75. By getting a thoroughbred, recorded animal, his service fees in the neighborhood would pay for himself in a season. They are old enough for service at about one year of age. Proper handling is necessary to any race, if you would have a gentle animal. The Jersey bull is as gentle, docile, and easily handled as bulls of any other race; possibly they excel in docility. Bred from such a bull your heifer calves at birth are worth as much as a two-year-old heifer of the common stock, even at the first crate; if the here-quarter blood heifer, and from that to the fifteen-sixteenths, are worth double and triple as much. And when such heifers come into milk they will almost equal the thoroughbred Jersey herself in richness of cream and butter product, while, if the dam is a first-class milker they often excel the thoroughbred Jersey in the quantity of milk they yield. Thus, in ten years any man may breed up a first-class dairy stock which would be almost like a gold mine by a little care in selecting a bull. — E. L. Britzig in Dairy and Farm Journal.

Havana Seed.

What It Has Done For Baldwinsville, N. Y.

When you are in a tobacco region, the conversation turns on tobacco and the prospect; when you are in a hop section, the people talk glibly and perhaps intelligently about hops; when you are in a potato section, the all-absorbing topic is potatoes and potato seedlings; and when you are among beam growers of Skaneateles, you are very much interested in the facts that Skaneateles stands the highest, or any section in the United States in the production of beans and in their management.

We are in the great tobacco section around the fast growing lively village of Baldwinville, with its increasing industries. For miles around our place is very much interested in the numerous and growing fields of domestic Havana tobacco. On every side you see plots of this famous variety of leaf growing. As you pass the fields you smell the rich and may say pleasant aroma of domestic Havana tobacco, which has followed the original Havana plant to the very doors of our energetie growers in the County of Onondaga, and the sections adjoining our county. The growth of Havana seed tobacco, as it is sometimes called, has become a veritable industry with our farmers, and they are thriving as the ox thrives on the products of the great cornfields of Illinois. From the proceeds of our tobacco fields our active farmer boys for miles around can purchase their wagons, horse and harness; which, on the other hand, the merchant is happy to know that as the production of tobacco becomes greater, his profits also become more satisfactory, and he himself can afford a very pleasant life for his family.

“Yes,” said a stranger, “your town is assuredly growing, and may I inquire the cause?”

“The thriving condition of our place is owing to the tobacco interest in this section, and the large amounts of money annually paid out here for domestic Havana tobacco products”

Such was the answer given a stranger. Our village is increasing its population very rapidly, because of the impetus given to it by reason of the large receipts of tobacco by the different warehouses here.

Thrift, industry, life of an active character —these things go hand in hand here, and our go ahead people are, rest assured, very largely interested in the growth of tobacco, because through its successful production their bread and butter come.

Baldwinville receives its tobacco from South Butler, Victory, Westfield, Red Creek, Absolom, Cato, Marcellus, Darien, Hannibal, Granby, Bowen’s Corners, Fulton, Lyons PLL, Canewel, Oswego township, Pulaski, Volney, Mexico, Hastings, Schroeppl, Cicero, Chittenango, Clay, Skaneateles, Elbridge, Camillus, Marcellus, Mar- etta, Van Buren, Lyons, and numerous other points, quite too numerous, in fact, to chronicle here. Is it wonder, therefore, that our place is growing? Labor and industry make a place grow. Our tobacco industry gives to the laborer in winter and in summer labor — labor to help on the poor man’s family — to brace him during the long winter months which we are certain to have in this northern climate. We feel gratified for the labor the assorting and packing of tobacco furnishes our laborers; and we know that whenever there is work going on, their money is paid out, and the merchants and grocers get a portion of it to build up their trades. Thus we are moving on. New tobacco warehouses are being built here; new grists from abroad are coming among us to buy our leaf, renewed interest is being taken in our fine Havana tobacco, and the foreign buyers covet it; they want it; in a word, it is a thriving business with a great future.

CORN, HOG, AND CHOLERA.

However presumptuous it may appear in one, a simple farmer, who spends his time at home attending to the endless duties and routine of the farm, to express an opinion on the vexed question of the cause and preventative of the dreaded swine plague commonly known as cholera, yet I shall venture an opinion, which may or may not be of value.

For years it has been contended that the almost exclusive diet of corn, on which the hogs of the West were reared and fattened, was the primary cause of this dreaded scourge. Yet this has lacked a successful verification, for instance, many farmers have grown the crop of spring pigs, along with the sows, have been swept away in the fall when they had nothing, or very little, more grass through the summer. So, thus far, the subject seems to be left about where it was. For years I have been watching for anything which would throw light on the subject of the swine plague, and have gathered many theories, the most of which have been discarded, and a few still seem of enough importance to retain for further consideration.

One coincidence, if it be not cause, has been evidenced during three years past that it is worthy of further consideration, and that is, the relation between a big corn crop and the ravages of the cholera. In 1879 we had the heaviest yield of corn per acre ever raised in this country. Corn was cheap and plenty. In 1880 followed another good crop, increasing its plentifulness. It was fed lavishly. In 1880 and 1881 was a remarkable scourge of the hog cholera. In 1881 and 1882 the corn through the hog-growing sections was light, and, therefore, fed more sparingly; more grass and other food and less corn was used in pork production, and the cholera steadily increased during these years. Till now, in 1883, the Agricultural Department reported the disease extinct.

There is yet a lack of evidence to prove that corn is the prime cause of disease in swine, yet there is enough to cause a further investigation of the subject. To my mind it will not do to lay the blame on corn or any one thing alone for the visitations of this dread disease; but, undoubtedly, overcrowding has had more to do with it than any other one thing, and a region devoted to corn-raising is more apt to lead to extensive hog production, because of the enhanced profits of feed-and those profits are very great. I have often tried to find an instance where the cholera has made its first appearance in a neighborhood in a small herd, but so far have failed. So far as my observation has gone, it has always begun its ravages in the larger herds, and from there has spread to the smaller ones, though the treatment of the herds, to all appearance, has been the same.

Long feeding in one place and unchanged sleeping quarters lead to an accumulation of filth, and then, when certain meteorological conditions which we do not understand occur, for instance, a long hot dry spell, the disease is far more rapid in the large than in the small herd the disease is more apt to break out there; and with the small herd the conditions are so nearly perfect that it only needs the contact of the taint given by the actual disease to perfect it, and so the disease spreads to the small herds.

This may all be theory, from the beginning to the end, yet to me there is much of fact in it, and I believe if we were to pay greater attention to cleanliness in the care of our swine, often change their eating and sleeping quarters, and keep fever together, we would ma-
butcher finds a market? But we go much further; we hold that the Jersey cow is the most beautiful of her species, and the most profitable.

The Jersey does not claim to be the best animal for producing beef or milk or cheese. Her speciality is butter, and here she stands unrivalled for quality and for profit. All the milk for our 60,000 people is inured every week from the neighboring coast of France and from Spain; and it has been the case for the last hundred years, at least, as the Acts of our island abundantly show. With our 12,000 cattle we do not rear a single bullock; neither do we make a single pound of cheese, and probably never did. As to milk, that of the Jersey cow is far too good for the milkman, who would find a Holstein or one of the deep-milkings tribes of Shorthorns much more profitable. Neither does the Jersey claim to be "a good all-round cow." The "good all-round cow" is an anachronism; she might have done very well when every farmer had his own butcher and baker. Nowadays the farmer is obliged to consider what particular line will best suit his circumstances and surroundings—whether beef or milk, cheese or butter; and he must choose his cow accordingly, for on this depends his success or failure. If he decided in favor of butter, there is no cow will suit him so well as the Jersey, for she is the only one that has been persistently bred for butter alone, and she is the accumulated result of some hundreds of years' persevering effort in that direction.

STORING SWEET POTATOES.

The most common and most successful way of storing away sweet potatoes with the least risk of keeping in this latitude is to put up in dust. There are other modes which have their advocates. In the summer, when the dust is very dry, I take as many barrels or boxes as I shall want to fill with potatoes and fill them with road dust and put them away in a dry place to keep until I dig my potatoes. I prefer digging before frost. I dig them and let them dry in the sun a day or two; then they are stored away in a cool place; they are spread singly over the floor so as not to heat nor sweat; when cold weather sets in they are taken and stored away in the cool. I cover the bottom of the barrel or box with about three inches of dust, then a layer of potatoes close as they can be not to touch; cover them dust; the potatoes, and so on until the barrel or box is nearly full; then fill up with dust. In this way potatoes will keep through most any winter. I find this the best way to keep sweet potatoes in winter. Another way I have tried with good success is to pile the potatoes in a large cone-shaped pile. Thirty to forty bushels keep better than less. Then take straw in small handfuls and pack around, commencing the bottom; building it firm, eight or ten inches thick, and then inserting a flue near the top and build tight around the flue. In a few days the potatoes will begin to sweat and emit a steam; after they go through the heat and cold weather sets in this flue can be stopped with straw. Now this straw is covered with dirt thick enough to suit the weather. I have very good success with potatoes stored in this way, but prefer putting up in dust. When I put up with straw I put up in the garden, putting a shelter over them.—Farm and Garden.

INCREASING LEAN MEAT IN PIGS.

We may well suppose that the habit of the pig in laying on an excessive quantity of fat has been caused by long and excessive feeding of fat producing food, and it is not likely that any sudden transformation could be brought about; but it is well known that the pigs of different countries differ in respect to fat. We have only to contrast fattening pigs of this country with those in Canada. There pork is fattened partly upon barley, but largely upon peas, a highly nutritious food, yielding a large proportion of muscle, and our pigs are fattened almost wholly upon corn, an excessively starchy and fattening food. The Canadian pork has a much larger proportion of lean meat and less lard. The difference is very marked, so much so, that in a market supplied with both kinds, purchasers easily select the one or the other, as desired. Wild hogs do not have such excess of fat, and the Southern hog, which is grown in much the same manner as those in the Northern and Western States, and fed much less corn, is comparatively lean. There can, therefore, be little doubt that the habit of depositing this excess of fat is caused by long-continued feeding adapted to that end. The hog is naturally a grass and root-eating animal, and so its domestication is fed almost wholly upon concentrated food. Hogs fed upon skimmed milk have a less proportion of fat than those fed upon corn. If young pigs are kept upon food that will grow the muscles and bones and develop a strong frame, they will possess so much muscle when half grown that a moderate length of time in fattening, even on corn, will not pile on an excessive amount of fat.—


HEALTHY HOMES.

Robert Rawlinson, C. E., London, says:

The sub-soil beneath a house should be naturally dry, or it should be made dry by land draining.

The ground floor of a house should not be below the level of the land, street or road outside.

A site excavated on the side of a hill, or sleep bank, is liable to be dangerous, as external ventilation may be defective, and the subsoil water from above may soak toward and beneath such houses. Middens, cesspools and ashpits, if at the back, must also taint such basements.

The subsoil within every basement should have a layer of concrete over it, and there should be full ventilation. Cesspools, cesspits, sinks, holes, drains, etc., should not be formed nor be retained within house basements.

The grounds round dwelling houses should be paved, flagged, asphalted, covered with cinders, or be gravelled.

Outside channels should be in good order, and be regularly cleansed.

House coves should be guttered and spouted.

Swill tanks should not be near doors or windows.

Pigsties should ever be at a distance, and, where pigs are kept, there should be rigid...
cleanliness. Improperly keeping pigs has caused more human sickness and destroyed more human life than all the battles the country has ever been engaged in.

Garden plants should of course be in order, and properly cultivated. Many houses, from the mansion to the cottage, are unwholesome for some of the following reasons.

MR. WEASEL BROUGHT INTO CAMP.

Though a poultry raiser thirty years, upon the sea coast and in villages, we received our first call from the blood-thirsty creature about half past three o’clock, Wednesday, July 25th, 1883. Our forty-five Light Brahma chickens were housed in a small out building, to prevent depredations in the garden. A terrible squalling among the birds called our attention to the attack immediately. The chickens turned out at once, and in one corner we found a wasp fastened to the thigh bone of one of our men with a club before he released his hold. The thigh bone was broken, and the bird had to be killed. Just a week from that date, at the same hour in the afternoon, he came again, but was driven off without damage to the chickens.

In the meantime he had visited the neighbors’ coops and stolen a large number. On the Monday following, at the same hour of the day, we found him among the flock again. Having learned the tenacity of the grip upon his paws, we were prepared for his visit. He had a large chicken by the jugular vein, and was partly concealed under her as she walked along the floor. With a swift plunge we pinned him to the earth and closed his career of blood-sucking. In about two minutes he had drained the blood from a two-pound chicken.

The specimen, a male, was about an average adult size; whole length, from tip to tip, eighteen inches; body, twelve inches; tail, six inches. The jaws and neck are exceedingly strong, and the teeth very sharp, nice instruments for tearing open veins. It is very difficult to catch a wasped in a steel-trap, still more difficult to shoot one. But caught in the act of bloodshed, with a spade, you have him.—Rev. Wm. C. H., in American Agriculturist for Oct.

SMALL FARMS.

The United States has many farmers who are “land poor;” they have so much land that they cannot make a living on it. When they have learned that it is not economy to own more land than they can till in the most profitable manner, so that it will pay for the money expended in keeping it free from tares, weeds, and other encumbrances, they will have solved the problem of ease in a farmer’s life. The happiest and thriftiest farmers we have ever known live on farms of less than one hundred acres—some on farms of only ten acres, every foot of which was made to count.

On the other hand, the farmer who has so many broad acres that he cannot walk over them daily, where rods of fence corners are never cultivated or made of any use, lives a life of anxiety and worry. His taxes are heavy and his crops light. He cannot give reasonably thorough cultivation to so much land.

Now, if the farmers who own one hundred acres of land will sell half of it and expend the money received for it in cultivating the other fifty, getting blooded stock and poultry, fertilizers, etc., he can make each acre produce as much as two acres are doing now. His taxes will be less, his cares less, and his gains vastly greater.—American Farm and Home.

IS BREED SUPERIOR TO FEED?

There must always be a starting-point. A foundation must be laid before we can build. It is surprising how a biological theory like that of evolution, be it right or wrong, gives a bias to a man’s mind and tones all his thoughts and opinions. It is seen to crop out in the now quite prevalent belief that breed is superior to feed in the development of our best races of cattle. It is because of this belief or opinion that we see such numerous sums of money paid for immature or even unborn animals—in steers—simply because of their parentage. It is not sufficient to note the fact that the hereditary descent of good qualities directly is a very rare circumstance, and that remarkable animals as a rule are the progeny of very ordinary ones, and vice versa.

There is no hereditary aristocracy of excellence in men or animals. Great men rarely have sons that are conspicuous for their father’s qualities; on the contrary, the sons of noted men are generally remarkable for the absence of any extraordinary capacity, and the continuance of a family reputation is so rare as to be phenomenal. On the other hand, all the great men of history of whom we have heard have emerged from obscurity, and their parentage has usually been remarkable for the accident of producing them. It is the same with animals. There are thousands of instances against a very few exceptions. When the horse Dexter first appeared like a sudden meteor no one knew his history, and one was made for him. It was the same with the stallion Smugler, and we have yet to hear of any of his progeny that have a record. It is the same with cattle. The cow Alpea had no parentage of remarkable record, and although some of her blood has been unusually productive, it is identified with Jersey cattle. Cows of the Jersey breed, or of no family at all, and some of these have surpassed her record.

The cow Duchess, the first of that noted tribe of short horns, produced twenty-four pounds of butter in a week, but late Duchesses have required the help of nurses to rear their calves. Examples of this kind are too numerous to mention, and all go to show that breed is not to be relied upon to produce anything beyond the ordinary character of the breed. Breeds do not improve by breeding. The best animals are made and not bred. Accidental prologies never reproduce themselves. Sports are known in vegetable growth with an extraordinary resemblance from the normal character of a variety—of a breed. Such, for instance, was the “Late Rose” among potatoes, a sport from the Early Rose, but in a few years it lost all its peculiar character. So with sports among flowers; they either fail come true to seed, or they produce no seed, and even when propagated by cuttings they deteriorate very quickly. Even a seedling, a variety bred to a certain point, soon loses its valuable character and becomes poor or worthless unless it is cultivated with the greatest care.

Among plants, cultivation alone has been the source of improvement. Naturally flowers are single. The dog rose is an example; the original dahlia is another, and there are others in endless numbers. The gardener may plant these plants pure, and all he can do is to keep them stationary. But he begins to use the art of cultivation—feeding, in fact—and he soon begins to change the natural habits of the plant. From the dog rose he produces the Centipolia, the cabbage rose, the moss rose, and he changes the color from pink to white and deep crimson, with all intermediate shades. So he makes the plain-colored single-flowered dahlia produce all shades now known, with its hundreds of petals, quilled in the most regular manner. It is thus with the cabbage and the turnip, the cauliflower and all that they by breed, were scashow plants, of which the sea rocket is a type, or the charlock or wild mustard, of our poorer fields. The breed is still the useless charlock; it is the cultivation and the feeding which has produced the valuable cabbage and the indispensable turnip from the original breed.

Feed is superior to breed. It makes the modern improved breed. Feed is a manner of training. By its practice we may take a poor animal and improve it. We continue this through a few generations and we make a new breed. But for a while the breed is supported by its own force and character. Let alone, it speedily returns to its first estate and breeds back—reverts—to its original type. The best variety of turnip abandoned to its own resources goes back to charlock, its original, in a few years. By poor cultivation its return is slower and more gradual, but not less certain. We take a Hambletonian and put him before a canal-boat and associate him with wretched mules and scarecrows and treat him as we treat them, and his blood, made rich by generous feeding and care, reverts to the type of the class, and becomes as poor as the meanest seed of the tow-path. In the same way the careless farmer with more money than wit, mused by the prevalent folly that breed is superior to feed, procures a Duke and Duchess or a Red Rose or a Princess, and thinks he will have a herd. He treats these highly fed and well-cared-for cattle as he treats his scrubs. They retrograde fast, and the calves, pinched and neglected—if they live—become even worse than the scrub stock. If this man persists a few years no semblance of the breed remains; it is all starved out, and only a wreck remains of it. The breed is there. It is the blood which has been lost. He would want to improve his stock by some sort of food the breed is no longer what it was. A wiser man takes the wreck and reverses the method. He feeds and cherishes the spark of life left in the blood, and in time restores what has been lost and the breed is recovered again. If feed and care were not superior to breed these pure-bred animals would hold their own in spite of starvation and hardship. If breed is superior to feed there would be no encouragement for the farmer to improve his stock and to secure a basis for bettering it by rearing his young animals and taking the best of them to perpetuate the gains step by step, and interbreeding them to fix his progress as it is made, and so procure ground
upon which to raise another stage, and so on until, in time, if he has the ability and the perseverance, he may make a breed for himself. There is a breed of swine common in the West, the Poland China, which has been bred for generations by the same stock, to which the Swine of the East is but a pale copy. This breed is by no means the most valuable, but good materials a selection was chosen, and by good feeding and care improvement was made. This was fixed by selecting the best for breeding—the breeding being wholly subordinate to the feeding, be it observed—and in forty years a breed was established. But one may see even this fine breed run down to the condition of the land pike or the rail-splitter by neglect, and its miseries perpetuated by breeding down.

This heresy is akin to a system of morality or religion which removes all incentives to a virtuous life. If our stock is predicated by its birth or breed to maintain its high character, the incentive to generous feeding and good care is removed. If one has the breed he may neglect the feed. But the very reverse is more nearly true. If they had not the hope that they could better their stock by better feeding, by better judging, by more gentle training and careful handling, they would have no opportunity of improving them at the start, and like a man who believes himself to be lost, would make no effort to save themselves. Few farmers or graziers can hope to possess herds of pure-bred cattle. But every one can procure the means of infusing the best blood in his herd. If he is led to believe that breed is the one thing needful, and that he cannot breed but from pure-cred animals, he will stay as he is and do the best he can. If, on the contrary, he is made to see that feed is the main thing to be secured and breed the next, he is at once induced to improve his stock, first by better care and feeding, and then by the addition of pure blood, which will give him material upon which feeding can be made to act. He will be very apt in the pursuit of his own interests to begin to breed up his herd without delay. And the farmer who has no present possibility of doing any more will at once begin to improve his herd from within, hopeful of at least some measure of success by better feeding.—N. Y. Times.

THE RACCOON.

Dr. R. H. Stockwell, of Michigan, treats the raccoon as an animal injurious to Agriculture, and writes as follows in the Ann. Assoc. Agri. Sci. of Michigan:

The raccoon is described as a nocturnal animal, while in truth all hours of the day or night are pretty much the same to it. Its shrewdness, however, leads it to seek the cover of darkness, while experience has taught that fishing is attended with better results when practiced in the shadowy and uncertain light of the moon. I have observed it at different hours during the day skulking along the margins of streams, hunting for frogs and turtles, or stalking the wild duck and her brood, and even feeding in the mazie fields. In one instance the writer caught a coon invading cautiously the well-stocked poultry yard at high noon.

Where only high and dry woods or broad expanses of prairie prevail, the raccoon is seldom encountered, save as a rambler. Low, moist grounds, with lofty trees, are preferred, like the well-wooded swamps and lagoons of the South; while to the rivers, slopes, bordering lakes and ponds, or traversed by brooks and rivulets, are selected. The purely evergreen forests of the North rarely shelter it, since nuts, acorns, and other must are an important factor in the problem of life at certain seasons of the year. Hence its presence therein must be held as accidental. But wherever the coon is established, it wanders over wide stretches of territory in summer, often miles away from its home, abstaining itself for days and even weeks, especially during the wooling season. It is during such excursions that it is met with in the open prairie, being led presumably in the search of grease, plow, and other feathered creatures and their nests, along with mice, hares, and gophers.

North of Ohio and Indiana, the raccoon hibernates in winter, but rarely, if ever, in lower latitudes. But even in his most extreme northern habitat, the habit is by no means general or constant, as with the bear, but appears rather as assumed, to correspond with diminished food supply. In Northern Michigan I have found them racing over the snow on bright mid-winter days, while with the advent of extreme cold or stormy weather, it retired again to its peculiar sleep in the recesses of its lair. At the same period, a pair held in confinement, and abundantly supplied with food, at no time exhibited any tendency towards hibernation, though constantly refusing admission to their kennel of all articles looking to increased warmth, preferring to make their beds upon the naked boards. Even during the coldest days, when the thermometer was down in the twenties below zero, the advent of a tub of water was heralded with manifest delight, in the cold water of which they would paddle and play, and push the ice about until wetted to the skin.

BUSINESS LAW.

A note or contract made (or dated) on Sunday, or by a minor, or without consideration, is void.

Signatures made with lead pencil are good, in law.

The maker of an “accommodation” bill or note is not liable to the party accommodated, but is bound to all others as though there were a valid consideration.

A note falling due on Sunday, or on a legal holiday, must be paid on the day before. If Saturday should be a holiday, and the note fall due on Sunday, it should be paid on Friday; and if Monday is a holiday, and the note falls due on Monday, it should be paid on Saturday.

