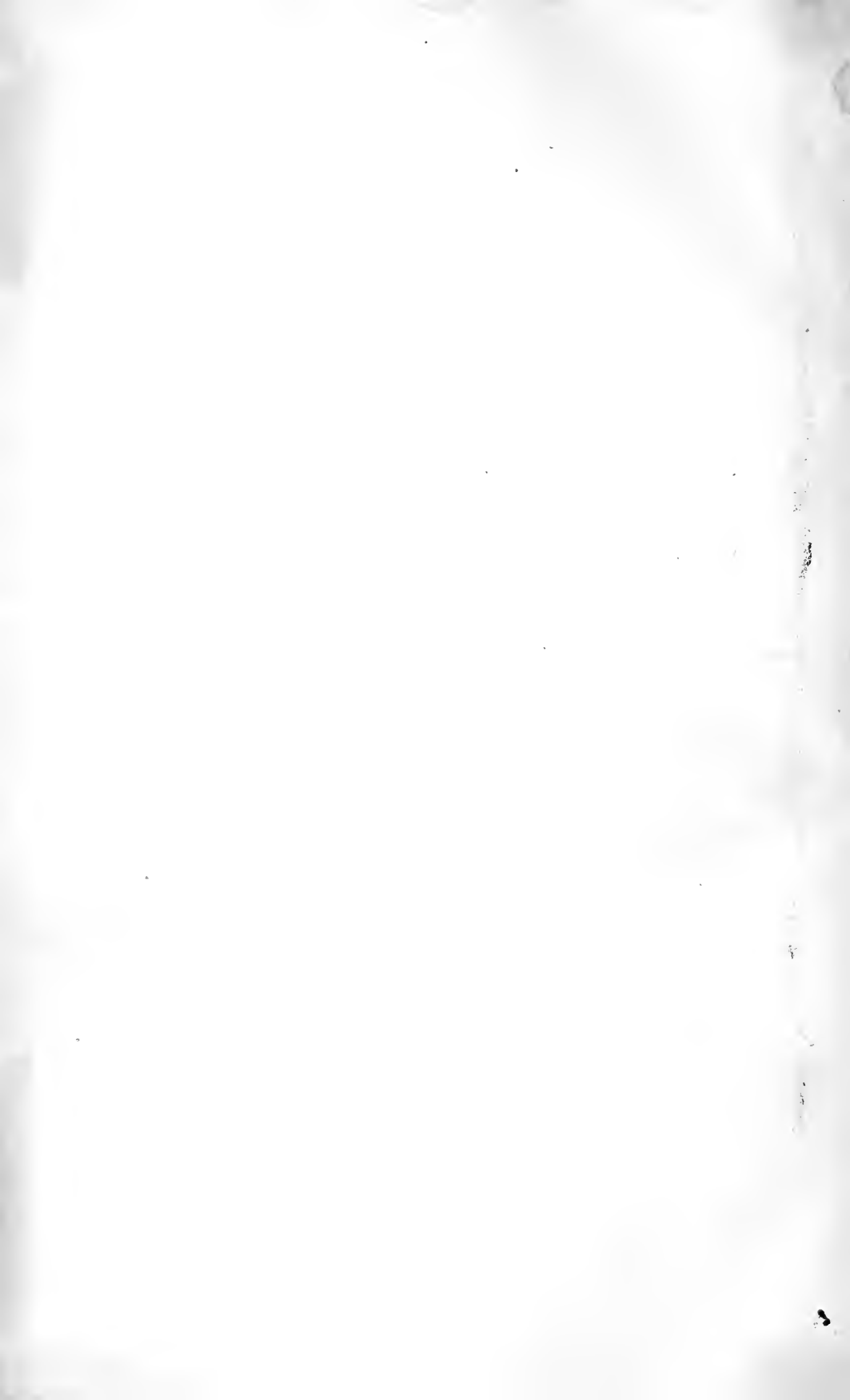




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THE

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PUBLISHED MONTHLY,

UNDER THE AUSPICES OF THE

LANCASTER COUNTY

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LANCASTER, PA.

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INDEX TO VOL. IV.

A

Agricultural, 1, 21, 41, 61, 83, 128, 148, 184, 184, 205, 224.
 An old Settler on Thistles, 30.
 "A Good Cheap," 43.
 An Alliterative Reporter, 58.
 Atmospheric and Electric Fertilizers, 61.
 Apples, 69, 71.
 A New Potato Insect Coming, 73.
 Asparagus, 80.
 Agricultural Chemistry, 83.
 Aiding the Corn Crop, 87.
 A Cure for the Piles, 94.
 Anthracite Coal, 95.
 A Dying Nation, 97.
 All Kinds of Poultry, 100.
 Alternate Mowing and Grazing, 108.
 A Correspondent, etc., 118.
 Apocryphal, 127.
 Agricultural Production, 128.
 Agricultural Items, 129.
 Answers to Correspondents, 131, 176.
 An Expression of Grief, 135.
 A Perpetual Weather Table, 142.
 Artificial Remedies, 146.
 A Few Facts, 152.
 A Large Wheat-field, 166.
 American Monsters, 180.
 Agricultural Colleges, 184.
 A Cup of Coffee, 199.
 Another Corner on Corn, 205.
 Applying Corn Culture to Wheat, 206.
 A Visit to Cinnamonson, N. J., 209.
 Agricultural Fairs, 218.
 American Homes, 14.
 Alsike Clover, 79.
 A Pretty Way to Train Fuschias, 113.
 Almond Cake, 138.
 An Egyptian Plague, 192.
 A Correspondent of *American Stock Journal*, 118.
 A Simple Filterer, 117.
 All Kinds of Meat—How to Cook It, 100.
 Agricultural College of Pennsylvania, 224.
 A Destroying Ant, 229.
 Address of U. S. Centennial Commission, 223.
 An Enormous Crop of Wheat, 237.

B

Bees, 3.
 Book Notice, 14, 70.
 Botany, 27, 46, 74, 172, 183, 214.
 Book Table, 39, 59, 81, 101, 121, 141, 161, 181, 201, 222.
 Blackberries, 69.
 Boiled Custards, 80.

Bathing, 121.
 Roiling Indian Pudding, 122.
 Bee Culture, 147, 212.
 Bee-Keeping, 169, 190.
 Botanical Garden, D. C., 172.
 Blight, 192, 195.
 Botanical Gossip, 214.
 Butter Churn, 191.
 Black Swan, 208.
 Beetles,

C

Closing Remarks.
 Correspondence, 9, 29, 47, 75, 117, 154, 193, 9.
 Care of Stock, 10.
 Cob Meal, 55.
 Cherries, 69.
 Currants, 69.
 Chapped Hands, 73.
 California Correspondence, 75.
 Columbia Correspondence, 76, 117, 50.
 Chicago Markets, 82, 102, 122, 141, 162, 182, 202, 222.
 Cincinnati Market, 82.
 Cleaning Tinware, 121.
 Coconut Cake, 138.
 Cooking Food for Stock, 139.
 Colorado Potato Beetle, 143.
 Covering Grape Trellises, 15.3
 Cattle Market, 162.
 Curious Things to Know, 177.
 Cold Germination, 180.
 Consumption of Hay, 217.
 Crib-biting Horses, 52.
 Clover—How it enriches the Soil, 149.
 Charcoal and Pigs, 41.
 Connecticut Tobacco, 42.
 Clover For Hogs, 201.
 Currant and Raspberry Ice, 340.

D

Does electricity perfect our Wheat Crop, 3.
 Destruction vs. Construction, 23.
 Diminished Production of Wheat, 36.
 Death to Grasshoppers, 45.
 Don't waste the Soap Suds, 47.
 Dwarf Pears, 69.
 Doctoring old Orchards, 71.
 Domestic Recipes, 94.
 Deep Plowing, 109.
 Death of Stuart A. Wylie, 134.
 Doughnuts, 138.
 Dry Earth and Poultry Houses, 179.
 Danger of sowing Winter Wheat too Early, 207.
 Do Forests Induce Rain? 5.
 Domestic, 71, 94.
 Daniel Webster's Old Home, 179.

E

English Farming, 341.
 Entomology, 9, 45, 113, 130, 153, 166, 216.
 Editorial, 11, 50, 157, 175, 78.
 Elevating Farming, 37.
 Electricity vs. Wheat-growing 47.
 Experience with the Egg-plant, 57.
 Egyptian Corn, 67.
 Easter Bergamot Pear, 68.
 Experiments with Onions, 71.
 Essay, 123, 144, 203.
 English Buns, 138.
 Eastern Experimental Farm, 163.
 Evergreens, 40.
 Every-day Pudding, 136.
 Enormous Crop of Wheat.
 English Rules for Preserving Fruit, 229.
 Epizooty, 231.

F

Forests and Timber, 2.
 Fresh Eggs in Winter, 6.
 Fifty Years in the Field, 14.
 Farmers' Hay and Straw Market, 20.
 Fried Halibut, 27.
 Farmers' Wives, 37.
 Fattening Poultry, 40.
 Farmers' Gardens, 95, 151.
 From Grass to Winter Feed, 238.
 Facts and Science, 104.
 Fowls that Show Weakness, 106.
 Fig Culture, 156.
 Fruit in Tin Cans, 179.
 Floor Warming, 188.
 Farming a dull Business, 197.
 Feeding Bees, 213.
 Fruits and Berries, 211.
 Feeding Swine and Eating Pork, 223.

G

Grapes and their Easy Culture, 340.
 Growing and Saving Clover Seed, 19.
 General Washington's Farm, 22.
 Grapes, 69.
 Griddle-cakes, 94.
 God, First and Last, 98.
 Grafting Geraniums, 121.
 Gingerbread, 138.
 Gossip, 155, 183.
 Grasshoppers in Dakota, 198.
 Gapes in Chickens, 200.
 Gooseberries, 69.
 Good recipes for cakes, 138.
 Give us more Fruit trees, 230.

H

Horticulture, 7, 25, 68, 209, 229.
 Heading off the Borer, 29.
 Harlequin Cabbage Bug.
 Houghton's Seedling Gooseberry, 70.
 How much Horses feel, 72.
 How to make Farm Life Attractive, 73.
 Horseradish, 80.
 How to set Cabbage Plants, 90.
 How to get rid of Rats and Mice, 96.
 How to raise Celery, 113.
 Hot Cakes, 120.

How to wash Colored Flannels, 133.
 How to get a Good Wife, 133.
 Hints for the Sick Room, 137.
 How to Cure Hams, 139.
 How long shall We Sleep? 140.
 How Clover Enriches the Land, 149.
 Horse Distemper.
 How shall I Cut My Asparagus, 24.
 Hungarian Grass, 150.
 How Money is Made in Farming, 181.
 Horticultural Exhibition, 194.
 How Shall I Distinguish, 196.
 House Plants, 197, 199.
 Hints to Housekeepers, 232.
 How to Beautify our Homes in Winter, 197.
 How to Have a Neat Farm, 205.
 How to Get Plenty of Fresh Eggs, 217.
 How to Brighten Straw Matting, 221.
 Housekeeping Hints, 136.
 Hints to Housekeepers.

I and J

Improvement of Crops, 19.
 Influence of Electricity, etc., 31.
 Indian Bannock, 94.
 Insects "Fiddling," 167.
 In Defense of the Cockroach, 191.
 International Exhibition, 235.

K

Keeping Sheep, 15.
 Kittatinny Blackberry, 45.
 Keeping Cream, 220.
 Keeping Apples in Plaster, 230.

L

Literary Notices, 342.
 Live Stock Market, 20, 59, 162.
 Lightening Hard Work, 72.
 Longevity of Farmers, 96.
 Linseed Oil, 117.
 Light Gingerbread, 138.
 Leaks in Dairy-Farming, 159.
 Letter from Dr. Fitch, 174.
 Liquid Fuel, 185.
 Live-Stock Journal, 207.
 Lateral, or Bark-Graft, 211.
 Locusts as food, 235.
 Light Gray Brahmas, 227.

M

Meetings of A. and H. Society, 12, 30, 51, 79, 100,
 118, 157, 175, 195, 219.
 Miscellaneous, 14, 31, 52.
 Markets, 39, 59, 81, 342.
 Manuring Orchards, 40.
 Mauures, 43.
 Manufacturer and Builder, 117.
 Milk Biscuit, 138.
 Mildew on Plants, 151.
 More About the Col. Potato Beetle, 166.
 More Utility, 219.
 Milk as a Remedial Agent, 220.
 More Wheat than can be Sent to Market, 220.
 Mechanism of an Egg, 230.
 May be Worth Preserving, 232.

N

Notes on Farming Potatoes, 21.
 Number of Hens to a Cock, 29.
 Noxious Insects, 113.
 Nutritive Value of Milk 120.
 National Agricultural Congress, 134.
 No Starvation, 136.
 New York Markets, 59, 81, 102, 122, 141, 161,
 182, 201, 222.
 No Summer, 339.

O

Officers of P. F. G. Society, 13.
 Our Book Table, 39, 19, 81, 101, 121, 141, 161, 181,
 205, 222.
 Ornamental Trees, 53.
 Our Revised Fruit List, 69.
 Onions, 93.
 Obituary, 134.
 One Cord of Wood, etc., 151.
 Our National Wheat Crop, 36.
 Opinions of the Press, 39.
 Old and New,

P

Plowing Under Snow, 1.
 Pro. Veg. Names in Four Languages, 8.
 Pennsylvanian Fruit Growers' Society, 13.
 Preserving Eggs, 18.
 Pruning Too Late in Spring, 34.
 Plant Grape Vines, 35.
 Philadelphia Markets, 20, 40, 59, 82, 102, 122, 141,
 161, 182, 202, 222, 342.
 Pumpkin Preserves, 40.
 Pittsburg Markets, 59.
 Peaches, 69.
 Planting Trees in Grass, 111.
 Pruning in June, 112.
 Potatoes in the Olden Time, 117.
 Plowing Twice for Wheat, 166.
 Pickles, 186.
 Pheasants, 187.
 Preserving Posts from Decay, 223.
 Pine-apple Ice, 340.

R

Random Sketches, 14, 52, 74, 159.
 Rotating Manures, 33.
 Raspberries, 69.
 Rye for Milch Cows, 96.
 Results of Thorough Manuring, 110.
 Rag Carpets, 138, 198.
 Room, or Parlor Plants, 150.
 Rules for the Care of Sheep, 162.
 Remember these two Things, 180.
 Rural Life and Rural Homes, 203.
 Rapid Growth of Timber, 210.
 Rotation, 88.
 Review of the May Number, 116.
 Raspberry Moth, 114,

S

Sprains and Bruises, 340.
 Selecting Poultry, 340.
 Saving Seed, 16.
 Sowing Oats in February, 35.
 Selected Recipes, 40.
 Seed Corn, 58, 151.

Steam for Dwellings, 60.
 Soap for Borers, 67.
 Strawberries, 69.
 Strawberry Market, 91.
 Steamed Pudding, 121.
 Store Hogs, 121.
 Scientific Farming, 140.
 Supply of Nitrogen, 148.
 Sowing Flower Seed, 149.
 Signals, 180.
 Something Worth Knowing, 180.
 Salt for Farm Stock, 189.
 Saw-dust as Manure, 200.
 Sour Subject, 201.
 Senex Writes to Know, 216.
 Stir the Surface, 221.
 Spiced Apples, 24.
 Soda Cakes, 94.
 Science and Fairy Rings, 116.
 Standard Pears, 69.
 Scratches, 340.
 Sweeney in Horses, 237.
 Steaming Food for Stock, 237.
 Strawberry and Raspberry Ice, 340.

T

Toads vs. Insects, 17.
 The Seckel Pear, 25.
 The Curculio Mastered at Last, 26.
 To Kill Pea-weevils, 26.
 The Cow Tree, 28.
 The Battle of the Ants, 216.
 The Curculio Again, 45.
 The Persimmon, 48.
 The Lancaster Farmer, 52, 218.
 The Weather, 78.
 Trimming Grapevines, 82.
 The Pennsylvania Hay Crop, 87.
 The Tulip, 89.
 Triumph of Gand Strawberry, 91.
 The Crop Prospect, 99.
 The Loneliness of Farming Life, 103.
 The Law of Storms, 106.
 Turning Under Clover, 109.
 The Agriculture of Pennsylvania, 115.
 The Sweet Potato, 114.
 The Value of Red Clover, 117.
 The Weather and the Crops, 119.
 The Lesson of the Drought, 156.
 Tobacco—How to Grow It, 119.
 Treatment of Soft Corns, 120.
 To take Bruises out of Furniture, 122.
 The Seventeen-year Locusts of 1872, 123.
 The Key Note, 129.
 The House Cricket, 130.
 To Kill Curculio on Plums, 131.
 Tribute of Respect, 135.
 To Farmers and Gardeners, 143.
 The Bee and Bee-keeping, 147, 169, 190, 212.
 The Farmer's Progress, 164.
 The Apple Borer, 168.
 The Mallard Duck, 170.
 The Public Grapery, 171.
 The American Prune, 178.
 The Use of Fruit, 179.
 The Corn-cob Humbug, 181.
 The Work of the Leaf, 210.

The Cocoa-nut, 210.
 Farming Leather, 160.
 Table of Quantity of Seeds, 212.
 The Horse Distemper, 231.
 The Old and the New, 236.
 To Crystalize Flowers, 339.
 To Renew Old Grape Vines, 341.
 Table of number of Seeds, 212.
 The Testimony of Agriculture, 217.
 To Remove Iron Rust, 221.
 The Western Farmer, 221.
 The Fruit Recorder, 221.
 The Cow's Intelligence, 6
 To the Readers of the Farmer, 11.
 Tobacco Market, 20.
 To Prevent Cattle from Jumping Fences, 64.
 The Cabbage Butterfly, 153.
 The Southern Cabbage Butterfly, 229.

U.

Uncle Joe's Hints to Farmers, 24.

V.

Vegetable Leather, 50.
 Visiting, 94.
 Value of Re-planted Corn, 111.

W.

Wilson's Early Blackberry, 7.
 Washington's Farm, 22.
 What are Artificial Manures, 38.

What Shall Farmers' Boys Study, 49.
 What Breed of Dairy Cows, 56.
 Winter Bergamot Pear, 68.
 Weather and Crop Observations, 107, 119.
 When should Pigs be Weaned? 122.
 Why Matches Ignite, 193.
 What is the Law? 199.
 White Swan, 208.
 Wintering Roots, 211.
 Water in Milk, 213.
 White Scour in Calvss, 341.

Y.

Yellows in Peach Trees, 193.
 Yeast from Grape Leaves, 215.

LIST OF ILLUSTRATIONS.

Wilson's Early Blackberry, 7.
 Seckel Pear, 25.
 Kittatinny Blackberry, 44.
 Easter Bergamot Pear, 68.
 Houghton's Seedling Gooseberry, 70.
 Gesner's Tulip, 89.
 Triumph de Gand Strawberry, 91.
 Mallard Ducks, 171.
 Crested Pheasants, 187.
 White and Black Swan, 208.
 Light Brahma Fowls, 227.

The Lancaster Farmer.

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Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

JANUARY, 1872.

No. 1.

AGRICULTURAL.

PLOWING UNDER SNOW.

FOR the third time quite an interesting case has come under my observation, which I think is worth recording. Every one has heard the old saying that "a late snow is the poor man's manure;" evidently there must be some foundation for it to rest upon, or it would not be so frequently repeated. Last fall, while plowing for corn, there fell during the night about three inches of snow. The preceding day was clear in the morning, cloudy and very smoky in the afternoon; the next day, when I began to work, I had a seven-pace land about half done; I plowed this and three more lying in the middle of the field, turning under the snow. The land is a light friable clay, one rod as good as another, laying alike, pitching slightly to the east, light sod turned under, and no manure used upon it during the past fifteen years. The preceding crops alike all over the piece. I state this fully, because, I think all experiments should be so stated. Now, the corn on those three and a half beds is at least one-quarter larger than any of the rest; nearly every hill grew, while the rest failed more or less. The division is so clearly marked that there can be no mistake about the cause. Twice before in my life I had the same experience, with the same results; once with corn and once with oats. Now, why is this? We all know how much more quickly grass starts in the spring after a sap snow than after a rain. Does the snow bring down the smoke and gases from the air, or why does it produce a greater effect than rain? Snowy countries are always better grass countries than those where snow seldom falls, and there must be something in the snow to produce this effect.—*Cor. Country Gentleman.*

Perhaps no *fact*, in connection with the subject of *snow*, and its relations to the soil

upon which it happens to fall and lie during the winter, is more generally conceded, than that it not only protects the crop of grain or grass thereon, but that in some way it also increases the fertility of the soil; and therefore, the experiments contained in the above extract, from a correspondent of the *Country Gentleman*, may find their counterpart and corroboration in the experience of many farmers of Lancaster county. All are perfectly aware of the *fact*, that where snow falls before the ground is frozen much, and lies all winter, that it is much warmer *under* the snow than it is *above* it; and therefore what is known as "winter freezing" of the crop, is entirely avoided. In many instances sheep, cattle and other animals have remained embedded beneath the snow for many days without having sustained much injury, and when found *dead*, the surrounding circumstances have evinced that they have died from starvation, rather than from cold. But what ingredients there are in the composition of snow, which constitutes it the "poor man's manure," is not yet so well understood as it ought to be. SNOW (German *schnee*) is defined as "congealed water which falls from the bosom of the atmosphere;" but, very little seems to be known of the meteoric formation of this substance. It has not been ascertained, for instance, whether the clouds which produce it are composed of vasicular vapors, or of frozen particles; nor whether the flakes are completely formed before they begin to descend, or receive an increase in passing through the lower strata of the atmosphere. The precise temperature of the flakes, and the circumstances which determine their form and volume, are likewise unknown; and if all this were posi-

tively known, it perhaps would not elucidate in what manner snow benefits the soil, or produces the results described in the above extract, except it might be the resultant saturation and consequent irrigation, produced by the gradual melting of the snow, after the cold winds of winter and early spring have ceased to prevail. Perhaps the only observations which may at all be considered complete, in regard to snow, are those which have reference to its crystallization, or the different forms the flakes assume. The most interesting series of observations made in this field are those of SCORESBY, more than fifty years ago, and his representations of these beautiful crystalline forms, mainly, have found their way into books and pamphlets, in which the phenomena of snow have been illustrated and described. In addition to all this, there is a bright cheerfulness about snow which dissipates much of the gloom attending long and cold winters.

Of course, it is needless to admonish our readers, that—according to the caption of our extract—they are not to suppose that any one has been carrying on the agricultural manipulation, called *plowing*, under the snow, but that the writer simply means that he plowed a layer of superincumbent snow down, or under, just the same as if he had been plowing down or under a layer of lime or stable manure. Perhaps the peculiarity of the caption may have the effect of calling the attention of the wonder-loving to the perusal of this article, in hopes of meeting with the recital of an extraordinary instance, in which the snow was so deep and laid so long, that people were compelled to do their plowing under it. If that can induce any agricultural reader to make similar experiments and observations to those in the extract, and to record the results, the temporary misconception of the import of the title of our extract, will, so far, be beneficial; because the corroborative testimony that “snowy countries are always better grass countries than those where snow seldom falls,” must also evince, we think, that there is “something in the snow to produce this effect;” therefore, the idea that snow, in falling through the atmosphere, may absorb and bring down some nutritive element—whether it be “smoke” or other element—is well worthy of careful and serious consideration. There are, perhaps, few farmers, of the contemplative and observant kind, who could not relate some marked instance,

in which snow was greatly beneficial to the grass and grain crops in general, and especially to root and bulb plants, which remain in the ground during the winter, even if it should afford nothing more than a sort of carpet, to protect them from hard freezing. It is well known that occasionally, in different parts of the world, snow of a pink or red color has fallen to the depth of two or three inches, which, on analysis, by distinguished naturalists, has, in their opinions, produced different results. Saussure supposed the coloring matter to consist of vegetable dust. Dr. Wollaston remarked that it is composed of minute spherical globules, which have a transparent envelope, and are filled with a species of red oil, insoluble in water; while DeCandolle supposed the globules to be a kind of *algæ*. Here we have, at least, vegetable dust, or oil, or minute moss-plants, any of which, in their decomposition, may be supposed to add something to the fertility of the underlying soil, after the melting of the snow, and if these substances may *occasionally* occur of a reddish color, why may they not *frequently* occur white, or colorless? and thus demonstrates that a fall of snow indeed “adds fat to the soil,” and may thus be practically, as well as theoretically, “the poor man’s manure.”

R.

FORESTS AND TIMBER.

BY PETER S. RE’ST.

NOT many days ago we applied the woodman’s ax to a large white oak tree that measured over five feet across the stump, and from the growths counted was evidently upward of two hundred years of age. From this tree we measured two logs of sixteen feet each, one of twenty feet, and another of ten feet. The first log, at a rough calculation, may be set down as worth \$16.00, the second \$10.00, the third \$7.00, the fourth \$3.00, and with the top estimated as worth \$12.00, the tree can be considered as worth \$48.00 in the aggregate. Of course, the expenses of cutting and hauling are to be deducted.

This tree was an instance of one spared originally by the aboriginal natives, next by our forefathers, and lastly, from the fact of its standing near a line fence, was removed out of the way, and thus grew unmolested.

Our estimate of the value of this tree may, to the readers of the FARMER, seem a very exorbitant one, but we hesitate not to affirm that many a tree in Lancaster county could not be purchased at less figures, nor some even for higher.

In this we see the great value that timber is coming to be, especially in the older settled counties; and this is sufficient to suggest us reflections as to methods of replenishing our country again with timber. From the natural waste and destruction of timber that is going on in our country, we can safely predict that the day is not distant when its restoration must become a question of governmental interest. It should become such without delay, and he will be a true friend of his country who may introduce into our State and National Legislatures measures looking toward the planting of timber trees that may in years grow into valuable forests. We have men in our Legislature who come from among the farming communities, and such as experience already a scarcity of timber, and why is it that some of them do not introduce measures for the protection and growth of new forest timber. If our Legislature would undertake the matter and compel districts to plant a certain number of acres in timber every year, it could not inaugurate a wiser policy, nor one that would entail more beneficial consequences for coming generations.

BEES.

BY PETER S. REIST.

MESSRS. EDITORS:—Could we not, through the medium of the FARMER, create sufficient interest in Lancaster county as to hold a bee-keepers meeting in Lancaster, or some other convenient place that might be agreed upon? Any one reading the bee journals will notice meetings being held all over the country, and communications from almost all places except Lancaster county. Indeed, many profitable hints would be obtained were bee-men to meet together in our county, as every one is aware who is in the habit of reading a journal devoted to this branch of industry.

Bees are more profitable than almost anything to which a man can turn his attention, which is saying a good deal. Any one in

possession of bees, that has ordinary luck, will soon be convinced that this is the fact. The bees are a class of laborers that work for their owner at little expense, and besides the small amount of care required to attend to them, their increase is clear profit to their possessor.

Feeling that others entertain similar notions with myself, and that any hints upon this subject will be received with pleasure, I submit hereby a few remarks upon my success in the bee business, which may have a tendency to prompt others to experiments of the same kind. Some eight years ago I began the keeping of bees, having some four or five hives of black bees, with which, however, I had no success. In 1869, I purchased four Italian hives at eighteen dollars per piece, and these have so increased that therefrom I have had fifty-four hives at a time. This last fall I secured about three hundred pounds of honey, and all of an excellent quality.

Much more I might here say, but desire not to be tedious. A few days ago I handled all my hives, and gave good honey to some of the weakest of them. Most of the hives I found in pretty good condition, except two, which were dead—one for want of honey, and the other for what cause I was unable to conceive, unless it was that it were queenless. I keep them all on their summer stand, which is well secured from the cold winds, the front being so arranged that I can close it. I might say much in regard to the kinds of bees—natural and artificial swarming—the latter method of which I adopted this last year. I had as high as three swarms in a day, and swarming continued from early in June till as late as August 8th; on this last day the swarms came off, one of which is doing as well as could be expected.

DOES ELECTRICITY PERFECT OUR WHEAT CROP?

MESSRS. EDITORS: Will you allow me to offer a few remarks on the leading article in the December number of the LANCASTER FARMER, from your contributor from Manhiem township, who appears to have "a local habitation,"—but no name. He says "he has kept an eye on the articles in the FARMER, in the hope of finding something that would dispel the cloud that over-

hangs and befores the wheat-raising theory, but so far, has not been able to glean anything that would impart the instruction so eagerly sought." Guess he too is on the lookout for that *compost*, or whatever it may be, that is to produce the thirty or forty bushels of wheat per acre.