A note may be endorsed on the face or back—usually on the back; and the endorsing is liable if the maker fails to pay, provided he is served with notice of protest within twenty-four hours after it falls due.

A note is a written promise to pay. An acceptance is a draft, accepted by the payee, and made payable at a fixed and definite time. Either is negotiable.

Principals are responsible for the acts of their agents.

The acts of one partner bind all the rest.

If a check or draft is not presented for payment promptly, that is as soon as it can reach the place of payment in due course of business, and if, the meantime, the bank or payer fails, the holder and not the maker must lose the amount.

A note or draft may be presented at any time during the day that it falls due, even after business hours, and the payee has the right to refuse anything except bank bills or a certified check, and if not so paid, the note or draft will be protested the next day, and notices sent to all endorsers, who then become severally liable.

An endorser is not liable if he endorses after the words “without recourse.”

All claims which do not rest on a “seal” or “judgment” must be sued within six years from the time they originate.

Part payment of a debt that has passed the time of statutory limitation revives the whole debt, which holds for another period of six years.

A debtor has the right to designate on which bill he wishes to make payment, when partial payments are made.

An oral agreement must be proved by witnesses.

The finder of negotiable paper or other property, must make reasonable efforts to find the owner, or otherwise he will be liable to a charge of larceny.

Notes do not bear interest, unless stated in the note.

A will should begin with the words “In the name of God, amen;” and all bequests should be plainly and unequivocally made and stated, without interlacements or erasures. Any change in a will should be made by codell, and both that and the principal instrument should be signed and sealed before two witnesses.

All legal instruments are to be interpreted according to the natural use of language. It is better to avoid any peculiar phrasology or technical terms.

THE CARE OF CANARIES.

The greatest favorite among birds appears to be the canary. The best singing varieties are imported from Germany, principally from the Haritz mountains, where they are bred by the panseyam by the hundreds of thousands yearly, and from there are shipped to this country. England, France, and even to Japan this bird has its origin in the Canary Islands, where its color is of a greenish gray.

It was first introduced into Europe in the sixteenth century, where their notes, particularly in Germany, were greatly improved by raising them in rooms where other birds—such as nightingales, woodlarks, skylarks, and the like—were commonly kept. They would take notes from each bird, and by mixing these notes the canary has attained the beautiful and varied song transmitted to its descendants. When the compost song of the canary was thought completed the use of other birds was not deemed requisite, as the young ones learned from their parents.

Instead of a succession of noisy notes the bird should know how, with a silvery, sono-
rous voice, to descend regularly through all the notes of the octave, and the whole song should consist of about twenty notes, the most admired of which are the browntail, the bell note and woodwhitethroat.

To raise such birds the breeder must be a good judge himself, and must not put together birds having unpleasant notes. He should always be most successful in his breeding in separate cages near the breeding room or cage, which will be the teachers of the young.

From the 1st of June, 1882, to the end of May, this year, 15,000 canaries were imported into New York, of which one firm brought 85,000.

The two varieties most prized by amateurs are the Jonquill and the Mealy, combining the greatest beauty in color and excellence in song. The long breed, or French canary, is now almost out of favor, and but few of the kind are to be seen in this country, although they bring a much higher price owing to the difficulty in breeding them.

This leads many people to believe that they must consequently be much better sing-ers, but such is not the fact, for the song is much inferior to the others.

The price for male canaries varies according to the size, age and song—from $2.50 up to $25 each—and for females from 75 cents to $1.00.

The canary, as a domesticated bird, is the easiest of all others to take care of. The treatment they require is most simple and certainly the best known, but there are many persons whose ideas on this subject are very limited, and, what is worse, very erroneous.

As to their food, the most simple and natural it is the better and more conducive to good health and cheerfulness. Mixtures such as rape, millet, hemp, canary, poppy, lettuce, oatmeal, cats, sugar, sweet cake, biscuit and such like, or two or three of these wheresoever as people think, are very unwholesome; it spoils their taste for natural food, weakens the stomach, renders them feeble, sickly and incapable of bearing murrain, under which they frequently die.

The best food is a mixture of rape and canary and a little green stuff, such as a chickweed, lettuce or cabbage in season, or sweet apple in winter. The main point, however, is to obtain pure and fresh seed. Rape seed, when old or kept too long in a damp place, becomes musty, gets a bitter taste and does not agree with the birds. The best sort is the German summer rape, which has a nut like flavor in distinction from the English, which tastes somewhat like mustard. The canary seed should be clean and have a glossy hue, free from musty smell and have a sweet taste.

The cage should be duly supplied with fresh water, both of lathing and drinking, and the cage bottom be cleaned out at least once a week and be covered over with dry gravel, which the birds freely pick and which helps digestion.

The perches should be kept clean. The birds should be occasionally examined and if they are found dirty the birds should be taken carefully out of the cage and the dirt washed off by soaking in lukewarm water.

The claws, if too long, should be cut with a pair of sharp scissors, care being taken not to draw blood: the same with an overgrown bill.

Canaries, if kept for singing alone, should be placed in cages of about a foot in diameter either round or square, as in large cages they do not sing well or so constantly, having too much room to fly about and amusing themselves, which takes away their attention from singing.

It is not necessary to keep these birds in a very warm room in winter, as they can endure a great deal of cold without injury, but they should not be removed from a cold room to a warm one, or vice versa, but be kept in as equal a temperature as possible, and free from draught.

In the summer it is well to keep the bird in the fresh air, but shaded from the sun and rain.

They begin to pair about the middle of February. The female is ready from two to six eggs and the time for incubation is thirteen to fourteen days. While breeding they should be fed with hard-boiled eggs, chopped fine, yolk and white together, as well as their regular seed. It is wrong to take the eggs from under the hen while she is laying, as many people do, for the purpose of hatching them at one time.

As soon as the little ones were hatched they may be fed besides their general seed with eggs boiled hard and chopped fine, and an equal quantity of grated cracker mixed with the egg into a paste. This should be given to them fresh three times a day, for the old birds are more inclined to feed the young when fresh food is given them.

An extra cup containing soaked rape-seed should also be given them. They also require fresh green food daily.

When the young birds feed themselves and are put in a compartment by themselves they should still for a time be supplied with soft food.

The young males will commence warbling as soon as they leave the nest and improve daily for eight or nine months, when their singing quality will depend very much on the birds they are placed near.

The male bird is distinguished from the female by having a larger and daintier head; its color, particularly around the eye, is of a brighter hue and its action also differs from that of the female, but it takes an experienced judge to distinguish these differences.

The canary breeds with other birds, such as goldfinches, linnets and siskins; but for this purpose a female canary must be taken and a male of any of the species desired, for the female of the latter cannot be induced to lay in an artificial nest.

If it is required to teach them any particular air, such as that of an organ, or other instrument, they must be put when very young into a separate apartment, in a dark place, out of hearing of any other birds, and the air be played to them several times a day.

**TO CLEAR MUDY WATER.**—A little dis- solved alum is very effective in clearing muddy water. If thrown into a tub of soapsuds the soap curdles, and accompanied by the mud particles, sink to the bottom, leaving the water above clear and pure. In times of scarcity of water this may be useful.

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### Our Local Organizations:

**LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.**

The County Agricultural Society met to monthly meeting on Monday afternoon, November 5th, in their rooms.

The following members were present: John C. Litton, C. L. Engle, Joseph J. Witmer, Levi Steed, Calvin Cooper, Bird-in-Hand; Caspar Hiller, Ome- toga; Henry M. Engle, Marietta; C. L. Hunsecker, Manheim; S. F. Eby, J. H. Johnston, F. R. Diffen- derfer, Robert B. Rit, Dr. W. D. Bollinger, elty; M. D. Kendig, Mr. S. R. Reit, Manheim, Simon A. Hershay, Saloons.

In the absence of President Rush, Vice President Engle took the chair.

Reports of Committees.

Levi S. Reit had been at the Bank county fair. The exhibition of apples was unusually fine. So was that of pears. The grape exhibit also was good.

The mechanics department was well filled. The stock exhibit was fairly good. The fair on the whole was up to the average in that county.

C. L. Hunsecker was also there and thought the fair a very respectable one. The machinery exhibit was large. The horses, sheep and cattle were not so fine. The fruits were the best in the apple, show was fine. Potatoes and corn made a fine appearance. There was little drunkenness.

M. D. Kendig, who visited the York county fair, reported a good attendance, and the fair as one of the most successful for every particular ever held by the County Agricultural Society. The exhibits of all kinds were large and fine. The fruits were numerous of excellent character. The grapes were specially fine. Apples seem very plenty over there.

John C. Linnell was at the exhibition held by the Octave Farmers Club, and reported one of the finest displays of vegetables he ever saw. This was he first fair held by this club.

**Crop Reports.**

Joseph J. Witmer reported wheat looking very well everywhere. The corn crop is good, but not quite equal to last year's. There is still a good deal to husk. Late pasture is good. Hays have done very well in the corn fields.

M. D. Kendig reported a good growth in wheat under the favorable weather of the fall. The rain fall for October was 3.16 inches.

J. C. Linnell said wheat is unusually fine. Much was sown in October—much later than usual. There is much good corn, but the crop is generally good, nevertheless.

H. M. Engle reported seeding very late, but wheat now looks well. Corn is a full crop. Clover is abundant. Late potatoes show considerable ro."
Several rains early in the season, a few weeks ago, washed the ground so badly that it could not again be put in good condition. The yield was about forty bushels per acre. This plot was a clover sod, and had about four hundred weight of South Carolina red clover planted in it. The plants were in good condition to make about seventy bushels per acre.

Plot No. 2 is nearly level and contains one acre. Variety, White Dent, of which I show a specimen. This plot was potato ground the previous season, got a dressing of 600 pounds of South Carolina rock in the fall and had been planted with seed that was dug up by the hogs last fall; it came up fairly—but had a set of one plant to about every two feet—rows 3½ feet apart.

This was to make no less than 100 bushels to the acre. But about August unfavorable conditions were manifest. The stalks became too tall, tassels made their appearance, and under the circumstances made a respectable crop of 100 bushels of early ears.

Plot No. 3, one-fourth acre, variety, Blount's Py life, yielded 44 bushels, which will yield at the rate of 100 bushels to the acre. This was also a potato patch the previous season. This plot was planted May 9, had 100 pounds of bone and ashes scattered in the row, and on June 9 had another dressing of the bone and ashes applied along the rows. This was planted very thickly two or three grains to every 15 or 20 inches, but was afterwards thinned to one plant.

Plot No. 4, one-fourth acre, variety, Mammoth Clapp, yielded 45 bushels—nearly 100 bushels per acre. This plot would have made over 100 bushels per acre, but had the outside rows interfered with by nursery rows of trees and also suffered some loss by replanting. This was a clover sod, and had a good dressing of stable manure plowed down. Good seed, good moisture, and careful culture rarely fail in making a good crop of corn.

But we have not yet learned all about corn. Can we learn why one plant bears an ear that nearly makes a quart of corn while the next neighbor bears a flint, or is it a rolling look plant with a sign of the change that can be improved by cutting out all defective plants before they scatter their pollen broadcast over the field? If we can develop a thorn-oughted seed that will produce no barren ears, we can increase the possibilities of our cornfields. Varieties of land in this country are adapted to the production of one hundred bushels and over. Good corn land must not be so level as to retain surface water, nor so hilly as to wash off the soil.

Let me repeat, good seed, plenty of fertilizers and good culture are the requisites of a good crop of corn. Plot No. 5 has been in my hands an uncommonly good, too poor to produce a crop of any kind. M. D. Kendall thought the way to get a sure stand of corn was to plant more seed than are needed and then thin out to about two stalks in the hill.

Levi S. Keist spoke of a disease attached to the roots of corn, causing the stalk to turn yellow. Casper Miller pronounced it a blight—a root disease which frequently does much damage. It is said that this blight is in copperas water, the insect will be killed off.

J. C. Linville heard it said salt was a remedy. Phosphates are also said to be a remedy. The insect shows its work first when corn is about three weeks old. It is one of the greatest pests of the corn growers. This blight or blight is greenish on light colored.

Ventilation of Houses.

M. D. Kendall said while special ventilation is useful, he did not believe that farm houses required much attention in that direction. There is plenty of good air all around farm houses. If you want cool or fresh air open a window a little and you have it on the inside also.

S. P. Eby, remarked upon the indifference and neglect of many farmers in providing proper ventilati-

ation for their houses. The old-fashioned fireplace was the best of all ventilators, but these are now disappearing rapidly. Open stairways to the garret are also useful. A majority of farmers do not appreciate the value of proper ventilators, and building kept a room so sweet as pure sunlight, let it come in during the day and at sundown close the doors and windows again. The atmosphere in every room where men live becomes impure and needs to be carefully attended to.

Boiling the smoke subject was a big one and required a volume for its treatment. Color experiments have been tried, but we don't progress very rapidly. We need ventilation more now than they did a hundred years ago. Paper on walls is a reme-
dy of disease. Carpets also form a weakness.

The argument now is that farmers try to make their houses as nearly air tight as possible. This keeps out the cold but it keeps out fresh air also. There ought to be some means to remedy this. The storage of fruits and vegetables in cells and under increase improve the seasoning. These things should be kept in the barn cellar.

M. D. Kendall made inquiry as to a peculiar grass or weed that is crowding out the natural grasses on his lawn. It appears wherever the grass is mowed; where not mown, none of it appears. He wanted to know what is it and how he can get rid of it. It is about three inches high and the top separates into three or four distinct heads.

H. M. Engle reported the rainfall in Comoy township for October has been 4½ inches.

Fruits on Exhibition.

Henry M. Engle had an exhibition of four varieties of pears, the Kieffer, Vicer, Urbanite and Law-

ner, all grown in the South and grown to perfection. The Kieffer bearing the largest, it is said the tree produces to the extent of sixty bushels per acre.

Mr. J. C. Lauth spoke on blackberries. They now is that farmers try to make their houses as nearly air tight as possible. This keeps out the cold but it keeps out fresh air also. There ought to be some means to remedy this. The storage of fruits and vegetables in cells and under increase improve the seasoning. These things should be kept in the barn cellar.

Casper Hiller had on exhibition a Krawur apple, which he described the only one out of 50 or 40 varieties that is of any value this year. It was of poor quality. He also showed a LeConte pear, said to be very hardy and productive. Also a Kieffer pear, worthy of planting, because of its early bearing, productivity, size, beauty, quality for cooking and preserving. Its eating qualities do not compare favorably with that of Breda and Bartlett.—might be called medium quality.

Mr. Hiler also had present specimens of the corn described in his essays. The ears were large and the grains also. On motion, the Society adjourned.

POULTRY ASSOCIATION.

The regular meeting of the Poultry Society was held at half past 10 o'clock Monday morning Nov. 5, eleven members being present.

In the absence of the president the meeting was called to order by Wm. A. Schrayer, who was elected president pro tem.

On motion, the reading of the minutes of last meeting was dispensed with.

Dr. B. Long, who had been authorized to correspond with persons with reference to securing judges for the meeting, stated that he had received answers from a number of persons, and after considering the terms offered, the committee had engaged Mr. George O. Brown, of Baltimore, Md. On motion the action of the committee in securing Mr Brown for judge on poultry was approved.

On motion Mr. Charles Recker, of Baltimore, was engaged as judge on pigeons.

On motion Mr. W. B. Boll and Miss Brown were added as judges on incubators, in conjunction with two other persons to be appointed during the session by the Board of Directors.

The premium list for the coming show was read and adopted by the society. Adjourned.

FULTON FARMERS' CLUB.

The club held its meeting for November at the residence of Day Wood, in Fulton township.

The members were all represented by some member of their families, except Joseph R. Blackburn. Visitors: Isaac Bradley, A. K. Bradley, Wm. Shoemaker and Neal Hamilton.

The President, J. R. Blackburn, being absent, E. H. Keiser was chosen chairman.

Very fine corn was exhibited by Josiah Brown, Day Wood, Neal Hamilton and Joel King. Emilene Calhoun exhibited cauliflower—Lizzie Wood, Fowler and another variety of apple for name; Day Wood Hill old water can that has been in use for about fifty years, without any repair but ca out of point.

Mrs. E. Caufman asked how cauliflower should be prepared for use.

Sallie Hamilton: Cut off the main stem, boil till tender with cream and butter—or cut into half tender and dress as other fiddle. It makes nice chow-chow.

The Corn Crop.

Wm. King: Would it be better to sell corn in the ear at the present price, 35 cents for 72 pounds, or allow it to dry and take 50 cents per bushel for it after it is shelled.

The club was of the opinion that it was not for the hauling it was better to sell now. But the haul-
ing would be a heavier job.

E. H. Haines thought that the shrinkage in corn was not so much in weight as in bulk.

Montiollin Brown: How is the corn crop this year, compared with other years?

Issac Bradley said that it was filling up the crib.

Linley Jackson: Better than common.

Day Wood: Good average crop.

Amos K. Bradley: Corn too thick, but a good crop.

Neal Hamilton: His crop was damaged by flood but was the best he had ever raised.

Joel King was better than ordinary.

Wm. King said his corn was too thin on the ground but was the best he had ever raised.

Jotham Brown had the best crop that he had ever raised. Off eighteen acres he had eighty loads, which would shift out twenty bushels per load.

E. H. Haines had the best crop that he had ever raised, and thought that the corn crop in his section was above the average.

Other Questions Discussed.

Neal Hamilton asked if there was any difference in the feeding value of white and yellow corn?

Montiollin Brown: Scientific men say there is not much difference.

S. L. Keist said there was no reason for any difference.

Sallie Hamilton asked for the best way to prepare hen feathers for use?

Emelie Calhoun: Steam over a pot of boiling water and bake. New feathers should be baked.

Melissa Gregg: Put in tightv bags and bake. Keep in bags to keep it fresh.

E. H. Kaines: Boil and spread out. Whip them up occasionally when drying.

R. D. King: Pour boiling water over them, then run them through a clothes wringer. Stir them up occasionally while drying. Dry with heat, but don't bake.

S. L. Gregg: Which is best, a large or small roller?

Amos K. Bradley: A large one will run more easily than a small one.

Neal Hamilton: A small one will break up cobs better, but a large one will run more easily.

Joel King uses a small roller.

Wm. Shoemaker: A small roller will pulverize better than a large one.

M. Brown: A heavy roller, about fourteen inches in the best work.

Isaac Bradley: If we had to pull it we would prefer a large one. A small one will do better work, but enough to make up for the draught.
Josiah Brown: Which is the better depth to plow, in order to raise a big crop of corn—4 or 6 inches?

This same question was before the club some time ago, and the club still adheres to the opinion that for this neighborhood shallow plowing is preferable for corn.

The Afternoon Session.

The Club now adjourned for dinner and to take a look at the farming operations, after which they again met in the hall, where the lady members, in order, the host was complimented for his fine stock, and especially for the neat and comfortable tenant houses which he has lately put up.

Literary Exercises.

Day Wood read from the Philadelphia Times an article on the Eastern Experimental Farm, giving a very glowing picture of its dilapidated condition.

Montifon Brown read an article from The Lancaster Farmer, urging farmers to price it.

Lizzie Wood read an article on Sugar, from The Husband.

M. Brown read an article on crowing out sorrel by hand mowing with bone dust and ashes.

R. D. K. wrote: "Miss Wilson read "Beginning Again.""

E. K. Haltes read "One by One." The club adjourned to meet at E. H. Haltes' on the first Saturday in December.

LINNEAN SOCIETY.

The Linnean Society met in their museum on Saturday afternoon, October 27, 1883, at 2:30 P.M., the president, J. P. Wickersham in the chair, and nine members present. Dues were collected and the minutes of the previous meeting were read in full and approved.

Donations to the Museum.

A bottle of insects, centipedes, and arachnids, collected late in September last, on the rocky ridge near Cresson Station, on the Pennsylvania Railroad, a few miles above Bainbridge, familiarly known in the neighborhood as "Stony-Batter"—a ridge which continues all along the northern portion of Lancaster county, and extends into the counties that form the eastern boundary of the State—a singular ridge, consisting of the residue of a great porphyritic rock, exceedingly hard stenic and porphyry rock, doubtless the water worn relics of a glacial deposit. In many places the ridge is very barren, the trees scrubby and vegetation scant, yet no doubt a visit to it in the early part of the summer would be interesting to the naturalist.

In September the most abundant insects are grasshoppers and crickets, and under the stony various species of ants, spiders and centipedes. Next to these, on the juniper bushes, were the insects known as "wheel bugs," from a longitudinal ridge on the thorax, while resembling a portion of a cog wheel. This is the Reduvius (Pronouchus) novanovarius of entomologists.

For seven years (from 1841 to 1848) I had canvassed portions of Lancaster and York counties, and extended my observations to the west as far as Hollidaysburg, and far northwest as Hunters and Lewis lakes in Lycoming county, and yet I had never met with a single specimen of this insect. I think the first living specimen I ever met with was in the autumn of 1851 near the Schuylkill, in West Philadelphia, observed by me. In November and December 1851 I took one or two specimens in the eastern suburbs of Lancaster city.

From that period down to the present time they have very perceptibly increased, and are frequently found in Lancaster city, but there are few among the masses who know anything about their history and habits, because many of them are wantonly destroyed. They are entirely carnivorous, feeding on other insects—and sometimes on each other—from their earliest infancy to their extreme age. They should be cherished and protected by all who have any interest in the preservation of the foal. In an earlier number of the Lancaster Farmer a description was given, illustrating how the young bridge over the period of youthfulness, in relation to their feeding habits, through which, although fifty may be excluded from the office of its duties, yet more than half a dozen may usually be noticed.

Mr. John Peterman, of Paradise township, donated a beautiful specimen of the Ringnecked snake, which he turned up with a plow in a field. It is said that the young common black snake (Ranodon Constrictor) has a ringed neck, but that it is infrequent. Its presence, however, extends to Lancaster county, and that it is not rare: Namely, the Dialphison paucicinctus. Both these snakes, and also the Scophithis alliihandens, found in Lancaster county, were formerly included in the old genus Coluber, but the restless spirit of scientific progress has ruled them out, and placed them in the family Colubridae, a fact which weighed with me to eliminate them from the subject. Authorities, however, state that there are three or four species of Ringnecked snakes in the United States, and the late Jacob Stauffer records one species in Allegheny county, and that it is not rare: Namely, the Dialphison paucicinctus. The racer was the more slender of the two, and the snakes were doubtless those now generally, to the species, one common and Scophithis: and, of the latter, I helped to kill that measure of over five feet in length. Marvelous tales were told of these snakes, as to their size, their habits, and their dispositions; but the information was generally "hearsay" exaggerations, and it is doubtful whether any of the information is correct.

The specimen of Ringnecked snakes donated by Mr. Peterman, is evidently immature, but it seems to be covered by De kay's description in the natural history of New York.

Speeches of sulphur in nickel and copper, from the "Hale" mill, by Mr. Gill. In this connection it may be appropriate to state that the Gap mines are likely to be superseded by the discovery of more abundant and easier worked nickel ore in Colorado at different localities.

Carnivorous snakes are venomous, or "certain saw-fly," and also those of another Hymenoptera species, Tiphia inornata, perforated, and the pedes totally destroyed by Athermes varius, or common "vulture bee.

A small box containing the single peeped coconuts of small fruit from the "Graddon," a small trunk, scato assimilation, grignon, of Hentz, or a species very nearly allied to it, and was sent to one of the curators by Mr. J. B. Ebb, of Linney Valley, Lancaster county, three or four years ago. Donated by S. S. R.

A small bottle containing the larvac, the pups and the eggs, healthy, and of a species allied to the infested fruit, was donated by Mr. John B. Garber, of Maymont City. Of course, some of the details of that description I did not re cognize in my observations, from the fact that mine were made under a much inferior magnifying power and, perhaps, also an inferior light.

Part of the flowers of tomato are most magnificent white fungus, which has become tattered in drying, belonging to the Boletus family. It would perhaps be a legitimate question for discussion, as to whether the grass grew through the fungus or the fungus grew around the grass, as that of the two is the first. The following data will tell the average age of a canoe had been cut off or driven in.

A specimen of the gramin of which the "new Mormon temple is built, or being built, donated by Mr. Irving Rawins, a native of Lancaster county, but Gap mines," was donated by Mr. John B. Garber, of Maymont City. Of course, some of the details of that description I did not recognize in my observations, from the fact that mine were made under a much inferior magnifying power and, perhaps, also an inferior light.

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flower stalks are decayed; but they can also be taken up in autumn, buried in sand in the cellar and set out in April. All these require a deep, rich, sandy soil. Mulch them in spring, and in other respects the Dutchman and the Gardener, it is not necessary to take them up and replant yearly. Indeed, we seldom replant the Crocus and Snowdrop, except for the purpose of extending the bed. The Tulip should be taken up about every third year; the Lillie's every fourth. Those that grow in the sand in the country, in the winter, occasionally moistened a little in the cellar or a pit and placed on shelves. They must be protected against mice or they will play havoc with them; and this can be done by covering them with sand or soil.—Germantown Telegraph.

Whitewashing Apple Trees—Scraping and Washing

This very old mode, among tidy farmers, to make their apple orchards look nice, but which for many years has been lost to coming into vogue again, and discussions are being indulged in as to the propriety of it. What we know about the matter ourselves is that we do not think it makes much difference, so far as the health or productiveness of the trees are concerned, whether they are whitewashed or not. The next step is to obtain the Dutchman and say it "pays." It certainly has a tendency to close the pores of the trunks as well as that it has an unattractive appearance. Some people believe that the whitewash causes the old bark to scale off and the hiding place of insects, but this is absurd and false for it, but how much better for every farmer having an orchard, to scrape the trees once a year, or only every other year, and follow it with a washing of white oil soap or carbolic soap and water, applied with a stout broom. This would be sure to dislodge the insects, open the pores of the trees and give them a natural healthy appearance. This would do the work effectually, and leave no room for doubt or discussion.

Whatever else the whitewashing of trees may be to their health and productiveness, the best orchards we ever saw in our county, and for a generation, were not whitewashed, but scraped and washed with "soft" soap and water. And the best time for this scraping and washing to take place is the end of November or beginning of December, or it may be done in the spring, not later than early May, before the insects have begun their rounds.—Germantown Telegraph.

Vines on Houses

It is generally supposed that vines make houses damp, for which reason there are not nearly so many-vine covered houses with porches as there should be. It is only when the climbers are allowed to cover the eaves and obstruct the gutters, or find their way under the shingles, that they become objectionable, and these conditions should of course, be carefully guarded against. The Gardener's Mouth's remarks in this respect are well taken: "Vines should always be kept cut down below the roof. It is a little trouble to do this once a year, but we can not get even our shoes blackened without some trouble. Those who know how beautiful and how beneficial the vines are, and that they are not objectionable as a nuisance, will, I hope, be prompt to act in the few hours labor it requires to keep vines from stopping up the gutter. Vines really make a wall dry. The millions of rootlets by which they adhere to the wall absorb water, and an examination will prove a vine-covered wall to be as dry as an old house wall. It is not because the most northerly exposed cottage, not often thought of, is that it is cooler in summer and warmer in winter than when there is but a mere naked wall."—American Gardener.

Mulching Fruit Trees

A member of the Onsla community, writing on the importance of mulching fruit trees and plants of every kind, says that he mulched a row of the Francia raspberry and one also of the Philadelphia side by side. The effect was very marked. While the Francia, which were not mulched, were literally scorched and the leaves crumbled in the sun, the row which the mulching carried through nearly double the crop of fruit. The material used for mulching was old, half decayed buck wheat straw, etc.

To Blanch Celery

The Canadian Horticulturist tells how to blanch celery: "To blanch easily and rapidly go on your knees a little to the right; then, take the plant in one hand, shake it and squeeze it close to get out the earth from between the cells, and, having scraped, draw the earth up to the plant on that side; take the plant in the other hand and draw the earth on that side, after which let go of the plant and draw the earth from both sides, pressing it against the plant. After your row is gone over and blanched finish up the row with a hoe. Two blanchings are enough. A sprinkling of salt along the row has been found to be of advantage at the time of blanching."

Watering Plants

Ben Perley Poore says in the American Cultivator: "Plants should never be watered in the heat of the day, or on the evening of a rainy day. It is said that young plants have been known to be killed by this practice."

Importance of Hoeing

An English gardener, Mr. Barnes, of Devonshire, in giving an opinion of the importance of hoeing, said he "did not agree with those who say that one good weeding is worth two hoeings. I say never keep any crop in a crop in which a hoe can be got between the plants, not so much for the sake of destroying the weeds and vermin, which must necessarily be the case if the hoeing be done well, as for increasing the porosity of the soil to allow the water and air to penetrate freely through it." He adds: "I am well convinced, by long and close practice, that oftentimes there is more benefit derived by crops from keeping them well loosened than from the manure applied to them. Weeds or no weeds, I still keep stirring the soil, well knowing from practice the very beneficial effects it has."

HOUSEHOLD RECIPES

CHICKEN FRITTERS.—Cut cold roasted or boiled chicken in small pieces, and place in an earthen dish. Season well with salt, pepper and the juice of a fresh lemon. Let the meat stand one hour; then make a fritter batter, and stir the pieces into it. Drop, by the spoonful, in a colander; place in a pudding dish, with a little butter, a layer of apple, with plenty of sugar and grated lemon peel, or powdered cinnamon; then a layer of bread crumbs, with bits of butter scattered over it; fill up the dish in this way, and bake for three-quar ters of an hour. Serve with whipped cream.—The Household.

GRAHAM GEMS.—One quart Graham flour, one and a half teaspoonsful sugar, one teaspoonful salt, two large teaspoonsful Royal Baking Powder, one pint milk. Sift Graham flour, sugar, salt and powder together thoroughly, add the milk, mix into a smooth batter, as for griddle cakes. Bake in a hot oven even twelve minutes.

SALLY LUNNS.—One quart flour, one teaspoonful Royal Baking Powder, two-thirds cup butter, four eggs, half pint milk. Sift together flour, salt and powder, rub in the butter cold, add the beaten eggs and milk. Mix into a firm batter like cup cake, pour into two round cake tins the size of plate-pieces, bake twenty-five minutes in a hot oven, and when done, let it be mused, and serve it while hot. It comes out of easy, good with either marrow or gravy in fresh butter; between each stew sugar and cinnamon.

JOHNNY CAKE.—One quart Indian meal, two teaspoonsful Gillette's Baking Powder, one-third teaspoonful salt; mix well; add sufficient milk and water to make a batter; pour into a greased tin, and bake in quick oven.

COMMON CAKE.—Four cups flour, two cups sugar, two cups sour milk, one tablespoonful butter, one teaspoonful salt, water and a small quantity nutmeg.

DOVER CAKE.—One cup butter, two cupfuls sugar, one and a half pints flour, one teaspoonful Royal Baking Powder, one cup milk, a teaspoonful salt or 1/4 pound cloves.

FRENCH PUFFS.—Three cups flour, three teaspoonfuls melted butter, three eggs, white and yolks beaten separately and very light, three cups milk, a saltpoosnful of salt.

MRS. J. G. GOWER CAKES.—Half pound butter, half teacup cold water, an ordinary bowful of molasses, teaspoonful ginger, teaspoonsful saltpoosnfuls of salt.

TAYT CAKE.—Mix the yolks of three eggs with a quart of raw milk, add i. teaspoonful salt and enough flour to make a batter, whip in the whites of three eggs. Bake at once.

CHOCOLATE CHARLOTTE Rouses.—Heat one pint of cream to boiling, add half cupful powdered sugar, three tablespoonsfuls of grated chocolate mixed in milk, half an ounce of gelatine; when these are thoroughly dissolved, add slowly the yolks of four eggs well beaten. Set in a pan of water five minutes, stirring until hot, not boiling; take it out and beat to a froth, adding the whites of the egg. Put your fruit in the bottom, fill in the mixture.

DUCHESS CAKE.—One and a half cups butter, one cupful sugar, six eggs, one teaspoonful Royal Baking Powder, mix with one pint flour, teaspoonful extract cinnamon. Rub butter and sugar to light cream, add eggs two at a time, beating well between each; mix into medium thick batter, bake thirty minutes, take from the oven and ice.

MOUNTAIN CAKE.—One cup butter, two and a half cups sugar, three whole eggs and three yolks, pint of flour, one and a half teaspoonsful Royal Baking Powder, one cupful milk; one teaspoonful extract vanilla, one cupful currant jelly, one cupful brown sugar, two spoonfuls of eggs.

FIVE FRUIT CAKE.—One cup brown sugar, one of sweet milk, one of butter, one of molasses, one teaspoonful baking powder, one and a half pounds raisins chopped, one nutmeg; a little brandy. This will make two loaves, and if kept in an earthen pot, covered, will keep a month.

SUZ PEDDING.—Three cups flour, two teaspoonfuls sugar, one teaspoonful baking powder, six tablespoonsfuls butter, one and a half cups sugar, a pint milk, one teaspoonful light brown sugar, one large teaspoonful baking powder, two cups flour. Mix the flour, then stir in the other ingredients, and whip the cream together. Bake in a hot oven, and serve with sauce.
THE LANCASTER FARMER.

1883.

White Lily Cake.—Whites of half dozen eggs, two cups sugar, three cups flour, one cup sweet cream, two tablespoonfuls butter, two teaspoonfuls Royal Baking Powder.

Vienna Rolls.—One quart flour, half teaspoonful salt, two teaspoonfuls Royal Baking Powder, one tablespoonful lard, one pint milk; sift together flour, salt and powder, rub in the lard cold, add the milk and mix in a smooth dough in the least easy to be handled without sticking to the hands or board; pour the board, turn it out and give it a quick knead or two to equalize it, then roll it out to the thickness of half an inch, cut with round cutter, fold one-half together, lay a second layer on top, again fold it together, closing it up; lay on a greased board with short ends on the edge, and give it a further kneading; put it on a well greased baking dish, and bake it in a hot oven fifteen minutes.

Mint B’s Cake.—One-half pound butter, three-quarters pound flour, four eggs, half a nutmeg, small glass wine.

Coconut Cake.—One pound sugar, half pound butter, three-quarters pound flour, six eggs, one coconut grated; mix butter, sugar and yolks, well beaten, then the whites well beaten, then the flour, lastly add the grated coconut.

Lady Cake.—One pound flour, five eggs, one pound sugar, tumbler milk, teaspoonful sola, half pound butter, juice and rind one lemon, ten bitter almonds pounded. Bake thin.

Silver Cake.—Two cups sugar, one cup butter, mix them, stir in the whites of eight eggs; add three-quarters cup sweet milk, three cups flour sifted with two teaspoonfuls Gillet’s Baking Powder; flavor to suit the taste, stir together, bake at once.

Wine Cake.—One and a half cups of butter, two cups sugar, two cups flour, half teaspoonful Royal Baking Powder, one gill wine, three eggs. Rub the butter and sugar to light cream, add the eggs—one at a time—beating four minutes between each; add the flour sifted with the powder, and the wine, bake in moderate oven forty minutes. Ice when taken from the oven.

Macaroni a l’Italienne.—Take one-fourth pound macaroni, boil it in cold water; thicken quantity of plain milk with two tablespoonfuls flour. The flour is sifted with two tablespoonfuls cream; one-half tablespoon mustard, a little white pepper and salt. Stir into this one-half pound of grated cheese; boil all together a few minutes, the macaroni, and boil ten minutes. This is the mode adopted at the best tables in Florence.

Rice Jelly.—Soak half cup rice two hours in warm water; put a pinch of salt into three pints of water, and add to the rice; simmer half an hour; then boil until the water is reduced one-half and it becomes a smooth paste; strain through a cloth. Wine Jelly.—Boil a pint of milk; when scalding hot, pour in a large glass of wine. Boil once—remove from fire and cool, without stirring. When the curr forms, draw off the whey and sweeten.

Arrowroot Custard.—Mix three large teaspoonful arrowroot with a little cold milk, then milk the custard, and allow it to stand a few minutes; add three tablespoonfuls white sugar beaten with an egg, after taking from the fire. Boil three minutes longer, then flavor.

Floating Island.—Beat the yolks of four eggs, stir in four large tablespoonfuls white sugar; add one quart warm milk, a little at a time. Boil until it becomes smooth, then pour a saucepan of flour, and pour into a dish or mold. Put upon this white of the eggs, into which has been beaten half cup currant jelly.

Chocolate Cake.—Beat the whites of two eggs, with quarter pound powdered sugar, into a cream; to this add, with or without grated chocolate fine and the juice of half a lemon. Drop this mixed on flat baker and bake slowly.

The Treatment of Dairy Cows.

Mr. J. A. Smith, a western dairyman, writing of the importance of the feed and proper treatment of dairy cows, gives some excellent suggestions on this topic. He says that dairymen are often surprised at the light weight of a cow when coming after a rain, and it is surprising how soon their cows have suffered unsatisfied, and it is only a natural result of such treatment. The cow does not eat as much, for one thing; and another is, part of what she does eat goes to repair the waste of her system in stools and in the loss of milk, so that there is no time in which to find up the deficiency of the lost milk, and it is necessary to add some other food to make up the deficiency of the milk. He says, for this reason, that dairymen should take care that the cow in which they are interested is as much in condition as any other animal. It is a well known fact that any animal which is in a state of growth, requires much about the same, because the fat-forming matters may be expanded in producing force and the increased respiration and heat, but some protein matters will also be needed to supply the necessary material for the purpose. The cow when fully formed requires such food as will enable it to yield milk of the best kind; and as milk contains exactly the elements which go to make up the substance of a young and growing animal, with the addition of food rich in fat, a cow requires the feeding of a young animal and that of a fattening one within certain judicious limits. It is thus seen how complex and difficult a matter it is to feed an ordinary mixed farm stock consisting of horses, cows, steers, oxen, beeves, sheep, lambs, pigs and poultry, without putting valuable food material unnecessarily and sometimes materially into the feed, and the nursling does not grow, and the animal is of no value.

HOMINY CROQUETS.—To one teaspoon of cold boiled hominy add a teaspoonful melted butter and stir it well, adding by degrees a cupful of milk till all is made into a soft, light paste, add a teaspoonful white flour, mix with a spoon, stir in a quarter of a pint of flour with floured hands, dip into beaten egg, then in rolled cracker-crumbs, and fry in hot lard.

LIVE STOCK.

The “Coming Cow.”

The position that the “coming cow” is to be one well adapted for both beef and milk production we believe to be correct, if it be not pushed too far. There is an increasing number of dairy farmers who find it best to give almost exclusive attention to the quantity and quality of the milk given by their cows, as high milk is the great object of the dairy farming enterprise. Those farmers are raising what may be called black-milk animals, and there are beef-producing farmers who probably count it a disadvantage if a cow gives a large flow of milk. This is true on the western plains. It is true of such farmers as J. D. Gillette, who only asks for a cow that shall produce and feed a calf each year, milk, that shall not be overworked, and raise steers for the market. It is the purpose of the present paper to show that this is possible, and that the most successful dairyman and the producers of the very finest beef animals may be found in these classes; but the great majority of cows and steers for beef are, and long will continue to be, raised on a mixed farm; and whether the farmer is giving or the meat-producing qualities, for such men the popular breed must be one with deserved claims to good quality in both directions. It is quite possible that several breeds may, in the future, be eliminated for highest merit for the double purpose, but the course of breeding now adopted by the special friends of most leading breeds is calculated to develop one of these qualities at the expense of the other. The Shorthorn has never been surpassed, if equalled, as a “general purpose cow.” Ought she to lose all reputation as a dairy cow?—Breeder’s Gazette.

Selecting Ewe’s.

It useless to keep old breeding ewes, not so much on account of their greater liability to disease as for the sake of their offspring which are quite quickly improved. The breeder who keeps old ewes is not one who improves, especially if the flock is a common one. In selecting young ewes the largest and best formed must be retained. Examination of each one separately is the proper mode, the length and thickness of the wool being also considered. A good ewe has something to do besides merely become the mother of a lamb. She must supply it with food, and the capacity of her udder is not alone sufficient. She must be sound, healthy, a good feeder, and possess degree of carcass and length of body. Generally, the future growth and early maturity of the lamb depends upon the care of it in the begi-


The Intelligence of a Horse.

An old blind horse belonging to a small tradesman and farmer was turned out to graze on the common near the owner's house. For some cause it wound its way through lanes to the blacksmith's, where he had often been before. The harness prevented it from moving rapidly, but the difficulty of access on account of the ditches on either side, but the animal reached it safely, took its stand by the forge, and then neighed. The blacksmith, being at work in his garden, and hearing a horse neigh, looked for it, and seeing it, thought his harness operated by the wind, and he heard it again, but could not see a horse anywhere, until he went into his shop, where he found it standing very quietly by the forge as if waiting to be shod. The blacksmith thought some one must have brought it there, the blacksmith found out that the horse had been taken out into the frog, causing great pain. He then put on another shoe and sent the horse back to its owner.—Nature.

Are Our Sheep Improved?

The Report of the Department of Agriculture grants 21,900,000 for sheep and the production of wool as 55,000,000 pounds. This gives an average fleece of 2.55 pounds. In 1870 there were 34,000,000 of sheep and 135,000,000 pounds of wool. This gives an average fleece of 3.97 pounds, and is a gain of 35 per cent in ten years. There has been a steady progress during this last decade. Sheep are kept for wool and carcass, and this large increase in the production of wool indicates a corresponding in the weight of carcass. We must, therefore, conclude that our flocks are making satisfactory progress, and largely attributable to the use of pure-bred Merino rams upon the rough, thin-wooled native ewes of Colorado, California, and Texas, as well as of the Western States generally.

And with this desire to improve the form of the sheep has come a clearer perception of the relation of raising a sheep to the work of any farmer, who has studied his business, is now well aware that a large, finely-formed animal represents generous and judicious feeding.—National Live Stock Journal.

Bad Habits in the Poultry Yard.

Much of the trouble and vexation created in the management of poultry is caused by the fowls contracting habits, which, when once formed, are very hard to break. One of the principal and most aggravating habits is that of eating eggs. When the fowls are confined in close quarters and have very little exercise they get in the habit of scratching the straw in their nests for want of some other exercise. After an egg is once broken, they, of course, all become egg robbers. This, as well as all other habits are formed only when the fowls are confined in small yards and have very little exercise, and anything that offers they are ready and willing to do. This is one of their worst faults, and one that is entirely unnecessary. Very 55,000,000 is essential.

In crossing with Cotswold everythings depends on the capacity of the ewe to feed her lamb, and in order to do this she must be in full wooly vigor. Many mistakes have been made in breeding through failure to select the best ewes from the flock, for it is necessary for success to be as careful regarding the dam as with the sire.

Poultry Notes.

Those who are handling the White Cochinch will find that they will do better if they are allowed to run where there is white or light-colored sand.

It should be borne in mind by those who have hens confined, that green food is essential. It matters not what kind, but it is absolutely necessary.

The Fascer's Gazette—says that if a chick is discovered watching at the eyes and running at the nose, give it half a teaspoon of castor oil and place it in warm water. It will be well if the chick should be good judgment used in the selection of running fowls. Vigorous females, as well as males, should be selected. We mean by this that the color of plumage, symmetry, and the carriage that denotes good health, should be considered.

For those who are engaged in poultry work, it is best not to try to keep too many kinds of fowls. One breed, if well cared for, is better than a dozen that will soon mix and be of no distinct kind. For all purposes, we believe the Plymouth Rock to be the best.

It is a noted fact, established by experience, that fowls produce eggs in an inverse ratio to the number kept, which mitigates against keeping fowls on a large scale. Where there are so many together, various causes lower the vitality and cause a falling off of egg products.—Dairy and Farm Journal.

LITERARY AND PERSONAL.

ENTOMOLOGICAL LITERATURE.—Fifty years ago the Entomologists and the Entomological literature of the United States were very limited. The elder and younger Meubehaus, Say, Peck, Heat, Harris, and a few others might have been mentioned. Now, there is a great variety of works that could be mentioned, and their contributions were scattered through the proceedings of various societies, or through the columns of various agricultural and secular newspapers, and very few of these treated the subject in a practical and popular man- ner. Very few people—even those sufficiently intel- ligent on other subjects—really knew what the term "Entomology meant; hence, when we, on one occa- sion, sent a collection of American insects to Europe through a gentleman then residing in Lancaster, it was editorially announced, through one of the city newspapers that a Lancaster county "Ecclesiologist" had discovered a new species of insect on the road to Germany. No systematic catalogue of American Entomologists or Entomological literature is now accessible to us, but we know they have greatly multiplied since fifty years ago. Recently, however, there has been issued by the old and now also new society for September, 1893, containing annual catalogue No. 2, by Ed. Andert, a dealer in Entomological works in France, and the common reader would be astonished at the richness of the literature upon objects that only elect the average indifference, if not contempt. Among the lengthy and very important catalogues we find recorded in an alphabetical list, the names of 310 authors, composing 359 books, papers, essays, and other works, on the Order Coleoptera alone; each author having contributed at least one, several, or dozens of works. Herein we find that the catalogues of Coleopterology are printed in the English, German, Dutch, French, Spanish and Latin languages. The same catalogue also contains the names of 94 authors on Orthoptera, and their contributions number 223, and on Diptera, there have been produced 54 works on Orthoptera; 28 have produced 54 on Nemoptera; 68 ditto 196 papers on Hemi- ptera; 184 do. 366 on Lepidoptera; 77 do. 211 papers on Diptera. In addition to the foregoing, other authors are enumerated on Arachnida, Insecta, Pycnotin, etc., and some of the works of the authors in the southern States, at $5.00, in American lists of Entomological literature. Distinct and separate entomological organizations now exist in the United States, in Canada, in Europe, and in most of the principal countries. There are clubs and publications which publish regular serials of their proceedings in pamphlet or book form, and illustrate them with beautifully colored engravings, and many thousands of woodcuts. Perchance no department in natural history has had a more extensive literature than Entomology, not even in the United States, where the subject, compared with the older countries, may be regarded as recent in its development.