I do not generally notice the writings of persons who have no names, yet in this case it appears to me, that this (to many) new theory, of electrical influence on the perfection of the wheat crop, deserves at least some explanation—whether there is anything in it worth our notice, also to see if this "thunder-gust theory" will give any light on the question, or still further "befog the wheat-raising theory."

That electricity is a powerful agent (either for good or evil) when applied by Him who governs the universe, none will dispute, but that our good crops of wheat in 1871 were produced through the agency of thunder-storms, or an excess of electricity in the atmosphere, is, to say the least, to my mind rather doubtful. This nameless writer says, "I presume it will be admitted by all who observe passing events, that our section of country was visited with more thunder-storms last summer, than it had been for many years before." What are the facts? I will refer to my record, and take the months of April, May and June for ten years back: these three months grow and mature the wheat plant—so it is not necessary to take in the months after June. by this record I find we had the following number of thunder-gusts during the three months respectively, from 1862 to 1871, both inclusive.

1862—14	thunder-storms,	} During the 3 months of April, May and June.
1863—11	" "	
1864—21	" "	
1865—18	" "	
1866—16	" "	
1867—9	" "	
1868—18	" "	
1869—13	" "	
1870—17	" "	
1871—12	" "	

Thus it appears during seven of the ten years, there were more thunder-gusts than in 1871, yet in all these years, our wheat crops were inferior to the crops of last season.

In California there were no thunder-gusts known until last season; still they had better wheat, and larger yield, that we can raise. Thirty to fifty bushels per acre is, with them, an average crop—some special crops, on good soil, good cultivation—and a favorable season,

eighty bushels have been grown on an acre. And what they call volunteer wheat—that is, wheat dropped in harvesting without cultivation, frequently produces twenty and more bushels per acre.

The season of 1871 was more of a failure of the wheat crops in California than for many years. Could the thunder, which was new to the Californians, have had any agency in *reducing* their crops? I opine just as likely to reduce, as to increase it.

Thus I think the question of electricity being the cause, or having had any agency in the production of our superior wheat crop last year, is pretty well ventilated and exploded.

However, the idea of electricity producing most astonishing results on vegetation was extensively circulated in the papers many years since.

It was stated that with a coil of copper, and another of zinc, with a copper wire connecting the one with the other, and buried under ground, that plants growing above this wire would grow with amazing rapidity. As I always had a love of trying new experiments, I wasn't slow in testing this new idea. But if there was *any effect* produced, good, bad or indifferent, I could not see it! The row of "Murphys" planted over the wire, just grew along slowly, like all the other potato rows in the patch.

A Rev. gentleman once wrote me in relation to the Mammoth Rocky Mountain blackberry, that those having it for sale, must have viewed it through a pair of magnifying spectacles, to make them look as large as goose eggs. Perhaps I ought to have also examined my row of potatoes through a powerful magnifier—but I didn't.

Another subject. In a former number of the FARMER, in speaking of artificial manure, I made the comparison, that it was very much like the Indian's gun, costing more than it comes to; in other words, more than it was worth. Thus our "nameless" friend says: "With your permission, and the approbation of our friend I. B. G., I will make a few remarks with regard to the repairing of the Indian's gun. It seems that the Indian did not much like the fun of paying more for the repair of his gun than what, in his estimation, the gun was worth after being repaired." Now, our nameless friend says, "might not that gun, if

properly charged, and fired in the right direction, with precision, have paid itself at a single fire? yea more, even ten-fold more." To be sure, he *might* have so remunerated himself. But that was not the drift of the argument at all! at all! *Might* not the poor Indian with the same amount of money, or pelf, that his old gun cost for repairs, have purchased a bran new gun? As was once said, "some things may be done as well as others." But I guess I'll stop; for after all said and done, this wheat question still remains in the same condition, and I do not pretend "to dispel the cloud that overhangs and befores the wheat-raising theory."

J. B. GARBER.

DO FORESTS INDUCE RAIN?

BY LEVI S. REIST.

THE above question is one deserving of consideration. If forests produce rain a strong reason exists therein for the planting of forest trees. One fault is asserted that since the introduction of trees into the Sandwich Islands rains are more frequent than in the olden time. The *Philadelphia Ledger* says: "Where the land has been denuded of forest trees periodical droughts are as sure to follow as the sun is sure to rise after it has set." Forests retain moisture in the earth, while vast tracts of land, when cleared, become parched and dry, and the small streams dry up.

It has been frequently stated in the western papers that the Mississippi, Missouri and Illinois rivers have become shallower of late years than they used to be in former times, and the same is believed to be case with all the western streams. In Pennsylvania streams are not effected, it seems, as they are in the western States.

The Pasha of Egypt, under the advice of some French engineers in his employ, caused a large number of trees to be planted on the banks of the Nile, in hopes that a change in the climate might thereby be produced, and the result seems to have somewhat met his expectations. M. De Lesseps planted trees on both sides of the Suez canal, both for shade and to induce moisture in the atmosphere, and with entire success. That a change of climate took place along the Suez canal seems con-

ceded, but whether from the planting of trees or not, is not yet fully ascertained. I rather incline to the opinion that the water in the canal and the loose earth on its banks had more effect in attracting rain than the few trees planted upon its banks.

It cannot be denied that unsettled countries and those covered with timber have in many instances suffered from droughts as well as settled countries. Kansas, as many may recollect, was suffering from severe droughts at the period of its first settlement, and it is known that our county suffered from severe droughts about year 1760. So grievous does tradition inform us that the drought became in Lancaster county about that time, that the cattle had to subsist on wheat stubble after harvest, and that the trees had to be felled for food for the cattle. Of course, at that period Lancaster county was covered with dense forests. The last severe drought that occurred in this county was in the year 1822. At that time everything became so parched that the grass was as dry as hay, and the sportsmen had to be cautious lest they might set a whole section of country on fire. The streams in the county sunk very low, and the water from the Litiz spring would no longer flow across the road between Litiz and Warwick.

I will add some observations of my own during the last forty years in this county. From 1830 to 1850 the streams had less water in them than they have had from 1850 to 1870. A small stream passes through my farm which, thirty years ago, became dry in the summer, but now continues to run the whole year. This stream thirty years ago took its source in ground covered with forests, but which is now all cleared. Forty years ago the county abounded in forests, now it is almost denuded of timber, yet the streams of water are stronger at this time than they were then. This evidence does not seem to agree with the opinions advanced by the paper above referred to, nor with the opinions that generally seem to prevail on this point; but the observations I adduce are simply confined to this county.

I desire to elicit further information on this question, as it is only by an accumulation of evidence from many quarters that it can finally be decided. In my own mind it is a question *which* induces the more moisture, cultivation or trees. Lancaster county is now better cultivated than it was ever before, one-third

of the land being generally put out in corn, which is well cultivated before harvest, and as soon as the grain is cut plowing again commences, and thus in this way fully one-third of the surface is kept during the whole summer in a loose and mellow state, which may attract the moisture and cause rain. I therefore do not pretend to entertain an opinion upon this question, and have merely thrown out a few hints in the hopes rather of gaining than of imparting information.

THE COW'S INTELLIGENCE.

THAT cows have memory, language, signs and means of enjoying pleasant associations, or combine for aggressive purposes, has been recognized, but scarcely to the extent the subject merits. Traveling in Italy many years ago, we visited some of the large dairy farms in the neighborhood of Ferrara. Interposed among much low lying, unhealthy land, remarkable for the prevalence on it of very fatal forms of anthrax in the summer season, are fine undulating pasture lands, and the fields are of great extent. We happened to stop at a farm-house one fine summer afternoon when the cows are about to be milked. A herd of one hundred were grazing homeward. The women took their positions with stool and pail close to the house, and as the cows approached, names were called out, which we thought addressed to the milkmaids, at first! Rosa, Florenza, Gilio, Sopsa, and many other names which were not noted by us at the time, were called out by the overseer, or one of the women, and we were astonished to see how cow after cow ceased feeding or chewing the cud, and made direct, sometimes on a trot, for her woman who usually milked her. The practice, we found, was not confined to one farm; all the cows on each farm knew their respective names, and took up their positions in the lot just as readily as the individual members of some large herd in the country returning from the fields, take their places in the shed.—*Milk Journal*.

When a mere boy, and working on a farm, where there were from forty to fifty cattle to house and feed during the winter, we were often struck with their memory of their respective places, and especially the cows; no one of them got into the place of another, and if it did, it soon "backed out" and found its own proper place, although we boys often drove them in "pell-mell," in order to hurry our evening work through before supper. If cows are not endowed with more than an ordinary share of animal intelligence, and ap-

parently a good deal of mental, then their looks belie them. Instances without number, analogous to those in the above extract, have come under our own observation, and we have often been rebuked, as we thought, by the very look of the cattle, when we have been derelict in our duty toward them. No doubt many of those "who have been raised among cows" will have observed their grave, calm and philosophical look, as they stand on the sunny side of a barn, in winter days, quietly chewing their "cuds." And when a stranger approaches, what an inquisitive stare they give him, much as to say, "What do you want here?"

And when we enter a barnyard, or an enclosure, even now, where cows are feeding, their very *smell* brings up all the pleasant associations of our youth—for the milky smell of a well kept cow, is more grateful, and we doubt not more healthful, to the nostrils than much of the perfumery used at the present day by stinking specimens of humanity. That rural swain, who likened the breath of his sweetheart, to that of a cow, made use of a simile that was not only rational, but also highly complimentary. The cow is an emblem of civilization, and when we find her domesticated and properly cared for, we are likely to find people who will have a liberal and charitable care for human beings. And then, see how lady-like Mrs. Brindle is. She goes forth in the morning gathering and distilling healthful sweets, and in the evening she returns, and walks up to your very door, almost begging for you to come and relieve her from that for which she has no special use, but which will be of much use to you. We would not like to be compelled to kill a good cow, or one that ever *had* been good. We say nothing about the moral quality of such a deed: we only say that we would not like to be the perpetrator of it, even in a case of necessity. It is enough that the constitution of society is such that we are required to cannibalize on the carcass of the cow, when it is dressed for the table, without being the slayer of such an animal.

R.

FRESH EGGS IN WINTER.—For winter eggs, now is your time to lay in. Raise pullets of the Brahma kind, or Cochins. When they are seven months old, if well kept, they will lay. They will do so whether cold or hot, temperature having nothing to do with it. This will give fresh eggs the winter through. A few chickens are sufficient. A neighbor of ours has eight hens, which furnish him all the eggs he wants, with some to spare for the neighbors. He has four members in his family. His hens are a cross between the Brahma and Black Spanish.

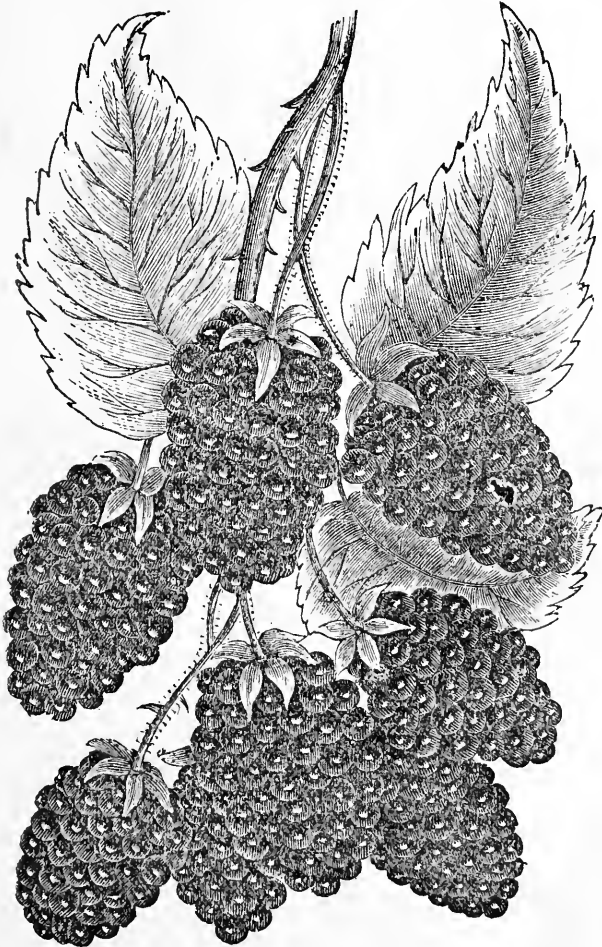
HORTICULTURE.

WILSON'S EARLY BLACKBERRY.

THIS variety of the blackberry is valuable, mainly, on account of its early ripening, which brings it into market from eight to ten days earlier than any other variety cultivated in this latitude; and this quality alone would enhance its value. But in addition to this, it generally perfects its whole

and is considered more healthful, and can be put to more uses. Blackberries, in general, when perfectly ripe, act on the human system as a gentle astringent, and this variety ripens about the season when the human system is liable to suffer most from summer laxation.

Wilson's Early is, however, not as strong a grower as the Kittatinny, and has not proved quite as hardy in this locality, during severe winters, as some others of the cultivated varieties; but the first is large, and the



Wilson's Early Blackberry.

crop before any other variety has fully ripened its earliest berries, and, therefore, it always is sure of commanding the very highest price, and has the almost entire patronage of the market. It is a worthy and valuable successor to the strawberry and raspberry crops,

canes productive and vigorous. Moreover, the berries bear carriage remarkably well without changing color.

The above illustration and notice of "Wilson's Early Blackberry," is taken from the "Illustrative and Descriptive Catalogue of

small fruits, seeds, potatoes, &c.," cultivated and for sale by John G. Kreider, "Nurseryman and Fruit Grower," Lancaster, Pa.

In addition, we may add, that blackberries in general are considered one of the most healthful fruits that grows. Whether the well-ripened simple fruit, or in the form of jellies, syrups, or wines, there is nothing more simple and accessible, as a remedy, in summer bowel complaint. Although there may be special cases, in peculiar stages of disease, when they may be too active as an astrigent, and their use would not be advisable, yet in the majority of acute cases, they are beneficial. The unripe fruit, however, like all other unripe fruit, is very liable to prove hurtful when taken into a diseased system; but this is one of those contingencies in which "circumstances alter cases"—or all things are not equal. When we mention *blackberry wine*, of course, we refer to it as a *medicine*, and not as a common beverage. If pulling a tooth is a good cure for toothache, it would be folly to pull out all the teeth, whether they ached or not, simply for the purpose of doing that which, under other circumstances, was deemed *good*. 'Tis even so in the use of wine.

PRONUNCIATION OF VEGETABLE NAMES IN DIFFERENT LANGUAGES.

BY JOHN G. KREIDER, LANCASTER, PA.

English.	German.	French.	Spanish.
Artichoke,	Artischoke,	Artichaut,	Alcachofa.
Asparagus,	Spargal,	Asperge,	Esparrago.
Beans,	Bohnan,	Haricot,	Frijoleno.
Beet,	Roth rube,	Betrare,	Remolacha.
Borecole,	Grüne kohl,	Choul,	Breton.
Brussels sprouts,	Gruener sprossen,	Chou de Bruxelles,	Breton de Bruxelles.
Cabbage,	Kopfkohl,	Chou pomme,	Repollo.
		on cabos,	
Carrots,	Mohre,	Carotte,	Zanahoria.
Cauliflower,	Blumen-kohl,	Chouffleur,	Coliflor.
Celery,	Sellerie,	Celeri,	Apio.
Corn,	Rel-chkorn,	Mais,	Maiz.
Cress,	Kresse,	Cresson,	Mastuerzo.
Corn salad,	Ackersalat,	Mache,	Valeriana.
Cucumber,	Gurke,	Concombre,	Pepino.
Egg-plant,	Leierpflanze,	Aubergine,	Berengena.
Endive,	Endive,	Chicoree,	Endibia.
Garlic,	Knoblauch,	Ail,	Ajo.
Kohl-rabi,	Kohl rabi,	Chou-rare,	Kohl-rabi.
Leek,	Lauch,	Poireau,	Puerro.
Lettuce,	Gart nsalat,	Laitue,	Lechuga.
Melon-water,	Wassermelone,	Melon d'eau,	Sandia.
Melon, musk,	Melone,	Melon,	Melon.
Onions,	Zimbiel,	Oignon,	Cebolla.

Parsley,	Petersilie,	Persil,	Perejil.
Parsnip,	Pastinake,	Panais,	Pastinaca.
Peas,	Erbse,	Pois,	Guisante.
Pepper,	Pfeffer,	Piment,	Pimiento.
Potato,	Kartoffel,	Pomme de terre,	Solanum.
Pumpkin,	Kurbies,	Courge,	Calabaze.
Radish,	Radies,	Radis,	Rapano.
Rhubarb,	Rhubarrer,	Rhubarre,	Ruibarbo.
Sorrel,	Sauerampfer,	Orsil'e,	Acedera.
Spinach,	Spinat,	Epinard,	Espinach.
Squash,	Kurbiss,	Courge,	Calabaza tenanera.
Tomato,	Liebesapfel,	Tomate,	Tomate.
Turnip,	Rube,	Naret,	Nabo comun.

ENTOMOLOGY.

MR. H. M. E., MARIETTA, PA.—The bird you sent us by express, a few days ago, is a specimen of the "Great American Shrike" or "Butcher-bird"—*Lanius borealis* of Veillat—and the pugnacious character which you witnessed is very common to this bird. They live upon mice, small birds, and insects—sometimes on frogs and other small *Reptilia* also—and their habit of impaling these animals on thorns, has been observed and commented upon more than fifty years ago. But their object in impaling these animals, or parts of animals, is not so apparent, as they are known to impale much more than they ever eat, or indeed more than they ever return to again.

MISS A. K., LANCASTER, PA.—The small, reddish, wormlike animal, which you found in the fresh water, pumped up out of the well on North Queen street, seems to be a species of *Planaria*, belonging to Cuvier's second order of ENTOMOA, named PARENCHYMATA, because their bodies are filled with "parenchyma," or pulpy matter, either in a cellular tissue, or simply in an internal cavity, in which there is no alimentary apparatus that can be discovered. They are usually very voracious animals, and in the absence of other food, will feed upon each other. Mutilated parts of these animals very readily reproduce new individuals, although reproduction also takes place in the ordinary manner, through the intervention of fertilized *ova*. It is difficult to determine their *use* in the economy of nature.

MR. L. R., LANCASTER, PA.—The living beetle you picked up in your yard on Christmas day was a species of "Bacon beetle"—*Dermestes marmoratus*—which had been temporarily revived from its winter hybernation,

by the supervening mild weather. The vitality of some insects is so enduring that the coldest winter cannot freeze the life out of them, and a few mild days will revive them during the winter at any time, and as often as it may occur. These beetles usually deposit their eggs on hams, shoulders, flitches of bacon, or greasy peltry, and the larvæ feed thereon. This larva is not the maggot which gets in around the bones of hams. That is a *Dipterous* larva and produces a two-winged fly. The larva of *Dermestes* is flat, has six feet, and is as good a walker as the perfect insect.

R.

CORRESPONDENCE.

MESSRS. EDITORS LANCASTER FARMER: I do not know if the following transcript of a letter will be of interest to the readers of the FARMER, so I submit it to your better judgment. My friend, a lady of Iowa, thus sends me an account of a journey she, in company with several others, made to Kansas. She writes as follows:

"Had you seen us you would doubtless have considered our mode of conveyance very odd. In a two-horse lumber wagon with a white cover. Thus prepared we started on the 4th of September, went by way of Nebraska City, Tecumseh, Marysville, Pawnee City, Clyde, Concordia, Quaker City, and Gaylord, which last named place, by the way, you will have to look close for to find on the map, as there is only one little dirt-roofed log cabin, and the stakes for the coming city. That is in Smith county, Kansas, on the north fork of Solomon river. It rained, or rather poured down, the second night out, but we did not get wet. After that night we were considerably troubled to get wood and water to do our cooking. There were plenty of places where streams should have been, but they were all dry, with the exception of holes, or *Buffalo wallows*, as they are called, we used water out of some of these that was so full of green animalculæ, that we had to strain it before we could use it. Sometimes we had to haul our wood with us. One night that we camped on the prairie, we had only a little wood, so next morning we drove seven miles before breakfast. We here found only a little standing water—and so hard, that if you put

soap into it, it was like dipping your hands in grease. It commenced raining on Friday and continued till Wednesday, not all the time, but enough to make it disagreeable.

"There is some fine looking land throughout Nebraska and Kansas, in spite of its disadvantages, and some very good and productive. I think it will be a famous peach country in two or three years, we saw many young trees not old enough to bear. One orchard near Pawnee City was hanging full of fine looking fruit. There are some apple orchards newly planted. Those two States will in all probability, in time, be the most beautiful in the Union. Being scarce of timber they are obliged to make hedge fences mostly. The laws of the State compel them to make all laid-out roads on the section lines. It takes a very small capital to open a farm. A man goes there and breaks his ground, puts in a crop of corn or what else he chooses—sets out a few trees, builds a little shanty. The next year he can set out his hedges; if he keeps stock he must either stake them out or herd them. There is some land, however, so poor that weeds can't grow on it, much less anything else. You Eastern people might say, if you had traveled over both these States, that there was no timber; but people there find the scarcity of timber not so great a drawback as water. They do not need much timber, as they have plenty of fine building stone and coal for fuel. But water is one of the essentials. I like the situation of my brother's claim very well, two sections of eighty acres lying along Beaver creek, a running stream. He has good farming land, and considerable timber (for that country), plenty of stone, and a good prospect for stone coals. The stone is white limestone, almost as white as the lime itself. He is about four miles north of the north fork of Solomon river.

"We arrived on the 15th, being eleven days on the road. I think the animal kingdom is pretty well represented out here, in flying and creeping things, as well as larger ones. There are more butterflies, more varieties of grasshoppers, more and bigger black crickets than I ever saw; plenty of rattlesnakes and prairie dogs. These little animals are the cutest things you ever saw, it is almost impossible to kill one, unless it is away from its hole, for they will almost invariably 'drop.' We stayed at my brother's place till the 20th,

we females cooking, and the boys hunting and looking at the country; then we all went on a general hunt some twelve or fifteen miles north. The first evening they killed a two-year old buffalo, and two young turkeys. The next day sister and I and the children, and four men (there were nine altogether), went out again; we had traveled six or seven miles and concluded there was no game in that direction, when they looked off south and saw four buffalo, that were just right, for the wind was from the south; the men set off on a run, leaving a boy with us, we following slowly. The boy shot a big wolf in the meantime. We drove near enough to hear them shooting. Then the boy left us in charge of the team, and started for the men; just as he got on the hill, a big buffalo came up on one side. He shot at him, and before he could load another came up on the other side, nearer than the first. He came down the hill and across the gulch, straight toward us. I had as much as I could do to hold the horses. The children were afraid, and I too a little, but he soon turned on his course; he was wounded, but still able to travel. We then drove our team to where the men had two buffaloes down. One was dead and the other was wounded so that he could not get up, so sister Myra went and shot him dead. I preferred to remain at a little distance, for fear he might get up, as they are very dangerous when wounded, and you never know that they can't get up until their hams are cut off. That and the tenderloin is about all that is taken, and sometimes the shoulders. The one they killed the first day was shot sixteen times. When we got back to camp the other boys had killed three more turkeys. We then had as much meat as we could take care of, so we returned to my brother's place, and stayed there a day and a-half to dry the meat. I think the meat is better than beef. The antelopes, of which we saw more than a hundred, were too sharp for us; we couldn't get one. A neighbor gave us a ham, and I think that was the best meat I ever tasted. They are a beautiful animal.

"We started for home on the 27th, taking a different route, part of the way. There was more timber and water, though in one locality it was twenty-two miles without any water, except "Buffalo Wallows." Some places where there was timber, there was no dry wood that would burn, as so many had camped

there, that everything that would burn had been used up. We arrived home October 2d, having been gone four weeks. My health has been greatly improved by this squatter life."

In a later letter in response to one from me, she says:

"November 19th: Yours duly received, and I write to say there is much corn out in the fields yet, and the crop is more than an average one, but wheat has proved an entire failure. Corn is worth 15 cents per bushel, and no feeders this year. Oats, 18 cents; wheat, \$1.00; potatoes, 25 cents; sweet potatoes, 50 cents; hogs, 3 cents gross; apples, 95c. to \$1.25."

On my doubting that buffaloes are slaughtered merely for sport, and the carcass left on the ground for the wolves, &c., she says. "Possibly you might not wish to slay them for mere sport, but by the time you had climbed rocky points and descended deep ravines, stopping in the meantime to pick sand-burrs, getting your fingers full, and having been out long enough to have eaten up all your provisions, and being, perhaps, 20 to 50 miles from *nowhere*, to use a common expression, with such an appetite as I had, I think you would not stop long to slay the first buffalo you came in sight of. But I willingly admit that there are more buffaloes killed than is use for. Western life changes people greatly.

"I wish I could send you such a bouquet as Myra and I gathered on the evening of our arrival at my brother's. I gathered some seeds but lost them; also a few plants, which are planted. There are many cactus growing in this country; there are two varieties, one is called the 'prickly pear,' it was full of small red pear shaped fruit, and is well named, as I found on gathering some of the fruit my hands got full of prickles. The other variety has spines an inch and a half long, and so strong that it will penetrate a man's boot if tramped on. Both are said to have beautiful flowers, but their flowering season was past when I saw them. Yours, etc.,

CARE OF STOCK.—The farmer who stints the feed of his stock during the winter months, in order to have something to carry to market, is foolish; the farmer who feeds his stock well through the winter months is wise. One makes his stock bring a price far more than the cost of the extra feed given; the other has the pleasure of seeing his neighbor's stock sell readily at the highest market, while his own is slow of sale, and at a reduced price.

The Lancaster Farmer.

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WE have a number of copies of the FARMER bound in volumes of *one*, of *two*, and of *three* years, which we propose to offer as premiums to any one who may get up club subscriptions for 1872, on the following conditions. Any person who shall bring or send us within the next three months, *ten* responsible new subscribers, shall receive a bound volume of *one* year; for *twenty* subscribers, a volume of *two* years; and for *thirty* subscribers a volume of *three* years; and if they are accompanied by the cash in advance, they shall receive in addition, *twenty-five cents* on each subscription—our terms being rated at \$1.25 a year.

TO THE READERS OF THE FARMER.

AFTER another year of unprecedented "peace and plenty" within our borders, we come again before our readers with our annual greetings. Our wishes for their happiness and welfare are neither formal nor timeserving, but the earnest outgoings of our hearts, and a desire that they may realize in the *New Year*, all the *expectations* which the *Old Year*—now buried in the grave of the past—has left unaccomplished. We, in common with them, turn over a new leaf in the book of Time, and if we or they have soiled or marred the pages of the past, let all our shortcomings serve as warnings for the years that may still be before us, in the long and unknown future. Under any circumstances, there is no time like the *present*, in starting

anew in the journey of life; for the present is all that we have. The past belongs to God and history, and the future may never be ours. In contemplating these annual epochs in the cycles of time, the whole human family have much to be thankful for, whatever *appearances* of a contrary character may outwardly exist. We can hardly conceive of an evil of any kind, which, on mature reflection, we cannot see might have been something worse.

The fertile hills and valleys of our good old county, during the advent of 1871, have amply rewarded the husbandman for his honest, incessant, and often weary toil. With abundance of subsistence, and an appetite to relish and appropriate it—with a sound constitution and a peaceful and contented mind, he stands before the world, as one of nature's beneficent and man-sustaining noblemen. If he lacks in anything, it is in that which perhaps is lacking everywhere among the masses of mankind, namely: a higher degree of moral and intellectual culture. That culture will be facilitated by a ready recognition of humanity, outside of himself, and by embracing the opportunities and the means that are employed for his moral and mental elevation. "No pent up Utica" should contract his powers, but the whole continent of intelligence should be his. Having freely received, he should as freely give, wherever his gifts can be worthily and usefully bestowed. It is sometimes as charitable to withhold as it is to give; but it requires more than merely ordinary intelligence to make the proper discrimination. This intelligence is one of the benefits flowing from the "republic of letters," but it is only attainable through mutual co-operation and persevering labor.