A glance at the "Naturalist's Directory" will illustrate this. The number of entomologists of the United States fifty years ago could not be counted by dozens, yet now they can be counted by hundreds, and the literature upon the subject has increased from a few scattered contributions to hundreds of volumes. Thomas Say was, perhaps, the first one whose contributions were gathered together and pub- lished in book form. And all these labors, and this literature relate to objects, which the majority of mankind, think far beneath their notice, or even contemplation.
The above named contributions, and the quoted paragraph, constitutes the whole subject within a nutshell. Most subscribers hereabout look wholly and solely to the editors for their literature, not to repeat as if they were invaluable respects of literary patrimony. It is the subscribers and contributors that build up a healthy and enduring journal: without their sustaining aid, the best conducted journal, or other publication, in the world, must ultimately dwindle down to a mere abridgment, or, in waggish parlance, the mere “running gears” of a paper. We may also legitimately say—“Remember we depend on you.”

We use this merely as an illustration: there are hundreds of other journals in the Union, which base their success upon the same foundation. Lancaster county may make some faint approximation to other communities in this respect.

The Culture and Diseases of the Peach.

History of the “Yellows,” its causes and remedies; by John Rutter, West Chester, Pa., 1880. This is a neat little 12 mo. pamphlet of 91 pages in paper covers, with an index; parts of which were read before the “Pennsylvania Fruit-Growers Society,” at its twenty-first annual meeting, held at Bethlehem, Pa., January 21 and 22, 1880, Judge Sittel,President, in the chair. Mr. Rutter in this paper speaks with emphasis and, having had 30 years experience in the cultivation and observation of the peach in Pennsylvania, be surely has a right to speak; therefore, those peach culturists whose trees have suffered by the yellows, should by all means procure a copy of this work, study it, and make a practical application of its principles and we urge the matter the more earnestly, because, since the publication of this book we have heard loud, long, and distressing complaints about the “peach-yellows,” just as if nothing had ever been written and published on the subject.

Possibly, those most interested in the matter do not peruse and read what has been published. Very few people outside of the profession read medicine, because they expect to employ a doctor—or one who makes the administration of medicine a specialty—when they see or feel that they need his services. Now, this ought to suggest the establishment of a “Peach Society” of which the members would be the county agents, and where the diseases and cares of vegetation are made a special study, and the degree of V. D. is conferred upon those who are qualified to receive it. This is what the agricultural people want with a few exceptions, instead of reading themselves up on a subject that has no special relation to their own interest. Just at this time there is a greater need for Doctors of Vegetation, than for any other kind of doctors in the land for the dear people will not know the diseases of plants any more than they will know themselves. But, in order to cover the whole ground until such a dedicated institution is established, we recommend to them Mr. Rutter’s “little book” as the best thing they can consult; because, what one man can do, others can, do, provided, they know how. We may be able to teach others what we know, but they cannot teach us; practically upon this subject, like any other, there must be operation.

The Farmer’s Companion and Prize Monthly; a royal four-paged folio, published at $1.15 a year, by the Pratt Brothers, at Marlboro, Mass., will be furnished to the Lancaster Farmer, at the extraordinary low price of $1.25 a year, to each of 10 or more, accompanied by the cash; or to clubs of 10 or more, subscribed for the还想 persistence, the two parts will be furnished at $1.15 per year. The site of the pages of the Farmer’s Companion are 26 by 20, and the trim size covers the width of an agricultural and domestic reading; besides a liberal spiral binding of general literature. The material and typography are of the greatest possible importance. Although we have always contended that every farmer should patronize, at last, the local paper of his town or county, yet we have never meant to confine him to this, if his means will allow him to go beyond; and here we furnish him an opportunity to go beyond at the smallest possible expense—less than many of them spend for cigars or tobacco. But it is deeply understood that we cannot furnish the papers at the above prices to a less number than the clubs men- tioned, with the cash in advance; and further, we may add, that we will furnish to clubs of fifty, the two papers for 50c a year.

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Dr. S. Rathvon, Editor.

LANCASTER, PA. DECEMBER, 1883.

John A. Hiestand, Publisher.

CONTENTS OF THIS NUMBER.

EDITORIAL.
To our Patrons and Readers. 177
The Coming Poultry Show. 177
Social Apathy. 177
Excerpts. 178
The Farmer's Wife. 179

CONTRIBUTIONS.
Premium Wheat. 179
Concerning Swine. 179

SELECTIONS.
Packing Eggs for Transportation. 179
Using Young Bulls. 179
Fruit Notes. 180
Commercial of the World. 180
Founding a Herd of Pigs. 181
Habits of the Strawberry. 181
Brahma Dorking Fowls. 181
Pound for Pound. 181
The Dairy in Pennsylvania. 182
What's in a Name. 182
Our Wool Production. 182
Some Statistics of the Milk Supply of Boston. 183
Barbed Wire Fences. 183
Agriculture in Common Schools. 183
English Cheese Interest. 183
Timely Hints for Householders. 184
Protecting Manure. 184
Methods of Milking. 184
Shorthorn Prize at Des Moines. 185
Sweeptakes Shorthorn Bulls—Sweeptakes Shorthorn Cows. 185
Looking Out the Back Door. 185
Care of Farm Horses. 185
About Sheep. 185
Whitewashing Trees. 186
Warmth in the Stables. 186
The Wheat Belt and Wheat Production. 186
The Use of Salt. 186

OUR LOCAL ORGANIZATIONS.
Lancaster County Agricultural and Horticultural Society. 187
A Dearth of Business—Bills Paid—Pruning Peach Trees—Refused Questions. 188
Poultry Association. 188
Treasurer's Report. 188
The Lineman Society. 188
Donations to the Museum. Additions to the Library. Current Business. Tributes of Respect. 189
Questions and Answers. Afternoon Session. 189

AGRICULTURE.
The Benefit of Drainage. 139
Absorbing Power of Soil. 199
Raspberry Canes and Crops. 199

HORTICULTURE.
Care of Raspberries. 189
Varieties of Strawberries. 190
The New Strawberries. 190
Gathering Pineapples. 190
The Best Apples. 190
Winter Apples. 190
How to Manage Cuttings. 190

HOUSEHOLD RECIPES.
Boiled Flank of Beef. 190
Fish Chowder. 190
Excellent Gob Cake. 191
Lemon Cake. 191
Fried Chicken. 191
Plain Fruit Cake. 191
Veal Loaf. 191
Steam Beefsteak Pudding. 191
Nice Gobble Cakes. 191
Cottage Pudding. 191
Gobble and Indian Cakes. 191
Oka Soup—Equal to Turtle Soup. 191
Steamed Brown Bread. 191
Paperhanger's Paste. 191
Cocanut Custard. 191
Egg Omelet. 191
French Cake. 192
Ginger Snaps. 191
Dainty Sandwiches. 191
Tapioca. 191
Orange Cake. 191
Koumadas. 191

LIVE STOCK.
Coral Pigs. 191
Cure for the Blackleg. 191
The Health of Animals. 191
Stumbling Horses. 191
Salt Pools. 191
Milk Cows. 191
Abortion in Cows. 191
Pure Water for Hogs. 192

POULTRY.
Milk for Hens. 192
The Care of Fowls. 192
Light Brahmas. 192
Literary and Personal. 192

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Dr. S. S. RATHBUN, Editor.

LANCASTER, PA., DECEMBER, 1883.

Vol. XV. No. 12.

EDITORIAL.

TO OUR PATRONS AND READERS.

" faut in the silent night a child is born."

From January, 1-69, to January, 1883, is fifteen years, according to popular reckoning, and therefore this one hundred and eightith monthly issue of the Lancaster Farmer—based on said reckoning—completes its fiftieth volume; or, the fiftieth year of its existence among the things that be. On the morning when the Farmer was ushered into a dubious existence, General Grant was President of these United States; Schuyler Colfax was Vice President; John W. Geary was Governor of the Commonwealth of Pennsylvania; General George W. McClellan was President of the Court of Appeals; John H. Bibb was Associate Justice of the Supreme Court; and J. B. F. Frey was Sheriff of the state.

Man, taken as a whole, at the creation, was obedient, plastic, humble and unsophisticated: but at the Incarnation he was self-willed, obstinate, brutal and imperious, taken as a whole, so that we may infer it will require a greater exercise of Almighty power to redeem and regenerate him, than it did to create him: hence the deeper significance of the Incarnation.

The coming Christmastide represents the eighteenth hundred and eighty-third anniversary of the notably august event—an event in which the whole human family is interested, and included—whether they acknowledge it or not—whether they know it or not. Its influence is irresistible, and its manifestations innumerable, according to the mental medium through which they are ultimate in visible acts. The impulse to do some kindly act, or to exercise some kindly feeling during the Christmastide, is controlled by influences that may not be recognized by merely worldly wisdom, or may be totally denied, and yet the universal tenor of those influences are unswerved from their eternal purposes, and will not return void. We would suggest to our readers—our condition at least, to "do good, lend, hoping for nothing again," but to do it rationally; whether in prosperity or adversity—indeed, in that long range of view which culminates in eternity, adversity may be a greater blessing than material prosperity. The outward manifestations of Christmas may in many cases be perverted, but they are not altogether selfish. "There is a divinity within them which shapes their end, rough them as we will." Let the social plane of giving and taking, be the medium through which a higher perception of the event is attained.

With the admonition that—

"Though Christ a thousand times in Bethlehem be born,
If he be not born in thee, thy soul is all forlorn."

We tender to our own and all our Christmas Greetings.

THE COMING POULTRY SHOW.

The Poultry Association of Lancaster county will hold their fifth annual exhibition at Lancaster, on Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, January 17th, 18th, 19th, 21st, 22d, 23rd. 1-84, in the new Post-office Building, and there is hardly a question but it will be a success. This society, like the Agricultural and Horticultural Society, has never been blemished with very large meetings; indeed, outside of the membership of Lancaster county, the attendance is very small, but those who do attend work with a determined will toward a specific end. But the society possesses "girt," and it is now pushing on just as energetically as if no such failure had ever occurred. The deficiency in the exchequer was promptly remedied by the voluntary contributions of its members.

But when such exhibitions do not pay expenses, it cannot be said, without qualification, that they are a failure—they merely "cost more than they came to"—which is often the case in things handeful, useful and honorable.

The oceon telegraph was not abandoned because the first line laid was an entire loss to the company. Such contingencies are sometimes of more absolute value than a concealed success. If the whole merely money value goes to "pot," there are still undisuadestable benefits—in the form of knowledge and experiencies—remaining, which may serve for all time to come. There can be no question about the good the Poultry Association has done and is doing in the county of Lancaster.

The introduction of the fine poultry stock that is now in the city and county, and the knowledge that is disseminated among the people through these societies and poultry publications more than pay, even should every exhibition be a financial failure.

The citizens—the well-to-do citizens—who are most benefited by improved poultry stock, should so far encourage the society by a liberal patronage of their exhibitions as to turn out en masse on this occasion, a thing many of them failed to do last winter. It is about as shameful and harmless an exhibition as can be gotten up with any other class of animals in the world. Farmers coming to town should not fail to see the chicken show during the week of the exhibition.

SOCIAL APATHY.

A discussion arose at the last meeting of the Agricultural and Horticultural Society relating to the habitual apathy of its members, and the small attendance at its public meetings. It is true, it would be better for the success of the Society if it were otherwise, but this ought not to essentially discourage those who find it pleasant and profitable to attend. This Society is now becoming venerable, and only stands third upon the list of the old Societies, (excepting those of the Church) in the county of Lancaster, and it has done much good—indeed, much more than is accorded to it by the members themselves.

Criticism and ridicule, on the part of those who take no interest in such organizations, or who do not so much as "lift up a finger" in bearing their responsibilities, is very cheap, and is therefore lavishly bestowed; but, it should not have the least disturbing influence upon the feelings or conduct of the members who are doing what they can in sustaining the Society; Numbers, moreover, are not always indications of success. A dozen well-informed and working men may be more in almost any Society, than a hundred merely disinterested lookers on. If a large number, however, could become influenced by the same zeal, it would greatly strengthen the hands of all. We would therefore encourage the few to "go on," just as though the whole movement of the Society depended upon themselves.

Mr. Johnston's remarks seemed to approxi-
mate the cause of the small attendance at the meeting, but this ought not to constitute a valid cause. As well might those who are members of a religious Society, absent themselves from church-meetings, because they can read their bibles, their sermons, their prayers, and sing their sacred songs, at home. Those who are assigned a duty, and who are in the effort to perform it, are encouraged and upheld in that effort by the sympathizing sphere of their auditors for no man can feel comfortable or encouraged in delivering an essay, or addressing a discourse to empty benches. Still, those who entertain convictions that "it is good to be there," ought not to abate their energies, because others have no sympathy, and feel no interest in what they are doing. The watchword ought to still be "Go on, go on."

**EXCERPTS.**

Steam ploughs are being introduced into Dakota, and with great success.

It takes 250 bushels of potatoes to make a ton of starch.

Since 1800 the number of known American species of mammals, fossil and recent, has increased from 250 to nearly two thousand.

Plants fruit trees, without giving the trees one-half the attention required to make them profitable, is foolish and wasteful.—*Cincinnati Commercial Gazette.*

Each year's experience only deepens the conviction that the autumn application of barnyard manure to the surface, either after the land is plowed, or on meadow or clover fields that are to be plowed very early for the planting of corn, is the most profitable method. The best result seems to follow the application of manure where it is done some time previous to plowing. In this case the soluble parts are retained near the surface, where they can be readily appropriated as food by the clover and grass roots.—*Farm and Fireside.*

This is the season when you should feed root and vegetable food in conjunction with grain to your fowl stock, to take the place of grass and other green stuff that they were accustomed to in mild weather. If poultriers would believe how valuable and succulent potatoes, cabbage, turnips and carrots are, when cooked and mixed with meal and given to the birds, it is certain they would make ample provision for them in the coming winter.

Mr. MASON BROOKS, a farmer near Whitesboro, Texas, made 3222 gallons of sorghum syrup this year, which he sold at forty cents per gallon.

A FARMER in Suwannee county, Fla., has gathered two crops of peaches from his trees this season.

There have been but four seasons in thirty-three years when the yield of corn in Ohio was as light as it was this year. The average per acre is placed at 22.2 bushels.

A HOTEL proprietor and veterinary surgeon were lately fired in Wales for docking a horse's tail. The practice was pronounced both cruel and needlessly by two professors of anatomy. Good!

TENNESSEE farmers will sow clover seed largely next year.

Heavy rains and high tides have submerged the rice crop on Cape Fear River to the extent of 20,000 bushels.

Three thousand turkeys were shipped in early November from Bristol, Tenn., to Savannah, Ga., in one car.

The cranberry crop of Cape Cod is more highly colored than usual this year and of good quality.

The farmers of South Carolina sold last year $200,000 worth of grain—corn, oats and wheat. And this was the first year that any considerable number of them had a surplus of grain.

PEANUTS yield 1,000 pounds to the acre in Southern California, and have proved an excellent food for fattening hogs, giving to hams and bacon "an equisitely delicate flavor."

In a gum-sealed jug, in an Aztec ruin in Arizona, was found some corn by Mr. Win. Wallbridge. The corn was planted, and in six weeks the grower was eating roastening ears of a variety which only prehistoric races had hitherto cultivated. The stalk grows but three feet high, and the corn is small, deep red and flinty. Two crops will mature in one summer. All this on the authority of the *Arizona Gazette."

Six hundred million dollars' worth of poultry and eggs are produced annually in the United States, with quality, consumption and price increasing.

MRS. HICKS has a hen turkey which fed her thirty young ones on grasshoppers so long as the crop held out and then took to the woods, flew up into the oak trees and shook down acorns for the brood. Mrs. Hicks and her turkey live in Duchess county, N. Y.

A FINE botanical garden is to be established at Palatka, Fla.

TEXAS is said to produce about one-half the cattle raised in the United States.

H. C. WHEELER has the largest farm in Iowa, at Odebolt.

HENRY P. CURRY, of Janace, Fla., has planted 27,000 pineapple slips this year.

Some English gardeners cut purple tomatoes and ripen them quickly by placing them on hot water pipes.

SEVENTY-FIVE car loads of beef cattle have been shipped from the Yellowstone Valley in the past six weeks.

ORIZON and Washington have sent into Montana, Dakota and Wyoming fully 20,000 head of cattle, and into the same region about 20,000 young thoroughbred and high-grade bulls were sent from different Eastern and Middle States.

COLONEL TAGGART's Jersey cow, "Hannah 24," was brought to bad on the 13th instant with a febrile calf. (Her last was dropped February 15, and lack two days of being nine months old. The period of gestation was from March 18, only 290 days.) Mr. Packer's imported bull, "Fletcher," is the sire of this precocious bovine.

The wool clip of the United States for the current year is said to exceed that of 1882 by about 20,000,000 pounds, aggregating about 320,000,000 pounds.

In the neighborhood of Lyons, France, every cow on calving receives four to five quarts of wine and one pound of toasted bread, and this ration is frequently repeated two or three times in twenty-four hours. Professor Gregoir lays down that a cow under such circumstances can take fifteen quarts of wine a day without any injurious effects.

POLE packers complain that it is hard to secure lean hogs, and the swine now seeking market are too round and heavy to put into the foreign style of means now most in demand.

In weaning calves, in France, hay tea enters largely as a substitute for milk, then linseed cake gruel; in Russia beer is largely mixed with the milk, which explains the enormous size of the calves; two pounds of hay are steeped in nine quarts of warm water, and five quarts of the tea are estimated as equal to one quart of milk.

GERMAN CROP, hatched two years ago in Georgia, now weigh four pounds.

Many Delaware tomato growers realized over $60 an acre this year.

We had a new birch floor laid in the kitchen this Spring, and we can't say enough in praise. The good man gave it a coat of oil when it was laid, put it on boiling hot, another this fall; and it is so easy to keep looking clean and nice. The oil brings out the grain of the wood so beautifully. Wish we had one like it in all the chambers.—*Correspondence of New England Homestead.*

SIXTEEN cents a pound for butter is about the same as one and a quarter cents per quart for milk. Better make poultry or pork of it at that price.—*Farm Journal.*

In an establishment at Oakland, California, the entrails of sheep are used for making very serviceable belting for machinery. First the entrails are cleaned and soaked for a few days in brine. The prepared material is then wound on bobbins, when it is ready for working up either into ropes, or flat belts. A three-quarter-inch rope of this material is capable of bearing a strain of seven tons. The material is durable—more than twice as durable as hemp.

Every piece of horse radish grows; if we take a piece of root about an inch in length, about the size of a large bean, and put it an inch below the surface of the prepared ground, a short piece will come to the surface and form a crown, and another portion will descend and probably form to a root; but instead of this, if we make a hole a foot or so deep in the ground with a dibble and let the little pieces of root drop to the bottom, a clean straight sprout will come up to the surface, and this will in time make an clean and thifty a market piece as could be desired.

When Victoria came to the throne in 1837, the estimate for her personal expenses was based on the charges of the household of William the Fourth. For her Majesty's privy purse they set apart $800,000 yearly; for household salaries, $636,300; for ordinary material, tax laid as $2,250,000; for royal bounty, etc., $60,000; and for various other small items, $40,200. The total is about $1,925,000. Besides this she has $215,000, being the revenue of the Duchy of Lancaster. Thus the sum which her Majesty receives yearly,
for her privy purse, is $215,000. This is entirely outside of her actual ordinary expenses, and she is clear pocket money.

Always get the best you can to breed from, using thoroughbred stock. Do not hesitate on the score of economy. Meat producing animals from stock fattened easier, consume less feed, weigh heavier, and are always in demand, because they are nice and smooth, and when put on the block their offer is small compared to that of a rough bony steer, or hazel splitter steer.—Porio Transept.

Let any one who has an attack of the lockjaw take a small quantity of spirits of turpentine, warm it and pour it on the wound, no matter where the wound is or what its nature. Relief will follow in less than one minute. Turpentine is also a sovereign remedy for cough. Saturate a piece of flannel with it and place on to the throat, chest, and, in severe cases, three to five drops on a lump of sugar may be taken internally.

An excellent cement for attaching metal to glass or porcelain consists in a mixture of a solution of eight ounces of strong glue, and one ounce of varnish of linseed oil, or three-quarters of an ounce of Venice turpentine, which should be boiled together and stirred till the mixture is thoroughly incorporated.—Harvey and Carriage Journal.

To cultivate the soil with success, requires both thought and study.

**THE FARMER'S WIFE.**

Oh! I give me the life of a farmer's wife,
In the fields and woods so bright,
Singing the birds and the lowing herds,
And the sober blossoms white.

The note of the morning's heavenly bird,
Is the music sweet to me;
As the dewy flowers in the early hours,
The genie I love to see.

Oh! I give me the breeze from the waving trees,
The murmur of summer leaves;
And the swallow's song as he skims along,
Or twitters beneath the grass.

The plowman's shout, as he's turning out
His team, at set of sun.
Or his merry 'good night,' by the fire-fly's light
When his daily work is done.

And give me the root and the luscious fruit,
My own hands rear for food;
And the bread so light, and the honey white,
And the milk so pure and good.

For sweetest of thoughts, let me
When the heart is strong and true,
And blessings will come to the hearth and home
If our best we bravely do."

**CONCERNING SMUT.**

Editor Lancaster Farmer: Your correspondent, C. G., in November number of Farmer "Don't go much on the recommendation to seed in sulphate of copper. Heraduce is not the money value of the premium so much as the high favor and tribute paid to Lancaster county farmers which demands this well deserved notice. These with other facts go to show that Lancaster county farmers rank foremost among the most successful farmers of the world.—I. G. S.

**PACKING EGGS FOR TRANSPORTATION.**

Many devices have been tried for packing eggs for catching after transportation. My way is to take a box of suitable size for the number to be sent, allowing plenty of room. I bore a hole in two opposite sides and make a rope handle by putting a piece of rope in from the outside and tying a knot on it to keep it from pulling out. The knots at the ends should both be on the inside, and the rope should be long enough to have a little slack when the lid is on. I pack a layer of hay about two inches thick on the bottom of the box; on this I put a layer of fine, perfectly dry sawdust or bran; now take the eggs, one at a time, and wrap them in a small piece of paper and stick them in the bran envelope, when all are in, put on enough bran to cover the eggs, shaking slightly so as to settle it close around them. Now another layer of hay to cover all. Screw the lid on and mark. Eggs should not be too close to the sides of the box, nor too many in a box, unless one has had experience in packing. The box should be marked with a stencil "Eggs! Clear! Good!" and more convenient it is to handle, the more respect it will probably receive at the hands of expressmen. Fresh eggs, from healthy, thrifty fowls, packed in this way, should (and do) hatch a fair percentage after long trips.—Dr. Dickie.

**USING YOUNG BULLS.**

Some good suggestions in regard to the use of young bulls are given in a recent number of the National Live Stock Journal, in answer to questions pertaining to the service of a Short-Horn bull a year old in December last. The editor says that such animal may be safely used this spring, if it is strong and vigorous, and serve twenty cows without injury, adding he should never be turned out with the cow. This practice ruins more young bulls by far than the numbers of cows he serves. One service is as good as two or three, even better than half a dozen. It is important that a cow should be served as soon as she comes in heat; and, if a second service is thought desirable (where a cow has failed to stand to a previous service,) we would put her up and let her stand several hours—say till the paroxysm is nearly over—before she is served a second time. There is no reason why Short-Horn bulls should not be profuse, and continue so until old age, as bulls of any other breed, or even 'scrubs.' Two causes...
have conspired, however, to injure many Short-Horn bulls in this respect—in breeding and high feeding. It is the opinion of most persons who have investigated the breeding problem that inbreeding usually affects the productive power of cattle favorably. This affects it not always apparent, and in some cases it is shown earlier than in others; but it may safely be laid down as a general rule, that inbreeding has a tendency to impair constitutional vigor, and consequently to weaken the reproductive powers, not only of cattle but of all animals; and when once a defect has been developed by inbreeding, it is rapidly intensified by continuing to breed in the same manner. Again, the highly artificial manner in which many Short-Horn bulls and cows have been kept is extremely hurtful. Rich are highly subjected to the food, inducing an unnatural state of pietohra, allied with close confinement, has destroyed the productive powers of many a well bred Short-Horn, and the evil effects of such a practice are not confined to cattle alone. Short-Horn cattle are no more subject to injury from this condition than any other breed or any other class of stock. Any race of cattle, horses, sheep or swine, when long subjected to inbreeding, close confinement and high feeding, will show the same results. If farmers will select Short-Horn bulls that are descended from a vigorous and prolific ancestry, and that have not been highly subjected to the food, whether in cold or warm weather, they will usually be found quite as prolific, and will retain their reproductive powers to quite as great an extent as any other race of cattle in the world."

FRUIT NOTES.

There is a great diversity of opinion and practice about the keeping of apples through the winter, though one would think apples had been grown long enough for some good plan to be settled upon. Those who keep them in retarding houses succeed, but such houses are costly. Now and then a man has found a method of cooling in cold water process, they will usually be found quite as prolific, and will retain their reproductive powers to quite as great an extent as any other race of cattle in the world."

People accustomed to marketing apples or pears in bushel crates should remember that barrels are cheaper when large quantities are to be shipped. The freight is less and the fruit carries better.

Especially is this true of man whose "mark" is often seen in market.

If each small fruit-grower would aim to see how much mature and good culture he could profitably apply to a small area, or to an acre of each, he would not care much thereafter for a larger plantation than he could treat in this manner. When a man can raise 300 bushels of small fruits on an acre, why should he not do it in preference to raising the same amount on five or six acres? Why don't somebody point out the gain? Poor fruit had better go by itself, or not at all.

Germany exports wool, woolens, linens, rage, corn, timber, iron, lead, tin, flax, hemp, wines, wax, tallow and cattle.

Russia exports tallow, flax, hemp, flour, iron, linen, lard, hides, wax, cloth, cordage, bristles, fur and poish

Spain exports wines, brandies, iron, fresh and dried fruits, quicksilver, sulphat, salt, cork, saffron, anchovies, silks and woolens.

China exports tea, rubarb, musk, ginger, borax, zinc, silks, cressia, figgilver work, ivory ware, lacquered ware and porcelain.

Turkey exports opium, silks, drugs, gams, dried fruits, tobacco, wines, camel's hair, carpets, shawls, camlets and morocco.

Hindostan exports gold and silver, cochineal, indigo, saraparilla, vanilla, jalap, fustic, campeachy wood, pimento, drugs and dye stuffs.

Brazil exports coffee, indigo, sugar, rice, hides, dried meats, tallow, gold, diamonds, and other stones, guns, mahogany and India rubber.

The West Indies exports sugar, molasses, rum, tobacco, coffee and tobacco, rice, indigo, salt, cinnamon, silk, cotton, wool, cotton, and other products.

East Indies exports cloves, nutmegs, mace, pepper, rice, indigo, gold dust, camphor, benzine, sulphur, ivory, rattans, sandalwood, zinc and nuts.

The United States exports principally agricultural produce, tobacco, cotton, flour, provisions of all kinds, lumber, tarrantine, agricultural implements, sewing machines, cotton goods, cutlery, builders' hardware, furniture, munitions of war, gold, silver, quicksilver, etc.—Exchange.

FOUNDING A HERD OF PIGS.

While it is true that, as a rule, the pig is one of the most profitable of our domestic animals, it is also evident, says an experienced writer in a contemporary journal, that the amount of profit he can be made to bring will be governed largely by the differences in methods of keeping the intelligence or skill with which he is handled. We find also that pigs are kept under the most varied circumstances, from those affecting the single sty-pig, for example, or the few gleaners about the farmyard, to the more extensive herds under the broader management known as swine husbandry. Owing to this great diversity of conditions to be taken into account, it would be impossible to give in few words definite teachings exactly suited to each case. At the very outset—the selection of stock—there is a wide range for difference in choice. To produce pure-bred stock to be sold for breeding purposes and the improvement of common stock, may be the object in view with some. To rear and feed hogs for what they will bring on the market when fat may be the aim of others. Location, the amount of capital at command, and a man's own taste or disposition in such matters, must help to determine which of these classes he will enter, or whether, as is often done, he
THE LANCASTER FARMER.

1831.

**HABITS OF THE STRAWBERRY.**

The strawberry grows all summer to store up food for the production of fruit for the following season, like the onion or beet. Instead of storing up this food in the form of a bulb or root it is stored up in the plant. If this plan is allowed to waste its strength in producing runners, or is deprived of the needed food, the crop will be small in consequence.

If the roots are injured by cultivating late in the fall, or wrenched and broken by treading and thawing, the plant will make an effort to repair the damage at the expense of fruit. For this reason it is advisable to give it every opportunity to do its best and prevent it from injury during the winter.

Mulching keeps the ground cool and moist, and allows the surface roots to work to the best advantage. In no other way can these advantages be secured so readily. Any coarse manure that will hold the ground, will answer—as straw, tan bark, saw dust, boards, brick or tile. The strawberry is hardy and needs no protection when growing wild in the meadow or among the stumps in the clearing. In such situations the ground is always shaded and the surface roots remain uninjured. Where the sun shines on the bare ground the case is different. At night it may freeze and be lifted up by the expansion of the water as it turns to ice, lifting the plant with it. When it thaws the soil returns to its place but the plant does not. If this is repeated often enough the roots will be drawn out entirely. On clay this never occurs, as it is only the water in the soil that expands. Any coarse material that will shade the ground will prevent the sun from thawing the surface every bright day. As long as it remains frozen no great damage can be done. If the plant has been allowed to form a thick mat of surface roots they are lifted bodily and not broken, but settle back in their places, thus protecting each other. A mild, open winter is more injurious than a steady, cold one, and frequently the damage is done in March. It will thus be seen that winter covering is especially necessary where the soil is wet or clayey, and where the plants are not so thick as to protect each other.

The ground among strawberry plants should be kept well stirred all the spring and summer so as to let air to the roots and kill all weeds. In stirring the soil avoid covering the crowns of the plants. The best cultivator for this work is the hulmer, a birch wheel which works well in damp weather comes in the fall the strawberry sends out new roots near the surface and these should not be disturbed; for this reason all deep cultivation should be discontinued until the fruit is gathered.

If runners are transplanted about four inches apart in mellow soil, where they can be shaded and watered, if necessary, in about a week they may be taken up after a thorough watering, and set out with the soil adhering, when they will nearly equal potted plants in value.—Matthew Crawford, in Green's Fruit Grower.

**BRAHMA-DORKING FOWLS.**

This cross is a very favorite one, and generally produces most hardy and prolific birds both for table and as frequent layers of large eggs. The best Brahma-Dorkings are bred by mating a colored Dorking cock of large size and low on leg with large dark Brahma hens. Fancy points may be disregarded, but good size is indispensable, and if the hens are free from, or at least with only very slight leg feathering, so much the better. The chickens will be larger than and equal growing, provided they are hatched early, and are well looked after. February and March are the best months for hatching, the pullets commencing to lay about September and the cockerels with a little extra feeding, prove excellent table fowl. For laying choose pullets with grey hackles in preference to those with gold or brassy colored, as the former are generally more prolific and do not get broody so frequently as the latter. If plumage be a consideration, then substitute a silver-grey Dorking cock with the Brahma hens, although this variety of Dorking is inclined to a too small size, and may be produced by crossing a white Dorking cock with light Brahma hens, and in a park or orchard, this breed looks very attractive, being nearly white. Whenever of these crosses be decided on, choose as parents, large healthy specimens of pure blood, and hatch early. Brahma-Dorkings require no special feeding other than that advised for other varieties generally, good sound grain and meal being the staple foods. It is not an easy matter to lay down any rule as to the quantity of food required by a given number of fowls, so much depends on the conditions under which they are kept. If they have a wide range they are enabled to pick up a certain amount of food especially in the summer time when insects abound. In that case two meals a day will be sufficient, one morning and evening, except in very severe weather when the supply of natural food fails; then they must be allowed a feed at mid-day. On the other hand if the birds are in constant confinement three meals a day must always be allowed them, although the mid-day one may be of a light character, such as house scraps. As regards quantity the birds should have as much at each meal as they will eat eagerly and no more. Food on no account should be allowed to remain on the run after they have finished, and if they are observed to be dainty and picking the corn and meal over and rejecting what does not please their fancy, it is a sure sign that they are over-fed, and if the state of affairs be not rectified, a falling off in the laying and growing of eggs and disease of numerous types will soon make their appearances. In short, it is better to rather under-feed than over-feed poultry, and their owner must use his judgment as to the quantity to be given.

By carefully watching the birds it feeding time it is very easy in a few days to determine how much they should have thrown to them, the right quantity being what they will eat with relish, and no more. Again fowls' appetites vary, and are influenced by the weather and other causes, as also by the health of the bird. A hen when laying, will and ought to, eat more than when not laying, and laying stock should not be fed more than they require. The first feed in the morning, which should always consist of soft feed, must be given as soon as possible after the birds have got off the roost, and the evening meal, which should always be hard grain, immediately before they retire to roost.—Farm and Home.

**POUND FOR POUND.**

When we were told, some years ago, by a breeder of Jersey cows, that he could make a pound of butter as cheaply as the best of feeders could make a pound of beef, we confessed we did not quite see the reason of it, but the grains of hesitation, and the more we thought of it the more incredible we became; but it was made by an experienced and truthful man, and we were anxious to see it in that light if it was true, and to prove the contrary to him if not. We therefore sought information elsewhere, and the further we looked and the more we investigated, the more clearly did we realize the correctness of this point.

But what astounded us was the fact that his butter was being sold by contract, the year round, at an average of thirty-five cents a pound, whilst the best beef was worth only from six to seven, and that farmers were devoting so much of their time and their means to the production of the cheaper instead of the higher-priced article. And, even now, we question if the problem is a clear one to the majority of farmers, or even of business men who are notoriously close at calculating all the little details that enter into the cost of an article, and comparing the result with the price they can get for it. Let us do a little figuring, to show how it can be done.

From the report of the last fat stock show, we learn that the heaviest animal weighed 2,055 pounds; the heaviest two-year-old steer, 2,220 pounds; and the prize yearling, 1,600 pounds. The champion four-year-old steer, McMullen, weighed 2,565 pounds, and had made a gain, during the year, of 470 pounds; 555 pounds was the heaviest gain made in the year by any animal shown last year, while several made not over 300 pounds. Four yearlings made daily gains of 2.97, 2.51, 2.31, and 2.23 pounds. Young stock always make larger gains on the food consumed than older ones. These results were obtained upon beef
stock—Herefords, Shorthorn, and their grades and crosses—with the best feed and care that experienced feeders could give them, and may be considered representative animals of their class.

Let us now look at the record of some of the best butter producers and compare the probable profit of the two classes. Enrota, the property of A. B. Darling, has a record of having made 775 pounds of butter from 7,525 pounds of milk, in 11 months and 6 days; Jersey Queen of Barneit, 770 pounds in one year; Jersey Belle of Scituate, 705 pounds in one year; Fanny, 574 pounds, when a four-year-old, Mr. A. B. Darling's four-year-old cows, weigh 1,111 pounds in seven days, or 3,103 pounds per day. These are representative cows, and are only cited to show the capabilities of the cow for butter. Good butter cows will produce nearly as many pounds of butter upon the same amount of proper food as pounds of beef can be obtained when fed to the average beef stock.

It would take a pretty good beef animal to produce that number of pounds, live weight, in the same time. Yet we can sell our butter for four or five times the price of live-weight beef. If she gives out 300 pounds during the year, as he did, for thirty-five cents, we have $105; 300 pounds gain of beef, at six cents, would be $18.

It may be said that dairying is more expensive than steer feeding, and that the latter can be conducted on the cheaper hands of the West; but, as against such considerations, we have others to offset them. Our product is more easily handled, costs us much less to ship, the cows give us a calf every year, and we have our milk for the pigs.—Burlington World.

THE DAIRY IN PENNSYLVANIA.

The Secretary of the State Dairymen’s Association, which met at West Chester last October, said that the membership of the society was principally confined to four counties in the Northwestern part of the State. Among the benefits of holding the late meeting in Chester county will doubtless be a renewal of interest in dairy work in this part of the State, and a largely increased membership of the association.

The meeting of a body of men representing the immense dairy interests of Pennsylvania could hardly occur without profit to all the farmers of the State. $957,680,410 are invested in Pennsylvania farms and improvements. Any association which has in view the increase of such a large capital, the devising of ways and means to make the investment profitable, must have the respect and support not only of dairymen, but of all the thinking people of the State, for this association and the dairymen are affording one solution of a serious problem which, ever since the rapid utilization of Western wheat lands, has confronted the Eastern farmer.

Venango, Mercer, Crawford and Erie, which counties constitute the bulk of the membership of the association, do not equal the older counties in the southeastern corner of the State in the quantity of dairy products. Chester county leads the way with 42,170 milk cows, which, according to the census of 1880, produced in one year 5,785,814 gallons of milk, 4,246,655 pounds of butter and 11,296 pounds of cheese. Bradford county, with its 38,472 cows, made 4,234,556 pounds of butter, but only 469,112 gallons of milk. Crawford county, 31,479 cows, produced 4,510,397 gallons of milk, but only 2,197,574 pounds of butter; while in Chester, Lancaster and Montgomery the pounds of butter made do not fall far below the gallons of milk produced, which are but a little way behind the production of Chester county, given above. Delaware county, with only 16,088 cows, produces 3,412,439 gallons of milk and 1,428,084 pounds of butter; Montgomery, with 34,018 cows, shows a production of 3,329,284 gallons of milk and 1,419,479 pounds of butter. Backs, with about the same number of cows, shows in milk 2,307,554 gallons, in butter 3,892,430 pounds. It is plain from the amount of capital in the Southeastern counties invested in dairying and the value of the yearly product that there is ample room for the Dairymen’s Association to grow in this part of the State.

Besides the practical discussion of the feeding and treatment of milk cows, selecting of stock, the care of milk and the making of butter, the members of the association should find time to talk over the characteristics of the different classes of dairymen not extensive dairymen, who find the profits of their grain crops cut down by Western competition. Tobacco growing, trucking, carameries and dairying are the main lines offered to the Eastern farmer when grain growing for the market fails. Some light shed upon the comparative profits of the dairy would be most valuable as a pointer to many farmers who are hesitating which way to turn.—Philadelphia Press.

WHAT’S IN A NAME.

President Wilder struck a note of warning in his address before the meeting of the American Pomological Society, in Philadelphia, when he said we do not need any more long, high-sounding names to our fruits. We have had enough “captains,” “colonels,” “generals” and “presidents,” and there should be no increase of the length of the list of such names as “Stump the World,” “Seek-no-Further” and a host of others like them. A name of any fruit should be short and, if possible, descriptive. It is the handle by which the fruits are passed from mouth to mouth and from mind to mind on the written or printed page. The “Early Harvest” apple has a word of meaning in the name, especially to small boys, who, at the time of the ingathering of the oats and other “white grains,” know where the trees stand which bear this fruit. If the first word was omitted and the apple was known as the plain “harvest” its taste would be equally delicious. Contrast the “Snow” with the “Golden Russet of Western New York,” the “King of Tompkins County,” or the “Westfield Seek-no-Further.” There is more meaning in the four-letter word “Snow” than in all the others just mentioned.

The white flesh of this apple, which melts as it is crushed between the teeth, is well described. But what idea does the stranger gain of the characteristics of these varieties with the long names. Would not “King” alone do just as well to limit it to the county of Tompkins? Where is this county, anyway? and is there any reason why a royal apple should have such a limited kingdom. It may be that the smallest state in the Union needs to have her name kept before the people. But the “Rhode Island Greening” is now a standard fruit throughout all New England and elsewhere, and having outgrown the little state—as a boy outgrows his coat—it is only fair that it stands on its own merits as the “Greening.” This name thus reduced is descriptive, short and handy, and stands on a level with the “Swart and David” peach.

Among cherries something should be done to prevent any christening of new varieties with such names as “Napoleon Bigarreau,” “Knight’s Early Black,” or “Monstrence de Mezel.” It would seem as if some persons give their fruits larger names to make up for the deficiency in other and more important directions, just as some parents load their children down for life with a millstone of names, because that is all they will ever be able to give them. Who has not stumbled over the “La Versailleisa” currant? It has been shortened into “Versailles” by some, and after all this wealth of name the authorities pronounced it to be a distinct variety. If we would state that it is the “cherry” under a high-sounding French name, we might not be far from the truth. The next candidate for currant degrees conferred by the College of Pomologists is “Fays Proloic.”

“If it is a great bearer it may deserve the name “prolific,” but Mr. Fay’s name, as the first part of the handle is just so much time and space thrown away. Let us have nobody’s this or that. “Mrs. Prince’s Black Muscat” grape is, perhaps, not so bad as “Chasselas de Fontainebleau.” “Maxaawney” is a pleasant-sounding name for a wide grown when one gets used to it, but how few people taste any thing but the “Dona” when well grown.

The “Early Newington Freestone” peach may have a world of meaning in its name, but the man who is pressed for time will probably skip the most of it. It is not to our purpose to go through the whole list of fruits; but it would not be fair to slight the pears in this consideration. The “Beaure Gris d’Hiver Nouveau” is not a large pear, or long, except as to name, but the “Jalounie de Fontenay Vande” is long and pyiform. It originated in France. It is larger than the Seckel, and, to my notion, if the name of any pear was long enough to reach in single file to the gates of Paradise it would not be so good as the plain little “Seckel.” Pears have suffered greatly by their long names—at least their names have been butchered daily by dealers and others, who have not been careful to have a pocket “key” for the proper spelling of the names. “Sauveur du Congres” is a fine pear, and “Duchesse Angolene” is one of the best, and as some think the only variety suited for draining. It is of the Seckel family, and is the same as the “Ile de la Cour,” or a “Fontanade des Guermeuse,” under these names, in their orchard! Perhaps some fruit-growers try to tell too much in a name. Thus we have the “Red Antwerp of the Hudson River” as one variety. Why not add to this, to make the
story more complete, "Cornwall-on-the-Hudson," or some other fruit-growing locality?

As was stated above, a name is but a handle by means of which the fruit is mentally tossed about, and there is every good reason why it should be short, and many bad reasons for its being drawn out through an unreasonable number of syllables. Short names will improve the morals of entry clerks, shippers and book-keepers of all nursery and fruit men, and let us hope that all persons who may be hereafter called upon to fasten a name to a fruit will make it short and to the point—call a spade a spade.—Philadelphia Press.

OUR WOOL PRODUCTION.

About 25 per cent. of the entire production of domestic wool during the census year of 1880 came from the two States Ohio and California, the former with 25,000,000 pounds, the latter 17,000,000; in 1870 the product of the former was 22,000,000, and the latter 11,000,000 pounds. The next State in order of importance as wool growers in 1880 were Michigan with 12,000,000, New York with 9,000,000, Pennsylvania with 8,000,000, Missouri with 7,000,000, and Wisconsin with 7,000,000. Texas produces nearly as much as the latter State. In 1870 it produced only 1,125,000 pounds. The total product of the Union in 1880 was 155,000,000 pounds, clipped from 35,000,000 sheep.—Tradesman.

SOME STATISTICS OF THE MILK SUPPLY OF BOSTON.

The City Inspector of Milk has issued his 20th annual report, which is always of more or less public interest. Since 1867 the trade of Boston has doubled, besides having been changed in other respects. The inspector claims "an increased show of pure milk at the doors of consumers." "The temptation to remove a portion of the cream or to add water seems too great for the average milkman to withstand unless intimidated by the law," says the inspector. Does he suppose that the law prevents the topping of milk cans?

The production of milk for the supply of cities and towns he reports has greatly increased within the past few years. Most of the Boston supply is brought in by rail. Con-tractors to supply the city engage the milk of the farmers, arranging the prices twice a year, to be paid monthly; so of the city peddlers, they collect and pay monthly.

The transportation of milk by rail has, owing to the contractors' transportation monopoly, been a source of serious complaint with producers. What the milk producers want is that the railways shall carry their milk independent of milk contractors. The inspector says "any arrangement that shall bring milk producers and consumers nearer together, but not advantage to both." He adds that "the local supply trade gives better satisfaction to families than railroad milk, as it is termed."

The number of cows kept within the city of Boston is 1,005. The registered number of wholesale dealers is 1,539; number in business, 800. The number of samples inspected since the last report, 1,213; number adulterated, 321. The number of gallons of milk for daily supply of the city of Boston, 2,056 (or 11,024 quarts, or for the year, 41,237,709 quarts), at a cost of $2,358,655.80 an average of about 5½ cents a quart to consumers, a low estimate, we would say, as milk is sold to consumers in some streets at 7 cents a quart. What proportion of the citizens are thus supplied we are unable to say, but we suppose that many are supplied at this price. This would greatly increase the aggregate cost of milk estimated by law authorities.

Would it not be well for the inspector to find out and report how many gallons of milk are brought into Boston annually to supply the market, and then find out how many gallons are sold to consumers, and see how these two quantities compare? Also find out how many gallons of cream are sold to customers, and whence the cream supply is obtained? These, as it seems to us, are legitimate subjects of inquiry for the inspector to take into account, and for him to report upon. It has long been a matter of inquiry with some, whether the large quantities of milk sold to consumers in Boston, if whole milk be sold by peddlers on their routes? If can be "tapped," as some intimate, and then refilled from "tapped" cans, the milk may not, technically speaking, have been adulterated, yet, as all can readily see, such is not whole milk. It really seems to us that the line of inspection hereby suggested is quite as important, and even more so, than that hitherto pursued by the inspector for the purpose of detecting fraud in the milk supply in the city of Boston.