Such is the *status* of our desires, our wishes, and our aims, feebly and hastily reflected in these desultory and imperfect lines. But in coming before our readers with our fourth *salutatory*, we confess that we do so under a very peculiar state of feeling—a feeling vacillating between a hope of ultimate success, and an apprehension of final failure; for, in our life experiences, we can only practically judge the *future* by the *past*. For three long weary years we have been catering for the intellectual wants of the agricultural, horticultural, domestic and miscellaneous interests of the friends of these specialties, in the county of Lancaster, with little hope of any present

or future reward. Indeed, our desire has been so much to see our native county the acknowledged *center* of agricultural, mechanical and literary effort, in the "Keystone State," that we have *thought* but little of personal remuneration or reward. Were it not for the liberal advertising patronage which we have received, during the past three years, the LANCASTER FARMER would have been utterly "swamped" long ago; but even *with* this, and all the other income combined, it has not yet paid expenses.

If we are asked—"Then why desire the continuance of the journal?" our reply would be, that we had *hoped* and still *hope* for final success. Under the Scriptural admonition that "He that layeth his hand to the plow and looketh back is not fit for the kingdom of God," we have ever been looking forward. We have not the moral courage to disappoint the expectations of the friends who have stood by us and sustained us so far as their means and influence extended—from the very beginning, and who would feel deeply mortified at the discontinuance of the journal now. We still believe that the elements and the material support of a good magazine, devoted to the interests of agriculture, horticulture and the domestic fireside, exists in Lancaster county, and is capable of being finally developed.

We may not be the proper individuals to effect such a development; but, then, be it distinctly understood, that from the very beginning we have only regarded ourselves as a sort of pioneers or scouts, ready and willing at any moment to resign our charge into more competent and efficient hands, without withdrawing any moral, literary and pecuniary support, which it, from time to time, might need.

Elated and encouraged by this hope, we have again launched our little craft upon the sea of journalism, and are bound to make another voyage. Whether it be rough and boisterous, or smooth and placid, whether it ultimates in reasonable success, or in fatal disaster, will depend, perhaps, *something* upon our own energies, but we opine *more* upon the measure of support we shall receive from those whom it most concerns. Come what may, we cannot do less on this occasion, without doing violence to our own feelings, than to wish one and all a prosperous and *Happy New Year*.

EDS. AND PUB.

MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE Society met December 4, 1871, and the minutes of the last meeting were read and approved.

On motion, all delinquents liable to fine for non-appearance at 1 o'clock, as per resolution of former meeting, were excused.

In answer to question as to the best time to plant chestnuts, J. B. Gerber said when they are ripe.

H. M. Engle thought nature designates this as the proper period to plant nuts of any kind. They must not be covered deep, else they will rot. He thought no subject of more importance than this to the farmers of Lancaster county, for thereby they find instruction as to the method of replenishing the county with timber.

E Hoover spoke of the subject of growing turnips for cattle feed. An important point in this connection was, *what is the proper time to sow the turnip seed* as to make the crop a surety.

Levi W. Groff has never had any difficulty in growing turnips. He generally grows them among his corn.

Levi S. Reist believed last year the best for a turnip crop that we have had for years in this county.

H. M. Engle did not believe any particular time could be fixed for sowing the seed. All that is necessary is to have a cool, dry climate, as that in England or Canada. In this country the best turnips are usually grown in the latter part of the year. They may do well when sown among the corn if rain soon follows. A very successful turnip grower of his knowledge was in the habit of passing, after the seed was sown, among the corn with a small harrow. He himself has been in the habit of sowing the turnip seed and covering it with a hand harrow or drag. Our farmers will be yet obliged to come to recognize the importance of root crops as feed for their cattle.

Casper Hiller has never had much experience in growing root crops, but one thing to be remembered about this is, that the seed should be sown upon freshly tilled ground upon which rain has not yet fallen.

Levi W. Groff sowed about 2 lbs. of seed upon ten acres of corn ground.

J. G. Peters, one of the essayists of the

meeting, was on motion excused till next meeting of the Society.

Mr. Peters regarded the root question as one of great importance, as he has come to know how extensively it is prosecuted in various countries of Europe. Some American people are but obtaining a hint of it.

H. M. Engle considered the carrot one of the most profitable root crops for cattle. The sugar-beet, ruta-baga and kohl-rabi are likewise valuable crops. A cool barn-cellar is one of the best places to keep roots during winter, and it must be one neither too warm nor too cold. A question here to be considered, and one somewhat mooted is, *Do these roots impart any peculiar flavor to the milk and butter?*

H. K. Stoner desired to know if roots should be cut for cattle feed. He named several leading farmers who never cut the turnips for their cattle.

J. G. Peters always cuts his turnips for cattle. Some loss has been sustained by him from neglect of this, some of his cattle having choked on the whole turnips.

H. M. Engle thought all progressive farmers not only cut their turnips for the cattle, but they likewise cut all their hay, corn-fodder and other feed.

J. G. Peters mentioned J. G. Stehman, whom he regards as the leading farmer in Conestoga township, who not only cuts all his feed for his cattle, but also steams it.

C. L. Hunsecker proceeded to read an essay upon "Wheat as a Civilizer of Mankind."

Upon the conclusion of the essay, a vote of thanks was tendered Mr. Hunsecker for his production.

E. Hoover believed more nutriment was contained in wheat than in any other grain.

C. L. Hunsecker remarked that the question of wheat culture was arresting the attention of thoughtful men throughout the world. Straw is a very important item in the value of a wheat crop. Years ago as much wheat was exported out of this country as at the present day. In countries where wheat is not grown the people live in a state of abject misery. Enough of wheat is still not yet raised to supply the consumption of the world.

J. G. Peters thought our people were too apt to be discouraged in growing crops when an occasional failure occurs. It should be borne in mind that success in the main crowns

the farmer's labors, for do we not see most of them becoming rich and independent. He suggested that a method might yet be discovered for extracting the essence of wheat and having it in smaller bulk.

C. L. Hunsecker said this already was attainable in the different grades of flour, the best grade being by far the most nutritious. Lancaster is known far and wide as a great wheat-growing county.

J. G. Frantz took Mr. Peters to task for his eulogistic remarks upon Lancaster county.

Mr. Peters retorted by saying that he believed Lancaster county could compete with any district in the world as regards intellectual capacity. Dr. E. K. Hertz considered the wheat question one of great importance.

Society on motion adjourned.

PENNSYLVANIA FRUIT GROWERS' ASSOCIATION.

The following circular has been issued announcing the annual meeting of this thriving association which is to be held in Horticultural Hall, Philadelphia, on the seventeenth of January. A strong appeal is made to fruit growers to attend this meeting, which we hope will be cheerfully responded to. There is wide room for improvement in fruit culture in our State. It is a fact not very creditable to our horticulturists generally, that nearly all the fruit consumed by Pennsylvanians, and especially Philadelphians, comes from other States. The convention promises to be a very interesting one, as a number of prominent pomologists from abroad have agreed to be present, and participate in the proceedings. The committee announces also, that it is expected that the railroad fares of the delegates will be reduced.

OFFICERS FOR 1871.—President, Josiah Hoopes, West Chester; Vice Presidents, Samuel W. Noble, Jenkintown, Dr. J. L. Suesserott, Chambersburg, J. B. Garber, Columbia; Recording Secretary, Alexander Harris, Lancaster; Corresponding Sec'y., Thomas Meehan, Germantown; Treasurer, Robert Otto, West Chester; Committee on Arrangement and Reception, J. E. Mitchell, A. W. Harrison, William Hacker, Dr. J. S. Houghton, D. W. Herstine.

FIFTY YEARS IN THE FIELD.

The *New York Observer* is celebrating its jubilee, entering upon its fiftieth year, January 1st, 1872. It is one of the oldest newspapers in the country, one of the ablest, and one of the most steadfast and fearless in maintaining the truth in religion, the right in morals, and honesty in all public and private affairs. It announces for the coming year, the publication of the second volume of its Year-Book, a vast repository of information, statistical and otherwise, relating both to Church and State, which will be sent free to all who pay their subscription for 1872. This volume last year was worth the subscription price of the paper, and the publishers promise a more complete Year-Book for 1872. Specimen copies of the paper, with prospectus for the Year-Book, sent free on application from any source.

BOOK NOTICE.

AMERICAN HOMES: The January number of this popular illustrated dollar magazine is as full of good things as a New Year's morn is of good promises. Among the notable articles is one on "Society in Washington" by Mr. Ramsdell, the well-known Washington correspondent, and there is the usual supply of stories, disquisitions, wit, household articles, a popular song, and departments for Freemasons, I. O. O. F., G. A. R., K. of P., &c., the whole forming a rich collection of literature for ten cents. The *New York Tribune* well says, that its pictorial embellishments enhance the value of American homes, and that it will hold its own in many families against more costly magazines." A new story by George Alfred Townsend is announced for the February number. A perfect copy of the Grand Duke Alexis' autograph is sent with the January number, and our specimen shows that it is a valuable memento of the Duke's visit. Chas. H. Taylor & Co., 51 Water street, Boston, are the publishers.

Any subscriber to the LANCASTER FARMER, who may desire the above valuable journal, by paying \$2 cash, in advance, will not only receive both magazines for the year 1872, but also a large and popular engraving—18 inches by 14—entitled "The Family Reunion." We have a copy of the January number of this journal before us, and can fully indorse all

that the *Tribune* says in reference to its "pictorial embellishments." Send in your names immediately, and receive the LANCASTER FARMER, and *American Homes*, one year, for two dollars.

MISCELLANEOUS.

RANDOM SKETCHES AND FARM ITEMS—No. 10.

BY H. M. ENGLE.

BLEAK winter is at our doors. While jotting this article, the ground is covered with snow for the first time this season. The farmer generally has almost everything necessary for comfort. Although the winter winds whistle around his dwelling, he can sit cosily by his fireside, with an abundance to eat and drink, and raiment for his protection against all inclemencies of the season. To all this he is fully entitled in return for his frugality and labor. He at the same time owes important duties which are in many cases neglected. His dumb brutes in many instances are subjected to such inhuman treatment, that a Berg or a Reichenbach should be at hand, to enforce the laws for their protection.

The majority of farmers have good, comfortable stabling (in this section at least), but many turn out their stock all day, thus exposing them to storms, snow, sleet and rain, oftimes to stand and shiver for hours.

Some have such poor shelter that it affords but little protection. While others expose some of their anima's day and night to all the inclemencies of the weather, the whole year round.

It is high time that all who own animals should know it to be to their interest pecuniarily to feed, shelter and treat them humanely; and where self-interest does not prompt men to such duty, Christian feeling and public sentiment should create and enforce such laws as will protect all brutes from cruel treatment in every respect.

Ice Houses.—Ice has become a necessity, instead of a luxury, as formerly. With such a fine crop early this season and favorable weather for housing it, there will be no excuse next August for a scarcity of the article.

Farmers' Clubs.—It is to be regretted that

so few agricultural and horticultural societies exist in our State, even in sections that have a reputation for good farming. Every township or school district should have an organization that would meet weekly or semi-monthly, at least during the long winter evenings, where the isolated experience and wisdom of farm husbandry, and kindred subjects would be brought together and thrown into common stock, whereby no one would lose, but all would gain.

Fencing Farms.—It has become an important question whether, at the present prices of timber, it pays to keep farms fenced into fields simply for the purpose of pasturing. Many of the most intelligent and successful farmers have abandoned fencing off into fields, and would not fence at all to keep their stock in, but under present laws they are obliged to fence other stock out.

In many of the older countries the fencing system has long since been abandoned, partly on account of the value of land, but more on account of the scarcity of timber.

At the present rate of the destruction of forests and woodlands, a large proportion of this country is rapidly drifting into the same condition.

It is merely a question of time, when we or our posterity will see the folly of "killing the goose that lays the golden egg."

The agitation *East and West* of the timber question will, however, create a sentiment that must produce good results, not only in preventing the unnecessary and rapid destruction and waste of timber, but will also stimulate the planting of new groves and forests. Men of science and extensive observation have shown beyond question the influence of forests, and fields, and fruit crops. Long continued droughts and great floods are the extremes which have followed the denuding of large sections of country of its forests.

It is also a fact, that sections of country that had been barren from want of rain have been made fertile by the planting of belts and groves of timber, which cause rain to fall where little or none fell before. It is possible that the Government will soon have to take this matter in hand by reserving a portion of its forest, and also plant, or provide by statute for the planting of forests, so as to keep a proper balance between the timber and arable lands.

KEEPING SHEEP.

The great excitement in the wool markets must give a new start to sheep farming. American farmers are so liable to change—so many will drop a crop or product, when the price is low, and rush into it when apparently doing better—that hereafter we may expect that sheep will be in demand. The gradual decline in dairy products and the large decline in fat cattle, will also have some influence. For a few years beef and pork, and butter and cheese have brought good prices, while wool was quite low; but the recent changes will restore the equilibrium, and at least for a time, sheep may be expected to pay as well as any other stock.

This change will be of considerable advantage on grain farms, where a rotation of crops and keeping considerable stock is practiced. One of the worst difficulties on such farms is the scarcity and high prices of good help; hence, other things being equal, the stock that requires the least labor and attention will be the most desirable. In this respect there is scarcely any stock that is ahead of good grade merino sheep. In the winter they need less labor in their pens or sheds—they should have shelter—than any kind of cattle in stables; and in summer, although they should have water, they need less labor and attention than most other stock. A moderate number of these sheep are very easily and cheaply kept on a good grain farm. If teams are pastured they must have good feed to keep them in good condition for labor; cows must also have good pasture in order to give profitable returns; hence many fields that no longer afford suitable pasture for teams and cows will answer well for sheep. Summer fallows will also afford some feed; in fact they are the only stock that should be kept on a fallow after it is plowed. On the smaller farm a few sheep will glean after other stock to good advantage; on large farms, where labor is not plenty, besides the teams, cows and other stock needed for the use of the farm, such sheep may answer as well as any other stock.

But on all grain farms much care is needed to avoid overstocking the land with sheep. It is not good policy to feed pastures too close; many have been injured by feeding them down very short with sheep. It is also

poor policy to feed meadows down close in the fall, as overstocked farmers are often forced to do. Besides it is never good policy to keep more stock than can be kept improving. Sheep in good condition can usually be sold to good advantage; those not in condition, that the owner must sell because he is overstocked, are often sold at a loss. It is most profitable to sell finished products. If a farmer must sell his surplus, his wethers and dry ewes in moderate condition, he must not only sell so the purchaser can get pay for feeding, but there must be an allowance for contingencies and profits besides. Hence it is better for all farmers to make such sheep fat—to sell finished products instead of dividing the profits with others. Sheep in good condition also shear better, and are less liable to losses from diseases and accidents; hence it pays in this way to keep sheep well, giving the two-fold advantage of better returns and better sales for those thus kept.

Of course this mainly relates to common farming, where wool is the main object, and only the moderate surplus of such flocks go for mutton. But improved farming, where all necessary care can be given, sheep may be managed so as to return a good deal more money. There are two principal ways in which this can be done. One is in keeping some of the leading long wool breeds, in which combing wool and mutton will both pay well; and the other is in raising early lambs for market. It has been repeatedly demonstrated that by using a buck of some one of the larger breeds on good common or grade merino ewes, so the lambs will come in the winter, these lambs may be made to sell for \$5 or more apiece in the spring, and the ewes give a good fleece besides. If the ewes are well-fed, as they should be to have the lambs do well, some two months' feeding after the lambs are sold, so that they may be ready for market soon after shearing, may make them sell well also. So it should not be difficult to realize \$10 each in lambs, fleeces, and advance on cost or value at the commencement, for less than a year's keeping, on such ewes. With warm stables and barn cellars, so lambs could come in the fore part to the middle of winter, and near large markets, much better than this has been done; hence this may be considered a safe estimate where there is good management.

This is the next thing to, though not equal to keeping long wool sheep; as with such sheep more and heavier lambs may be raised, and more money realized. It is also probable that if the increase of such sheep is kept until some 20 months old and well fed, giving a heavy fleece in the meantime, they will pay still better. If good blood is secured, and the best are sold for breeding, no doubt a still larger profit may be realized.

On good farms, in all the older sections, in reach of good markets, some such course of raising lambs or mutton sheep for market should be adopted. Then keeping sheep mainly for wool may be confined to the poorer farms and farming in the older States, and to the very extensive, rich, and cheap pasturage of the Western and South-western States and Territories, where wool-growing is attended with very little expense.—*Country Gentleman*.

SAVING SEED.

Each farmer is to have seed to sow and plant. This he usually retains from his crops. Sometimes he is careful to select, sometimes not.

Now, each farmer can be an *improver* of his seed, his crops, as is done by those who make it a business to improve. It is done by selection—selecting every time such quality or qualities as he wants. Selecting every time the largest, earliest and best ears, there will be a show of larger, earlier and better corn. So with potatoes. Secure always the larger and coarser, and there will be large and coarse, tillage the same. This will do for feeding. But a smaller potato is wanted for the table, a finer grained, better form, approaching the flat and smooth, so that the cooking is expedited. There is also more sweetness and better quality generally in medium-sized tubers. These, and only these, should be selected yearly.

Squashes and pumpkins may be improved in the same way. Select such as you want every time, and of the same quality. Thus tomatoes improve or deteriorate according as we select them. Poor, dirty wheat (or any grain) will give poor, dirty wheat; that is the tendency. If the season is very favorable, this will be less seen; but the tendency is nevertheless there, and a good selection of

seed would have made a better crop. Each farmer may thus be his own improver of what he raises.—*Cor. Country Gentleman.*

TOADS vs. INSECTS.

[The toad is a much abused animal. For the benefit of those who are not aware of the great insect-destroying propensities of this not beautiful little animal, we publish the following facts]:

The question of toads vs. insects is sure to come up, and perhaps an experiment of mine on the capacity of a toad may be of interest. Dr. T. W. Harris, remarked to me some twenty years ago, that he supposed the odor of the squash bug (*Coreus tristis*) would protect it from the toad, and to test the matter I offered one to a grave-looking buffo under a cabbage. He seized it eagerly, but spit it out instantly, reared up on his hind legs and put his fore feet on the top of his head for an instant, as if in pain, and then disappeared across the garden in a series of the greatest leaps I ever saw a toad make. Perhaps the bug bit the biter. Not satisfied with this, I hunted up another old toad, who lived under the piazza, and always sunned himself in one place in the grass, and offered him a fine squash bug, which he swallowed, winking in a very satisfied manner. Twenty other fine bugs soon followed the first, with no difficulty nor hesitation in the taking nor swallowing, though, from his wriggling and contortions afterward, it seemed as if their corners did not set well within. The stock of bugs being then exhausted, I found a colony of smooth black larvæ on a white birch, each about three quarters of an inch long, and fed him over a hundred of them. Touching one of them with the end of a straw it would coil around it, and then when shaken before him, he would seize and swallow it at first eagerly, but then with diminished zest as the number increased, until it became necessary to rub the worm against his lips some time before he could decide to take it. He would then take it and sit with his lips ajar for a short time, gathering strength and resolution, and then swallow by a desperate effort.

There is no telling what the number or result would have been but the dinner-bell rang as the one hundred and first worm disap-

peared, and by the close of the meal he had repaired to his den; nor did he appear for four days in his sunning place. It is to be hoped he slept well, but there might have been nightmare.—*Entomologist and Botanist.*

We make the following extracts from some passages in Fogg's book "On Noxious and Beneficial Animals," which are quoted at full length in the fourth number of *Le Naturaliste Canadien*—For the benefit of the American reader, we translate from the original French:

"A remarkable fact has lately been published in the newspapers. There is actually a considerable commerce in toads between France and England. A toad of good size and in fair condition will fetch a shilling (twenty-five cents) in the London market, and a dozen of extra quality are worth one pound sterling (five dollars.) You may see these imported toads in all the market gardens where the soil is moist, and the owners of those gardens even prepare shelter for them. Many grave persons have shaken their heads, when they heard of this new whim of the English; but those laugh the best who laugh the last. This time the English are in the right. I used to have in my garden a brown toad as big as my fist. In the evening he would crawl out of his hiding place and travel over a bed in the garden. I kept careful watch over him; but one day an unlucky woman caught sight of him and killed him with a single stroke of her spade, thinking that she had done a very fine thing. He had not been dead many weeks, before the snails ate up all the mignonette that formerly perfumed everything round that bed. * * * *

—*American Entomologist.*

THE ORCHARD.

Many farmers do not place a very high estimate upon the orchard. To them it has never been of much account, and they cannot see much encouragement for the future. To be sure, years ago they set out several hundred apple trees, cropped the ground with corn, oats and wheat, for several years, and then seeded the ground to clover and timothy, and have mowed it ever since. This they consider good treatment, yet their trees yield but very light crops of very poor fruit. In deed, they never have but very few apples sell, and those so small and gnarly that

price obtained hardly pays for the time required to gather them. This need not be the case. The orchard may be made a very profitable part of the farm. But it will *cost* something to have an orchard that the owner may well be proud of and that will pay a handsome interest on the time and means expended. Many labor under the mistaken notion that the orchard should cost nothing except to harvest the crop. This is a great mistake, but a very common one. As a general rule, if an orchard cost nothing but harvesting, the crop will not be worth harvesting.

Many farmers who have no orchard, make a mistake at the outset, in this way. A neighbor is harvesting and marketing a splendid crop of apples, for which he obtains a great price. The returns from his orchard are so great that they make up their minds there is more money in a large orchard than in anything else. So they send an order to the nursery for trees enough to set out five, ten, and sometimes many more acres, without even once taking a thought of the labor necessary to make such an orchard a success. They do not seem to take into consideration the fact that those trees must be cultivated just as carefully as any farm crop—that the soil should be made richer, as a general thing, and not robbed year after year by grain crops, that take off the very material that the trees ought to have. They do not *think* that with all that trash about their trunks, during the coming winter, the mice will girdle half of them—that next season when they are *too busy to attend to the trees*, the tent caterpillar will strip the leaves from the rest of them, thus giving them such a check that they will never wholly recover. They take no notice of the borer that is slowly but surely cutting out the life of the trees. If they had given these things, and many more that might be spoken of, that consideration which they deserve, their order on the nursery would have been much smaller, which would not only have been a good thing for them, but also for the community, as there would not be so many large orchards that have proved failures, thus discouraging many from setting even small ones.

The foregoing discouraging picture need deter no one from setting an orchard—a large one if they wish—and making it a success. The proper attention given, at the *right time*, will be fully rewarded. It is better to guard

against girdling by mice, by attention in the fall, than to repair their damages in the spring. It takes far less time to dig out the borer as soon as he can be discovered in a tree, than it does to plant and raise another in its place. It takes far less time to destroy the tent caterpillar when in the egg or just hatched, than it does after it has spread over half the tree and badly damaged it. Though the caterpillar moth may fly from one orchard to another to lay its eggs, yet it is not half so apt to as it is to lay its eggs in the orchard where it came into life; so that if the caterpillars are all destroyed this year in one orchard, there will be far less next year than in an orchard near to it where they were not thus destroyed. There is an orchard of several hundred trees in sight of where I now write, where they have always been destroyed as soon as possible. This season, thus far, there have been but six nests found, while orchards in the vicinity where they were allowed to *go to seed*, are very full of them; more than six nests can frequently be counted in a single tree. Horses and cattle can destroy trees much faster than the damage can be repaired. Without proper attention, the orchard will prove a failure; with proper care, even a small orchard will furnish a family with excellent fruit the entire year, and make a handsome return in cash besides.

—*Cor. Country Gentleman.*

[From the Weekly Intelligencer.]

PRESERVING EGGS.

BY THE EDITOR.

Hens do not lay well during the early part of winter, hence the eggs become scarce and are high in price. It is therefore desirable to preserve them when plentiful and cheap, so as to keep them fresh during the winter. All fresh-laid eggs packed now or during the fall, will keep fresh until spring, if treated properly. Various methods are recommended—some good, some bad. Some time ago the following, in substance, went the rounds of the press: "Set eggs an instant in boiling water; it will coagulate a thin fibre of the albumen, and thus make eggs keep a long time." This is all humbug. Eggs so treated will not keep as long as those not so treated; in fact, they will spoil in a very short time. It is well known that a boiled egg will soon become

unfit for use. Who would like to—or who could—eat an egg that had been boiled a few weeks before? No doubt the author of the above method for preserving eggs would find some difficulty in swallowing, were he to try the experiment. In the same manner the eggs dipped in boiling water will hasten the decay of the thin layer which has been boiled, the same as if the whole egg had been boiled. This thin layer of albumen becomes dead matter by the boiling, and of course decay immediately—or in a few hours—begins as with all dead matter. Let no one try this new egg-preserving hoax, unless he is fond of rotten eggs.

There are two causes for the spoiling of eggs, and unless one or both of these are avoided, we cannot hope for success. The first is exposure to a high temperature, and the other is access of air. The freezing point is too low for the preservation of eggs in good condition, as freezing affects the flavor unfavorably; but they should be kept cool—say to a temperature of fifty degrees if possible. But it will be of no use to keep the eggs in a cool place, if they have been previously exposed for hours to a temperature of over ninety degrees. The collection of eggs must therefore, in the first place, engage our attention. They must be collected every day, or if a number of hens lay in the same nest, they should be gathered several times a day. If any one will attempt to preserve eggs that have been sat upon for a day or more, he will discover the force of this statement. After collecting them carefully we preserve ours in the following manner: We take a box or keg, place the eggs in as soon as gathered, with the small end downward, on each layer we sprinkle coarse salt enough to cover them. We then keep in a cool place, and never have any difficulty in keeping them through the winter. Other methods are recommended—greasing the shells with lard to prevent the admission of air, covering with lime water and other methods. These methods are no doubt all effectual, if the eggs are in proper condition when packed, and are afterward kept in a cool place.

GROWING AND SAVING CLOVER-SEED.

Upon this subject Birdsall, in his *Clover Leaf*, says: It requires some skill in growing

clover for seed, to understand how long to pasture and when to mow the first crop. Of course the season has much to do with its filling, yet the crop can be materially helped if managed as it should be. The large kind, if saved for seed, can be pastured till the 15th of June, and very close; then give it a coat of plaster, so as to give it a good start. The medium or common clover should be pastured till 25th of June, or if mown, cut the same time, and be sure and get it off July 1st. You can then look for a good yield of seed, and if later, your crop will not pay for handling. Give it a coat of plaster, and you will find it very beneficial, and particularly on light soil, and if the season is dry.

Be sure and keep your stock out of the clover saved for seed, as it will spoil the young plants. In cutting the seed, do not let it stand till dead ripe, as one-third will rattle off and be wasted. Cut when the head is handsomely brown and the stalk not quite dead; there will then be scarcely any waste, and the seed just as plump. Many people, in gathering cloverseed, waste at least one-fourth in allowing it to stand too long before cutting. Cut with a mower or reaper—a mower is preferable—attaching a drag apron, and throw off in bunches of medium size and in winrows. Turn it over when the dew is on, so as not to rattle off the bolls. When thoroughly dry, you can thrash immediately, or put it away where it will keep dry, as damp clover is very difficult to hull, and at the same time it is impossible to get all the bolls from the straw.

IMPROVEMENT OF CROPS.

Almost every crop raised upon the farm or in the garden, is susceptible of improvement. The Trophy tomato is the result of twenty years, or more, of study and selection. Its good qualities are made permanent, and with little care can be kept up to its present standard of excellence. The French, who cultivate the sugar beet for its saccharine qualities, have, by selection and cultivation, produced a beet that yields nine per cent of sugar, instead of four and a half, in root, with which they began. The wheat plant is susceptible of very great improvement, and most of the varieties now cultivated are the results of a careful selection of the largest seed, or the longest and fullest ears. A large crop of

corn can be grown by selecting the best ears from the most productive stalks. Some farmers do this habitually, and find the plant very tractable in their hands. The amount of fodder in the stalk can be increased or diminished by the selection of seed and change of soil. Every plant will be found plastic to human skill, and every animal can be moulded in successive generations to our convenience and taste.

Even the Canada wild goose, whose feathers seemed to be fixed, hopeless of change, has yielded to the influences of domestication at Bronxville, and broken out into new colors. White wild geese may yet be in the market. These plastic qualities of the plants and animals under our care should be carefully studied and turned to economical use. It will give us more grass and grain to the acre; larger potatoes and of better quality; more luscious fruits and longer keepers; better milkers in the stall; working cattle of fleet step and greater symmetry; more eggs in the basket, and more pounds of poultry for the Christmas market. It cannot fail to make all our labors lighter, pleasanter, and more profitable.—*Hearth and Home.*

REVIEW OF MARKETS.

PHILADELPHIA CATTLE MARKET.