Paris, as seen by a late issue of the Traveller, is accomplishing much, having in three years, by the watchfulness of the authorities, reduced the supply of "sophisticated" milk delivered by the railways from 44 to 10 per cent.; and in the retail from 53 to 33 per cent., showing that much remains to be done to ensure pure milk to consumers in Paris.

Let the inspector in Boston do what the watchful authorities are doing in Paris, and report from year to year in percentages as in Paris. More thorough, systematic work needs to be done here, as is doing elsewhere, to ensure consumers a supply of good milk. There are three to one against the consumer's being supplied with pure milk in cities, to wit, the wire-fence sellers, the law authorities, and the railroads, all of whom have been severely accused of taking a hand in the art of "sophisticating" milk on its way to the tables of the consumers. "The temptation to do this," says the inspector, "is too great for the average milkman to withstand." Let the authorities be watchful everywhere, and, to quote the inspector again, "intimidate by the rigors of the law."—Boston Traveller.

BARBED-WIRE FENCES.

Steel wire in some of its many forms is becoming, in certain quarters, the fencing material for farms and railroads, and even for garden and lawn. Some of the points claimed in favor of this new fence are: cheapness, durability, ease of shipment of the material, and indestructibility by ordinary fires, like those arising from sparks of a passing locomotive. The barb should be short, with a keen point, standing at right angles to the wire. Some have advocated a dull point as more humane, but the success of turning stock resides in its sharp point. Often animals have been injured and even killed by wire fences, and all need to be introduced to this form of barrier. A cot, or cow, that has once been pricked by the barbs will keep at a safe distance from the fence. Most of the damage has been done by the animals running upon the wires without seeing them. A strip of wire may be nailed from post to post near the top, to make the fence more conspicuous. The ribbon wire is more easily seen than the round form, but experience has taught that it is less durable. Now, during the winter, is a good time to look into this important matter of barbed-wire fences.—American Agriculturist.

AGRICULTURE IN COMMON SCHOOLS.

One great difficulty in the way of the success of agricultural schools in the United States, lies in the fact that our people do not make use of the primary schools as auxiliary—as feeders to them. Instruction in the elements of agricultural education should begin in the common schools of the country, especially in those where farmers' sons and daughters make up the bulk of attendance. This is being done in France and other European countries. The result is entirely satisfactory. Youth of both sexes can, in these schools, be instructed in botany, in the practical culture of trees, shrubs and flowers; in grafting, building, hybridizing and selecting, and a score of other things that will amuse and instruct, and at the same time begot a love for rural pursuits, and a desire for higher instruction in the science and art of agriculture, horticulture, stock breeding, etc. Public sentiment needs arousing in this direction.—Chicago Herald.

ENGLISH CHEESE INTEREST.

Cheddar cheese, or made from the whole milk, is the best known and most popular in England, and since it is now largely made both in Great Britain as well as in America, on the most approved scientific method, it appears destined to displace most other local systems of manufacture. It was first made only in the small locality of Cheddar, in Somersetshire. The mean composition of Cheddar cheese is 34.6 per cent., water, 30 butter, 27.4 casein, 3.2 milk sugar, lactic acid and extraction, and 3.8 per cent, mineral matter (containing common salt.) Gloucester cheese is either single or double, and is made from whole milk, or from mixing with the fresh morning milk that of the previous evening, after it has been skimmed. The Derbyshire is also a half-skinned cheese. The cheese of Cheshire, Somerset, and Wills are principally of whole milk, made in ways varying from Gloucester, and the same may be said of the Dunlap eee of Scotland. Stilton cheese in uncolored and extremely rich in quality, as it is manufactured out of the morning's milk, with the addition of the cream of the previous evening's milking. The curd when separated from the whey is not broken as in making other kinds, but is drained and dried in a sieve. It is then placed in a wooden hoop on a dry board, frequently turned and wrapped in bandages,
THE LANCASTER FARMER.

[December,

TIMELY HINTS FOR HOUSEHOLDERS.

As the season has arrived when curing meat is in order, we recommend, as of old, our famous Recipe for curing Beef, Pork, Mutton, ham, &c., as follows:

To one gallon of water take 1½ lbs. of salt, ½ lb. sugar, ½ oz. saltpetre, ½ oz. potash.

In this ratio the pickle may be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold, pour it over your beef or pork. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface blood, &c., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well, though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar.

If this respect is strictly followed, it will require only a single trial to prove its superiority over all other ways. On the other hand, putting down meat, and will not soon be abandoned for any other. The meat is unsurpassed for sweetness, delicacy and freshness of color.

There is some difference of opinion as to protecting manure against rain, wind and the exhausting effects of the sun. Doubtless all these have an injurious influence upon the manure heap, and it is certainly true that without any moisture at all from rain, it will not be improved. However this may be, we are very certain that unlimited exposure to the weather will prove highly injurious to the digestibility of the manure. A leading farmer told us some time ago that he regarded the complete exposure of the manure heap through the winter and until it can be used in the spring, to damage at 50 per cent. In other words, one load of well protected manure was worth two of the exposed. This seems to be almost incredible, but it may not be far from the truth. There is no question that a subject which so vitally concerns the farmer as this one of manure, and causes him to give so much attention to it, possesses great merit.

His straw is not to be sold because it is to be converted into manure. Stock is fed through the winter for the express purpose of accumulating manure. Articles that scarcely pay to send to the city are nevertheless hauled there in order that manure may be brought back as a return load; and yet the whole of the manure gathered is frequently all the season exposed to the sun, wind and rain until it is greatly diminished in value—one-half according to the opinion of our agricultural informant. The trouble is that few really believe that exposed manure undergoes any serious loss. Hence, in arranging farm buildings—and we know many that are so arranged—it will pay to give due regard to the observations of the manure as of the hay or grass; and those whose buildings have no provision for this purpose, cannot spend twenty-five to fifty dollars better than in putting up a shed under which the manure heap may be protected against these adverse influences.

—Germantown Tel.

METHODS OF MILKING.

Anyone who is familiar with the workings of the dairy knows how important it is to have the milking well done. The difference between a good and a poor milk will often determine the question of loss or profit, and it does not require extreme instances to mark this difference, either. With this general knowledge of its importance, yet how rare it is we find any intelligent instruction upon the subject, either upon the farm or in the dairy school. The great difficulty in teaching any one to be a good milkers lies in the fact that there are two distinct branches to the art of milking, and it is hard to find the two qualities combined in one person. First of and most importance is that of disposition. Nervous, impatient and high-tempered men rarely make good milkers while lazy and indifferent natures are equally unfitted for the work.

The great point is to find a man who is fond of the work and in sympathy with the cow. Such a man can get enough more milk from a herd to warrant far better wages than he would receive in other employments. The other requisite of a good milkers is skill in manipulating the teats.

This, unfortunately, is a matter upon which there is a great diversity of opinion. Each community of dairymen thinks its method the best, while those who set up to be authorities are equally at odds. There being no absolute evidence for settling this question, I will simply describe the usual methods and give my own ideas as to the best plan for dairymen to adopt.

First, there is the old poetic way, where the milkmaid samners into the field with her two milkpans, a loveliness in her face, a whiteness in her neck, and an air ofnative or Jew's horse. To her mechanical call the herd comes winding slowly over the sea, etc. She sits upon her heels or rests on her knees and milks deliberately with a simple grasp, by which the ends of the fingers squeeze the milk from the teats. Her mechanical work is probably the poorest in the market, but her kind nature and love for her cows induces them to forgive her awkwardness and do all in their power to make up for her deficiencies, and this is nearly half the game.

The next character that we meet with in everyday life is the father, son and hired man of the commercial dairy. You will find him in all the dairies from the backwoods of Iowa to the suburbs of Boston.

He sits on a three-legged stool, wears a broad-brimmed straw hat, holds the tin or wooden pail, as the case may be, between his knees, and talks politics to his companion milkers, and gets up from his stool as soon as a decent sense of duty performed will admit. His thoughts, like the milkmaid's, are usually far away, but unlike the said maid the cow is as glad to get rid of him as he is of her, and the yield is rarely as satisfactory as it should be. There may be a host of other reasons why the milkers do not milk as they should, but this is a foreign trick rarely seen in a Yankee dairy.

The art of dairying is of much more modern growth in this country than it is in Europe, and it is seldom the business is followed by father and son to more than two or
THE LANCASTER FARMER.

1851

three generations. The result is that there is a
law of uniformity and gradual improvement,
and in the methods adopted small
points are not given the importance that long
experience suggests. The best milkers I
have ever seen were natives of Switzerland,
and, so far as my observation has gone, they
have one uniform method that has, probably,
been handed down from generation to
generation, from the time that man’s mind ran
out to the contrary. The Swisser strap
a one-legged stool tightly around his hips,
gives the cow a smart slap on her flank, sits
down by her side, and puts his left leg under him
and spreads the other out behind the cow: the
pull is held between his knees and his hallowed
head is pressed firmly into the cow’s flank.
The milker and the milker’s hands have already
been washed clean, and a few pails are
taken at the teat to moisten the hands. The
thump is bent back upon the palm of the
hand and rests against the side of the teat
while the fingers encircle it, the tips of the
fingers not touching it. He milks with a
rhythm, steady pull until the udder is half
emptied, repeatedly moistening his hands
with the milk as he proceeds.
He then passes on to the next cow, and
when she is half milked goes back to the cow
he has just milked and rapidly strips her to
the last drop. I am sure to say I have seen
the latter method in separate cans. That,
the first half is taken from
different cows until the pail is filled, when
the handler empties it, and returns for the stripping
process, and the richer yield is probably saved
for a different purpose or another set of cus-
tomers. They tell me that cows give more
milk if allowed a slight rest between the two
milkings. The head resting in the flank gives
timely notice of any attack on the part of
the cow to kick, and the left arm is thrown
forward to interrupt the blow. I have noth-
ing to say as to the morals of the Switzer’s
methods, but he is certainly the most finished
hand at the pail that I have ever seen, and
I think it would be well for others to follow his
methods of manipulation.—Phila. Press.

SHORTHORN PRIZES AT DESMOINES.

Mr. J. H. Sanders, of the Breeders’ Gazette,
has the following to say of the sweepstakes awards
in the Shorthorn ring at the recent state fair at Des Moines:

Sweepstakes Shorthorn Bulls.

Six red bulls faced the committee on best
Shorthorn bulls, as follows: Proud Duke 2d,
Frederick William, Orange Lad, imported
Van Tramp, John W. Porter, and a young
son of Frederick William out of a Red Daisy
cow. The two first named are the well-known
sons of that great sire of prize winners, im-
ported Duke of Richmond; the next two are
of Mr. Cruickshank’s Queen of the South and
Victoria families, respectively; and John W.
Porter, shown by “Uncle John” Meyers, is a
good three-year-old of the Pylilis sort. By
unanimous vote, the prize went to Mr. Miller’s
Orange Lad—an animal of fine length, mas-
sive front, and good crops. He had been
used very heavily during the summer, and was
not in as high flesh as Proud Duke 2d, but
handled better. His fineness has evidently
won him the ribbon. His hips are rather too
pronounced for perfect symmetry, but he is low
in the twist, has round, deep body, is fine
boned, and his hide is remarkably mellow,
handling admirably. Altogether, he is a good
sample of Mr. Cruickshank’s right sort.

Sweepstakes Shorthorn Cow.

This was a large class, and some difficulty
was experienced in judging it. After a care-
ful examination, the committee balloted, each
choosing a different cow. The unsuccessful
beasts were led away. The judges had selected
the two of the older Dits cows: Caroline of Oak-
brook and Emma 11th, one of the famous twins—
and John G. Meyers & Son’s fine red cow Susa
Lee, bred in Kentucky, we believe, and, trac-
ing to an imported daughter of the old Duke
of Glesier (1382). There were many good
judges on the ground who would have made
different selections.

LOOKING OUT THE BACK DOOR.

A friend of ours wished to hire a farmer for
a wealthy neighbor, and we mentioned one
who was wanting an engagement. Knowing
that our friend had been to see this farmer, we
asked the result. His reply was, in substance:
“Yes, I went there; I went around to the
back door and came away, knowing that he
would not suit.” The front doors of many
farm-houses are rarely opened. The back
door is in constant use. One need not go far
in any locality, to find the outlet of the
kitchen sink ending in a sort of ditch, which
is supposed to carry off the waste water, but
which only allows it to soak away and saturate
the ground near the back of the house.
The seldom used front door is opened when a
small collin is to be taken out. The minister
speaks of “the mysterious dispensations of Providence.” They are not at all
mysteries. Bad sink drains at the back of the house are
sure to bring typhoid fever and other sick-
ness. Let the back door surroundings be
looked into. If nothing better can be done,
carry the kitchen wastes to a cesspool a dis-
tance from the house, where they can soak
away far below the surface. Prohibit all
throwing out of stops at the back door.
The ground soon becomes charged with matters
that ferment and breed disease. Where pigs are kept, and that includes every farm,
there should be a pail, to receive all animal
and vegetable matters and daily emptied.
Nothing of the kind should be thrown out at
the back of the house. Where there are
infectious-breeding sinks, they have men-
tioned that the drains be at once made to carry
off the water to a cesspool, and cover up the
saturated ground with dry earth. Let the
back yard to the house always be kept scrupu-
ously neat.—American Agriculturist for
August.

CARE OF FARM HORSES.

Successful farming is next to impossible
with the use of inferior horses. Even when
the best animals are secured skill and care
are required to maintain them in proper working
condition. Inefficient team help increases the
cost of almost every farm operation, and
makes high-priced labor expensive by dimin-
ishing its effectiveness. With careful but
liberal feeding, and thorough grooming, a
good team of horses should thrive even after
performing a good day’s work every working
day in the year. In some sections men work
every day through the year with the exception of Sundays, and though
this may not be the best practice for men and
women, yet it is because of a finer nervous
organization, which is not presumed to be an
impediment in the case of the average work
horse. Muscular weariness alone is relieved
by regular rest at night, and also that of one
day in seven set apart for that wise purpose.
In the care of the horse, if the grooming be
faithfully performed, it goes far towards
resting the tired muscles after a hard day’s work.
We have in mind a most careful horse owner,
who is accustomed every night to clean his
brush and rub his favorite steed with all the
tender mercies of his heart. From the fresh and lively appearance
of his horses and their disposition to work, we fancy this grooming is quite as
important a factor in the well-being of his team
as the grain which is fed to them. These
horses have not been fed heavily, yet, from
spring until fall, working every day excepting
Sundays, the team continues to improve.

The mistake commonly made by farmers is
in giving their horses too little grain in winter,
or when not working, and then overloading
the animals’ stomachs when heavy work has
to be accomplished. This not only fails to
be accomplished, but the horse suffers not only
from the fresh grain, but also absolutely weak-
ness. It is really a tax on the digestive organs,
to which they are not accustomed, and are
therefore unable to bear. Every person knows,
or lucky indeed is he who does not, the sudden
weakness which almost invariably accom-
panies any derangement which generally fol-
ows any sudden increase in food just as hard
work begins. In fact, sudden changes of
food in kind as well as in amount should as
far as possible be avoided.

A certain but moderate proportion of green
food should form part of the daily ration for
horses in winter as well as summer. At no
time, however, should a working team be al-
lowed to fill itself with grass to the exclusion
of more substantial food. One feed of carrots
daily through the winter is better with two
feeds of grain than the feeding exclusively
of grain rations morning, noon and night, with-
iout the roots. In a limited extent as an aux-
iliary feed carrots are worth as much for
horses as oats, and more than corn. This lat-
ter grain, so well adapted for nearly every
other purpose, is not well adapted to horse
feeding. Some horses can consume without
bad results, and it is a good sign for a horse
that can, since it shows his digestive
organs are in excellent order. But, as a rule,
a horse corn fed will not be able to do as much
work as if given oats. When the corn does not
cause colic, it may be given before hard
work begins, but after that the oats are worth
as much per bushel as the corn, though it
takes only thirty-two pounds of oats to make
a bushel and fifty-six or sixty of corn.
In hot weather the oil and starch in the corn are
worse than wasted. The poor animal is hot
enough already, and he needs strengthening,
not heating food. It is well aware that many heavy,
slow-moving city draw and truck
horses are fed a large proportion of meal, yet
this does not change our opinion of its com-
parative value.

After spring plowing and planting are in-
ish, it is the habit of many farmers to allow their horses to run down, to give them less care and little or no grain, not infrequently turning the team out to grass until heavier work is resumed. There are many excuses given by the average farmer for following this practice, yet there are many solid reasons for its discontinuance. Keeping a team on grass is expensive, especially if the home supply runs out, as is often the case after a hard spring's work. The feed, however, need not be so heavy during the summer, yet a few oats or a little mill feed should be given daily. If hay runs short cut clover, or the richer grasses by the roadside, let it cure in the sun and be drawn to the barn. The feeding of this cured clover seed and grass will be a change that the horses will appreciate, and such a feed will not work the injury sure to be occasioned through turning them out to fresh grass green. Occasionally a city horse is sent to the country to spend the summer. When he arrives his flesh is firm and his muscles are strong, yet after a few weeks on grass he becomes, unless judiciously fed, weak and flabby, and it requires several months of careful feeding and grooming to restore him to good working condition. Yet this is the most mournful experience to which many thousand farmers unwittingly subject their farm horses after working them steadily through the spring, and getting them in just the trim to continue hard work daily without injury, so long as well fed and cared for. It is with horses as with most other specimens of animate nature, it is better and cheaper to maintain them in good condition rather than to attempt restoration after derangement has been caused through bad management.—American Cultivator.

ABOUT SHEEP.

The sheep (Ovis) has been domesticated from the earliest times known to history. It is found on prehistoric monuments, and was mingled in the personal representation of Jupiter and Osiris, and other gods. The goat is near enough in structure to be classified by some naturalists as in the same genus as the sheep. It, however, does not breed with the sheep, whose many marked varieties may suitably constitute a genus of themselves. The five prominent species are: Ovis Musimon, O. Ammon, O. Tragelaphus, O. Montana, and O. Aries, or domestic sheep. Of the O. Aries there is a vast number of varieties, but the best are those that have been, from England's large commerce, concentrated in the hunting kingdoms of Great Britain. Of these the three favorite breeds are now the Merino, the Cotswold and the South Down.

The wild sheep is provided with horns in both sexes; but, being no longer of use in domestication, they have gradually disappeared, except in the Merino and other breeds. The sheep seems to flourish best in temperate climes, but is found in almost all latitudes. In the least cultivated state their skins are covered with hair or wool mixed with long hair protruding through the wool, and the legs of all the genera are covered with hair; so are mostly the faces and bellies. These parts being mostly exposed to abrasion in movement, would not be so well able to maintain wool, which, from its structure, is easily torn off. We may lay it down as a fact that culture diminishes the horns and the hair, as there seems to be a law of Nature that the things not needed to animal security are gradually lost. And in my own experience of nearly a third of a century the wool has increased on the foreheads, the legs and bellies of my sheep.

The sheep is a ruminant with double stomach and enlargement of the upper intestine so as to appear to have more stomachs. The intestines are the longest of any domestic animal. They are about twenty-eight times as long as the whole body, hence sheep produce more flesh for the food consumed than any other animal. They have eight large teeth at maturity on the front of the upper jaw; none on the upper; and twelve molars on each jaw. This structure of the sheep enables them to eat very short grass, pressing it between the lower teeth even in the ground and the gritted bones of the upper jaw; while the cow thrusts out the tongue on alternate sides and gathers in the grass; and the horse nipping it with both upper and lower jaw fronts cuts not so cleanly through the grass.

As a general rule animals live five times as long as the period of maturity, that is to say, if sheep mature in two years, they should live ten years; but they go much above that. So man ought to live by the rule to an hundred years; and he will when the laws of Nature shall be better observed from generation to generation. The first year the sheep has eight small teeth, which at the end of that time show two large teeth in the center, replacing two small ones; and so on, losing two small and gaining two large teeth until the mouth is full, with eight teeth at four years and upwards, for I find that these results are only approximate. After a few years the teeth begin to wear away, and are finally lost, when the sheep, unless fed upon pulverized feed, must die. When sheep are bred simply for mutton at so much per pound, the old sheep should be culled and fattened for the butcher. But with sheep having fatty prices if they have a lamb and die, they thus bring more than when fattened that year and sold to the butcher.—Caesius M. Clay in Rural New Yorker.

WHITETWASHING.

As we ride through the country we occasionally see signs that the trunks and larger limbs of the trees have been covered with a thick covering of whitewash, but this practice is being gradually abandoned. The more intelligent the farmer becomes the better he understands that the growth of vegetation is retarded and its health injured by any covering which shall in any degree prevent a free circulation of air. While it may be sometimes advisable to wash the trunks and larger limbs of the trees for the removal of insects, the work should be of a character to leave a clean surface. Whenever the surface is covered with any substance the air is obstructed on the tree if that substance is injurious, because it is not natural to have the air shut out from the bark of the tree. We never pass an orchard that has been well whitewashed without feeling that the owner has made a mistake, if he has any idea that he has either improved the appearance or the condition of his trees. As to appearance, it does not improve it to the eye of an experienced orchardist any more than it would improve the appearance of a drove of hogs to the eye of a stock-grower by whitewashing them; and as to making the trees grow better it is a mistake. But it is claimed that it kills many insects; no doubt it may some, yet the number of insects on the trunk of a tree in the spring is not large; the few that are on the tree can be killed much easier by washing with strong soap suds, which if washed off immediately with clean water, will do no harm. In washing young trees with soap suds, unless it is washed off, it may sometimes be so strong as to change the color of the bark. When pots of oil is used instead of soap there is always danger of getting it too strong unless at once washed off with water. Whatever wash is to be used that is strong enough to kill insects should be washed off at once with water about the same temperature as is the atmosphere.

The idea that the trunk and the larger limbs of a tree should be covered with any thing that is liable to interfere with the free circulation of air should be abandoned. The orchardist who has to resort to this practice to keep the insects off has much yet to learn.—Massachusetts Ploughman.

WARMTH IN THE STABLES.

Before an animal can increase in weight it must first have supplied the heat and renewed particles of bodily waste. This is done with the food, but if it requires all the food given to keep up the healthy standard a loss occurs. We can easily see, then, that the warmer and more comfortable the quarters are, the smaller the amount of food required for creating natural warmth. If more than a sufficiency of heat for warmth is furnished, the stock is either not kept in the body, or is used. We call this storage of food in the system fat, and although animals do not provide for themselves in the manner of the bees and ants, yet there is, neverthe less, a providential storage in times of plenty in order to compensate for those periods in which the opportunity is not present. We, feeding for the same purpose, rely on the accumulation of flesh and fat by having the quarters warm, and thus economize in the food demanded. Every ounce of food over and above that which should supply heat, if not stored in the body, is a waste, and we can be extravagant by neglecting the winter quarters. Now is the proper time to make all needed repairs and other preparations, and a little time devoted to that object not only ensures a profitable return for the expense of labor and time, but adds materially to the comfort and happiness of the stock.