MONDAY EVENING, January 1.—There was more demand for Beef Cattle this week, and prices generally were firmer. The offerings of "show" cattle were less liberal, and sales were made at \$a9½c. We quote extra at 7a7¾c; fair to good at 6½a6¾c, and common at 4a5½c ½ lb gross. Receipts, 1550 head.

COWS and CALVES were exceedingly dull and prices for the most part nominal. Sales of springers at \$40a55, and fresh Cows at \$45a60. Receipts, 150 head.

SHEEP were in small supply and held firmly. Sales of fair to choice at 6a7½c, and common at \$3a4. Lambs ranged from 6a7½c. Receipts, 2000 head at the Avenue and 10,000 head at the Park Drive Yard.

HOGS were in light supply, but there was not much demand. Sales of corn-fed at 6½a6¾c, the latter for extra quality. Receipts, 2472 head.

PHILADELPHIA GRAIN MARKET.

FLOUR—The market was very quiet to-day, but prices are quotably the same. The demand is mostly to supply the wants of the home consumers, whose purchases foot up 1000 barrels, including superfine at \$5 25½ 75; extras at \$6a6 50; Wisconsin extra family at \$7 25a7 62½; Minnesota do do at \$8a8 50; Pennsylvania, Indiana and Ohio do do at \$7a7 50, and fancy brands at \$8a9, as in quality; 1000 bbls Quaker City Mills sold on private terms. Rye flour is steady at \$5. In Corn Meal no change.

GRAIN—The wheat market is firm, and there is a fair demand from the local millers for prime lots, but the absence of stock restricts transactions. Sales of Pennsylvania red at \$1 54a1 57; amber at \$1 58a1 60; and white at \$1 69. A lot of fancy sold at \$1 83. Rye ranges from 88a90c for western and Pennsylvania. Corn is steady, but there is not much doing. Sales of 6000 bushels yellow at 68a70c, and western high mixed at 70a71c. Oats are without essential change; 5500 bushels western white sold at 54a55c for white, and 50a52c for mixed. The receipts to-day are as follows: 1427 barrels flour, 2500 bushels wheat, 20,300 bushels corn, 7700 bushels oats, 200 bbls whisky.

PROVISIONS continue quiet, and prices unchanged. Sales of Mess Pork at \$14 50a15 50 per barrel for old and new. City packed extra Mess Beef is taken at \$15a15 50 per barrel. Bacon is steady. Sales of plain sugar-cured city-smoked Hams at 12 a13c, canvassed western at 13a14c, sides at 8, and shoulders at 7c. Green Meats are unchanged. Sales of pickled Hams at 9a10c; and shoulders in salt at 5¾a6c. Lard is quiet. Sales at 9½a10c per pound.

SEEDS.—There is less doing in Clover; 200 bushels sold at 10½c ½ lb. Flaxseed sold at \$1 80a1 82 and Timothy at \$3 25a3 50 ½ bushel.

FARMERS' HAY AND STRAW MARKET.

PHILADELPHIA, Dec. 30.—During the past week 384 loads of Hay and 55 of Straw were weighed and sold at the following prices.

Prime Timothy	-	-	-	-	\$1 70a1 80
Mixed Timothy	-	-	-	-	1 50a1 60
Straw	-	-	-	-	1 20a1 25

TOBACCO MARKET.

TOBACCO.—Large sales, market being excited owing to so many foreign and local buyers. 8200 bales changed hands at from \$50a60 ½ qtl, as to quality. New crop promises to be large and of good class, plantings being extensive all over the land.

LIVE STOCK MARKET.

NEW YORK, Friday, Dec. 29.—Thirty-four cars, or 549 beeves arrived, making 2,261 since Monday, precisely the same number as for the same time last week. The market was firm, and the cattle were all sold before noon at higher prices, considering the quantity of the stock, than have been reported during the last three months. Commonish to prime native steers were readily sold at 10a12½; common to fair Texans at 8½a9c; and bulls and rough stags at about 8½c. Wholesale slaughterers generally paid 10½a11½c ½ lb. for their supplies.

Two cars, or 331 sheep, arrived, making 5,907 since Monday, against 11,443 for the same time last week. There was not enough stock offered to make a market, but quite enough for the demand, and no advance could be made. A few good lambs were sold at 8c per pound, and some very good sheep a 6¼c.

Nine cars, or 1,220 hogs, were received, making 13,377 since Monday, against 21,313 for the same time last week. The market was better; live hogs were sold at \$4 87½a5 06½ per 100 pounds. Western dressed at 5½a5½c; and city dressed at 5½a6½c.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

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No. 2.

AGRICULTURAL.

NOTES ON FARMING POTATOES.

BY D. L. RESH.

POTATOES require a good, rich, well-manured soil. Clover plowed under will do in lieu of a dressing of barn-yard manure. One or the other is essential to securing a good crop.

The ground should be plowed to a medium depth, and well pulverized, then marked out by going *twice* through the same furrow, so as to throw loose soil on either side and secure a furrow of sufficient depth. Three or four inches below the surface is deep enough.

The rows should be two and a half feet apart. It has been proven by experiment that more, and fully as large potatoes, can be raised from an acre, with the rows at that distance apart, than at a further distance.

There are various theories held by potato growers, as regards the preparation and planting of the seed. Practically, we consider the following the best:

The seed potatoes should be cut two eyes to a piece, and dropped or thrown into the row about fifteen inches apart. It matters not which side of the potato is turned up, though if the cut side is turned up the roots will strike a little sooner, and the young plant will appear at the surface perhaps a few days earlier.

Cover to the depth of about two inches, with a common one-horse hoe-harrow, taking out all the shovels except the two hind ones, and allow the horse to walk in the furrow, as he will not injure the potatoes more than to

occasionally tread a piece a little deeper into the ground. Three or four small boys can drop them as fast as a man can cover.

Small potatoes should *never* be used for seed, they are worth more to hogs or cattle; medium sized will do, but here as elsewhere the larger and better the seed, other things being equal, the larger and better will be the yield.

The seed potatoes should be prepared several weeks—not longer—before planting, so as to have everything in readiness when the time comes for planting, which should be as early in the spring as the weather permits—say from April 1st to 15th. An early crop generally yields better than a late one, because it receives the benefit of the spring rains.

The hoe and hoe-harrow are the only implements needed for working the soil after the young plant has reached the surface; before that time little attention is required.

The advantage of marking out deep is that the soil is gradually worked against the plants as they need it, and thus more tubers are produced, and if the crop is put in early they will all have time to mature. A top dressing of ashes or plaster on the rows, about a month after planting, is beneficial.

For raising potatoes, the common two-horse shovel plow, or a plow made for the purpose by R. H. Allen & Co., of N. Y., are the best. A machine for raising and sorting has been patented, which we believe works well where the ground is entirely free from clods and stones.

In good soil 175 to 200 bushels per acre is a fair yield, and this crop pays better than any other legitimate crop raised on the farm. It costs less to raise 100 bushels of potatoes than to raise so much wheat or corn.

It would be well for farmers to devote part of the space given to the oat crop to potatoes. They thrive well on the loose soil where corn was grown the previous year—provided the soil be well manured.

There are innumerable varieties of potatoes, and new ones are constantly being introduced. Among the best for this locality we may mention, for an early crop, the Early Rose—which is evidently the best, Early Mohawk, and Buckeye. For late crop, Mercer, Peach Blow, and Peerless. The latter promises to become a universal favorite, as its quality is good and it is also a great yielder.

Marietta Jan. 20, 1872.

GEN. WASHINGTON'S FARM.

The farm of General Washington at Mount Vernon, contained ten thousand acres of land in one body—equal to about fifteen square miles. It was divided into farms of convenient size, at the distance of two, three, and five miles from his mansion house. He visited these farms every day, in pleasant weather, and was constantly engaged in making experiments for the improvement of agriculture. Some idea of the extent of his farming operations may be formed from the following facts:

In 1787 he had five hundred and eighty acres in grass; sowed six hundred bushels of oats; seven hundred acres with wheat—and as much more in corn, barley, potatoes, beans, peas, &c., and one hundred and fifty with turnips. His stock consisted of one hundred and forty horses; one hundred and twelve cows, two hundred and thirty-six working oxen, heifers, and steers, and five hundred sheep. He constantly employed two hundred and fifty hands, and kept twenty-four plows going during the whole year, when the earth and state of weather would permit. In 1780 he slaughtered one hundred and fifty hogs for the use of his family, and provisions for his negroes, for whose comfort he had great regard.

Washington was emphatically a *farmer*, whatever else he may have been. He was *born* on a farm; he made the farm his *home* throughout his whole life, and he *died* on the farm. That was his coveted relation to society, and the one he ultimately expected to resume when called to occupy other positions in the service of his country. Washington the *surveyor*, Washington the *soldier*, and Washington the *statesman*, were only incidental relations, and were subordinate to Washington the *farmer*. Even while he was President of the United States he could so far withdraw himself from the more weighty duties and responsibilities of his august office as to send written instructions to his agents on the farm, giving the most minute details,

in relation to farming improvements and farm labor. He was eminently a “book-farmer” too, in more senses than one; for he not only patronized all that was extant on agriculture in his day, but he kept precise and elaborate accounts of what he was doing as a farmer. If perchance there should be any among our readers who are averse to book farming, or who indulge in depreciatory notions concerning intellectual farmers, or who lack confidence in the *quality* of the productions of the Mount Vernon farm, we need only refer them to the *fact*, well known in history, that Washington’s *brand* on a barrel of flour was sufficient to exempt it from the customary inspection in any port where his name was known; and good *flour* implies good *wheat*, as a prior assumption. Washington did not entertain ultimate views of a city or town life, but being every inch a farmer, he cherished a longing desire to return to the farm, so soon as he could be honorably released from those public duties which he felt he owed to his country; and when death at length came, *there* is the place where he met him, and where he *desired* to meet him. Think of this, ye temporary farmers, who are longing for the corrupt atmosphere, and the sharp practices of a city or a large town. *Real* success in life does not involve the rapid accumulation of a large fortune, so much as it does the consciousness of being *useful* to the world and the human family; and in *this*, is life’s chiefest happiness.

In our advanced states of agriculture and agricultural facilities, we can hardly realize the harvesting of *seven hundred acres* of wheat, by one farmer, at that early day in the domestic history of our country, when our present horse-reapers—or even the grain-cradles, and horse-rakes—were totally unknown. As to a “turnip patch” of *one hundred and fifty acres*, we doubt if it has been equaled in modern times, unless by some person who has made the cultivation of turnips a specialty. Some of the great prairie wheat fields of the West may be equal, or may even exceed in area, those of Washington’s, but his turnip-patch we think will be hard to beat. But the great farmer, soldier and sage of Mount Vernon, had more mouths to feed than falls to the lot of ordinary farmers, and the above extract implies that he provided for them bountifully. No hungry mortal ever left

Washington's hospitable mansion unsatisfied, whilst it was in his possession, for a farmer's cheer and a farmer's welcome was extended to every one, and doubtless to many who may not have deserved it.

The 22d day of this month is the *one hundred and fortieth* anniversary of Washington's birthday. The small spot on this earth where Washington was born in 1732, is now an open field, and part of a *farm*, with scarcely anything to distinguish it from its surroundings; and yet Washington "still lives." In contemplating such a noble specimen of a *farmer*, well might Henry Lee have been inspired with the historic phrase—"First in war, first in peace, and first in the hearts of his countrymen."

R.

DESTRUCTION vs. CONSTRUCTION.

BY LEVI S. REIST.

THE destruction of timber is a matter that is beginning more and more to arrest public attention. In view of the wholesale manner in which the timber of our county is made to disappear, it is indeed no wonder if the public mind should begin to wake up to the importance of this great interest. The fact that while counties in the Western States in Minnesota, Wisconsin and Michigan, are denuded of their forests, by the most reckless destruction of the timber, is one of the misfortunes to be lamented. In the terrible fire of Chicago, in which its lumber yards perished, see the vast amount of valuable material that has been taken away from the aggregate wood material of our country; and all this the forests must supply. While we live in an age of progress, we also live in one of destruction. Consider the extensive machine shops and manufacturing establishments of the United States, all of which must be kept in motion by the aid of fuel. Timber is required to build cars and other implements of industry, and fuel is needed to keep in motion the machinery for this purpose. Look at the vast amount of timber it requires for the numerous railroads of the country now being built and ramifying in all directions.

Already many of the older states are almost divested of their timber. In the West, many states are so wanting of timber that they have to draw their supplies from the timbered ones; and even that required for build-

ing purposes must come from districts outside of their borders.

Much timber is now destroyed by farmers in the wooded states, using greater quantities for fencing and other purposes than is required. Fences could be sufficiently made of four instead of five rails, and thus much material be saved for other purposes. The estimated cost of fencing material in the west is put down at \$130,000,000.

The time must come ere long when farmers will be able to have only outside fences around their farms, and indeed it is apprehended that the time will be when there will be no fences, as is the case in Germany and in England, and this because of the reckless manner in which the timber has been destroyed. If farmers had been saving of their white oak trees, many of them might yet be standing relics of the olden aboriginal times. Again, had they replenished their farms with timber by planting locust, as they might have done, many an oak might now be standing that has been cut down and made into posts only to rot in from ten to twelve years. They could have raised locust for posts, which would last from twenty-five to fifty years.

A neighbor lately cut down a white oak that measured six feet in diameter, and by counting the growths its age was estimated at two hundred and fifty years. Many of our Lancaster county farmers have no excuse for cutting the last remnants of timber left them by their ancestors; nothing but the sordid greed of money induced them to fell the old beacons of former ages. I might individualize some of my acquaintances, who, though under no necessity to do so, yet in order to increase their loans, have cut the last remaining white oaks upon their farms. It is all right for a man to increase his means by all honesty, but scarcely by the destruction of so valuable an appendage to the farm as timber. He who is willing to do so seems to lose all sight of everything save self, which feeling is surely not to be commended.

Instead of cutting down the remaining scattering trees of our farms, every farmer should, as it strikes us, set aside a small part of his farm, in which he would plant timber for futurity. By so doing, he would rather enhance than diminish the value of his estate, and coming generations would hold his name in honor for so doing. Public opinion is now

coming to view this matter in its proper light, and it is to be hoped that enlightened legislation will follow in its wake that shall make the planting of timber a matter of obligation upon all sections of our country.

"UNCLE JOE'S" HINTS TO "FARMER BOYS."

"Uncle Joe" has been among the "farmer boys," and, as among every other kind of boys, has found some who were disposed to be a little careless. In the hope that he may thereby sow some good seed, he has constrained to throw out a few hints to this class, which may do *them* good, and perhaps even their elder brothers and friends, the "farmer men," also.

And first he would suggest:

BE CAREFUL.—Never use wooden or "shaking forks" in damp straw, nor allow them to become wet, as this will tend to straighten the prongs and thus impair their use.

Never leave an iron fork or hook in such a position that any person might tramp or fall on it. Painful accidents, and even death, have resulted from such negligence.

In feeding cattle, be careful not to spill part nor throw any across the troughs. You are robbing the cattle by so doing, besides wasting that for which some one must pay.

In emptying bran or chop, boys, be sure to shake them out well. "Every little helps."

Never, through haste or neglect, fail to give each creature under your charge just its proper portion of food. Half of your usual food denied you would make you feel very uncomfortable.

Do not forget to give your stock *salt* occasionally. Salt is as necessary to them as it is to us.

Never use a lantern, except when absolutely necessary, and then only with the utmost care.

Never light matches nor extinguish a light in the vicinity of straw, hay or other combustible matter.

Never hang a scythe where any one is likely to walk. You might have cause to regret it.

Be sure your lines, traces, &c., are all in their proper places after the day's work.

BE NEAT.—Keep your "entries" clean. Some hungry calf, colt or ox, may be glad for the clover leavings, you will otherwise be

tramping on, and you will feel all the better for having a clean "work-house."

Never leave feed chests and doors open.

Do not accumulate cornstalks in your racks, nor dirt in your troughs. You would be loth to eat out of filthy dishes.

A little care and a pair of "overalls" during feeding will save your clothes many a "trou-shot" and stain.

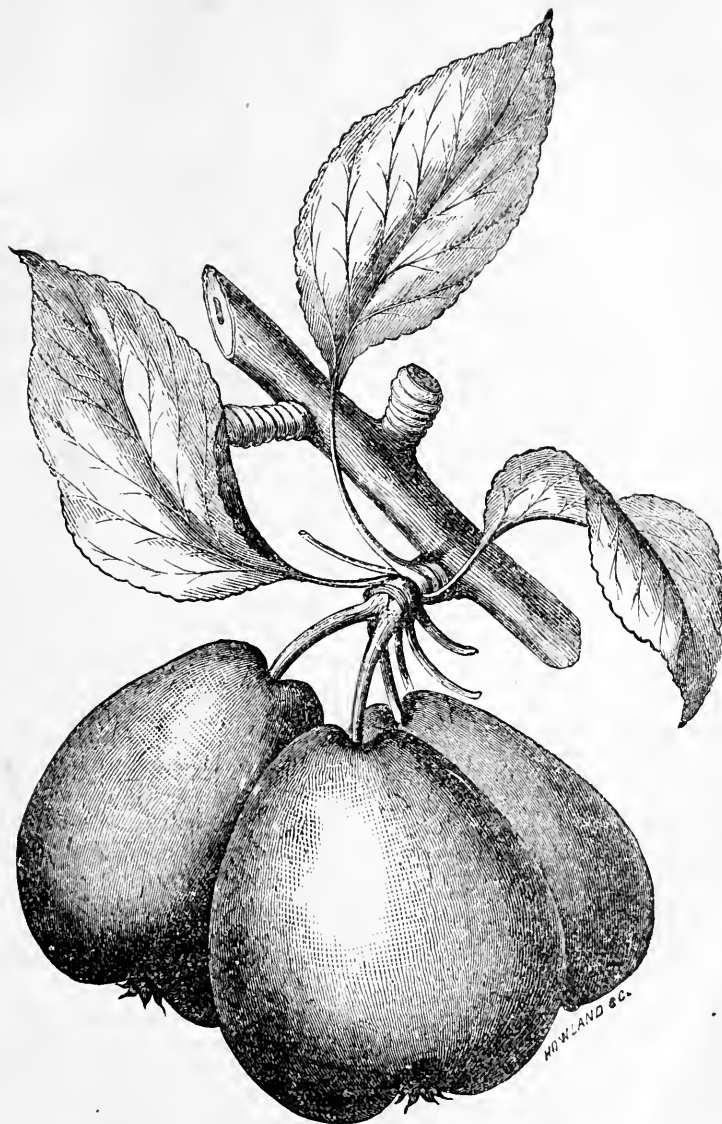
Never allow chickens to roost in your stables if you can possibly prevent it.

Would you like to drink out of a stagnant mud-puddle? Look at yonder watering-trough and see that it is clean and the water therein fresh before allowing your horses to drink.

HOW SHALL I CUT MY ASPARAGUS.—Beds have been set about twelve years, trenched deep, put in a good portion of manure. Set the crowns four or five inches below the surface. I manure pretty thoroughly in the fall, salt in spring, and fork over lightly. Soil originally clay loam; have mixed sand with it so that it is now quite light. I have usually cut it until the middle or last of June; some years have cut all clean as long as I cut any; other years have only cut the longest stalks and left the slender ones to grow up, thinking it would make stronger roots and come up larger the next year. Did so last year, but do not see much improvement this year. Am now cutting it clean again. Which is the best way to insure strong stalks?—A NEW SUBSCRIBER.

This inquiry has been overlooked, but we answer it now. It will probably make very little difference whether you cut all the stalks or leave a few of the smallest on each hill. The general practice is to cut everything clean, leaving no stalks to grow during the cutting season. The greatest injury done to asparagus beds is continuing the cutting too late in the season. We have known quite large plantations to be almost, if not quite, ruined by this practice, owing to the greediness of the owners to obtain large returns from one season's crops.

SPICED APPLES.—Eight pounds of apples, pared, four pounds of sugar, one quart of vinegar, one ounce stick cinnamon, half ounce of cloves. Boil the sugar, vinegar and spices together; put in the apples when boiling, and let them remain until tender—about twenty minutes. Take them out, and put them in a jar. Boil down the syrup until thick, and pour it over.



THE SECKEL PEAR.

HORTICULTURE.

THE SECKEL PEAR.

TREE of healthful but not rapid growth, forming a compact, symmetrical head, not attaining a very large size.

Young shoots brown olive, stout and short. A good and regular bearer. Fruit small, obovate, reddish-brown. Flesh white, buttery, juicy, and melting.

Flavor peculiarly high, rich and aromatic. The

very finest of pears. Ripens in the house, through September and October, or later.

This small, but exquisite fruit, stands deservedly at the head of all pears, for its peculiarly rich, high flavor. There is no European variety that resembles or compares with it. It is not a result of careful, intelligent cultivation, but like many of our foremost fruits, an "accidental variety." The precise derivation is unknown.

The original tree was found near the Delaware, a few miles from Philadelphia, and was in bearing at the period of the Revolution; but the fruit remained in obscurity until the land on which the

parent tree stood, and perhaps still stands, became the property of Mr. Seckel, after whom the pear is named, and by whom it was first brought to public notice.

It is supposed that the tree originated from seeds dropped by Germans who emigrated from Germany, as it bears some affinity to the Rouselet.

The foregoing, from Deitz's *How to Make the Farm Pay*, in reference to this luscious little pear, needs no indorsement of ours to give it currency; for the *Seckel* has long since been almost universally regarded as the *prince of pears*. Culture has wrought an increase in the size of this fruit, in some cases, but it has always appeared to us that we have never tasted an overgrown *Seckel* that we did not think had lost something in the quality of its "flesh and flavor." The superiority of this pear is now so far conceded, that in discussing the merits of the different varieties, the "talk" is conducted pretty much outside of its limits; for although there are other excellent varieties of the pear, and some that occupy a place in fruit economy to which the *Seckel* cannot attain, yet, when *quality* alone is considered, they are all *nowhere*, in the estimation of connoisseurs.

R.

THE CURCULIO MASTERED AT LAST.

THE following is one of the most sensible plans of killing the Curculio that we have yet seen, even better than the jarring process in some respects, being much easier; still that should not be omitted. We quote from the *Ohio Farmer*:

"For many years past Curculio has been an almost unconquerable enemy of the fruit-grower, and not a few have cut down their plumb trees as cumberers of the ground, not receiving any return from them. I have remaining a few nice trees, left standing for ornament and shade, and year after year these trees have bloomed and set full, but in spite of every effort, until the present season, not a quart of fruit was received. While the trees were in full bloom last spring, my wife determined to try an experiment upon one of them, which she did, and it resulted more favorably than could have been expected.

Early every morning, while in full bloom, corn-meal was strewn over the ground beneath the branches, and the whole flock from the poultry-yard at once set to work to gather up the particles of grain. The ground was daily thoroughly scratched over, and meal, insects, and everything to the fowls edible gathered up. Later in the season a brood of chicks were cooped beneath the tree, and the operation of sowing meal still continued. The operation was not omitted for a day from the time of the putting forth of the trees until the plums were beyond the reach of the little pests.

Now, for the result: This tree, and this alone, was loaded with fruit, to the perfect amazement of all who saw it. It was literally covered with fruit

as perfect as could be desired. So heavily were the limbs laden that props had to be used all around the tree. I really believe there were more and better plums upon this single tree than all in the township, and I am disposed to say, all of the county.

Not a plum matured on any other tree on my premises, and all are of the same variety as the one saved.

I would earnestly urge a trial of this method by all who have fruit-trees. It will certainly be continued by me, as I believe it to be a specific against the ravages of insects.

The foregoing *curculio remedy* has a strong plausibility for its support, and therefore we do not hesitate the recommendation of a trial of it to our horticultural readers. Twelve years ago we witnessed a similar remedy; we recommended it *then*. We saw a plum tree, standing in the middle of a "chicken yard," and another, the branches of which, on the outside, hung over the same yard, and thus bore and matured a splendid crop of fruit; whilst other trees, including the other half of the second named tree, which were not so situated, did not mature half a dozed plums, although there was no difference in the blossoming or setting of the fruit. The yard alluded to had been kept for that purpose for a number of years, the surface trodden down tolerably hard by the poultry, and nowhere yielding a single spear of grass; the central tree, forming a shade, resorted to by the poultry during the day to get out of the sun, and where they often were fed. Reader, make a mark of this, and try the "corn-dodg(er)," anyhow, when convenient.

R.

TO KILL PEA WEEVILS.

MANY years' experience has satisfied me of the efficacy of "spirits of turpentine" for the preservation of peas and beans from the weevil. For the garden, put the peas and beans in a common glass bottle, with a few pieces of paper saturated with spirits of turpentine, and cork tightly.

Last year I preserved my field peas perfectly sound and bright by placing strips of paper saturated with turpentine in the bottom of a flour barrel, then a bushel of peas, and again strips of paper as above, until the barrel was full. The peas, when taken out late to plant, late in June, were sound, and no sign of the weevil about them; a few not used in planting are still free from weevil at this date. My invariable success with spirits of turpentine, in the preservation of peas and beans, justifies me in recommending the above method. Care should be observed not to pour the turpentine on the peas, or they will not germinate.—*Cor. Field and Factory*.

The weevil lays her eggs in the pods of the peas in summer, where they hatch, and the larva or

grub penetrates to the pea, in which it undergoes its transformations. Now, if the turpentine does any good, it is in destroying the beetle or its larva while in the pea, not in protecting the pea from the attacks of this insect; and the sooner the remedy is applied after the peas are gathered the better, because the grubs in them are at this time quite small.

The bean weevil is another very destructive insect of similar habits, which probably would also be destroyed by the use of spirits of turpentine if applied in the same manner soon after the crop was harvested.—*Ag. Ed. Weekly Sun.*

"Pea weevils" and "bean weevils" are tolerably abundant in Lancaster county in some seasons—especially the former, and we therefore offer the above to our readers for what it may be worth, on "due trial and examination." We confess, however, that nothing but a practical test would entirely convince us of its efficacy. We apprehend that it would take a good deal of turpentine to kill either the *larva* or *imago*, snugly ensconced as they are in their thin separate pea, and surrounded by an almost impervious integument—enough, perhaps, to impair the quality, if not the vitality, of the pea. We have seen this remedy in print long ago, and it always seems to imply that the pea weevil deposits its eggs *upon* or *in* the peas after they are ripe and gathered. If this was the case, turpentine would, doubtless, prevent the insect from approaching the seeds to make a deposit of its eggs in such a place.

But, unfortunately, as the editor above justly remarks, the embryo of the insect is already in the peas when they are gathered and stored away. Still, as "many years of experience," has satisfied the correspondent above alluded to of the "efficacy" of the remedy, it may also satisfy others, and therefore may be worthy of a trial. But has it ever occurred to this experimenter that some seasons, often several seasons in succession, there are few or no pea weevils, especially in the more northern localities of our country, and that he may have struck one or more of these?

R.

FRIED HALIBUT.—Have the slices seasoned some hours before frying, as it will be less liable to break in turning; when ready to fry, dip it in egg beaten up and roll it in bread crumbs; then fry in hot lard, or have three or four slices of sweet salt pork fried till quite brown and crisp, and then fry the halibut in the hot lard which came from the pork. Dish it and lay the crisp brown pork around it.

BOTANY.

BOTANY.

BY JACOB STAUFFER.

THIS term does not merely include a list of names and dry descriptions of plants as many would infer from the books published on botany. It embraces not only the vegetable kingdom, but the structure and organization of plants. This comprehends whatever relates to the various forms of tissues of which plants are anatomically constructed; it explains the exact organization of all those parts through which the vital functions are performed; and the relation that one part bears to another, with the dependence of the whole upon the common system.

Descriptive botany is simply an expression of language by which one plant may be known from another, without necessarily impressing the mind so as to acquire a knowledge of the fundamental laws, or physiology of plants. Vegetable physiology belongs to the highest branch of natural science, and is not merely a general idea of external form, or a vague notion of internal anatomy, but the most precise knowledge that the nature of the subject will admit.

What is termed *Morphology*—a word which signifies literally the "science of changes or transformations," a very important and interesting branch of comparative anatomy in plants or animals. It is found that vegetable structure follows certain laws, and varies in a simple change or plan of arrangement, and the study of which constitutes the basis of the theory of botany. These laws are so general that we scarcely pay attention to them; but our curiosity is at once excited when they seem to be violated by an abnormal development, or so marked through degeneracy, abortion and cohesion with which the vegetable kingdom abounds.