THE WHEAT BELT AND WHEAT PRODUCTION.

It occurs to us that we hear a good deal less nonsense now than formerly about the "Wheat Belt." It is only a few years ago that learned disquisitions on the shifting of the wheat belt were as common as editorials on the "Causes of the Late Defeat." It have been during the past month. This journal always combated the idea that climatic or
any other irremovable changes had anything to do with the shifting of the localities of greatest wheat production. We have many times pointed out that continuous cropping of the soil to wheat would inevitably lead to small crops and to inferior crops. Show us a locality where wheat is the mainstay of the agricultural population, and we will show you a district where wheat will soon be a rare crop. It is not only that the soil exhausted in this way will suffer from a drain upon the life of the soil and becomes poorer in fertility, but the seed and tiller are the principal factors in the fertility of the soil.

The change from a wheat-growing to a non-wheat-growing section is going on to-day in parts of Iowa, Wisconsin and Minnesota.

Farmers have fondly imagined that the soil was inexhaustible; and if ever there was excuse for such a fallacious belief, it exists in reference to the soil of some parts of the Northwest. But it cannot be gainsaid that wheat is an exhausting crop. It is not like tobacco, that seems to poison the soil; but as wheat contains in proper proportions every essential element of the human life and activity, something which cannot be predicted of any other cereal, it stands to reason that it must speedily exhaust the soil of vital elements; at least, of the elements necessary to the perfection of the wheat berry. There are, it is true, some soils that have raised wheat year after year. The "American Bottom" in Illinois may be cited as an example; but its time of deterioration must come sooner or later, no matter how long deferred.

The statistics of wheat production during the last ten years show conclusively that there is no such thing as a climatic shifting of the wheat belt, and that whatever changes take place in this particular arise from the cause just stated—long continued cropping of the soil to wheat. It is only a couple of years ago when wheat raising was abandoned in parts of Illinois, Indiana, and Ohio; but now there is scarcely a county in either of these three States which does not produce a respectable amount of wheat. The facts are simply these: Years ago, when the country was new, the soil produced prodigious crops of wheat. The virgin prairie seemed anxious to repay the settler who braved the perils of frontier life. In return, the intelligent settler continued to sow wheat until nature put in her veto. That the settler or his son declared that wheat could not be raised any longer in that section, and went to planting corn and oats. Another generation has found that the soil has recuperated; and that it does not need a prophet to foretell that the soil will go through another experience of over-cropping and deterioration until the farming population learn the logic, the common sense of rotation of crops. A map of the greatest centers of wheat production would be interesting. It would show for one thing, that new land produces large crops; that old land that has not been cropped to wheat for years also produces large crops. It would also show that from Minnesota to Tennessee there are no climatic influences that prevent the raising of wheat; the difficulty is in the soil and its tillers.—American Miller.

**THE USE OF SALT.**

We have received from a correspondent a letter making some inquiries into the use of salt, and we are given to understand that among other follies of the day some indiscernible persons are objecting to the use of salt, and propose to do without it. Nothing could be more absurd. Common salt is the most widely distributed substance in the body; it exists in every fluid and in every solid; and not only is everywhere present, but in almost every part constitutes the largest portion of the body. It not only maintains, but is the principal sustainer of life. In particular, it is a constant constituent of the blood, and it maintains in it a proportion, that is almost wholly independent of the quantity that is consumed with the food. The blood will take up so much and no more, however much we may take with our food; and, on the other hand, if none be given, the blood parts with its natural quantity slowly and unwillingly. Under ordinary circumstances a healthy man loses daily about twelve grains by one channel or the other, and if he is to maintain his health that quantity is to be introduced. Common salt is of immense importance in the processes of digestion and absorption to the nutrition of the body, for not only is it the chief salt in the gastric juice and essential for the formation of bile, and may hence be reasonably regarded as of high value in digestion but it is an important agent in promoting the processes of diffusion and therefore of absorption. Direct experiment has shown that it promotes the decomposition of albumen in the body, acting probably by increasing the activity of the transmission of fluids from cell to cell. Nothing can demonstrate its value better than the fact that if albumen without salt is introduced into the intestines of ananimal a small portion will still be found in the stomach, while it all quickly disappears if salt be added. If any further evidence were required it could be found in the powerful instinct which impels animals to obtain salt. Buffaloes will travel for miles to reach a "salt-lick," and the value of salt in improving the nutrition and the aspect of horses and cattle is well known to every farmer.

The conclusion, therefore, is obvious, that salt being wholesome, and indeed necessary, should be taken in moderate quantities, and that abstention from it is likely to be injurious.—London Lancet.

**OUR LOCAL ORGANIZATIONS.**

**LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.**

A stated meeting of the Lancaster County Agricultural Society was held in their room in city hall on Monday afternoon, December 3rd.

The following named members were present: Messrs. H. M. Engle, Marietta; John C. Linville, New Oxford; W. C. Robinson; John Miller, Warwick; Israel L. Lasdun, Manheim; C. L. Hunsicker, Manheim township; Frank R. Difffenbacher, esq.; Levi S. Reist, Oregon; J. M. Johnston, city; Ephraim S. Hoover, Manheim; S. P. Eby, city; James Collins, Drumore; Charles P. Collins, Columbia; Col. George Miller, Lancaster; E. F. Cafferty, New township; Mr. Hershey, West Lampeter.

In the absence of President Bush, Vice President Engle was called to the chair.

F. R. Difffenbacher reported that he had read two competitive essays which had been handed him for examination and had then taken them over to S. P. Eby, Esq., another member of the committee appointed to pass upon them; but that Mr. Eby had informed him that he had not yet handed them over to Mr. Johnston, the third member of the committee; and that, therefore, the committee was not yet able to report.

Mr. Johnston said he had no doubt the two members of the committee would make a just award, and he was quite ready to waive an examination of them. Mr. Eby came into the meeting some time afterwards and stated that he had not read the essays with sufficient care to enable him to pass upon them; and so the matter was postposed.

Mr. Linville presented to the society a bound volume of the report of the chief signal officer of the United States, which had been forwarded for the library; also, a catalogue of the world's cotton exchange, held at New Orleans, and a copy of a newspaper called the Sugar Hort.

**A Dearth of Business.**

Israel L. Lasdun said there seemed to be a great dearth of business in the society, and he would like to know why this is so. The society was organized for a good and useful purpose, and yet its meetings were so rarely attended, and there seemed to be little or nothing to do by those who do attend.

C. L. Hunsicker said the society had been organized for many years; the attendance was never as large as the importance of the matters discussed required. The officers of the county would be much benefited by sending them a schedule of their mutual interests. He gave the example of the society of the Ohio and Indiana fair had caused some persons to look upon it with disfavor. He said that poorly as the meetings were attended they were better attended than meetings of similar organizations in the southern States, and if it were not for the fact that the members of the society had been in existence a few months disbanded; so did the keepers' annual meeting, and at the last meeting of the Luinnan society only six members were present. The agricultural society was the only one that had held together for a long series of years. If the officers of the society of the Ohio and Indiana fair had ridiculed for always being in their meetings, he saw no reason for their surrendering to "younger men," as has been suggested.

Levi S. Reist explained that what he meant at last meeting, when he referred to infusing younger blood into the society, was that this body, one of the originators of the society, was willing to give way to any more progressive persons who would take hold of the work.

Johnson Miller thought the society would be more prosperous and its meetings much more largely attended if they were held in different parts of the county instead of in the city. Let them be held alternately in Marietta, Lititz, Little Britain and other parts of the county, and much more interest will be taken by the farmers generally.

Hunsicker did not think so; he feared the society would soon be entirely disrupted, if it gave up its permanent place of meeting. He believed that though the meetings were not large they did a great deal of good; many important things are said and valuable essays read before the society by practical men, which would not be the case without the meetings and these did more good than the famous speeches made by our great men. Col. McClure and W. U. Hensel are able men, but when they undertook to instruct farmers how to do their own work they are likely to do less good than when plain, practical farmers like himself could have been wished the machinery and implements and some other departments were equal or superior to any ever held in the country.

Mr. Johnston thanked Mr. Hunsicker for the kind
manner in which he had referred to the newspaper reports of the proceedings; but gave it as his opinion that the newspapers were the cause of the meagre attendance at the meetings. The local papers print not only the proceedings of the meetings, including the speeches and reports read, but they also print valuable articles clipped from other papers on agriculture, horticulture, stock raising and other matters of interest to the farmers. Every farmer takes one or more papers and when they can get in the papers the information they seek, they will not leave their belongings in the room, but wish to attend the meetings of the society. He did not believe that any plan could be devised to increase the attendance at the meetings, and the society would have to be content with the small number of "old regulars" who are in the habit of attending.

Levi S. Reist said there was much truth in what Mr. Johnston said. Our farmers read the papers, and he was pleased to notice that much that is said in this society is quoted elsewhere.

Eph. S. Hoover was of the same opinion, and added that farmers gained much useful information by visiting each other and exchanging views on the manner of cultivating various crops. When they hear of a farmer who is unusually successful in any particularly branch, they visit him, and find out his mode of culture and adopt it.

J. A. Schroyer, J. B. Lang, and W. W. Schroyer, regular members of the society, who were present, were appointed to attend the meetings of the society for the balance of the year.

Treasurer's Report.
The Treasurer reported 72 shares sold at $5 each, out of which $133 of last year's premiums were paid. Other indebtedness of the old society to the extent of $31.20 was also paid. The total payments were $343.30, leaving a balance due the treasurer of $5.95, but enough is still due on stock to pay this balance.

The total value of the advertisements in the new catalogue is $75 in cash, besides some cayote powders. The printing up to date has cost, with post-age paid to send them out, $82.50. It is expected the entire cost of printing will be realized out of the advertisements. Something will, in addition, be realized out of the sheet catalogue now in course of preparation.

The room has been partially rented from the present time until January 1, so that as the case now stands, the Society will not exceed $150 with four more months to realize further sums. The thanks of the Society were extended to the officers for their services in attending to the matter of reading the room.

A motion was made that the Executive Committee should have a seat at the show every evening at seven P.M., to attend to such matters as may require their attention.

The Baltimore Poultry Association has agreed to lend its large flag to our society during the continuance of the show. The offer was accepted with thankfulness.

On motion, it was resolved that if any entries of pigeons or poultry were made that are not on the premium list, they be not admitted, and the birds and entry fee be returned to their owners.

There being no further business, the society adjourned.

LINNÉAN SOCIETY.
The Linnéan Society met on Saturday afternoon, November 24, 1851, at 2 o'clock, in the museum rooms, the president, J. P. Wickersham, in the chair and six members in attendance. The minutes of the previous meeting were read and approved, and the dues collected, after which the Donations to the Museum were examined, and found to consist of a box of glass and from James Grant of No. 245 Second street, Philadelphia, Pa.; an antiquated specimen of a wooden snuff-box, from Germany, per S. R. Rathvon; specimens of the main line and attachment wires and carbon point of the Lancaster city electric light, newly mounted on a cord and labeled, donated by S. M. Seiber; mounted specimen of spruce (Austromethus villatus) from Cape of Good Hope, donated by S. M. Seiber.

Master W. G. Baker visited the museum and exhibited to the members a fine specimen of calcareous incrusted moss and slate plants which had been sent to him from Colorado. On motion a vote of thanks was given him for the exhibition of this beautiful petrofication.

Dr. Duhus exhibited a specimen of a Philia zonaria.

Dr. S. S. Rathvon donated specimens of the foliace and flower of the Black Helleborus, or "Christmas Rose," also a small plois of a species of muscules or fly, brought up from the Southern States in a box of oranges sent to this city.

Additions to the Library
Consisted of a cabinet and a stereoscopic view of a contorted rock, a geological specimen of a cone placed on a box and a large boulder, located between the Pennsylvania Railroad bridge and the Groftstown road, on the Conestoga creek, photographed for and donated to the Linnéan by W. L. Gill, photographer, city; Official Gazette of United States Patent Office, No. 8, Vol. 27; Lancaster Farmer for November, 1858; Catalogue of Books and Pamphlets relating to the American Indian, with a large catalogue of Books; Lippincott's Monthly Bulletin; N. Y. Dry Goods Circulars; one envelope with 12 samples; Report of Commissioner of Education for 1851; Catalogue of Ancient and Modern Books by Gustave Steckert, of New York city; Guide to Lexington, Ky., by Lackey, with compliments of the author.

Current Business.
The treasurer then reported that Mr. King had lifted his share of the indebtedness he owed to Mr. R. C. Bair, of York, furnishing the members for his election as a correspondent.

Tributes of Respect.
Dr. Rathvon said it became his painful duty to announce to the members the deaths of two of our correspondents, Dr. John L. Leconte, of Philadelphia, and Hon. J. L. Libbirt, of Marietta, and read the following:

Mr. President: Impressed with a special regard towards those who have unselfishly devoted blameless lives to the development of natural science, and having the happy privilege of associating with many of two of our most distinguished correspondents, in the persons of Hon. J. L. Libbirt, late of Marietta, Ohio, and Mr. J. P. Wickersham, late of Philadelphia, perhaps no man in Lancaster county has performed more unaccompanied scientific labor, and has been more feeh for the elevation of mankind, than Mr. Libbirt. He has been locally identified with the progress of art, science, mechanics, scientific literature and the like, a very public spirit, and even ceased to labor primarily in these pursuits, when official duties and failing health supervened. Although the society has no share in the spirit of its founder, it is not easy to speculate actively in the affairs of this society, yet he has manifestly shown a deep interest in the society's missions, in the society's missions, in the making liberal donations to its museum, and sympathizing in its progress. As a member of the "Old Lancaster," and other kindred institutions, amongst the first to give impulse to the pursuits of natural science in the county of Lancaster, and his example is one that may be truly said to be the most numerous, and a more active following. After two years of physical privation and deep affliction, he has been brought to his family's at the "green age" of seventy and seven.

Judge Libbirt was born on the 6th day of August, 1805, and died at Marietta, Lancaster county, on the 6th day of November, 1858. He was the representative of a family for the mechanical and scientific, he perhaps had few or no equals in the county. It would perhaps be inviting to enumerate or dwell upon the virtues of this man caused by his removal, but it is questionable whether any other man would fill it. Further said, where as a tribute of respect to one whom we do not have a worthy co-laborer in the field of natural science, May he rest in peace.

Dr. John L. Leconte, although, perhaps, personally known to but few of the members of this society, he has been consistently at the head of the zoologists of the United States, and for nearly forty years has been a member of the board of the American Entomological Society, and was one of those that wrote that book on the country. He was born in the city of New York, on the 15th day of May, 1825, and died on the 16th day of November, 1856, and passed away in his prime of 55, partly past the prime of life; but he accomplished a very large amount of scientific labor, not only to the benefit of his own country and countrymen, but also in other scientific fields during his lifetime. Although his relations to this society cannot be said to have been particularly close, his pre-eminent position as a naturalist, the recognition of his influence and interest in the society, the least that it can afford as a tribute to his fame.

Dr. L. was not what is termed a popular entomologist. His descriptions were never written in a dead language, he was, therefore, technically contra-distinctive as a scientific entomologist, and kindred with the most perfect anatomist; and structural classifications in the country, so far as at least as relating to the order Coleoptera. His contributions to entomological literature were numerous and very learned, but better adapted to the appreciation of the scientific worker than to popular. He was one of the founders of the American Entomological Society, if he was not the ruling spirit, who gave the original impulse to the movement which culminated in its organization.

Dr. Leconte was the intimate associate and friend of Mr. Schreiner, and the contributor of the celebrated Coleoptera Catalogue, and added the "Lembecher Catalogue of Coleoptera,"
published by the "Smithsonian Institution," the original being the oldest and first contribution to scientific entomological literature in the United States, having been issued in 1812. He always accorded a willing help to students in ento-
mology, and liberally compensated them for any favors granted him from their collections. His labors are now ended on earth, but his name will be transmitted to posterity as long as the changing things of nature endure.

Dr. Rathvon read an article clipped from the daily papers in reference to a species of white ants, infesting and undermining the wood-work of the State capital building of Massachusetts, and commented on the local notes on some of the articles donated to this meeting, and also additional notes upon the grape fly donated at last meeting.

Dr. Dubbs then read an article on the "Phallic Statuette," extracted from the members.

Action on constitution and by-laws was continued.

The question raised some discussion in the club as to whether South Carolina rock was really a manure, or whether it only acted as a stimulant, but all present were of the opinion that it was the cheapest fer-
tilizer farmers of this section could buy. Several members cited cases where 200 to 1,000 pounds per acre were used, and that 500 pounds was the maximum amount that is advisable to apply at one time. He also thought that it is better to use smaller amounts and apply oftener.

The question of water supply was also discussed. Several members referred to the problems of irrigation and drainage. The air will penetrate the soil as deep as it is drained and impart to it the qualities of a fine soil. It enables us to work sooner after rains; it makes the ground much warmer, and does it much sooner by the warm rains passing through it; it enables us to get at our work much sooner under certain conditions. It makes crops two weeks earlier; it prevents crops from freezing out in winter; it enables us to get the full benefit of manures that would be soaked and washed away if not drained; it improves the quality of hay and past-
ure; it gets our fields in a cleaner and healthier condi-
tion; it prevents surface washing; it makes the surface more friable and mellow, and easier to culti-
ivate; it prevents land from becoming sour by remov-
ing all standing water before it becomes stagnant; it banishes the chills and fever, and other forms of malady.

The drainage is much the cheapest and most effectual way of drying up wet and muddy roads; it will assist in drying up the mud around farm build-
ings; it will change that pale and sickly hue from your children’s complexion to that of the blooming.

Absorbing Power of Soil.

"Fill a bottle which has a hole in the bottom with fine river sand or halflhy garden earth, pour gradually into the bottle thick and purified dung liquor until its contents are saturated. The liquor that flows out at the lower opening appears almost odorless and colorless and has entirely lost its original properties." Ligieb found that "water holding

HORTICULTURE.

Care of Raspberries.

Not only is the raspberry one of the most delicious
berries, but it properly managed is the most profit-
able. The raspberry is no more trouble to raise than corn, and will yield a profit of from $200 to $900
per acre.

Now that the fruiting season is past the old canes
should be cut out. This should be done that all the

Raspberry Canes and Crops.

I used to think of little consequence when the old canes of blackberries were cut. Wild raspberries ceased to bear well, though the old wood was never removed. But recent experience and experi-
ment has convinced me that they should be re-
moved as soon as the fruit is gathered. At this season the old bearing canes are yet alive and may be cut easily with a sharp hook attached to a handle two feet long, after which the field may be more thoroughly cultivated and kept clean 100 by the if the en-
cumbering canes were in the way.

But aside from this the old canes appear to draw on the vitality of the plant, and seriously affect its subsequent capacity for bearing fruit. It is now held by scientific men that a dead branch exhausts the vitality of the tree as much as though alive. The dead canes on raspberry bushes would appear to affect them in like manner. Bushes not cleared of old canes produce small, defective, emaciated
specimens. The first year or two the bushes are not so seriously affected. However we will trim ours as soon as the fruit is gathered, sweep them out of the spaces between rows with a one-horse rake, sim-
ilar to a steel-toothed hay-rake, but very short and no wheels, and save the ashes.

Blackberry raspberries are one of the most certain crops, and are as sure of sale as wheat. If not
wanted fresh picked they pay as well evaporated.

After one learns how to manage them there is no more trouble to harvest than most farm crops.

A young girl often has charge of fifty pickers on our place, and pays to a competent person wage-
ings about to see that the work is well done. Our blackbeaks bring in about $150 per acre, gross
income, on the average for the fruit alone. The crop of plants from the same acre is as valuable as the fruit, often more so. The blackbeak abors low, and bears a large crop on the same acre, and is not of the same class. Sonbeagun or Tyler, for early, and Gregg for late, are the best varieties.—New York Tribune.
force and strength of the roots be thrown into the new growth, for upon this next season's crop, greatly depends the success of the first. The young plant should get a large, vigorous and well-matured bush, and to secure this the young growth must be topped as soon as it is three feet high, and then cut the old canes out as soon as done fruiting.

Throw two or three strong young healthy rich common strawberry bushes into the ground and working it in the soil.

As soon as the lateral branches get about fifteen inches long cut the tip off. By doing so the bush is stocky and will not need staking, and will stand the winter better. But if you desire tips the lateral branches should be cut off and not left to run. You will then get soil mellow around the bush, and when the ends of the branches begin to swell bury them at an angle of forty-five degrees, and after the first heavy frost cut the branches off about fifteen inches from the cane. The tips should now be set out. Throw a shovel full of manure on them to protect them from too heavy freezing. In this latitude raspberries cared for in this way require no winter protection.—Farm and Garden.

Varieties of Strawberries.

Though I am testing nearly all the new varieties, I desire to retain only a few of those that succeed best over the country at large. Charles Downing, Cumberland Triumph, Sharpless and Wilson, of the old varieties, come next the nearest to fulfilling to requirements of the men for retaining of more than one, though I confess it appears hard to discard so many that have much merit. Of the newer varieties, Manchester has proved to be valuable for a near market or home use. It is productive, large, vigorous and a good berry. Jersey Queen is not as good as the first, but it is equal or superior.

James Vick, while not of extra large size, appears to be the most productive and profitable of all that we have tested. It is exceedingly firm, bright, crimson, of good form, and the plant is remarkably vigorous. It is a ready man's berry, enduring the worst neglect. Good reports of the Vick come from nearly every State. Big Bob was the greatest failure of everything on our grounds, and I get discouraging reports of it from various sections of the country.

Lacon makes a large stock, and is very productive; it is a fine berry, soft and some sweet. Mrs. Garfield showed some fine fruit quite early; of good form, color and quality, fairly productive; desirable for the amateur. Elm City is a promising variety for home gardens. Woodruff (from Ann Arbor, Mich), may be ranked with Elm City and Mrs. Garfield. These three, while not fully tested, would appear to be satisfactory for the garden. We tested several varieties that are not of enough value to warrant an opinion, as they appear this season here. While we have so many really valuable varieties, the people are not testing them. It is too fully to enlist the list by adding doubtless new varieties. The James Vick and Manchester appear to be the most promising of the newer varieties here.

Indeed with these two varieties, as they now appear, we would like to use no others, new or old, unless the highest grade of quality is desired. We are testing seedlings from a cross between the James Vick and Manchester, John Charlton has crossed James Vick and Sharpless—Country Gentlemen.

The New Strawberries.

On our grounds in the vicinity of New York, on rather heavy clay soil, the strawberry crop was very good, and most of the new varieties proved satisfactory.

Manchester improves by long acquaintance. With us the plant is very vigorous, foliage healthy; the berries are larger, lighter colored, and better quality than those grown in the Jersey sands.

James Vick has been grown in a trial bed together with Captain Jack. The two kinds are not identical. Although they resemble each other in general appearance, the James Vick is decidedly the better of the two; its foliage is larger and more vigorous; its berries are larger, very firm, of more sprightly flavor and generally better quality, and larger, and as shown to the public is the result of carefully selecting the ground like Captain Jack. How a strawberry plant can be more productive than the James Vick is not easy imaginable.

Jersey Queen made but a poor growth. Sharpless, though of indifferent fruit, and not nearly so large, it has, in its favor largest berries, very large, healthy foliage, and, under favorable conditions great productivity.

Bidwell has been very satisfactory for home use, producing a large crop of good-sized, well-shaped and well-flavored berries. Shown on large and mastless beds, the plants wintered well during the last two winters, without protection.—American Garden.

Gathering Pineapples.

The average life of the “scarlet” pine is three years, and that of the sugar-loaf is from four to five. The average weight of the fruit in the Bahamas is from three to three and one-half pounds. A field is generally planted only once during the season, affording three grades of fruit, called first, second and third cuttings. The scarlet variety ripens a month or two earlier than the sugar loaf. Owing to the sharp serrated leaves of the plant, the gathering of fruit is a tedious and difficult matter—the men are obliged to wear heavy canvas leggings and gloves with gauntlets to protect themselves against the sharp spines of the plant. The pineapples plant furnish but one regular crop during the year, although the locality is warm enough with a few pineapples on sale. About the middle of April, the first cuttings are made of the scarlet pines, and the last is made about the first of July. The sugar-loaf pine is at maturity during July and August. The shipping season is one of signal activity, for when the fruit is rushed to market with all speed to market or it will be lost.

The Best Apples.

Mr. Charles Downing furnishes the Tribune with a list of what he considers the best varieties of apples to supplement the list of pears given in last week's Press. A tree or two of each kind will furnish a supply for family use from July to June.

There is this distinction:


For those especially for market, varieties should be selected that succeed best in the locality, which may be ascertained by inquiry of those who make orcharding a business and know the kinds most in demand in the markets they supply. Experienced growers for market say that a few sorts rather than many give the most profit. For small gardens a few varieties grown as dwarfs on the parade will supply a moderate family during the summer and autumn, for culinary uses and eating; Nos. 1, 3, 6, 7, 8 and 9 are good varieties for this purpose. Winter apples can grow well in purchased more readily than summer and fall kinds.

Winter Apples.

What our farmers in Pennsylvania need in their orchards is a few exceptionally good keeping apples. Out of the immense number of varieties in good repute in other localities there are few, indeed, that are adapted to our locality. We have already size, color, quality, etc., but, unfortunately, our apples will not keep. In preparing a list to day for this purpose we should name Smith's Cider, York Imperial, and perhaps Tewskbury Winter Blush, all second class in quality, and there we should have to stop. All our most approved systems of cultivation fail to assist us in this matter, and so we must do the next best, furnish good ones, though as it is, sent to other states for our own use. The only remedy for this is to test all the newer varieties of promise, and especially those originating in our own state, and possibly in time we may obtain relief.—Press.

How to Manage Cuttings.

In reply to a correspondent, the Floral Cabinet gives the following directions to those who are managing and planting cuttings.

In selecting a cutting, a great deal depends upon a judicious choice; if the slip is too young and full of fresh sap, it will fade away from too much evaporation. On the other hand, if it is too old and woody—it will take a great while to strike root. You must take a cutting that is perfectly ripened and is from a vigorous shoot, yet a little harden at the base.

It is essential to have a bud or joint at or near the end of the cutting; as all roots strike from it, and the nearer it is to the base, the greater your chance of success.

Plant your cuttings in common red pots, filled half-full of rich loam and two inches of sand on top. The pots must be wide enough to allow the slip to move about freely, and put the cuttings close around the edge of the pot, for if the bud or joint comes in contact with the surface of the pot, it seems to strike root more quickly. Pull off the lower leaves before you plant the cutting. Fress the wet sand tightly about the slips, and care that the young berries in raising the cutting depends upon the close contact of the sand with the stem. When the cuttings are firmly planted, cover them with a glass shade if possible, as it will greatly promote the growth of the slips.

Moisture, light and heat, are the three essentials to plant life—without them no cuttings will start. Shade for two or three days from the sunlight, but don't let the sand become dry; then give all the sun you can obtain, keep up a good supply of moisture, and you can hardly fail to root most of your cuttings.

HOUSEHOLD RECIPES.

Boiled Flank of Beef.—Wash the flank, and make a dressing as for turkey, which spread over it, first having salted and peppered it well; then roll up and tie. Wind the twine around several times, to keep it from bursting. In that case, however, be a little less for that purpose. Put a small plate in the pot, and put in the meat; then pour on it boiling water enough to cover, and boil gently six hours. When done, remove the cloth, but not the twine until cold; then cut in this slices, and you will have alternate layers of meat and dressing. This is a nice dish for breakfast or tea.

Fish Chowder.—Cut half a pound of salt pork to thin slices and put into the stew-pan. Fry slowly for twelve minutes; then add two onions, cut fine, and fry ten minutes longer. Have about four pounds of fresh fish, freed of skin and bone and cut into pieces; have also one quart of tomatoes pared and cut in thin slices. Put a layer of the fish and then a layer of the potatoes on top of the pork and onions. Dredge well with salt, pepper and flour. Continue this until all the fish and potato are used; then take the hot chowder to the platter and cover with pap for fifteen minutes. Mix one pint of milk with two tablespoonsfuls of flour and add this to the chowder, together with six Boston crackers, split. Cook ten minutes longer and serve. The milk may be omitted next time. This is a very nourishing and warming dish for the boiling water when you begin the chowder.
EXCELLENT COCONUT CAKE.—A cupful of sugar, half as much butter, half a cupful of milk, one and three-fourth cupful of flour, the yolks of three eggs and one whole egg, one-fourth of a teaspoonful of soda and cream of tartar, half a teaspoonful of lemon flavor. Mix together the sugar and butter, and beat them in the shape of cream and flour, in this order. Bake for half an hour in a moderate oven.

LEMON CAKE.—The rind and juice of a lemon, a teaspoonful of cream of tartar, half as much sugar, a teaspoonful of water, half a cupful of flour, and two eggs, yolks of two eggs, grated lemon peel, and a little ginger, and a little sweet cream. Bake in two loaves for forty minutes in a rather quick oven.

FRIED CHICKEN.—Cut the chicken into six or eight pieces, and season with salt and pepper. Dip into beaten egg, and then into fine bread crumbs, in which there is a teaspoonful of chopped parsley for every cupful of crumbs. Dip once more in the egg and crumbs, and fry ten minutes in boiling fat.

PLAIN FRUIT CAKE.—Half a cupful each of milk and butter, one and a half cupfuls of sugar, two and a half cupfuls of flour, two eggs, half a teaspoonful of soda, spices and fruit.

YEAL LOAF.—Three pounds of veal or fresh beef, half a pound of salt pork chopped fine, two beaten eggs, one teaspoonful of sugar, cloves, three tablespoonsful of salt, two teaspoonfuls of pepper. Mix and press hard into a tin. Bake one and a half hours.

STEAMED BEETROOT PUDDING.—One quart of flour, one large teaspoonful of salt, two teaspoonfuls of oatmeal, three cups of milk or water, a little salt, one and a half pounds of beetroot. Roll out the crust and line a deep earthen dish; then lay in part of the beetroot, with a few pieces of butter; a little salt and a few whole cloves; then lay on the rest of the beetroot, with seasonings, and bake it about two hours over the whole. Steam two hours.

NICE GINGDLE CAKES.—Two quarts of flour, a handful of Indian meal, two eggs, a teaspoonful of salt, one of soda, one of milk.

COTTAGE PUDDING.—One cupful of sugar, two of flour, one of milk, one egg, butter the size of an egg, one teaspoonful of soda, two of cream of tartar. Beat the sugar and butter together; then add the egg well beaten, then the milk, and finally the flour, in which the soda and cream of tartar have first been well mixed. Bake in a pudding dish for half an hour in a moderate oven. To be eaten with sauce. The common sauce is good with it.

GINGDLE AND INDIAN CAKES.—For the griddle cakes use two coffee cupfuls of sour milk or buttermilk, one teaspoonful of saleratus dissolved in a little hot water, and flour enough to pour. Grease the griddle with a piece of fat salt pork, and fry the cakes a light brown. Indian cakes are made in much the same way, save that half flour and half Indian meal is used, and also a teaspoonful of salt. They require a somewhat longer time to fry.

OKRA SOUP.—Equal to Turtle Soup.—One leg of beef, quarter of a package of okra, two carrots, eight tomatoes, two onions, cut fine, one quart of water. Boil six and a half hours. Cut the meat off the bone in small pieces. Take the most glutinous parts of the leg and a little of the flesh, and mix with the soup when it is made. Cook the okra in small pieces roundabout. Boil steadily, but not hard.

STEAMED BROWN BREAD.—Two cupfuls of new meal flour, two of Indian meal flour, half of flour, one of molasses, one teaspoonful of soda. Steam three hours.

PAPERHANGER'S PASTE is made as follows: Beat up four pounds of good white wheat flour in cold water—enough to form a stiff batter, first stirring the flour; beat it well, to take out all the lumps; then add enough cold water to make it the consistence of pudding batter; add about two ounces of well- pounded salt; pour boiling water, direct from the fire, gently and quickly over the batter, stirring rapidly at the same time, and when it is observed to swell and lose the white color of the flour it is cooked and ready. This will make about three-quarters of a pint of solid paste. It should not be used while hot, but allowed to cool, when it will get firmer.

COCONUT CUSTARD.—One cup of coconut, quarter pound butter, two cups white sugar, two eggs, tart new milk; bake with one crust twenty minutes.

Egg Omelet.—Break the eggs, separating the yolks from the whites; beat the whites to a stiff froth; then dip the yolks in the whites and beat well together; grease the pan with butter; cook two minutes, one minute before turned, one minute after turned; do not season until after cooked, as the seasonings causes it to fall if done before cooked.

FRENCH CAKE.—Three eggs, two cups white sugar, two cups flour, one half teaspoon soda, half teaspoon cream tartar, three cups flour, flavor with bitter almond.

GINGER SNAP.—One pint molasses and one cup butter, boiled together; when cold add half cup ginger, one teaspoon soda, and flour to roll; roll thin and bake.

DAINTY SANDWICH.—Chop the less part of one clove of garlic fine. Make a dressing by mixing the yolks of two boiled eggs with four tablespoonfuls of mixed mustard and four of salad oil added gradually; put in a dash of red pepper and thin with a little vinegar—melted butter may be used instead of oil if preferred. Mix enough of this dressing sauce to make it slightly moist. Cut all the crust from a small loaf of fresh bread and spread the end very lightly with the seasoned butter, then with the preparation of ham, which should be soft and smooth enough to spread evenly. Cut the slice (with a sharp knife) as thin as possible. Roll it up and pinch the ends to keep it in place, or, two slices, with a layer of ham between, may be fitted neatly together and afterward cut into triangles.

TAROPO CREAM.—Soak three large tablespoonfuls of tapioca over night in one pint of water, the next morning add one quart of milk and boil; a little salt, four eggs, one cup of sugar; flavor with lemon or vanilla; beat white of eggs to a stiff froth, and brown in shape of eggs; put on the top of pudding when it is cold.

ORANGE CREAM.—Mix two cups of sugar with the yolks of two eggs, then add the whites, beaten to a stiff froth, next add two cupfuls of milk and butter, then one cupful of milk and flour to make as stiff as a cup cake; flavor to taste; bake in jelly pans; filling, one lemon, two oranges, grape rinds and add the juice, one cup of sugar, one tablespoonful of corn starch, one cup of water; boil until smooth; cool before putting between cakes.

KALSEMINE.—This is the mixture of grape sizing and Paris white. The proportion is twenty pounds of the latter to one pound of glue, which will be dissolved in two or three quarts of boiling water, and the whitening should be placed in a pail and the glue size poured over it, and then diluted with warm water until the mixture will pass through a strainer. It needs a little practice to know just what thickness to make it, and it is well to try a little before thinning it out too much. Kalsemine can only be applied to walls that have hard finish upon them.

LIVE STOCK.

Corh Fed Pigs.—A pig of corn-fed ancestry, himself fed on corn and almost nothing but corn, may, at ten, or twelve months old be as round as a log and as fat as butter; but he is, nevertheless, nearly starved to death for the want of nutritious elements, and their inseparably associated, the phosphates, in his ration. Such a hog when killed is found to have little more blood than a turnip; the bones are so brittle they break like pipe-stems; the lean meat is scinty, dry, tasteless, and the walls of the cells in the fatty portions are so thin that the meat shrinks to mere scamps in the pot or pan. The fact is, that in order to get the best, the juiciest and highest-flavored pork, whatever fat or lean, the hog must have a higher nitrogenous ration. Therefore, it is, that kept in a slaughter-house yard and feeding on the oldfashioned in connection with corn, make pork of excellent quality and second only to that fattened on milk, grass and peas, or peas and corn. It is easy to see the hog fed on corn almost exclusively and having bones of no strength, organs of no vigor, little blood and less power of circulation, will become the prey of all sorts of disease—those taking on the form most common to the seasons and the peculiar local situation. This is why it is that there is of late a high treasury commission will find if they do the work they undertake thoroughly.—B. F. Johnson in Prera.

Cure for the Blackleg.

About two years since I sent you the following as a preventive for the blackleg. It has been for years used in England, and I have never known an animal to die that has been subjected to the treatment. In the first place, take two quarts of blood from the beast. Then give him the following medicine: Take myrrh in powder one ounce; epsom salts two ounces; flowers of sulphur, one ounce; liver of antimony in powder, half an ounce; diuretique in powder, half an ounce. Mix these together for one dose; to be given in one quart of strong line ten; the Rue can be produced in any first-rate drug store. Fast three hours before and after the dose. Now insert in the animal's dewlap, a seton made in the following manner: Take a piece of soft leather, roll it to horse turpentine; cut a small slit in the dewlap, put the seton through and tie a small stick to each end, for it must be moved frequently until it commences to discharge, and a little more turpentine applied to the top. The object of the seton is to draw off the blood from the whole.

I send you this, for I read in your last paper of some inquiring for such a thing; and I know it is good for it, if it is properly done, but it should be done in the fall. This is to be used as a preventive; for if an animal once gets a blackleg there is no human power can save him.

The Health of Animals.

The health of animals as well as that of human beings can often be gauged at very shallow by simply feeling their pulse. In a horse a good and strong but quiet pulse beats forty times a minute, in an ox or fifty or fifty-five, in sheep and pig not less, than would be noted in a trotting horse; the other a weakness of the exterior muscles of the leg, brought about by carrying too much weight on the toe. To
Carp Ponds.

The Fish Commissioner at Washington is now distributing carp to farmers who have the endorsement of their members of Congress. It has been demonstrated that these fish can be easily raised, and that they grow with great rapidity. Some epitrices hold that they lack delicacy of flavor. But the farmer raises them to eat and not for the fun of catching them. The fact is, the carp is a good eating fish, and when freshly taken from the water is better than the average fish found in the markets. Professor Shelton, of the Kansas Agricultural College, has made a table trial of the carp and prominent stocks of other fish, as talk and caviar, but "good enough to be served at our tables several times every week of the year." A fish-pondstocked with carp will be found a profitable adjunct to any farm.—Philadelphia Press.

Milch Cows.

Breed up the cows; bring them to as near perfection as possible. Weed out the unprofitable, though you give them away, and set your standard at not less than a pound a day per cow for at least eight months in the year. Those who are using their cows for butter must see the propriety of their being bred to this end. It takes long to build up a good set of stock which cannot be done by individuals, let it be done by communities—that is, a number clubbing together. By these means, the productive capacity of the cows in a given neighborhood may be foulished in the course of two years. This will enable you to produce three times that now marketed. There is no manner of doubt of the ultimate establishment of hundreds of creameries in this State, and these will call into requisition every good milch cow to be had, and better the better, the greater the amount of marketable product.—United World.

Abortion in Cows.

One of my neighbors has a herd of fine Shorthorns that are always losing their calves by abortion. He is a careful hand with stock, furnishing good food, good quarters, etc. But he lets his stock out to water in winter, and they drink out of a hole cut in the ice. They get on their knees to drink; fight and squabble on the ice; all themselves, and chill the whole system into a chiller. In this a sufficient cause for abortion—L. P. W., Irving, Iowa.

Pure Water for Hogs.

Mr. J. M. Stahl, writes as follows on the above subject in the American Agricultural for August.

Some are subject to the same laws that govern the health of other animals. Vegetable and animal matters, in a decaying state, when introduced into the system, are detrimental to health. Such matters are readily introduced with water, being directly into the stomach, soon, pass to the intestines, etc., and become a sour and disagreeable. The experience and observation have convinced us that a large per cent. of swine disease is produced by the disease germs being carried into the stomach to foul water. It is now believed that this, and many other diseases, are due to minute organic or inorganic substances in the water, and that the reality of these germs is not great, except when preserved, as it is in water containing organic substances. In the cattle, manure water, is for centuries preserved for some time. If hogs are forced to drink such water, they take into their bodies the seeds of disease.

In August, hogs suffer the most from unwholesome water, inasmuch as much of the water is in the low scale of organic life, that it is difficult to say whether they are vegetable or animal; they are known by the people as sour and disagreeable. The reality of these germs is not great, except when preserved, as it is in water containing organic substances. In the cattle, manure water, is for centuries preserved for some time. If hogs are forced to drink such water, they take into their bodies the seeds of disease.

Light Brahmas.

In a pretty large experience with fowl raising, for the last thirty years, we have tried many sorts, new and old, and have settled upon the Light Brahmas as the right kind. Light fowls, in our climate, are a long time in coming to maturity, but there is no difficulty in getting nice broilers from them, in July and August, or in getting eggs from the early pullets in the fall, and that is about all that can be done with the earlier varieties. Well fed pullets beginning to lay at the latter part of July are sure to give an abundance of eggs through the winter, when they bring the best prices. They are the largest breed with which we are acquainted, adult rocks sometimes weighing thirteen to seventeen pounds, and larger. A good pullet should hold her own, and when one comes to the table, there is enough to go round and some to spare. They are the most popular of all varieties, tested by the demand for breeding fowls and eggs.—American Agriculturist.


classified ad

LIGHT BRAHMAS.

In a pretty large experience with fowl raising, for the last thirty years, we have tried many sorts, new and old, and have settled upon the Light Brahmas as the right kind. Light fowls, in our climate, are a long time in coming to maturity, but there is no difficulty in getting nice broilers from them, in July and August, or in getting eggs from the early pullets in the fall, and that is about all that can be done with the earlier varieties. Well fed pullets beginning to lay at the latter part of July are sure to give an abundance of eggs through the winter, when they bring the best prices. They are the largest breed with which we are acquainted, adult rocks sometimes weighing thirteen to seventeen pounds, and larger. A good pullet should hold her own, and when one comes to the table, there is enough to go round and some to spare. They are the most popular of all varieties, tested by the demand for breeding fowls and eggs.—American Agriculturist.
type, and is very much taken up. It is de-
noted to its specialty with more than ordinary ability and
addresses itself to that portion of the com-
pany who are, or may be, interested in life
insurance, and especially those who favor the "assessment
system." From a special notice on the first page we are
informed that this journal is published with a circula-
tion of twenty-three thousand copies, and that orders in
"large blocks continue to roll in;" also that it
proposes to make its circulation one hundred thou-
sand, and not one copy less. It calls upon the
friends of assessment insurance to help in attaining
this great end, promising that for themselves, and
also using their influence in obtaining other sub-
scribers; and promises to "strike sturdy blows
against and upon all life insurance monopolies." As
our age is ten years behind the limit that life
insurance companies usually take risks, we cannot be
expected to take that interest in any of them that we
might if we were twenty years younger; still, we
may admonish our patrons and readers to post them-
selves up on the subject, and to do so, a years
subscription would be a small amount to risk in making
an intelligent investigation, whatever the result
might be.

The American Journalist, No. 3, for Novem-
ber, comes to hand fresher than No. 1, a notice of
which appeared in our literary columns some months
ago. The leading article contains an interesting
history of the New York Herald, illustrated with
five portraits of James G. Bennett, Sr., James G.
Bennett, Jr., Joseph Elliott, and H. R. H. Hearn.
The article reads like a most interesting romance, and
a romance in reality it surely is. As this pro-
fesses to be "The only journal devoted to profes-
sional writers in its existence," it commends itself to
that class of people at least.

The Arkansas Forest and Farm. An Illus-
trated monthly, edited and published by W. H.
Kerns, at Little Rock. Terms, $1.00 per year.
Devoted to the illustration and description of the
best methods of farming and fruit raising in Arkan-
sas, also forest lands and the best and most profitable
manner of utilizing the same. This is an eight-page
4to of mechanical and mechanical, and the number
before us is containing a double-page map of the
State of Arkansas, giving county boundaries, com-
pleted and projected railroads, county seats, post-
ofices, streams, towns, villages, etc. Particularly
commended as a medium through which all infor-
modation in reference to lands, railroads, emigration
and settlements may be obtained.

Report of Yield of Crops per Acre, on the
progress of sorghum growing, the crops of Europe,
and on freight rates of transportation companies, for
the month of November, 1883. No. 2, new series,
Division of Statistics, Department of Agriculture,
Washington, D. C. 20 pages octavo. The aggregate
yield of corn in the U. S. for 1883 in exact figures
is 1,577,000,000, being 40,000,000, short of 1882,
though the acreage was greatly in excess of 82. The
present report seems to be the most favorable for
potatoes for any year since 1877, the yield being
1,900,000,000 bushels, being 36 bushels per acre, or
3/5 bushels per capita as the country's supply.
The season, on the whole, was unfavorable for buck-
weat, the approximating 10,000,000 bushels, being
a shortage of about 3,000,000 bushels.

In 29 counties in the State of Maine, the number
of acres in apples was 8,300,000, from 3,615
acres. The sorghum product of 1883 approxi-
mates 30,000,000 gallons of syrup, although in the
northern belt the quality is inferior, on account of the
early frosts.

The production of syrup and sugar from sorghum
and the sugar beet. This country must ultimately
supply, provided the business is pursued intelligent-
ly, economically, and energetically. The popula-
tion is increasing so rapidly, and the consumption of sugar to many ways becoming so great, that there
must always be a corresponding demand, although
the price may fluctuate, but this is one of the things
to be considered in its economic administration.

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Founded Under the Auspices of the Lancas-
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January number, unless otherwise ordered.

Dr. S. S. Rathvon, who has so ably managed the editorial
department in the past, will continue in the position of
editor. His contributions on subjects connected with the
science of farming, and particularly that specialty of which
he is so thoroughly a master—botanical science—some
knowledge of which has become a necessity to the success-
ful farmer, are alone worth much more than the price of
this publication. He is determined to make "The Farmer" a
necessity to all households.

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County for its agricultural products certainly should be
able to support an agricultural paper of its own, for the
exchange of the opinions of farmers interested in this mat-
ter. We ask the cooperation of all farmers interested in this
matter. Write us and we will see what we can do.
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