We are so accustomed to view the leaves, flowers and fruit, so evident to our senses, and dissimilar, as different states of a definite outgrowth. We can hardly conceive that the pure white petals of the lily, the rich red flowers of the rose, the sweet-smelling blossoms of the jasmine and the orange, or the long trumpet-shaped corollas of the honeysuckle, should all be transformed leaves, or that

the stamens in which the utilizing powder is locked up, the pistils which are destined to receive the influence of the pollen, the ovules that they contain, and finally, the fruit which is the result of the action of the two last, are all so many parts formed out of one common organ, which in a very particular and frequent state is what we call a leaf. It need not be inferred that when we eat an apple, or an orange, or a peach, we are under a mental delusion, and simply fancy enjoying its delicious flavors, while we are really chewing the leaves of the plants. Still, it is no less true that they are so developed by certain laws to produce such results by certain fixed laws and a generally uniform plan with respect to each other; so that all the other organs, whether calyx, corolla, stamens, pistils or fruit, have an atomical structure essentially the same, bear the same relation to the axis that they grow upon, are developed according to the same laws, are arranged upon the same certain and uniform plan as before said, and finally, are constantly becoming transformed into leaves of the ordinary appearance, thus losing the condition in which they are usually found, and reverting to their structural type. It does not follow that our knowledge becomes obscured by witnessing the second development of green leaves from that of flowers, as any one, who has paid attention to the subject, frequently meets with cases of such transformation—but on the contrary enables us the better to understand the real nature of the organization of any part, and the plan upon which the most complicated arrangement of these organs has been effected. For example, who is to explain how it happens that buds occasionally spring from the axis of petals or sepals, that anthers are found bearing ovules, that branches push forth from the center of pistils, that petals become antheriferous and stamens petaloid, unless the proposition is admitted that all these apparently different parts are formed upon a common plan, the type of which is a leaf, and hence all interchangeably convertible into each other?

The microscope has brought to light many wonderful physiological facts, showing the foresight and wisdom with which all the phenomena of the universe have been adapted by the Great Author of our being to the accomplishment of the objects for which they have been severally intended.

The vegetable tissues, how admirably adapted by its cellular structure; capable of indefinite extension; possessing also prodigious compressibility, its particles either cohering firmly or loosely, according to circumstances; its sides composed of a most delicate membrane, through which fluid and gaseous matter passes readily in every direction, is destined to form the principal mass of the vegetable, and to execute all those functions with which absorption and respiration are connected. The fibrous tissue, composed of myriads of threads compactly combined into bundles, dispersed through the cellular substance which supplies the place of bones and nerves found in the animal economy, affording strength, solidity and elasticity to the most delicate parts; while the vascular tissue exclusively intended for the reception and rapid transmission of gaseous and liquid matter from the roots to the extremities, is most wisely contrived and most carefully prepared by its spiral structure, for extending and turning, as the cellular substance develops, to those parts where the peculiar matter that it contains is most required. There is no confusion; each part has its peculiar functions assigned to it, for which it has been especially destined and for which it is specifically adapted. The leaves may be considered to perform the functions of the stomach in animals, that is, it is in them that the fluid matter taken up by the roots, and injected into them from the stem, is digested and inspissated, and separated into the nutritious and excremental portions. This digestion of the leaves is chiefly by the absorption of carbonic acid, the emission of oxygen, and the evaporation of water, with suitable provisions to guard, to a certain extent, against excessive dryness, moisture and climate changes, or atmospheric vicissitudes.

(To be continued.)

THE COW TREE.

Among the many curious phenomena presented to the traveler, none affect the imagination more powerfully than the "Galactodendon Utile," or Cow Tree. This useful tree grows on the parched side of rocks among the mountains of Venezuela, and has dry, leathery foliage, with large, woody roots scarcely penetrating the ground. For several months in the year the leaves are not moistened by a shower; the branches look dead

and withered, but when the trunk is bored, a bland and nourishing milk flows from it. The vegetable fountain flows most freely at sunrise, and at that time the natives are seen coming from all quarters provided with large bowls to receive the milk, which grows yellow and thickens at the surface. Some empty their vessels on the spot, while others carry their contents to their children.

NUMBER OF HENS TO A COCK.—We have no hesitancy in recommending to breeders the following ratio of hens to a cock of the breeds named: Houdans, twenty hens to two cocks; Creve-cœurs, eight hens to one cock; Buff Cochins, twenty-four hens to two cocks; Gray Dorkings, ten hens to one cock; White Leghorns, fourteen hens to one cock; Spanish, twelve hens to one cock; Hamburgs, fourteen hens to one cock; Polands, twelve hens to one cock; Game, ten hens to one cock. With this proportion of hens to a cock, the vitality of the eggs will prove good, and at least eleven out of twelve set will produce chicks. For breeding purposes, we inclose in a yard ten or fifteen hens of each variety we wish to propagate, and with them one cock. If we have two or more cocks whose qualities are equal, we think it preferable to change every two days, leaving only one cock with the hens at a time. Two weeks are necessary to procure full-bloods; and we prefer the eggs the third, rather than the second week.

HEADING OFF THE BORER.—A writer in the *Canadian Farmer* says one mode of doing this is to rub the trees over with common soap—soft soap will do very well—early in June, just before the beetles lay their eggs. Another mode suggested, is to plaster over the trunk of the tree with a thick mixture of cow-dung and clay; this is said to prevent the egress of the insect, and causes it to die underneath. Thinks it would also prevent the eggs being laid on the tree, or at any rate be a hinderance to the newly hatched grub in his attempts to penetrate the bark.

CORRESPONDENCE.

EDITORS LANCASTER FARMER: At the last meeting of the Horticultural and Agricultural Society, held at Lancaster, a paper was read from the Commissioner of Agriculture in regard to the proper time of applying manure to the wheat crop. The commissioner contends that the application of fresh

stable manure to the land just before seeding is to some extent injurious, or at least not the proper time of applying it.

His plan is to put the raw stable manure on the ground in the spring, raise a crop of corn, and the following spring seed to oats, and in the fall follow with wheat without any additional manure. He asserts that on this plan he has raised crops of wheat that have not been affected by the general decline that has attended the crop for years past.

This failure of the wheat crop has been the cause of much speculation and solicitude among cultivators. Various theories are advanced from time to time, but very little has resulted in anything practical. The great importance of the question should, however, induce us to examine into all plans that have a plausible appearance.

For this reason I looked around my locality but could find no one that had worked a rotation on that plan. A rotation that somewhat approaches it is practiced by a few, as follows: a clover sod is plowed in the spring, from 50 to 100 bushels of lime spread thereon, and is then planted to corn. The following spring this ground is well manured and planted to corn again. In the fall the corn is cut off and shocked in rows 40 or 50 yards apart, and the intermediate spaces are plowed up and seeded to wheat, and on the following year the wheat is repeated. All these crops being raised from one dressing of lime and one of stable manure, and they are fully equal to the best crops raised on freshly manured ground.

A second approach to it is the seeding of tobacco ground. This is usually heavily manured with fresh stable manure in the spring, and after the tobacco is harvested the ground is seeded to wheat, with a result usually better than the freshly manured oat stubble, thus creating the impression that tobacco is not an exhaustive crop; when it really is one of the most exhaustive crops that can be planted. The foregoing examination seems to favor the conclusions of Commissioner Watts: that it will prove a complete remedy for the failure of the wheat crop is not probable, but if it should prove only one step in the right direction, it will be well worthy the attention of the readers of the FARMER.

CASPER HILLER.

Conestoga, Jan. 8, 1872.

The Lancaster Farmer

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MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE society met January 1st, 1872, in the Orphans' Court room, and after the reading and approval of the minutes, President Engle proceeded to read his valedictory address upon the conclusion of his official term.

Wm. R. Seltzer, of Ephrata, Tobias D. Martin and W. L. Hershey, were elected members of the society.

Levi S. Reist spoke of the success so far of the agricultural society, and reflected with some regret upon the jealousy of certain individuals connected with the press in this county, and remarked that if our society was supported by the entire press of the county it would become one of the most influential societies in the whole State.

Joseph C. Snyder presented to the society the "Annual Report of the Chief of the Bureau of Statistics on Commerce and Navigation" for 1870. Vote of thanks passed.

Simon P. Eby drew attention to a letter of Judge Watts, Commissioner of Agriculture. The letter was on motion read by the secretary.

Jacob Stauffer, H. M. Engle and Peter S. Reist made some general remarks as to the requirements of soil in order to keep it in a condition of fertility.

H. M. Engle spoke of the matter of allowing land to rest, and did not seem to believe anything was gained by this method, provided sufficient nutriment was added; he, however,

stated that the permitting of the ground to remain in grass certainly adds to its fertility.

P. S. Reist referred to the habit of farmers in the olden time allowing their land to rest; he did not believe it essential. He nevertheless believes that land is benefited by resting. He considers that manure should be applied to land as soon as it can be after it is taken out of the stables.

E. Hoover thought that owing to the high price of land in Lancaster county it is, as a usual thing, overworked, and this in his opinion is a main reason for the failure of our crops. Farmers must be more sparing of their farms if they expect to get them in good crop-producing condition in the future.

Jacob Stauffer said that when ammonia is escaping from manure, by scattering salt over it the ammonia becomes absorbed and the strength is retained in the manure.

S. P. Eby seemed to discern the philosophy of manuring wheat.

Mr. Engle recommended his composting system, and P. S. Reist in his hauling the manure out as soon as it is taken from the stable. The great object is to adopt that method which will be to prevent the escape of ammonia.

E. Hoover wants his manure plowed down as soon as it is hauled out.

On motion, society went into an election for officers to serve for the ensuing year. The old officers were all re-elected by acclamation.

The Chair appointed D. G. Swartz as essayist for the February meeting of the society. Society, on motion, adjourned.

AN OLD SETTLER ON THISTLES.—No good farmer need be afraid of thistles. We know this by trial. Fifty years ago we bought most of this farm—all woods then, nearly. Wood was nearly all cut to boil salt, and hauled twelve miles. Of course, the land was cleared slowly, and Canada and Bull Thistles overran the farm. Yet no man in the county beat us raising grain of all kinds when we got at it. There were then no reapers, no threshing machines. I have threshed 3,000 bushels of grain in one year with two horses; hauled wheat to Albany on a wagon fifty years ago this winter. I can show titles of land with Asaver C. Fag's name to them; Benjamin Knower, State Treasurer; Simeon Dewitt, Surveyor-General. I worked land here before

one shovelful of dirt was thrown out of the Erie Canal. I saw Scott's army go by and stay in this town over night. He was then only twenty-six years old. What would boys say now to our old-time tools? On the 8th day of March, 1817, we saw in Albany two pairs of good horses loaded with one rope, bound for Buffalo; the teamster got \$300 to take it there. What changes since!—O. SMITH, *Manlius Center*, Dec., 1871.

MISCELLANEOUS.

HARLEQUIN CABBAGE BUG.

INCLOSED I send you a specimen of a bug which made its appearance here about three years since. They are numerous in many places, and very destructive to cabbage and rutabages. They completely destroyed my entire crop of cabbage this year, not leaving one sprout. I tried sprinkling lime and then soot, to no effect, except to drive them from the top to the bottom of the leaf. Can you tell me the name and how to get rid of them, and oblige?
Y. M. S.

Stony Hill, Richmond county, Va.

This is certainly a formidable pest, and is no other than the Harlequin cabbage bug (*strachia histrionica* of Hahn.) The first account we have of its habits is that given by Dr. Gideon Linneceum, of Washington county, Texas, in the first volume of the "Practical Entomologist," p. 110, 1866. At first it was supposed that this insect would confine itself to the more Southern States, but in this all have been disappointed, for every season since the time named we have received specimens from localities which showed that it was gradually working northward, a few having been received this year from the Southern counties of Pennsylvania. This destructive pest does not confine itself to the cabbage, but will eat turnips, horseradish, mustard, and every plant belonging to the *cruciferae* or mustard family. The gay appearance of this bug, it being beautifully marked with black and yellow, no doubt suggested the name of Harlequin. The perfect insect lives through winter, and is therefore ready to deposit its eggs upon the first cabbage or other plant of the same family that appears in spring. Many different methods of destroying it have been suggested and tried, but we do not know of any that have met with success, except that of handpicking, although this is an almost endless task where the bugs are abundant. Birds or domestic fowls will not touch them, and there seems to be little hope of checking the ravages of this pest unless some chemical compound is discovered that will destroy them and at the same time not injure the plants. We would suggest trying powdered white hellebore, the same as used to destroy the currant worm. In fact those who have the opportunity should not cease their efforts to discover a preventive until one is found.

We have been informed that the "Harlequin cabbage bug" has been found in the southern townships of Lancaster county, but

we have not received any specimens of it yet. It affects cruciferous vegetation pretty much the same as the "squash-bug" does the *cucurbitaceae*, causing them to wilt and die as surely as if they had been scalded, and they continue reproducing during the greater part of the spring and summer season. We have found several allied species—*Scutellerida*—in this county twenty years ago, and there seems to be no special assignable reason why *Strachia histrionica* may not eventually become domiciliated here also. We do not wish evil to our neighbors, although we do wish that this insect, if it *must* be in the land, would come no further north than it is, for, aside from our beets, turnips and radishes, we would not like to see our "saur-kraut" in jeopardy. If it *does* come, however, a united effort at hand-picking will be necessary to exterminate it; but, if other remedies must be resorted to, then in addition to the remedy above named, "Paris green," carefully and judiciously applied, would, no doubt, prove an effective extingisher. Like all the *Scutelleridae*, this is a hibernating insect, and must be first looked for early in the spring, when it is in the act of laying its first brood of eggs on the lower side of the leaves of its favorite plants.

R.

IS THE INFLUENCE OF ELECTRICITY ON THE VEGETABLE KINGDOM ENTIRELY VENTILATED AND EXPLODED?

MESSRS. EDITORS:—I did not think that I would again trouble you with any more of my scribbling, but in looking over the last FARMER, I found an article over the signature of J. B. Garber, Esq., who seems to be shooting thunder at a nameless friend. Now I do not exactly know for whom the fire was intended, but after reading his production carefully, it appeared to me to have such a strong bearing on an article that I handed you, and which you saw proper to publish in the December number, that I take it for granted that it is me that his attention was directed to. It therefore becomes necessary for me again to ask your indulgence for occupying your time and attention, whilst I will endeavor to maintain the position I assumed, however new, or however full of electricity, or

goose-egg blackberries, the theory may seem to be.

Our good-humored friend certainly wouldn't have had need to have troubled himself about guessing that I too was on the lookout for something that would enable me to raise from thirty to forty bushels of wheat to the acre, for this appears to me should be the natural inclination of all. I will, therefore, with the permission of our fortunate friend with a name, class myself among that number, unfortunate and nameless as I am. I do not care so much for a name as I do for the game, especially the game where there is so much labor involved, and which is of so much interest to us all.

Now, Messrs. Editors, let us see how far our friend has succeeded in ventilating and exploding the theory "that electricity has a salutary influence on all vegetation." He does not deny that it is a powerful agent either for good or evil. He, however, seems to be very full of doubt as to the good it may have done to the wheat crop last season, and refers to his record (which unfortunately I do not keep) for facts, from which it appears that out of ten years there were seven years that had more thunder-storms than the year 1871, in the months of April, May, and June. The truth of this I do not doubt; but if he would have given us the record for the whole season it might perhaps have changed the table somewhat. My remarks were made from recollection and from record, and were intended for the whole season. I also stated that these storms were attended with more intensely vivid lightning than we had for some time before. From the number of buildings that were struck and consumed by the fluid last season, I would infer that it was brought in very close contact with old mother earth, and would again say that it might have imparted that essential ingredient to the earth, or to the plant itself, that was requisite to produce the crop.

The number of storms, however, is a matter of very little consequence; one will suffice, if the fluid is properly applied and at the right time, in the vegetable kingdom, as well as on the human body, as I think was very plainly shown in the extraordinary case of the Rev. Mr. Winder, to which I had reference before.

I presume that our friend will be ready to admit that we did not knowingly add anything to the soil that brought about this beneficial

result, and that there is such a thing as atmospheric fertilizers or atmospheric influence on all plants. Now, Messrs. Editors, until our friend will show that it was something that was done by the farmer that brought about this happy result, I must continue to believe that it was nature's laws operating with nature's great laboratory, the earth, that supplied the deficiency which wrought the change, and that electricity might have done its share of the work. Our friend says that in California there were no thunder-gusts known until last season, still they had better wheat and larger yield than we could raise, and that the season of 1871 was more of a failure of the wheat crop than for many years; and then asks the question, could the thunder, which was new to them, have had any agency in reducing their crop? The soil in California being new and no doubt possessing all the ingredients required for the successful raising of the wheat crop together with the favorable seasons, would seem to be the great secret of their success. But the Californians, like a great many others in new countries, may have continued a succession of crops until the most essential ingredients were exhausted, and like ourselves, are to grope their way in the dark; and hence the failure, thunder being nothing more than the report of exploded electricity, which might have taken place so far from the earth that the fluid failed to have an effect. But if the wheat plant is of a very nervous temperament, and susceptible of being frightened out of a year's growth, or even to death, by any sudden and strange noise, then I am ready to admit that the novel and terrific report of such an explosion might have had a detrimental effect. I feel as if I was entirely denuded of the optical magnifier, of which our humorous friend speaks, and which he says he didn't use to examine his row of potatoes with; yet methinks I can see that our friend jumps at conclusions too hastily, and endeavors to catch lightning by the tail for the purpose of retarding its progress. Did not our friend err, in his experiment, by burying the wire under ground (which would appear to have been the case from his description) along the line of his row of potatoes? Ought he not, at least, to have left one end of it above ground for the purpose of attracting the fluid? But when attracted, copper being considered one of the best conductors, would

have carried it along his row of potatoes to the other end. The great probability is that it would have passed along the row (the same as the cable carries it through the Atlantic) and been discharged in the earth, at the other end, away from the roots of the plants, and consequently be of no benefit to his "Murphys."

Would his experiment not have succeeded much better if he would have cut his wire, and inserted the pieces, with one end in the ground, along his row of potatoes, about the depth they were planted, thus conducting and bringing it in contact with the earth, around the roots of the plant, and there, by nature's law, be mingled with the earth, and in nature's great laboratory be converted into nourishing food for the plants? I however believe that no experiment will succeed as well as a natural application of this fluid. I very often have to call into play the article that is stuck on the nasal organ for the purpose of aiding vision; but in this case it appears to me I can see enough without it—to know that the more knowledge we finite men acquire, the better we must know that we are short-sighted and dull in comprehension, when compared with that infinite wisdom displayed in nature.

I beg pardon for allowing myself to be so far led astray as to mistake the drift of our friend's argument, but with all deference due to our, apparently, very good-natured friend, I would say, that it looked very much as if he had made the comparison for the purpose of showing the worthlessness, or extravagance, of using artificial manure. I, therefore, simply made another comparison, with the same poor, old Indian's gun, for the purpose of showing that artificial manures could be economically and beneficially used; all that is necessary is to know how and when to apply them, as was fully illustrated in the case of "Prof. Mapes." Our friend has very truly said, that some things may be done as well as others, and asks the question, might not the poor Indian have purchased a brand new gun with the money he paid for repairing the old one? Certainly he might, if the charges for repairs were high enough, but even new things sometimes are defective, and only become good after being repaired.

To illustrate this, I will relate a case I heard a few days ago: I heard a Mr. H. state

that he had a new entry door at his barn, and that sometime ago his bull took a notion to break it; as was quite natural, Mr. H. went to work to repair it, making it much stronger than it was before, and he said the scamp couldn't break it since.

As I do not consider myself competent to appear before the public as a writer, I will, therefore, close by subscribing myself an humble observer, in a local habitation, and patiently awaiting further developments.

January 15, 1872.

ROTATING MANURES.

BY DAVID Z. EVANS, JR.

THE title of this article may, and no doubt does, sound strange to many, for, although all have heard of, and many put into practice, rotating crops, yet when we couple the word rotating with manures it has a rather odd sound.

That rotating manures is beneficial to land requires but a few trials to be abundantly verified. Even the best of all manures, stable manure; which possesses most of the elements suitable for sustaining the growth of vegetation, is no exception to this rule, although it can undoubtedly be used for successive years for a longer period than almost all others, without the crops showing that a rotation or change would be advisable or desirable. Next to stable manure, in point of permanency, in my opinion, comes the pure ground bone, or bone meal or flour, not what is known in a commercial sense as pure ground bone, for most of this, I am sorry to say, is more or less adulterated with some foreign or bulky substance, as we have found out by experience, but crushed bones and bones only; this manure is strong in plant food, and will for several, perhaps many years, support a luxuriant growth of vegetation, especially grass or clover, which delight in an abundance of it. Peruvian guano can be said, and rightfully, too, to come next to bone for durability, when it is pure and unadulterated, and can be applied for several years to almost all crops with marked good results. We might next name some of the phosphates; but having tried several kinds without any flattering results, and in some cases with much loss. I am not very enthusiastic in their praise, for where you find a

sort that really does well, the effects are far from being permanent; nor is it desirable to apply these phosphates year after year to the different crops, for it gradually and surely kills the soil, and here it is that we see the great desirability of rotating manures. It is with the soil as it is with man, so to speak. The manure put on is the food the land requires for supporting the growth of vegetation, its allotted task; but if it has the same kind of food year upon year, it will become wearied in well doing, just the same as a man would if fed on one kind of food for an indefinite period. A rotation, say from manure to bone or to green manuring, will work such a great change as would be gratifying to all. I do not mean to substitute one for the other, and then continue with the one substituted for several years, but only for one or two years at the most, after which continue the rotation in favor of some other fertilizer of a desirable nature, when you can then revert to stable manure, and at the same time be increasing the richness and capacity of your soil, which latter should be the great desideratum with all would-be farmers, and is with all thorough ones. There are many who utterly condemn and complain of the complete worthlessness of all the phosphates and patent manures manufactured, having been, no doubt, at some past time severely bitten with them; but I, although badly served with some, will be more generous, for I think that, as manures to use in the series of a rotation, the best and purest brands of course they are indeed good. I have seen much of it basely adulterated, but this does not say that all is so done, for I know to the contrary.

I know that some of the readers of this will consider me too enthusiastic or over-zealous in regard to the rotation problem; but if they only take the trouble to solve it as we have done, they will find the results just the same and in good keeping with what I have just said. I know that thus far comparative little attention has been paid to this subject by those who are or should be the most interested in it; and why it is so I cannot imagine, for its importance or value is not so small as to be unworthy of a careful attention, when the increased richness of the soil, and as a matter of course, the greater yield obtained from pursuing such a case, is taken into consideration. As the season for active opera-

tions on the farm is soon to commence, I would earnestly ask the farmers to give this matter a trial, for it deserves it; and it is not necessary to make the experiment on a large scale, if not so desired, for you can make it upon an acre or so without much or any additional expense being incurred by the experimenter. If the market gardeners would only give the subject of rotating manures at least one trial, using green manures, if convenient, the results, I am confident to assert, would warrant a repetition of the same, or rather a continuance. Of course you must use your judgment in the matter, for it requires forethought as well as anything else does, and must not be rushed at blindly, or blunders might be the legitimate results of such a hasty course.—*Mass. Ploughman.*

PRUNING TOO LATE IN SPRING.

In passing through the country we observed a great improvement in the management of newly set orchards. Twenty or thirty years ago not one orchard in fifty received proper cultivation. The consequence was that a large majority of the trees set out either perished in a few years or else made a feeble and sickly growth. In some instances not ten per cent. survived. An extensive observer, whose business gave him special opportunities for judging, informed us he was satisfied that among dwarf pears not one in a hundred of the multitudes that were set out ever made a good growth or came into successful bearing. But at the present time, total neglect has become the exception, and good clean cultivation is more and more common. Thrifty young orchards are frequently met with, and good fruit is finding its way among all classes.

But while we see a great improvement, so far as the cultivation of the soil is concerned, there is frequently a serious loss from improper pruning, and the importance of observing the right season for the work is less understood. These remarks are specially suggested at the present moment by seeing a large and newly-set pear orchard nearly ruined by cutting back after the buds had opened. The trees selected for setting out were of good size, handsome and thrifty when taken up, the work was done in the best manner, and the ground where they stand is kept clean and mellow, and in

the best condition. But one important part of the work has been done wrong. The trees had been heeled in until the leaves began to expand; the shoots and branches were then shortened back at the time of setting out. It is now midsummer, and none of them have grown half an inch—many barely survive. Had the cutting been performed early in spring, when the trees were dug up, and before the buds had swollen, we see no reason why they should not have made a growth of a foot or two, and have presented a thrifty and handsome appearance. Nothing checks a young tree more than heading back too late. Some have pronounced the practice of cutting back at all to be worse than useless, because they did it at the wrong time. Pears and cherries are particularly sensitive to this management. Young cherry trees are sometimes ruined by it. We have seen rows of standard pear trees in a nursery that had been budded the previous season, actually killed by scores, by cutting down after growth had commenced. We have had occasion to speak before of this error in practice; but while the subject is so commonly misunderstood, we shall have to give line upon line until the error is corrected.

PLANT GRAPEVINES.

It is surprising that so many families in the country are willing to live year after year without cultivating a single grapevine about their dwellings. They are compelled to purchase the delicious fruit for the table, or not taste it during the season. There is a common impression that to cultivate grapes properly, a vast amount of knowledge and tact is required. To many, the simple trimming of a vine is a mystery, more difficult to comprehend than the hardest problem of Euclid. This is an erroneous view, and ought not to prevail. Any person of ordinary intelligence can learn in one hour how to trim and nourish vines, and if instruction cannot be obtained from some experienced cultivator, there are books filled with cuts and illustrations which make everything plain. Three vines, of as many different varieties, planted in some sunny nook, or by the side of buildings, so as to obtain shelter, will, if properly cared for, furnish many bushels of delicious grapes every year. Select a Concord, a Delaware, and Adirondack; make the ground mellow and rich,

by the use of the spade, and by employing old manure, fine ground bone and ashes, and set out the plants. In three years the rich clusters will appear, and in four years the product will be abundant.

It is well to have vines planted so that the waste liquids from the dwelling can be used in fertilization. If there is any food the vine specially loves, it is the soapy liquids which accumulate on washing days in families. Vines drenched every week with these liquids will flourish amazingly, and extend themselves so as to cover large buildings, every branch bearing fruit. We say to our readers everywhere, plant vines.—*Journal of Chemistry.*

SOWING OATS IN FEBRUARY.

Several years since I seeded oats on the last snows in February. The result was the crop ripened two weeks earlier than that seeded early in the month of April, and a marked difference of product in favor of February seeding was strikingly perceptible, saying nothing of the advantage gained by getting the crop in market in advance.

Winter oats, sown early in the month of October, will ripen upward of a month earlier than those sown in April. I cannot speak practically, but I suppose oats, like wheat and rye, can, by repeated seeding in the autumn, become sufficiently hardy to resist the winter frosts, and *vice versa*. I was told a short time since by an intelligent Irish farmer, that in Dublin county, Ireland, oats are almost exclusively sown in the autumn.

In making the experiment alluded to, I plowed an acre of light loam in the month of November, where potatoes were previously grown. Plowing may be done at any time during the winter, when the ground is sufficiently dry and friable. In such land harrowing is unnecessary, from the fact that the freezing and thawing process renders the soil sufficiently level, friable and in good condition to receive the seed, which will be sufficiently covered by the porous condition of the land. Previous to sowing, the oats ought to be passed through a fanning mill, giving a heavy blast of wind for the purpose of separating the light oats and weed seeds from the heavy, well-ripened oats. After the plants become sufficiently rooted and the soil dry, a harrow ought to be passed over the crop, followed by

a roller. Previous to harrowing and rolling, it is advisable to sow clover and orchard or mixed grasses for a succeeding crop. No advantage can be gained by steeping the seed.

An advantage will be gained, however, by coating the seed (for an acre) with ten bushels dry sifted ashes, with enough beef or pork brine, or its equivalent in salt, using black water for dilution (brine is preferable, because it contains nitre, blood, etc.), to produce a mass to the consistency of thick cream or lard; next add the oats; mix by turning over the mass frequently, or until the oats become well coated; then dry the mass with sufficient gypsum or dry screened clay; screen the oats from the mass and sow immediately. The screenings will be valuable for the potato and other crops, or for the preparation of additional seed. Two to three bushels of oats are sufficient to seed an acre; the former quantity if the seed is heavy, short, and well ripened. *S., Baltimore, Md., in Country Gentleman.*

[The above practice probably would not answer in more northern localities, but it teaches a very important lesson, viz., that farmers as a rule do not sow their oats early enough in the spring. Oats will grow in very cool weather, and when the seed first germinates it requires a large amount of moisture.—*Ed. Sun.*]

OUR NATIONAL WHEAT CROP.

Such frequent allusions have been made to the fact that our American wheat crop is rapidly deteriorating, that it would seem as though the farmers of the country would rise *en masse* and resolve that they will retrieve their reputations, by proving that they are not only capable of but determined to maintain unimpaired the original fertility of the soils.

Here and there we find one who appears to adopt this determination, and the pity is that there are not more. Thus for instance we find it recorded that on Sherwood Island, California, 69 bushels of wheat have been raised to the acre. Now it is not to be expected that such an enormous yield as this could be made general, but it seems to show that we have wheat-lands in the United States unsurpassed in the world.

Again, I noticed a day or two since that in Monroe county, Pa., a trifle over 40 bushels

per acre of Diehl wheat was raised. The owner of the farm on which this fine crop was gathered plows to the depth of 12 inches, the furrows are leveled with a harrow and the soil is then thoroughly disintegrated with a wheat cultivator, with teeth 15 inches long and drawn by four horses. The seed bed is thus 12 inches deep, the land is largely clayey, deep and fertile. Now as there are millions of acres of land similar to this in our country, why cannot the same thing be done on them? If it be possible for one man to raise 40 bushels of wheat to the acre, why should not all farmers with equally good lands do the same, or at least approximate to it?

Even in Burlington county, N. J., we find farmers who grow an average crop of over 30 bushels to the acre, and if the proper system were adopted, this happy state of affairs would prevail generally, or at least we would be able to report an average crop, which year for year would exceed the present one at least one half.

Planting as deep as the nature of the soil will permit, thorough pulverization of the entire depth of the seed bed, and a liberal application of manure, are the requisites, and these are within the reach of all who have the spirit to avail themselves of them. If we had such a system of cultivation as should prevail, and as is followed by the farmers to whom allusion in this article has been made, the average wheat crop of the country would not be less than twenty-five bushels.—*Cor. Journal of the Farm.*

DIMINISHED PRODUCTION OF WHEAT UNDER THE COMMON ROUTINE.

The following letter, which we find in the *Rural Messenger*, from our new Commissioner of Agriculture, Judge Watts, possesses interest at this time:

“ Department of Agriculture, }
WASHINGTON, D. C., Sept. 27, 1871. }

“SIR—Your letter brings to my mind again what has frequently occurred to me as a marvelous result of the great improvement in agriculture which characterizes the present day—a great diminution in the production of wheat, the great staple of the country. To what cause we may attribute it, is a question which presents itself to the mind of every agriculturist who takes an interest in the success of this great leading interest of the land. An

easy solution is given, 'that our soil has lost that original, rich virgin character which it had in the beginning of our operations.' But when was that beginning? It is not *now*, so far as concerns newly cleared and cultivated lands? Are they not as they were one hundred years ago? No, we must look for some other rational cause, and he who can trace it to a satisfactory and practical conclusion, will benefit mankind. Until it is discovered, let us console ourselves with the reflection that human skill, knowledge and experience will solve the difficulty. Where so many minds are occupied, as there are upon this subject, the truth will be discovered.

"Let me add my mite to the consideration of it. The ordinary routine (I now speak of the practice in the Middle States) is clover, corn, oats, wheat; and the last often repeated. Inasmuch as this embraces the whole course of farming, the solution of the great question must be found here, if it be found at all in the fault of the farmer. If it be in the seasons, in the atmosphere, or otherwise Providential, we may excuse ourselves to the world, and be content with the reflection that He doeth all things wisely.

"But my experience leads me to the belief that the fault or the failing is ours. The experience of many years has led me to the conclusion that the deterioration of the wheat crop is mainly attributable to the improper and untimely use of barn-yard manure. In our practice, the clover sod is turned down and planted with corn. The ground is again plowed in the spring, and sowed with oats, and upon the stubble of this crop all the manure of the barn-yard is put; then plowed again, and sowed with wheat. This delicate plant is thus subjected to the rawness and grossness of barn-yard food, with all its germs of flies, worms, lice and bugs—seemingly a sufficient cause of the unsuccessful growth of a grain so pure and delicate as wheat.

"Corn is the hog of plants, and will devour food of any quality and thrive upon it. Here, then, upon the sod to be plowed for corn is the place for barn-yard manure. Bury it deep, and when the corn is cut off break the stubble even with the ground during the winter. In the spring harrow the ground well, sow your oats upon it and roll it. You will thus keep your manure where you put it, and not subject the oat crop to being thrown down by

it. When this crop is removed, bring your manure to the surface by deep plowing and thorough tillage. The barn-yard manure having thus received proper preparation, is a fit food for the wheat plant.

"Experience has taught me this lesson: On my farm, in Pennsylvania, I never fail to raise a satisfactory crop of wheat, and I have known no such thing as midge, Hessian fly, or army worm.

"I remain, sir, very respectfully, your obedient servant,

"FREDERICK WATTS,
"Commissioner."

ELEVATING FARMING--FARMERS' WIVES.

Our physical growth, our political safety, and our moral and intellectual well-being, depend largely on our agricultural advancement and a popular understanding of its value. Yet our farming is often wretchedly rude, our system deplorably defective, and we fail to develop such great improvements in agriculture as characterize other occupations. To-day scarcely one farmer in a hundred realizes 5 per cent. on his money invested, while money in large quantities is readily lent for 10 per cent. on the best land securities. Why is it? Are our farmers lazy? Is the soil naturally unproductive? Are our markets poor? Emphatically, no! Our farmers are unsurpassed for energy, our soil is without a rival in productiveness, and our markets are amply remunerative. The source of our trouble is found in the fact that *we lack education*. We cannot talk understandingly of acids and phosphates. We are ignorant of chemistry and botany, and we do not know where to set our cabbage plants that the harvest may not prove us to be cabbage-heads ourselves.

An ambitious young man brought up on a farm now-a-days, sees the defects of our agricultural system, and the ignorance of his fellow-farmers, and resolves to elevate the calling. He enters college with this object in view, and whether it be a classical or an agricultural institution, he finds a new world opened to him. The rust and shackles which confined his latent powers are worn away. He finds new society, and is most favorably impressed with the improvement on his former social privileges. He returns home to

spend his vacation, and everything seems altered to him. His enthusiasm for farming has received a check during his absence, and his friends at home noticing the improvement in the young man's manners and appearance, become ambitious to have a lawyer or a doctor in the family. Hence every influence is employed to divert him into the new channel; the growing contrast between home society and college privileges, which becomes more apparent during each succeeding vacation, casts the die, and the young collegian studies law; while his duller brother, debarred from college privileges, follows in the foot-steps of his father, and farming remains in *statu quo*, for another generation to do likewise.

Occasionally, however, an educated young man turns his attention to farming, and the question that gives him the greatest embarrassment is where to find a wife, educated, energetic and refined—one who can sympathize and talk intelligently with him on general matters outside of the domestic routine—whose education has not unfitted her for the cares and duties incumbent upon her. Unfortunately, great as is the tendency in our colleges to lead young men from rural pursuits, many times more pernicious is the education received in our female seminaries by discouraging young ladies from becoming farmers' wives; and it is a frequent expression among them, "rather than marry a farmer, I'd live and die an old maid!" They remember, if they are farmers' girls, the few social privileges of their younger days—that farmers and farmers' sons, *as a rule*, fail to cultivate the æsthetical part of their natures, and they become impressed with the idea that farmers are boors and farming contemptible. They connect the term "gentlemen" with "Alexandres" and silk hats, a No. 6 French calf boot, and hair parted in the middle—ignoring the fact that in nine cases out of ten, under the coarse shirt of the farmer beats a heart and lives a principle as much strangers to the kid-gloved gentleman as decency is to the wild-women of the Victoria Woodhull school. Some girls, too, are so foolish as to have their heads turned by the reputation gained by leading "female suffrage" ladies, and to lose themselves in a mad passion for notoriety. The beef-steak burns, shirts remain buttonless, and *unclean* pens are wielded, to the neglect of clean clothes. Added to

this, the fact stares us in the face that many American women have no health and no physique. Slate pencils, lily-white, horse-hair, plumpers, cotton, india-rubber, steel corsets and arsenic have done their work until adulteration seems to be getting almost as applicable to our American women as to American whisky.

But Antoinette Brown Blackwell tells us that she has found healthy women even in America—rosy-cheeked maidens whose education has not contracted their chests or their intellect, who have established a harmony between mind and body by educating their mental faculties and still retaining a fair share of physical beauty. Such girls, as wives, will bring health and refinement to the farm—a love of labor where duty demands it, and a love of literature, taste, culture and music *all the time*, making home attractive, and destroying the contrast between home society and college associations. By woman's aid only can we hope to destroy the supposed antagonism between education and agriculture, and elevate our calling by drawing the young men back to farming after finishing their college course, and thus bringing into practical use the latest developments of science.—*Cor. Country Gentleman*.

WHAT ARE ARTIFICIAL MANURES.—There does not seem to be a clear understanding as to what are natural and what are artificial manures. Many farmers have a prejudice against what are called chemical manures, probably for the reason that they can not see the connection which exists between a product of a chemical manufactory and the needs of the vegetable products of their soil. Such manures, therefore, as nitrate of potash, nitrate of soda, chloride of sodium (salt), sulphate of lime (plaster), etc., are looked upon as either useless or of doubtful advantage. But there are many so-called artificial manures which are really as much the natural products of the farm as the manure from the stables or hog-pen. For instance, bone-dust and superphosphate of lime return to the soil precisely the same elements which they derived from it. So with many articles manufactured from refuse flesh, blood, waste of tanneries and soap-works. If these are not adulterated with useless foreign articles they but bring back to the soil what was originally taken from it. For this reason, if these manures can be procured at their actual value, their use should become as regular a part of the farm economy as that of barn-yard manure. Every calf, hog, or sheep sold off the farm creates a demand for the return of a portion of one or another of these incorrectly called artificial manures, as much so as the feeding of an animal calls for the return of its waste.—*American Agriculturist*.

BOOK AND SPECIAL NOTICE DEPARTMENT.

SPECIAL AND LOCAL NOTICES.

TEN CENTS PER LINE EACH INSERTION.

WE have on our table a copy of **PUBLIC LEDGER ALMANAC** for 1872. It is handsomely printed, and full of useful information. A copy of this Almanac is distributed gratuitously to each of its eighty thousand subscribers.

THE **N. Y. TRIBUNE ALMANAC** for 1872, has made its appearance, and is as interesting and as useful as ever. It can be procured at any book store in the county; price, 20 cents.

HOW TO MAKE THE FARM PAY.—This sprightly agricultural monthly is making rapid progress as one of the best of its kind published. Jas. F. Downey, of this city, has charge of the advertising department. It is edited and published by Geo. A. Deitz, Chambersburg, Pa., price, 50 cents a year. We will furnish the **FARMER** and *How to Make the Farm Pay*, one year, for \$1.50.

OUR BOOK TABLE.

THE January number of the *Pennsylvania School Journal* appears in a new dress of beautiful, clear-cut type. It contains the Thirty-eighth Annual Report from the Department ment, showing the present condition and remarkable development of our Common School system; an article on "Conducting Recitations," by Prof. Wm. F. Phelps, of Minnesota; "The Swedish School System," by Mrs. Anna Randall Diehl; "Programme and Time-Table for an Ungraded School," by Hon. M. A. Newell, State Superintendent of Maryland; "The School; Question in Europe," by Hon B. G. Northrop; with full Editorial department, interesting miscellany, book notices, and publishers' department. Do you read an educational journal? If a teacher or director, here is what you need. Begin with the New Year. Subscription price, \$1.50; to clubs of five or more, \$1.25. Address, J. P. Wick-ersham & Co., Lancaster, Pa.

THE *Gardener's Monthly*, for January, 1872, prompt, fresh and vigorous, and as full of good things "as an egg is full of meat." Every fruit and flower gardener ought to have it. \$2 a year. TH. MEEHAN, Ed., Philadelphia, Pa.

AMERICAN HOMES.—Published by Chas. H. Taylor & Co., Roston, Mass., is a domestic magazine, which fills an important place in the family fireside. Only \$1 a year.

"THE LAWS OF LIFE AND WOMAN'S HEALTH JOURNAL," Edited by HARRIET N. AUSTIN, M. D., and aided by four assistant editors, ought to be in the hands of every woman, at least, who has any appreciation of her life and mission on earth. Dansville, N. Y., \$1.50 a year.

THE *National Live Stock Journal*, for January, 1872, edited by JNO. P. REYNOLDS, Chicago, Ill., is a capital number of an illustrated quarto, ably conducted, and devoted to the specialty embraced in its title. Terms, \$2 a year, in advance.

EVERYBODY'S JOURNAL.—A live, neat, and racy folio, published monthly by JOHN WANAMAKER, corner of Sixth & Market streets, Philadelphia, at 50 cents per annum. The typographical execution, the quality of the paper, and the tone of its literary contents are unexceptionable; and on the whole, it is just such a journal as one might wish to see as a weekly visitor instead of only monthly. Ably edited by Mr. H. JONES, and devoted to the young men of our country. The January number comes to us with a supplement, containing a catalogue of books which are

given as premiums to clubs of subscribers, from four up to eighty. Every subscriber of the **FARMER** ought also to become a subscriber to this journal; for there is no conflict in their separate interest—and to facilitate that end we will furnish the two at \$1.50 per annum.

NEW BANKING FIRM.—By reference to our advertising columns it will be noticed that Dr. W. L. Diffenderfer, well known to our readers, has associated himself with his two brothers to engage in the banking business in this city. To such persons as require the service of a banker, we recommend them as safe, prompt and reliable business men, meriting any trust that may be reposed in them. Putting into their business a capital as great as that of any other private banking firm in this city, they will no doubt at once fill a prominent place and receive their full share of patronage. We wish them success.

OPINIONS OF THE PRESS.

"LANCASTER FARMER.—The January number of this neat and valuable agricultural and horticultural journal is received. Every farmer in this and adjoining counties who desires to keep up with the progress of his business should subscribe for it. It gives the experience of many of our best farmers, besides much scientific and other information important to farmers. Terms, \$1.25 per year in advance. J. B. Develin, publisher, Lancaster, Pa. We will furnish the *Herald* and **FARMER** one year for \$2."

The above is from our modest rural cotemporary, the *Mount Joy Herald*, whose good opinion is far more flattering to us than the commendations of more pretentious journals, simply because, occupying our own plane of use it has a better conception of our worth to rural readers.

MARKETS.

CHICAGO CATTLE MARKET.

SATURDAY, JANUARY 27, 1872.

CATTLE.—The offerings embraced every grade of stock, from scrawny cows up to finely formed, thoroughly fattened blooded steers, and sales were reported all the way from \$2 25 to \$7. Sales at the extremes, however, were few, most of the transfers being made at and within the range of \$4 25 to \$5 75. The notable sales of the day were fifteen head, averaging 1,750 lbs, and 11 head averaging 1,720 lbs, at \$7.

Stock steers continue in steady, fair request, and all suitable lots find buyers at full previous rates, or \$3 25 to 50 for common lots averaging from 700 to 900 lbs., and at \$3 75 to 25 for fair to prime droves averaging from 950 to 1050 lbs. There is also a good demand for fat cows and light fleshy steers to supply the city trade. The market closed steady for good to choice, but dull and a shade lower for common thin cattle.

Extra Graded steers, averaging 1500 lbs and upward, \$6 25 to 75; Choice heaves—Fine, fat, well-formed 3 to 5 year old steers, and averaging 1300 to 1400 lbs, \$5 75 to 6 00; Good heaves—Well fattened, finely-formed steers, averaging 1100 to 1300 lbs, \$5 25 to 5 50; Fair grades—Fair steers in fair flesh, averaging 1050 to 1200 lbs, \$1 75 to 5 00; Medium class—Medium steers and good cows for city slaughter, averaging 900 to 1100 lbs, \$3 25 to 50; Stock cattle—Common cattle, in decent flesh, averaging 700 to 1050 lbs, \$3 00 to 25; Inferior—Light and thin cows and steers, 2 50 to 2 75.

The extreme range of prices was \$4 10 to 60, with the bulk of the sales at \$1 20 to 40 for fair to good fat smooth even lots. As showing that a shade better prices prevailed at the close than at the opening of the market, may be mentioned the sale effected late in the afternoon, of 20 ear loads, at \$4 35 to 40.

SHEEP.—Without being quotably lower, prices for this class of stock were weaker. There was only a moderate demand either on local account or for shipment, and, in view of the liberal supply, buyers seemed willing to concede a little when by so doing they could effect a sale, as the close of the week is near at hand, and none are desirous

of "holding over." Good to choice were salable at \$3 50a 6 75, and medium grades at \$1 65a5 25. Common thin lots were neglected at \$4a4 50. A good many remain in the pens unsold.

PHILADELPHIA MARKETS.

MONDAY, January 29, 5 P. M.

FLOUR.—The market is dull and weak. The inquiry is confined to the wants of the home consumers, and their wants are limited. A few hundred barrels were disposed of, including superfine at \$5 25a5 75 per barrel; extras at \$5 87½a6 50; Wisconsin and Minnesota extra family at \$7 25a8 25; Pennsylvania do. do. at \$7a7 50; Indiana and Ohio do. do. at \$8 50a10. Nothing doing in Rye Flour or Corn Meal.

GRAIN.—The Wheat market is very dull, and prices hardly maintained. Small sales of Pennsylvania and Western red at \$1 53 a 1 58, and white at \$1 70 a 1 75. Rye commands 92c. There is no change in Corn. Sales of 6000 bushels new yellow at 66 a 67½c., and Western mixed at 68 a 70 cts. Oats are steady with sales of white at 55 a 56c., and mixed at 5 c. The receipts to-day are as follows: 1052 bbls flour; 1704 bush wheat; 11,135 bush corn; 5700 bush oats; 529 bbls whisky.

PROVISIONS continue quiet, and prices are unsettled. Sales of Mess Pork at 14 50 per bbl for old and new. City packed extra Mess Beef is taken at \$15 a 15 50 per bbl. Bacon is steady; sales of plain sugar-cured city smoked Hams at 12 a 13c; ca. vassed Western at 13c, sides at 8c, and shoulders at 7c. Green Meats are unchanged; sales of pickled Hams at 9½ a 9½c, and shoulders in salt at 5½c. Lard is quiet; sales at 9½ a 9½c per pound.

PHILADELPHIA CATTLE MARKET

MONDAY, January 29, 5 P. M.

The Cattle Market was dull this week and prices favored buyers; about 2000 head arrived and sold at 7½a7¾c. for extra Pennsylvania and Western steers, 8½c for a few choice, 6a6½c. for fair to good do., and 4a5½c. for in gross, for common as to quality.

Cows were without change; 200 head sold at \$14a15¾ per head.

SHEEP were in demand; 15,000 head sold at 5½a8c. for in gross, as to condition.

HOGS were in better demand; 4 000 sold at \$6 25a7 per 100 lbs. net.

FATTENING POULTRY.

Corn is in this country the obviously proper feed for fattening fowls. It makes flesh of fair quality. Oatmeal gives a better flavor but less fat. Corn should predominate, and be fed for the most part ground, because more can be digested than when it must all be reduced by a slow process in the gizzard. The latter is a perfect mill, but if employed too much for muscular exertion of working it takes something from the rate of fattening. The corn meal should, for a few days, be thoroughly cooked, but the mess will soon pall upon the appetite, and then the meal may be merely scalded and finally fed raw, since fowls like this best, and they should be induced to eat as much as possible. To tempt with variety, give an occasional feed of buckwheat, corn, and wheat whole, and oats, which last should be ground and screened, so as to remove all the larger fragments of the hulls. Boiled potatoes and fresh cooked meat should be al-

lowed sparingly, and every other day a little cayenne and salt must be added to the dough. Feed adult poultry, for fattening, three times a day, and chickens four. It is especially necessary, when the days are short, to give the first food at the appearance of light, and the last as late as possible. After they have eaten to satiety, always remove what is left. Feed at stated hours, and keep the feeding trough clean and sweet. It is best to confine grown fowls in rather small coops, as exercise prevents fattening. If, however, individuals unacquainted with each other are put together, there is no gain in close quarters, for they become uneasy; and also half-grown chickens ought not to be shut up, but rather induced to eat so much that they will roam as little as possible, for if taken from the accustomed run they are apt to worry constantly. Shut out light from the coop, excepting at feeding time, to promote quietness. There should be no perches. Cover the floor with dried earth, often renewed.

SELECTED RECIPES, ETC.

PUMPKIN PRESERVES.—Mahala Eaton, Rock Island, Ill., writes: "Cut a nice ripe pumpkin into pieces a third of an inch thick, paring them. Take equal weight in white sugar. Allow the juice of one lemon to a pound of pumpkin. Let the pumpkin remain in a pan with the sugar and juice all night. In the morning put into a preserving kettle, cooking till perfectly clear. Be sure to skim well. Then add lemon peel cut in pieces small as marbles. Take out and strain the syrup through a jelly-bag and pour over the pumpkin.—*Western Rural*."

EVERGREENS are planted more extensively every year, now that their value is appreciated, and this a good time in which to decide where they can be used most advantageously to give a pleasing effect. Too many evergreens near a house are in bad taste, as they give it too sombre an aspect. There should be a proper admixture of deciduous trees.

MANURE may be carted upon the orchard during the winter; or it may be carted to some convenient place, and the coarser portions allowed to rot.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

MARCH, 1872.

No. 3.

AGRICULTURAL.

CHARCOAL AND PIGS.

HOGS that are much confined, and cannot get to earth, will frequently be benefited by having a little charcoal, soft brick bats, or rotten wood thrown into them; and a trifling quantity of brimstone occasionally, mixed in their food, is an excellent thing.

We are not much of a pig fancier, have no special partiality for pigs in any shape, nevertheless, some years ago, we had a limited experience in raising pigs, confined in a pen. The above brief excerpt, which we clipped from the columns of a cotemporary, recalls to our memory an instance of strong corroborative testimony in our experience. In the month of April, 1839, we purchased a six-weeks' old pig, and paid two dollars for it. It was the poorest, smallest and "scrawneyest" among a lot of six, but ours was the last choice, and we were bound to have a pig in any event. At first it remained in *statu quo*, until a friend advised us to give it charcoal. Our swill barrel was kept under a shed which sheltered the oven, and on every "bake-day" a shovelful of charcoal from the oven was thrown into the swill. This kept the swill in "color" nearly all the time, and the pig began to thrive on it. Until the first of October that pig got nothing but the slops from the kitchen of a small family and the garbage from a small garden, but still it waxed in stature, in flesh, and in the general beauties usually claimed for a thrifty pig.

From about the middle of October to the 20th of December, in addition to the charcoaled slops, the pig got *three bushels of yellow corn* fed in grains; sometimes boiled, but oft-

ener hard and dry. Lumps of coal as large as walnuts would go into the trough along with the swill for several feedings after bake-day, but before the return of the next these would all be consumed at his pigship's leisure. A few days before Christmas of the above named year, the pig was slaughtered, and when dressed weighed *three hundred and thirty odd pounds*, which was considered a good *porker* in those days for a chance pig, entirely without pedigree. The highest weight attained by the most choice pig of that litter was only about two hundreds and fifty pounds, after feeding to them double the quantity of corn that we did.

Now we are not, by any means, going to recommend charcoal as a specific in all cases of "scrawny pigs," but merely to record a *fact*, in corroboration of the *theory* that charcoal, in the absence of anything better, is beneficial to the thrift of pigs. Our pig-stye had a plank floor, and, therefore, our pig never got his nose into any other dirt than his own droppings, except that which might have adhered to the roots of the weeds thrown in to him.

Many years ago a story went the rounds of the newspapers to the effect that a pig had somehow got lost, in the hold of a sailing vessel, in which it could not possibly have had access to anything but charcoal, and perhaps water. After an incarceration of eight or ten weeks, piggy was found in blooming health and as "fat as butter," although its character, *externally*, was somewhat "blackened" by its contact with the coal.

"Charcoal"—according to Brande—"exclusive of its important uses as a fuel, is possessed of some curious and valuable proper-

ties. It is an indifferent conductor of heat, and hence powdered charcoal is used to surround tubes and vessels which are required to retain their heat. It is not injured by air and moisture; hence stakes and piles are superficially charred to preserve them. It is infusible, and provided air be carefully excluded, it undergoes no change in most intense heats. It absorbs air and moisture, and also the coloring and odoriferous parts of many animal and vegetable substances. Tainted flesh and putrid water are thus sweetened by the action of powdered charcoal. Colored vegetable solutions, filtered through well burned charcoal, are materially discolored by it."

When charcoal is burned in oxygen or air, it is converted into *carbonic acid*.

As a common human remedy, pulverized charcoal is often used in cases of indigestion, flatulency, heart-burn, and "waterbrash;" the last of which is a kind of fermentation or souring of the contents of the stomach. Now, whatever beneficial effect charcoal might have on the diseased stomach of a man, it probably would have the same effect on that of a pig. (There is a class of "rough" physiologists, which contends that the "innerds" of a man and a pig are alike.) Be that as it may, if charcoal purifies the contents of the stomach, and thus promotes digestion, more of the nutritive properties of the food it contained will be appropriated and converted into blood, muscle, tissues and fat, in a healthy and vigorous exercise of the digestive functions, than when they are diseased and feeble.

Carbonic acid gas, when inhaled into the lungs, is known to be fatal to human and animal life; but when, in the form of charcoal, it is taken into the stomach it may furnish a vital fire, and differ in its effects, just as the poison of the rattlesnake differs when infused into the blood, or is taken into the stomach.

We have, very probably, much yet to learn in reference to the *effects* of various substances upon the physical economy of the animal world, and of the *modus operandi* we probably will never be informed. Even physicians of the longest experience and of the greatest eminence sometimes confess, that in relation to *internal* causes, they are more or less groping in the dark, because the *external* manifestations or symptoms often betray them.

In conclusion we may add that an excessively fat and unwieldy condition cannot abstractly be regarded as the *normal*, state of any

animal. That itself, is an *abnormal* condition, produced by artificial means—by the diversions and concentrations of the functions in such a channel as will develop the greatest mass of matter at the expense of strength, vitality, and activity. Fat pigs, or fat kine, cannot pass the ordeal that lean ones can. It is a pecuniary interest in their carcass alone that saves them. R.

CONNECTICUT TOBACCO.

BY LEVI S. REIST.

THE Hartford (Conn.) *Post* lately contained an article on Connecticut tobacco, which was extensively copied into our Pennsylvania papers as being of interest to tobacco growers. Last year's tobacco crop in the Connecticut valley was a most remarkable one, and the growers have discovered that the stable manure is the best fertilizer that they can use. The consequence is that, instead of being sold for fifty cents a load, stable manure now commands ten and twelve dollars per cord.

The prices obtained for Connecticut tobacco are enormous. One purchaser sold three cases of East Hartford leaf at 55 cents per lb. Three acres of Newington were bought for 37 c. per lb.; another purchase is given of East Hartford variety, at from 60 to 69 c. per lb. One grower sold the product of seven acres and a half for over \$12,000. Hartford county alone raised \$4,000,000 worth in 1871.

The only points specially interesting to Lancaster county tobacco growers are the prices realized for tobacco raised in the Connecticut valley, and that stable manure has been discovered to be the best fertilizer in the growth of this crop. This discovery of the Eastern people touching stable manure is nothing new to the people of Lancaster county, for our farmers have never had strong faith in any other kind of fertilizers. Our Pennsylvania journalists are mistaken if they suppose this is a discovery for our farmers; it is simply a confirmation of their long retained opinions.

Tobacco growing scarcely exists outside of the valley of the Connecticut river, and their resources for stable manure are alone to be found in the city of Hartford and outside of the State. With us in Lancaster county the case

is different. We grow wheat, hay and corn, the very things out of which abundance of stable manure is manufactured, and thus we shall be enabled to keep up the strength of our soils from our own stables. We can thus raise tobacco in great quantities without the impoverishment of our soils.

On sandy soil, as is found in Drumore and Little Britain townships, of this county, my opinion is that with heavy manuring as fine tobacco might be grown as in the Connecticut Valley.

With its excellent facilities, Lancaster county must rise in scale of tobacco culture and become, it is probable, as favored as Connecticut. Our growers, it seems to us, need not apprehend a great fall in price, as districts well adapted to its growth are not so numerous as might be supposed.

MANURES.

BY PETER G. REIST.

THE subject touched by Judge Watts, Commissioner of Agriculture, and discussed before our agricultural society, has been, perhaps, satisfactorily handled in the estimation of some, but a word yet may not be out of place to the uninstructed, who are, by no means, of small number. Dung, manure and compost are terms of somewhat synonymous import, each, however, signifying something different from the other. The first signifies the excrement of cattle, the second the same with straw and the other ingredients intermingled, and the last implies a collection of decomposed matter of any vegetable matter whatever. The first in itself evidently has the greatest strength, the second next to it, and compost is necessarily of still less value.

If farmers desire a fertilizer of strength and permanent value they must obtain it in the excrement of their cattle and horses, for the addition of straw to it adds less strength than is generally imagined. Not that I desire to be understood as advancing the opinion that straw is of no value and to be neglected, for its use is considerable; but if we want manure of real value it must be sought in animal excrement. Compost is also of some value and should be attended to wherever practicable, as all aids in the building up of our soils to a higher grade of fertility, and that is the great requisite of the farmer.

Another matter to be borne in mind is that the excrement of cattle is valuable in accordance with the feed that the cattle have consumed.

"A GOOD CHEAP." [*À bon marché.*]

THERE may be many words in foreign tongues, misapplied for aught we know, but we know of none in our own native English so much abused as *cheap*. How often may we hear people say, a thing is not good, but it is *cheap*—meaning that it is offered beneath its value; but can anything which is not good be *cheap*, in the proper sense of the word. It would hardly do to say that sugar which had been sanded was *cheap*, though sold beneath the price of a good article; that shoes were *cheap* which had the soles pasted (as has happened), instead of being sewn, or pegged—so it would be manifestly an abuse of words to say that dead or impure seeds were *cheap*, at a penny a paper; and yet vast quantities of just such seeds are hawked about the country, deposited at village stores, with the hope people may be found willing to purchase them, at some price. We make no charges, but it is a proverbial saying, that boxes of such seeds are transferred from store to store doing duty, at each one season only, and thus forever fresh—at least where last deposited on commission. One might think it were poor compensation at the end of a season to reflect that, though the garden was a failure the seed cost but little—surely it could not be said they were *cheap*—that the absence of abundant vegetables, which might have been enjoyed if good seed (even at greater cost had been procured), was compensated in degree by the trifle saved in seeds!

We may, perhaps, occasionally amuse ourselves in some respects with "Cheap Jobs"—but it will be safe to steer clear of them in garden seeds.

We doubt, exceedingly, whether *any* article, obtained "too cheap to be good," is any safer investment of money, than "to throw it away" in spurious garden seeds. There is perhaps no subject upon which the mass of mind is so singularly obtuse, as upon that of *cheapness*. Many people seem to think that when an article is sold at a comparatively low price, it must necessarily be *cheap*. This is a mistake. The *best* is always the cheapest, to those who can afford to buy the best. Some people are in the habit of surrounding themselves with quantities of tawdry and useless "trash," only because they have obtained it at prices which they have mistakenly regarded as *cheap*. Our farmers, however—at least the more intelligent among them—are beginning to dissipate this phantom, and take a wiser and more economical course. When people are so poor that they are *compelled* to buy the lowest priced article, of course, nothing else can be expected. Still, the article may be dear enough to them in the end; and the great pity is that this class of people become so much the subjects of imposition, often *voluntarily* so, and when they have the means to avoid it, or modify it. *



KITTATINNY BLACKBERRY.

HORTICULTURE.

KITTATINNY BLACKBERRY.

Grown by John G. Kreider, Nurseryman and Fruit Grower, near Lancaster, Pennsylvania.

“THIS resembles the Lawton, but larger, earlier and more productive, and remains a long time in bearing; berries are firm, sweet and of excellent flavor, and are perfectly ripe as soon as they turn black; is a vigorous grower and hardy; it has withstood the winter when all other varieties with me were winter-killed.”

These are all most excellent qualities in this berry; and so far as its *edible* character is concerned, we take pleasure in being ready to stand as one of its indorsers. It is really gratifying to witness the efforts made by fruit-growers to produce improved varieties of the long neglected *blackberry*—the berry of our youth, and except the *dewberry*, almost the only berry with which our boyhood had any intimate acquaintance. Tastes may differ, but the Kittatinny is amongst the best “Kittys” we know of, according to *our* humble opinion.—ED.

ENTOMOLOGY.

THE CURCULIO, AGAIN.

RECENTLY a paragraph has been “going the rounds of the papers” to the effect that *air concussion* was an exterminator of the curculio. This discovery is claimed by Col. L. A. Hardee, of Florida, who lately addressed a meeting at Jacksonville explanatory of his theory, in which he remarked:

“I claim to have utilized concussion in the perfect annihilation of the horticultural pest known as curculio. I was led to believe that the noise of the whistle, or jarring, was the cause of their disappearance from the vicinity of the railroad. To satisfy myself, I placed two pounds of powder in the hollow of a live-oak stump, immediately in the vicinity of where they promised the entire destruction of some plums, peaches, etc. This powder was fired off one calm night, and it not only destroyed every curculio, but every winged insect in my entire orchard.”

We have been in correspondence with Col. Hardee since the meeting at Jacksonville, and find him confirmed in his opinion as therein expressed. He says: “It has been proven that concussion will destroy the cotton caterpillar.” If so, who can estimate the value of the discovery. But we have learned to doubt—the hard lessons of life incline us to ask for proof.

Forty-five years ago the writer of this article was corresponding secretary to the Pennsylvania Horticultural Society (the fruitful mother of all Horticultural Societies within the Union), and he recollects quite distinctly the results of a large premium, perhaps a thousand dollars, which the society

offered for a preventive to blight in pear trees. It was his duty to receive and report upon the responses, which flowed in in an unbroken current—each claimant for the prize fully self-assured he had proposed a sure, unfailing, unquestionable remedy. But, alas for their pretensions, the prize was never gained, and the pear blight still holds its undisputed sway.

We have “scissored” the above from “Landreth’s Rural Register and Almanac, for 1872,” not so much for what it is worth as for what it possibly *may* be worth, to our curculio-ridden readers and subscribers, who, in semi-despair, are anxiously looking for some easy remedy to get rid of this enemy of the plum and peach crops. Let them try it in any event. The case is such an aggravating one that it would justify almost any effort to forestall the curculio. A series of patriotic anniversaries celebrated in our orchards, accompanied by copious explosions of “villainous saltpetre,” might thus be utilized in behalf of “suffering humanity.” Suppose they *are* deceived in the remedy? According to the above extract they will have the consolation of knowing that a “live colonel” was deceived before them. Town gunners might be tolerated on the farmer’s premises, provided, they kept up whilst there an incessant firing; for if they found no other game they would be of *some* use in frightening off the the *curculio*. But what would become of them? Where would they go to? That is another question. X.

DEATH TO GRASSHOPPERS.

A NOVELTY in machinery is reported from Salt Lake City, where a machine has been invented to kill grasshoppers. The cost of the machine is \$75, and it should at once be imported in large numbers into those countries where locusts abound, as it might make a sensible difference in their ravages. The machine, which is drawn by two horses, consists of a large iron apron, which picks up the insects as it is drawn forward. Behind the apron is a pair of rollers, driven by the carrying-wheels, and whatever finds its way into the front of the machine is obliged to pass between these rollers—a passage fatal to grasshoppers. The amount of execution done against the enemy is, therefore, proportioned to the strength of the horses. How far these machines may be capable of dealing with a really fine swarm of locusts remains to be seen, but four or five of them working steadily backward and forward all day might, perhaps, do something to defeat the advancing hosts.—*National Oil Journal*.

If a machine has been invented, able to successfully “pick up” grasshoppers “as it is drawn forward,” it must be “quicker on the

trigger" than we have been even in our best days. In passing through fields infested with with saltatorial insects, we never could see any of them just on the spot where we stood, but any number some distance in advance of us, and they also kept that distance between us. Still, they ought to know all about grasshoppers in the Salt Lake region, and, therefore, we shall wait patiently, and see what comes of this "machinery." R.

BOTANY.

BOTANY.

BY JACOB STAUFFER.

Continued From Page 28.

UPON the birth of a plant one or two leaves are developed, directly from the seed, called the seminal leaves, which are fed by the albuminous deposit through an umbilicus, in other words; the seed feeds the infant plant until it is strong enough to develop one or two more. These last not only, like the first, proceed without exception from opposite sides of the stem or body, but are so placed as to alternate with the first. This goes on with unvarying uniformity as long as growth continues; so that, view a plant in whatever way we will, whether in its earliest state, or at the most advanced period of its existence, it will always be seen to exhibit the same beautiful symmetry as the most highly developed animal.

A counterpoise is observed on the respective sides; in order to protect the young and tender buds against cold, the leaves surrounding the buds suddenly contract into hard scales, perhaps exude some resinous or gummy matter, or clothe themselves in a deep covering of wool, and an impenetrable living shield is thus interposed between the bud and danger.

To develop the flower so beautiful to the eye, its leaves again contract; the interposed space obliterated, new colors are assumed, and petals are created with all their varied and brilliant hues, or exhaling the most fragrant perfumes. To propagate its kind, the petals contract into stamens; their central substance becomes changed into pollen folded within the anthers, resolved into living matter, which, in conjunction with other leaves, is rolled together in the form of a pistle (the

apex of the midrib being denuded, and young buds developed at the margins). A grain of pollen falls upon the denuded apex of the fructifying leaf, absorbs moisture from it, distends, and finally produces a tube of inconceivable fineness, which abstracts from the pollen its impregnating matter, some of which descends the midrib into the matrix of the leaf, and thence, entering the young buds or ova that are developed at its margins, is finally hatched, and appears at last in the form of a perfect seed or embryo plant. Such is the simple teaching of modern microscopic investigation observable in the most perfectly formed, the most elaborately constructed plants. In the lower formation of plants the propagation is still more simple. A vesicle elongates and distends until it becomes a tube; from the end of this tube more vesicles are generated, which themselves give birth to others, and thus a simple branching plant is formed. As a general rule a green matter is deposited inside of each tube, and in due time it is emitted in the form of little green vesicles, like that from which the plant originally sprang, and themselves capable of developing as new plants.

In certain tubes this dissolution takes place in a much more astonishing manner, not into inert green matter, but moving particles, having all the properties of spontaneous motion and animal existence. Soon, however, the moving particles elongate; thus losing their power of motion and becoming plants to whose laws of life they ever after submit.

Botany, to many mind, appears to be a dry and barren subject. The hard names, derived from the classic Greek and Latin, are objected to, but when duly considered that these names are significant to scholars of various nationalities and languages, it is found much better to learn the universal name of a thing than the mere vernacular or local, as the same thing is known by a variety of local names, unintelligible to those of another locality. How can we write about a thing so as to be understood the world over in the use of names confined to a certain limited section? Hence it is better to acquire a knowledge of the proper names known to science, if somewhat difficult at first. But not to seem pedantic, I shall endeavor to use such terms as will convey a correct idea. No man can know all things relating to such a science as this—

hence, we need a means of forming clear knowledge by a proper classification of the vegetable kingdom. This is not so very difficult, if attention is paid to the doctrines of affinities.

Every one must have seen that some species of plants are more like each other than they are like different species. Every farmer knows that a radish is more like a turnip than it is like a cucumber; that a pea is more like a bean than an apple, and so on. The affinities of plants are more or less indicated, however variable in some particulars. Classification is founded upon a consideration of general resemblances and differences; and by carefully examining the characteristic organs of plants, those species may be classed most nearly together which have the greatest degree of resemblance and the most perfect constitutional agreement.

Thus the knowledge of one species is the key to many or other species of the same group. For example, in the *Cruciferae*, consisting of perhaps 1,600 species, the study of the common radish or mustard, or the cress, will give the student a very accurate general knowledge of the remaining number, because they are all close modifications of the same forms. This order is so named because the flowers of four petals are in the form of a Maltese cross; their fruit consists in a short or long pod, either *siliquosæ* or *siliculosæ*. They all possess a more or less degree of pungency and antiscorbutic and stimulant properties—such as the mustard, horse-radish, cress-radish, etc. This order is allied to *Cappiridaceæ* (the caper family), but differ in their tetradynamous stamens (4 long and two short); and also to the *Papaveraceæ* (poppy family) and *Fumiriacæ*, from which they are readily distinguished by the seed. Thus there are certain affinities by which orders approximate to each other, and yet differ collectively in the genera composing each order, as species differ in the same genus. So with *Solanaceæ*, which contains the common potato and night shade; or the *Labiatae* embracing 2,000 species of the mint tribe. Thus we gain great assistance from a knowledge of one plant by which to know others of its kind.

(To be continued.)

DON'T waste the soap suds, but apply it to garden, vines, bushes, evergreens, or lawn. It is too valuable to be turned out at the back door.

CORRESPONDENCE.

ELECTRICITY VERSUS WHEAT GROWING.

MESSRS. EDITORS: On looking over the January number of the LANCASTER FARMER, I find that our nameless friend, from the drift of his article, "expects that I should 'ventilate' his 'thunder-gust theory' in regard to the fertilizing effects of electricity on the wheat crops of 1871.

"Says: 'until our friend will show that it was something done by the farmers, that brought about this happy result,' [a good crop of wheat], 'I must continue to believe that it was nature's laws operating with nature's great laboratory, the earth, that supplied the deficiency that wrought the change,' [just so!] 'and that electricity might have done its share of the work.' He thinks 'I will admit, that there is such a thing as atmospheric fertilizers (?) or atmospheric influence on all plants.' "

As to atmospheric fertilizers, I plead ignorance, but as to atmospheric influences there can be no diversity of opinion—sometimes favorable sometimes the reverse. He, himself, admits the *destructive* influence of electricity from the number of buildings that were struck and consumed by the fluid last year, but fails to give any proof of its *fertilizing* effects. True, we have abundance of proof of its *destructive* influence. Atmospheric influence we experience every season, indeed all the time. A few years since we had a fair promise of a fine crop of wheat to within a week of its ripening, then a hot spell so scorched and dried the straw that the wheat kernels failed to fill up. Sometimes we have a hot and moist spell just as the grain is being perfected; then this atmospheric influence is favorable to the spores of mildew and rust, again injuring the crop. Light, heat, moisture and aridity, all effect growing crops for good or ill.

If electricity has the fertilizing quality attributed to it by our nameless friend, surely we are open to conviction, but we would like very much to have some better proof of its efficiency than the mere say-so of a writer who even fears to give his name to the public.

I certainly do not intend "to show that it was something done by the farmers all over

the county simultaneously that produced an extra crop of wheat. 'Man may sow, but God giveth the increase!'

Without atmospheric influences there would be no vegetation. May not planetary and stellar influences also have some effect on growing crops?

After preparing the soil, by manuring and cultivating, and sowing the seed, we are at the mercy of the elements. Atmospheric influence may give us thirty or forty bushels of wheat per acre, or it may give us less than the seed.

In my article I only noticed the thunderstorms for April, May and June, for the last ten years, supposing those after harvest of course could have no *fertilizing* effect on the wheat that was harvested. But he says: "Had I given the record for the whole season it might have changed the table somewhat." That's so! I could easily have done so; but if he believes that electricity *after* harvest will have any salutary effect in perfecting the grain, I can yet accommodate my nameless friend by giving the record of *all* the thunder-gusts for ten or thirty years! 'Tis true, nearly all the heavy thunder-gusts came after harvest—destroying buildings, etc. Does he suppose that electricity can effect beneficially wheat in the barn? If it has the fertilizing quality that our friend thinks it *might* have, then the thunder-gusts after June, 1871, will only be appreciated the present season of 1872. May we not, therefore, hope for a crop of thirty or forty bushels per acre the present season?

Says: "He does not care so much for a name, as for the game." Be it so. There is an old saying, "What's in a name? a rose by any other name would smell as sweet!"—yet were a rose without a name, we might mistake a skunk cabbage for it, and that certainly would *not* smell as sweet! So you may perceive friend——! if you wish to secure the game, you had better also have a name; otherwise some interloper may rob you of your ideal *fertilizing* electrical laurels.

In my former article I made the comparison of the Indian's gun—"costing more than it comes to"—with artificial manures; not that such fertilizers are entirely worthless, but their cost exceeds the profits, or that we receive a benefit by using them on our land in

proportion to the cost. They cost more than they are worth. Is'n't that so?

J. B. GARBER.

Columbia, Pa., Feb. 12, 1872.

THE PERSIMMON.

MESSRS. EDITORS: I think this fruit is not appreciated as it deserves. Would it not be advisable to grow more of it? The trees are free from the depredations of insects, so destructive to all our other fruits. Neither heat nor cold seems to injure the trees. There are many varieties (as with the apple and pear) all over the country. Some ripen early before frost, others require freezing to bring them to perfection. Some are small, others larger; and again, there are some that are very full of seeds, while other varieties are seedless. There is not a more delicious fruit grown than the persimmon, when in perfect condition; and, if dried, they are a very grateful addition to the stock of delicacies during the winter. The trees mostly grow naturally in damp, though not wet, situations, where no other fruit trees will live; though, in many localities, they grow and bear profusely in soil composed almost entirely of sand.

In the lower part of Maryland, along near tide-water, where there is simply a poor, sandy soil, these trees grow and flourish in abundance. There, too, some trees produce very large fruit. I have seen some that measured seven and a half inches in circumference. Whether these large varieties will continue to produce such large fruit, when grown on our limestone or slate soil, is yet to be tried; though apparently they are a different variety from those growing in our section, as the seeds are shorter, wider and lighter colored. The trees may be grafted, and are almost as sure to grow as the apple or pear. By raising seedlings of our common kinds, or where young trees or even sprouts can be obtained by grafting the large or better varieties on them, great improvement will result. I now have a tree that was grafted on the top some three years since, with some thirty grafts, of a seedless variety. Some twenty-five of the grafts grew, and the tree has now a perfect top—bearing some two dozen of fruit last season. Though it is called a seedless variety, it is not entirely free from seeds, as the largest specimens generally have from two to four

seeds, but many of the smaller fruits are free from seeds, and a most luscious mouthful!

However, we may hope soon to grow the mammoth varieties from Japan. A nursery man in Kentucky informs me that last fall he had the good fortune to secure six of these Japan varieties. He will, of course, increase them as fast as possible, so as to offer them to the public.

From the descriptions that I have seen of these large persimmons, I doubt not but they will prove a great acquisition to our list of fruits.

Several persons who have seen them in Japan, and given us descriptions, say they are as large as a good sized apple, some as large as a "coffee cup;" some are round, others pear shaped, egg shaped, &c.; some ripen early, and others keep till February. They are eaten with a spoon!

Some years since, when Mr. Hogg was Consul to Japan, he wrote home to his brother in York State that the persimmons in Japan were the only fruit that he had met with that were really worthy of being introduced into America. It now appears that Mr. Hogg brought some trees home with him, and that last season, for the first time, one of his trees produced fruit. He invited some of his friends to come and taste this new fruit. Mr. P. Berry, of Rochester, N. Y., and others, availed themselves of the privilege, examined, tested and tasted the fruit, and they say it was very sweet and most delicious. The trees begin to bear while yet quite small, and appear to be as hardy as our native varieties.

Evidently this fruit is worth looking after.

J. B. GARBER.

Columbia, Pa., Feb. 14, 1872.

For the Lancaster Farmer.

WHAT SHALL FARMER BOYS STUDY?

We know full well, from personal experience, what difficulties beset the pathway of the farmer boy, what obstacles he must overcome in his upward march of intellectual advancement. We know, too, that many lose both their mental energy and their ambition for intellectual triumphs long before they have reached the goal of that ambition.

It is the case with many of this class of boys: after their school-days in the old school-house are over they consider their education com-

pleted. They think the only thing now left for them to do is to look around for a wife, and after they get one to settle down to their business and work along in the same old beaten path that their fathers trod before them.

They not only cease to make any new mental acquisitions, but forget a great deal of what they had acquired at school. Subjects in which they once took a lively interest cease to arouse their feelings, and the great questions which agitate the nation and the age are treated by them with cold indifference.

This is certainly wrong, and the result is the mental deterioration of that large, and by nature the better class, of our citizens, the sturdy yeomanry of the land, from whose ranks spring our great men—the men who wield the power in the learned professions and in the Senate halls of the nation.

What we said above about farmer boys applies, perhaps, with greater force to other boys and young men everywhere.

How can this mental retrogression be arrested? Only by continued mental labor. The mind like the body is developed by exercise—the mental faculties are kept bright only by constant use. The farmer boy can find many objects worthy his attention and study all around him, by which he can keep his mind employed all his working hours. The sky above him; the earth below him; the little plant at his feet; the rocks and pebbles by the wayside; all are interesting subjects for thought, and a knowledge of which is of incalculable benefit to the farmer in the successful prosecution of his business.

A knowledge of farming consists of a knowledge of the soil and its properties; of manures and how to apply them; of plants and seed and the fitness of certain varieties for different kinds of soil; of the many useful and labor-saving implements; and lastly, but not of the least importance, a knowledge of the infinite variety of animals (including insects, useful and injurious,) used and found upon the farm.

Chemistry, botany, natural philosophy and zoölogy are the sciences which treat of these subjects.

It would be well for farmer boys to save their pocket money and buy a text-book on each of these subjects, and we would include astronomy and geology. Let them spend

their long winter evenings studying these, instead of worse than wasting their time, as, alas! too many of them do, in stores and hotel bar-rooms, where nothing is heard that tends to enlighten the human mind.

By diligent application, and by economizing time, a farmer boy can, in a few years, gain as good a knowledge of the above branches as can be obtained at college. Though it may require longer, he has this advantage: he does not receive his knowledge from the lips of teachers and professors, but masters every difficulty himself. What is thus learned is deeply impressed upon the mind, never to be erased, while what is heard from the lips of others is, frequently, soon forgotten.

If any feel discouraged amid the many difficulties which they meet at every step of their upward course, let them for a moment think of a Hugh Miller or an Elihu Burrit, the one a stone-mason the other a blacksmith, both from being mere physical laborers elevated themselves to a high position in the intellectual world. They, when the severe physical labors of the day were over, left their companions to enervate themselves with pipe and beer, and employed their evenings in study—hard, earnest, patient, toiling study, and left their impress upon works which will enlighten mankind for ages to come.

The sciences of chemistry and botany, especially, are easy and fascinating studies for farmer boys and girls to pursue during the leisure hours between work.

To analyze a flower—to learn its name and characteristics, during the resting hour at noon, is of infinitely more value to the farmer boy than to read the column of stale jokes in the weekly newspaper.

The great Washington said "Farming is the most useful, the most healthful, and the most noble employment of man."

The most useful and the most healthful it most certainly is, and, if *rationally* pursued, it is also the most noble. It lies in our power to make it such. Let us preserve the dignity of the time-honored calling by preserving the dignity of our own minds. Physical labor is good, useful, necessary; but after all, it is the *mind* that makes the man.

What a celebrated writer said a century ago is as true to-day as it was then:

"Could I in stature reach the pole
Or grasp creation in my span,
I'd still be measured by my soul;
It is the mind that makes the man." D. L. R.

COLUMBIA, Feb. 7, 1872.

MR. J. B. DEVELIN, *Publisher Lancaster Farmer*—Dear Sir: I have been too neglectful of the LANCASTER FARMER, and have suffered my subscription to remain unpaid—because, I presume, no personal application had been made for the money, and the work was sent in the first instance without my solicitation. This, however, does not excuse me. I certainly wish well to the agricultural interests of the whole country, and feel a special pride and self-interest in that of our county. Shall be glad to know that the circulation, the usefulness, and the pecuniary success of the FARMER increases. My February No. is marked S. H. M., April 1, 1870. Will that make *two years unpaid*? I inclosed \$5.00.

Please return me a receipt for that amount as far as it pays.

Respectfully yours, &c.,

S. H. M.

[We publish the above communication out of a number sent to us of the same import, because it expresses so fully and so fairly the sentiment of personal obligation, in a case where an individual had not been a voluntary subscriber to our journal. There is no attempt here to evade the responsibility which every honorable man assumes, when he continues to take a paper sent to his address, even though he had not subscribed for it. When we send one or two numbers of our journal to any person, under such circumstances, it is merely a solicitation, and if they do not desire it, a return of the number, or numbers, to the office from which it was sent, ends the whole matter. But when this is not done, we take it for granted that they intend to give us their support in aid of our enterprise in the establishment of a local journal in Lancaster county, devoted to the interests of agriculture and kindred occupations, and we feel grateful for such support.—ED.]

VEGETABLE LEATHER is now extensively manufactured, the principal materials being caoutchouc and naptha. The product is only one-third as costly as ordinary leather, which it resembles so closely that they can be distinguished only by close inspection; and the vegetable leather has the additional advantage of being made in entire pieces of fifty yards in length, if desired, one and half yards wide, of any thickness demanded, of uniform quality, and ample strength.—*National Oil Journal*.

The Lancaster Farmer

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MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular meeting of the society was held at the usual place of meeting, February 5th, 1862. Henry M. Engle in the chair. The minutes of the last meeting were read and approved.

Peter H. Summy, of East Hempfield, was elected a member of the society.

Peter S. Reist spoke of the subject of manure, and said that the straw added to it did not much increase its value, but simply enabled it to keep the ground more open and porous.

Daniel Rhoads, on this point, begged to differ with Mr. Reist, as in his opinion the straw, being composed of vegetable matter and silica, must add greatly to the value of the manure with which it is mixed. When straw is put in stables it absorbs the urine of the cattle and adds, in his opinion, greatly to the strength and substance of the manure.

P. S. Reist adheres to the opinion, by him expressed at a former meeting, that it is best to haul the manure out upon the land as soon as it is taken out of the stable.

Daniel Rhodes was ready to admit that it would be best to haul it out as soon as possible after it is taken out of the stable, but such a plan is utterly impracticable, as it would entail too much labor upon farmers to drop their other work and haul manure according to this plan.

H. M. Engle differs with Mr. Reist as to some of his ideas of manuring. He is yet of the opinion that judicious composting is the

best method for the preservation of the strength of the manure.

P. S. Reist does not condemn the system of composting. By collecting vegetable matter together and covering it with clay, a good quality of manure is obtained.

R. G. Swartz next proceeded to read an essay upon the "Almanac."

A vote of thanks was tendered the essayist for his able and learned production.

On motion, Mr. Swartz was invited at some future meeting to continue this essay.

Dr. P. W. Hiestand, treasurer, reported the condition of the finances of the society, showing that on January 1, 1872, the sum of \$58.90 was in the treasury.

P. S. Reist introduced the question of bee culture by saying it was one of great interest and importance. He considered no other could be named of more value for discussion before the society. He named an apiarist who from 600 hives derived a profit of from five to six thousand dollars. The bees are simply the gatherers of what otherwise is lost. What they add is then for a community clear gain.

J. B. Erb was desirous to hear of the profit from keeping bees. He is conversant with the methods of raising them, but he has never yet been able to get a sight of the profits.

Charles E. Long keeps some bees for profit and pleasure, and has obtained satisfactory results with them. He instanced from bee journal statistics some exceedingly profitable results in bee culture. He gave a case when in this county 110 pounds of honey in one season were obtained from one hive of bees.

P. S. Reist submitted some results of bee culture in his experience. His bees (Italian) do not stand him over \$100, and he should scarcely be willing now to dispose of his stock for less than ten times their original cost. Of course care and attention are necessary to be bestowed upon them. From a small beginning of Italian bees a large stock can soon be obtained. If he could not get Italian bees he should have nothing to do with bee raising. No others pay. He is perfectly satisfied that millions of dollars could be made in this business. He would like to see a society of bee-growers established in this county. A few men interested in this branch of business by coming together and by an interchange of sentiments could learn much of one another. Levi S. Reist is not so sanguine as regards bee culture. He has had of the Italian bees,

yet has experienced no luck with them. He cannot see any profits in keeping bees. He would not advise any to go into the culture of bees unless they are adepts. If any wish to try it let them do so cautiously.

J. B. Erb has carefully studied some of the elevated systems of bee keeping, and has obtained and managed his bees as the books directed, but instead of doing so with profit it has been with loss. J. B. Breckbill thought, under the question of bees, he might suggest a word in favor of the bumble bee, on account of its utility in the fertilization of the clover crop; where they are plenty clover is abundant.

The president presented a letter from a committee representing the interests of the Experimental Farm, of Chester county, and asking the appointment of a delegate to represent the society in the meetings concerning the said farm. On motion, society agreed to appoint a delegate, and chose H. M. Engle as said delegate, with Levi S. Reist as alternate.

Society, on motion, adjourned.

THE LANCASTER FARMER.—A monthly journal, devoted to *Agriculture, Horticulture, Domestic Economy and Miscellany*; and published monthly by J. B. Develin, under the auspices of the "Lancaster County Agricultural and Horticultural Society," at \$1 25 per annum in advance. This is an octavo magazine, illustrative of the specialties aforementioned, and is mainly made up of local contributions from farmers in this county, where it is published, and as such must possess an interest to many in the same belt of latitude beyond the limits of the great county of Lancaster.

We clip the above notice of our journal from the columns of the *Strasburg Free Press*, because we value the local opinion of one who *knows* more than we do, the opinions of a hundred who *know nothing* about a matter. It is the "local contributions" above referred to that gives to our journal its practical character, and who will say that an intelligent *Lancaster county farmer* may not know as much about his calling as the most exalted in the land.

M. J. CARTER writes to the *Rural New Yorker* that if those who have crib-biting horses will nail a sheepskin, wool side up, wherever there is a chance for the horse to bite, he will not do very much cribbing in the stable. His father has tried it successfully.

MISCELLANEOUS.

RANDOM SKETCHES AND FARM ITEMS.—NO. 11.

BY H. M. ENGLE.

AS the season is at hand for the farmer to prepare his land for the summer crops, the plow will be the first in requisition. The improvement of this implement from its primitive crude form to its present complete construction is great indeed; but whether it is applied in proportion to its increased capacity is doubtful. A little deeper plowing each successive time, and fertilizing material added in proportion, is adding acres by strata instead of by area. To acquire lands by the former course is far more desirable than by the latter. The great advantages are, the saving of fences and taxes, seed and labor, time and distance, with almost every other advantage in its favor.

The best farmers in the country understand this, and those that practice it reap its rich benefits. Such a course is much more laudible than to spread over a greater area than can be worked to its full capacity. Had this course been followed generally, in the past half century, instead of the expanding and skinning systems, the country would be better and richer for it. There would have been no occasion to denude the country of so much of its finest timber under the pretext of necessity of more arable land. What an amount of wealth there might have been both saved and earned.

In order to carry out the deep tillage system, a cheap available fertilizer is of the first importance; for this purpose clover stands preëminent. Some soils are either impoverished by slovenly cultivation, or by nature so poor that some other fertilizer is required; but wherever clover will set, it has scarcely a rival (except stable manure) as a renovator of soils.

The value of root crops for winter feeding of stock is not fully appreciated in this country. Many of the most progressive and successful farmers consider them indispensable where stock is to be kept in the best condition, with the least expense; but their greatest value is obtained by feeding to milk cows. The increased amount of milk, and the rich cream and butter produced therefrom, should

be sufficient to induce every farmer in the country to raise root crops.

The scarcity of water the past winter should be sufficient to impress many with the necessity of being better provided in the future.

The sinking of wells is on an average expensive. It has prevented many an enterprising family from acquiring a homestead.

The want of supply of pure water has caused untold misery and death in the human family, and also among the brute creation. Were the value of cisterns with filters, and their comparative cheapness, better understood, the want of this pure element would certainly be better supplied throughout the country. My own experience and observation in this matter justify the assertion. Could we enumerate and look upon all the aches, pains, sickness, distress and death in consequence of the lugging of water where a slight expense would have prevented it, we would shrink with horror from the sad spectacle. I will further assert that there are thousands who, would they avail themselves of a full supply of filtered rain-water, would wonder at their previous ignorance of the value and blessing of this heaven distilled liquid, so free to all.

Grape vines, if not yet pruned, should be attended to at once, to prevent bleeding. It is claimed by some that bleeding is not injurious, but the best and strongest testimony is on the other side.

Hot beds should be made as soon as the condition of the ground will permit. Seeds of the hardier vegetables may be sown at once, if the beds are protected on cold nights. Glass alone is not sufficient against frost. It is not generally known that plants are much improved by frequent transplanting in the beds; by this method they can be set out permanently in any kind of weather with scarcely a visible effect upon the plant. The same rule holds good with flowers, shrubs, trees or anything that may be transplanted.

Potatoes may be sprouted the same as sweet-potatoes, and by proper management will mature a full crop, considerable earlier than by any other method, beside the great saving of seed.

It is still not too late to destroy most of the broods of insects in cocoons, or in whatever condition the pupa may be found.

Marietta, Feb. 26, 1872.

ORNAMENTAL TREES.

AT the meeting of the New York Rural Club, Dec. 7, Mr. Josiah Hooper, president of the Pennsylvania Horticultural Society, read a lengthy and excellent paper on ornamental tree planting, from which we make the following brief extracts:

I invariably commence with a stereotyped phrase: "Don't plant large trees in small yards." One of the greatest of all errors, and one that is indulged in by so many of our planters in their horticultural infancy, is that of setting out a first-class tree in a second-class yard. Scarcely a town lot or a cemetery inclosure is laid out but this mistake is made, although ignorance in nearly every instance is the excuse, and justly so too. Taking, for instance, the laborer's cottage, with its few square feet of grass in front—and, by the way, what is more attractive than a well kept sod?—in the place of a Norway spruce or Austrian pine, I would suggest what is termed a dwarf evergreen—one of the smaller forms of arbor vite, now becoming so popular, or a juniper, with its variety of outline, or perhaps a form of the newer genus *Retinispora*. If the front should have a northern aspect, the best plant for this purpose is either some handsomely variegated variety of *Aucuba* or *Enonymus Japonica*. The newer introductions of these are exceedingly attractive, and a group composed of distinct kinds forms an agreeable feature. To those whose taste for flowers is predominant, I would recommend a circular bed of roses, not planted promiscuously, but in lines or ribbons, each circle a distinct color, all trimmed low, and consequently well branched. If the entire bed should be of one variety, the effect will also be very fine. For this purpose the China or Bengal class cannot be excelled.

As I am not here to-night to give you a lesson upon landscape gardening, even had I the ability to do so, I shall simply call your attention to a few of the most desirable trees for what might be termed second-class places. For a group of low-growing trees, commend to me always certain species of the Magnolia. The *M. conspueua*, with pure white bloom; *M. Soulangiana*, with its white flower, striped and shaded with purple; *M. cordata*, with yellow, odorous bloom; and lastly, but very far from least, the beautiful *M. Thompsoniana*,

with creamy-white fragrant flowers. We have here a group of four trees that cannot be excelled—hardy, beautiful—in foliage and flower, and so entirely free from injurious insects that they seem to combine all the excellencies one could desire.

Another pretty group of small-sized trees may be composed of the *Halestia tetraptera* or Silver Bell, *Laburnum* or Golden Chain, and the *Cercis Canadensis*, Red Bud or Judas tree. Still another group of the same size can be formed of the *Prunus Padus* or European Bird Cherry, *Rhus cotinus* or Purple Mist, *Chionanthus Virginica* or White Fringe, and the *Cladrastis tinctoria*, Yellow Wood or Virgilia.

In a corner of the grounds a closely-massed group of the different colored double flowering peaches will be very pleasing when in bloom, and where they will succeed nothing can excel the numerous varieties of thorns. In the center of the peaches I would insert a tree of Reid's weeping variety, a graceful drooping tree, and among the thorns plant the weeping variety of it. These have a tendency to remove a certain uniformity of outline prevalent in all such masses. As we have the small class of trees and advance to those of larger growth, I unhesitatingly place in the front rank, if not at the very head, the Norway Maple. Seldom do we find its equal in all that pertains to a specimen tree. With ample foliage of the richest shade of green, globular in form, perfectly hardy and healthy in almost every situation, it appears peculiarly adapted to stand alone on a beautiful lawn. Another, although of a widely different character, is the White Birch (*Betula alba*), and its delicate cut-leaved variety. The silver-leaved Linden succeeds well everywhere, and is undeniably a beautiful specimen tree, as well as the English cork-barked maple when branched to the ground. Although of large size, the Sweet Gum (Liquid amber) forms one of our most available ornamental trees. Beautiful at all seasons, with its curious corky bark, rich, glossy star-shaped leaves and picturesque form, it is well adapted for creating marked effects; and then in the autumn its brilliant crimson hue is remarkably attractive. Either for grouping or as single specimens, the genus *Fagus* or Beech supplies us with a charming set of trees. Among the most striking in character I would place the fern-leaved and

purple-leaved as especially fine. The cut-leaved Alder and the newer variety *asplenifolia* I consider very desirable for particular localities.

There are very many other trees of beautiful form that are unfortunately not adapted for general planting. In the neighborhood of Philadelphia we cannot use the elms, because the leaves are often perforated by insects; nor the ashes on account of the borers; the Mountain Ash meets with the same fate, and the Thorns are destroyed by a fungus; the Horse Chestnuts become disfigured by midsummer, and so we have to rely on other trees; but where this list will succeed, as they evidently do in central New York, my advice is to use them all freely. There are four genera belonging to the great natural order Coniferae, that are furnished with deciduous leaves and tall spiral tops, all well adapted for the center or background of groups—the Larch family, of which the European species is preferable; the *Salisburia*, or Japan Ginako, with curious yet pretty fan-shaped foliage; the *Deciduous Cypress*, with light feathery leaves; and the *Glyptostrobus*, or Weeping Cyprus, having unusually graceful foliage and pendant branchlets.

Every place should have at least one drooping tree, as much for its intrinsic beauty as for the effect it produces when grown near other forms. For this purpose the Weeping Beech possesses an individuality peculiarly its own. Not so pretentious perhaps as the preceding, but with a graceful drooping of the more slender branches, the Weeping Linden stands next in the list. Where they will flourish, the Weeping Elms and Weeping Mountain Ash are very handsome; and the old-fashioned Weeping Willow, especially when in the vicinity of water, is often a valuable assistant for creating a beautiful picture. For small-sized weepers I would suggest the following, all of which are useful, and in fact indispensable to the landscape gardener: The thorn, grandidentata poplar, Kilmarnock willow, dwarf cherry, sophora, and beech. The drooping varieties of the common ash are stiff and formal in outline, yet often attractive from their very oddity.

A feature often overlooked in American gardens is the massing of trees that are beautiful in the autumn. Most places can be improved by a little group of these bright-tinted species,

and for this purpose I would name for the back-ground the scarlet oak (*Quercus coccinea*), dazzling in its scarlet dress; the sour gum (*Nyssa multiflora*), with the deepest shade of crimson; the red maple (*Acer rubrum*), gray with yellow, red, and orange; and a sassafras (*S. Officinale*), with golden yellow leaves. To the front I would place a white flowering dog-wood (*Cornus Florida*), with its vivid shade of red; one or two common sumachs (*Rhus glabra*), as bright as the petals of a crimson pæony, with a few vines of the green brier (*Smilax rotundifolia*), of golden hue, and *ampelopsis quinquefolia*, dyed with crimson, clambering over the whole. It is needless to add that the effect of such a blending of colors cannot be overrated. In leaving the deciduous trees, I would merely call your attention to the neglected family of oaks, although beyond the limits of such places as we are discussing to-night. For very large lawns no genus in the flora of the world can exceed their majesty of form, their picturesqueness of outline, nor their value for every purpose appertaining to the landscape art.

We now arrive at the Evergreens, but as my time has nearly expired, I will hurriedly particularize a few of the most valuable for a majority of our country places, all of which will undoubtedly succeed in this vicinity. In the spruce family, as not only the first in the genus, but among all cone-bearing trees, the Norway spruce is fully entitled to consideration before any other. You all know it well, and knowing it, have nothing to say against it. It is a tree at once appropriate in all situations and for every purpose; hardy everywhere, and unexceptionably beautiful.

More formal in outline, but remarkably pleasing in color, the white spruce stands next, and the hemlock, with its charming drooping branchlets, curving in even circles to the ground must never be neglected. In particular localities and exposures, the *Abies Smithiana*, *A. Douglasii*, and *A. Menziesii* are among our handsome kinds. In silver firs, the *A. Nordmanniana* is, without doubt, the best hardy species known to us at present—always beautiful and healthy, we cannot well dispense with its presence; and almost as valuable, the *A. Pichta* ranks next. With varying success, although generally firm, I would name the rare *A. amabilis*, *A. grandis*, *A. nobilis*, and *A. Cephatonica*, while common bal-

sam fir and European silver fir are unexceptionable in many grounds. The pines must be used sparingly, as they are rather coarse for close proximity to the dwelling. Among well-tested kinds, the Austrian, Cembren, White, Lambert's, and Scotch are all hardy, and deservedly admired, and where the *P. excelsa* is free from blight, I would add it to the list. A few of the newer species, such as *P. ponderosa*, and *P. Massoniana* are promising to be valuable, but they require a more extended trial. The Cedar of Lebanon must not be forgotten, not alone for the many reminiscences connected with it by the sacred writers, but for its individual beauty on the lawn. The *Libocedrus decurrens*, *Cypressus Lawsoniana*, and *C. Nutkaensis*, notwithstanding they are almost unknown to cultivators, are surpassing our most sanguine expectations, where they have been tested. Our American Arbor Vitæ, as well as the Siberian variety, are so well known and appreciated that it seems unnecessary to urge their claim to public notice. Low-growing conifers are of such vast importance to the landscape gardener in creating dense evergreen masses, that of latter years our arboriculturists have been eagerly gathering from every available source all of which have proven distinct.

COB MEAL.

A CORRESPONDENT inquired two or three weeks ago as to the value of the cob of Indian corn. We had not space in our reply, at that time, to do more than to allude to it as a comparatively worthless article, paying little more than the cost of grinding. It is, however, an article in pretty common use, and it may be well to speak of it a little more in detail. A pig when put up to fatten, if fed too exclusively on fine Indian meal, which is a very hearty food, will, unless some care is taken to provide a little change, especially to see that there is some bulky, and less concentrated food, be very liable to cloy, from the fact that the meal will lie in a solid mass in the stomach and not furnish a sufficient distension to the walls of that organ, and in the intestinal canal. All animals that are fed upon highly concentrated and hearty food, must have something coarser and more bulky to be fully satisfied, and to keep the digestive organs in full activity and health.

Now although the actual amount of nutriment in the cob is very small, so slight that if it were ground alone after the corn is shelled off, no animal could be induced to touch it, yet when it is ground with the grain as we commonly find cob-meal, it undoubtedly serves the purpose of distending the stomach, and giving to the food the bulk which the animal requires. An ox fed on meal will often eat coarse swale hay with avidity to gain that distention which a too concentrated food does not furnish, and without which there will be the gnawings of hunger.

Still there is a trace of nutriment in the cob itself. Dr. Salisbury, who wrote a prize essay on Indian corn for the New York State Agricultural Society, said that "by rejecting the cobs of one thousand pounds of dry ears, about two hundred pounds of organic matter is lost, which consists of thirteen and one-half pounds of sugar and extract, one hundred and twenty-seven and one-half pounds of fibre, forty-five and one-half pounds of matter separated from fibre by a weak solution of potash, one and one-half pounds of albumen, twenty-eight one hundredths of a pound of casein, two and three-tenths pounds of glutinous matter. Hence the cob, although not rich in nutritive matter, can by no means be said to be destitute of those proximate principles which go to support respiration, and sustain animal heat, and those which are capable of being transformed into nerve, muscle, etc., and the phosphate which contribute so largely to the formation of bone." It is probable that a mixture of the cob with the meal secures in many cases a more complete digestion of the food. This is an incidental advantage which is independent of any slight nutriment there may be in the cob itself, and which as we said, is so slight of itself as, in our opinion, not to pay for the expense of grinding, especially as we can gain all the advantage of a proper distension of the stomach by feeding some roots, pumpkins, or other coarser food in connection with meal.—*Massachusetts Ploughman*.

WHAT BREED OF DAIRY COWS ARE THE BEST FOR ALL PURPOSES?

THIS is a question often asked, but a difficult one to answer, unless by the sweeping assertion that we want them all. So far as we are able to learn, there is no one

breed that, as a rule, is possessed of all the points desired. There may exist individuals in almost all of the established breeds, that possess all good qualities in a sufficient degree to answer the purposes of the ordinary farmer, but as a race, there are none that embrace *all* good qualities, and every farmer must be governed in his choice by his situation.

If he has rich pasture and extensive corn-fields, and is near a market where the price of *good beef* rules high, the Durham will probably be as near perfection as any that can be obtained.

The Shorthorns are great eaters. If they run to milk they give a large quantity of it. If they have a tendency to fatten, they fatten with great rapidity. They grow rapidly, and are capable of carrying an immense load of flesh. They require the best of care and the richest of feed, and with this they will amply repay all outlays.

But if allowed to roam in the public roads and wild pastures in summer, and kept on poor hay and mouldy corn-fodder in winter, they will invariably prove the *worst scrubs*, and the poorest investment that a farm can make. The objection to them as dairy cows is, that you are not *sure* whether they will prove to be great milkers or great feeders, or half-and-half. The remedy is to feed liberally at all times, and if the cows are good milkers they will be very good ones, and if not, they will fatten rapidly, and can be disposed of to good advantage as beef. With a dairy of forty cows, a dozen or so of the best heifer calves should be raised each year, and ten or a dozen cows fattened each winter to be sold in the spring, when the beef commands a very high price.

If he keeps Shorthorns, on the system proposed, he will not receive as much money from the cheese-factory as if he kept Ayrshires or natives. But it is for him to decide whether half a dozen or more fat cows sold every spring to the butcher, will not make up for the deficiency. On the whole, we would say, if he has high-priced land and proposes to adopt high farming, take the Shorthorns; cows solely to the production of milk and butter, take the Ayrshire or Alderney.

If the location is near a large city, where milk is the chief object, we must have the Ayrshires, as there is no race that can equal the pure Ayrshire in quantity of milk; it being

generally estimated at from 30 to 50 pounds per day. Our best Ayrshire cows give 60 pounds of milk per day. A committee appointed for the purpose, testified under oath, that one of Messrs. Waleot & Campbell's cows gave 85 pounds of milk per day, for several days in succession.

The Ayrshires have been bred exclusively for milk, and will probably yield a greater quantity for the food consumed than any other breed. On the other hand, if he proposes to sell beef and raise oxen as well as cheese and butter, we would advocate the Devon.

The Devons, as a race, are thrifty, and with good pasture present a handsome appearance. The milk is quite rich, and produces butter of a better color than that obtained from the Durham, but the quantity is not large. They are a quick, active race, and for farm labor, the oxen can hardly be excelled. They will move the plow almost, perhaps quite, as fast as the horse. To carry out the latter system of raising cattle for beef, rather than the dairy, to the best advantage, we must adopt a higher order of feeding than when the only object is milk. We want cows that will eat a large amount of food. This is of the very first importance. An animal that will not eat freely should be rejected.

If there is no great demand for beef, but a large one for good butter, then the Alderney will come as near the standard as any we have. For richness of milk, they have no equal, but their diminutive size puts beef entirely out of the question; but there is no race of cattle that can surpass them in producing golden lumps of butter, and plenty of them.

A good butter-maker, with a herd of Alderneys, will produce a "fancy brand" of butter that will command a ready sale, at double the price that can be obtained for common brands. Good specimens of this stock will make from twelve to fourteen pounds of butter per week, of a peculiar yellow color, not attained by any other race. Some extra good cows have produced from eighteen to twenty pounds per week; but this stock is deficient in beef qualities. We most earnestly recommend the use of a thoroughbred bull on all dairy farms. Whether it should be an Ayrshire, Devon, Alderney, or a Shorthorn, depends very much on whether the dairyman wishes to turn off some fat cows every year to the

butcher, or whether he intends to keep his cows till they are used up, and then sell them for about what they are worth for their hides. If he adopts the latter course, we should recommend the use of an Alderney or Ayrshire rather than the Shorthorn bull. In all seasons dairy farmers are apt to have an unnecessarily large percentage of barren cows, owing to the irrational management of the male animal. In some districts it is the fashion to use yearling bulls; whilst to make matters worse, the weakly, immature subjects are scandalously overworked.—*American Stock Journal*.

EXPERIENCE WITH THE EGG-PLANT.

I WAS interested in an article by Peter Henderson, in the October *Agriculturist* upon the egg-plant, and as I have succeeded in raising an abundance of this delicious vegetable during the past season in a rather less expensive way than he deems essential, I will, for the information of your readers who have never raised it, narrate my experience. I grew the two varieties, Black Pekin and Improved New York Purple, of which I made my first sowing in boxes in the house, late in March, but keeping them in a room in which there was no fire; it was over a month before they germinated. My second sowing was made in my hot-bed on April 1st, and they came up in eight days. This was twenty days too early, according to Mr. Henderson's view; and had I kept up a heat of 70° until it was safe to transplant them, they must certainly have outgrown the bed, which, by the way, had muslin covers instead of glass sashes; but the heating material being solely fresh horse-manure, the heat was soon exhausted, and their growth for a long time very slow. I also made a third sowing in a cold frame, similarly covered, on April 10th, where they came up in eighteen days.

May 17th, I transplanted several of the purple plants from the hot-bed into the field, but their vitality was impaired by the cold, and they soon succumbed to the attacks of a small black flea, that first appeared about that date. I do not recall the name of this flea, but it was an old acquaintance, that had destroyed my plants on a former attempt to raise them. It attacks all the plants of the Solanum family, so far as I know, except

peppers. They destroyed all my tomatoes sown in the open ground, and made sad havoc in my beds, damaging tomatoes there, and threatening the entire destruction of petunias and egg-plants, even going so far as to riddle the leaves of the wild Bittersweet (*Solanum Dulcamara*), while I have seen potato-vines covered with them. To check them, I tried dusting with lime and sprinkling with solutions of tobacco, guano, etc., which were at best but partially successful, as every one of the egg-plants in the cold frame perished, and a part in the hot-bed, the remainder suffered severely. As they did not attack my plants in the house, I am of the opinion that a box in a warm room would be the safest and perhaps the best place for us to start them.

July 12th I transplanted about twenty of each variety from the hot-bed into the field, and although they seemed very impatient of removal they all survived. The Black Pekins commenced to bloom July 21st, several days before the others, and were far ahead in fruiting, but not as prolific. We have had an abundant supply of both through September and October thus far, and would have had a large stock on hand now had not I been so hasty as to cut them up and house my fruit on September 22d, in anticipation of the frost which occurred on the next succeeding night, but did not kill, only scotched the vines I left. There has not been a sign of frost since, and I might just as well have had the benefit of a whole month's growth, and double the quantity of sound fruit on the vines at this date, as to have a pile of them nearly all decayed in an out-house. Thus have I learned how "haste makes waste."

Those sown in boxes in the house and kept spindling in the shade in a cold room, I transplanted into the old hot-bed June 12th, and from thence into the open ground on July 25th, yet they had eggs as large as the largest apples by September 20th. Had these plants been kept in a warm room instead of a cold one, it would have made nearly a month's difference in their growth, and they might have been as early as any; their exemption from the attacks of the flea giving them one great advantage over even those grown in the hot-bed.

From these facts, I conclude that a uniform temperature of 70°, although desirable, is not absolutely required, or even the most important requisite for the egg-plant.—*American Agriculturist*.

SEED CORN.

Now is the time for farmers to make arrangements to secure new and valuable seed, as we have now in store the best seed corn ever offered to the farmer. We have just returned from a trip through the western part of the country, where corn is made a specialty, and selected of the best. We have secured specimens from most every part of the country where corn is grown, all of which has been thoroughly tested. That which proved to be good we so improved that we feel safe in saying that we offer the farmer the best seed corn known in this country.

In regard to the many-eared varieties, it has been proved, so far, that not more than two to three large ears can be produced to a stalk of the field or stock corn varieties. All of the varieties tested by us show that the stalks which produce many ears always produce small and inferior corn for field cultivation.

It is only the Parching Corn varieties that give many ears per stock; and all the experimental crossing has proved of no benefit whatever to the farmer. There are several persons advertising the branching corn as field or stock corn varieties, yielding immense crops of large corn. We feel it our duty to inform our readers that they are nothing more than our Parching or Branching Pop Corn varieties, and are of no benefit to the farmer to raise a crop of merchantable corn. The Mammoth Orange Dent or Hybrid Yellow Dent, Kentucky Mammoth Dent and Early Mammoth Mulatto Corn have from one to two ears per stalk, and are considered the choicest merchantable corn grown. The King's White Prolific is a well-established, large two-eared variety, and now considered the best bread, as well as stock corn, known in this country. It can only be planted with success south of 40°. We have established a Hybrid corn, half white and half yellow, that is earlier, and produces two to three large ears on each stalk. We think it will make one of the best field corn varieties yet introduced.—*How to Make the Farm Pay*.

AN alliterative Illinois reporter fathers the following:

"Parson Palmer, of Padola, is the proprietor of a pen of pigs. These pigs escaped and persecuted a peaceable neighbor named Piper. Piper persuaded them off his premises with dogs, and punished Palmer's boy. The Parson paid his respects to Piper, prating of a prospective prosecution, and was in turn pounded to a pulp by the precipitate Piper. The penitent mau at present languishes in prison."

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

DREER'S GARDEN CALENDAR, for 1872, is a neat 12mo. of 156 pages, illustrated with many engravings of fruits, flowers, vegetables and plants; and furnishes "brief directions for the cultivation and management of the vegetable and flower garden," containing also "select lists of seeds and plants." Address Henry Dreer, Seedsman and Florist, No. 714 Chestnut street, Philadelphia.

LANDRETH'S RURAL REGISTER AND ALMANAC for 1872, published for gratuitous distribution, annually is a 12mo. of 75 pages, containing lists of seeds, and instructive farm and garden calendars for each separate month. Perhaps no similar publication in this country has reached the number this has. "500,000 copies of the edition of 1871 were distributed," and 1872 will probably exceed that number. It has been translated into the German and Swedish.

THE JOURNAL OF THE FARM, a sixteen page illustrated monthly quarto, published simultaneously at Philadelphia and Chicago, at \$1 a year, for a single subscription, and liberal club rates. The February number is on our table, and is both interesting and useful in the details of its various departments.

THE NATIONAL OIL JOURNAL, for January, 1872, is also on our table. This is a large folio monthly, published at Pittsburg, Pa., and is devoted almost exclusively to the oil interest of the country—and especially of Pennsylvania. \$1 per annum.

THE NEW YORK COPY BOOK is published in the interest of newspaper publishers throughout the United States, by the "Blackwell Manufacturing Company." This is a folio paper of valuable scientific, agricultural, historical, literary and domestic import, and any article it contains may be obtained in stereotype, by addressing the company, at very reasonable rates.

THE LITTLE CORPORAL presents the following interesting table of contents for February: Dora, chapter II., with illustration—by Helen C. Weeks. Parsonage Doves, with illustration—by Mary E. C. Wyeth. Quest of the Flower—by Edgar Fawcett. Number Three—by A. H. Poe. Lillie's Valentine—by Olive Thorne. Summer days at Kirkwood, chapter VII.—by Emily Huntington Miller. Afloat on an Ice Cake, with illustration—by Charles E. Hurd. The Rivals, with full page illustration—by Gerald North. Fred's Pocket is filled with the usual variety of spicy letters from the little folks; and Private Querc's Knapsack is crowded with things to puzzle the minds of the boys and girls for months to come. If you want a magazine that is always fresh, sparkling, and vigorous, subscribe for **THE LITTLE CORPORAL**. Terms—\$1.50 a year. John E. Miller, publisher, Chicago, Ill.

SPECIAL NOTICE.

GREGORY'S SEED CATALOGUE.—Mr. J. J. H. Gregory, of Marblehead, Mass., who advertises his Catalogue in our paper fills a position somewhat unique among seedsmen, being a grower of seed as well as dealer in them. The extracts from letters received from over thirty different States and Territories published on the cover of his catalogue are a very satisfactory evidence in favor of the reliability of the seed, as well as of his honesty as a dealer; while the well-known fact of his having been the original introducer of the Hubbard Squash, and numerous other valuable vegetables that have become well-known throughout the United States, are pleasing evidence that his catalogue as issued from year to year, will always prove a live one.

MARKETS.

PHILADELPHIA MARKETS.

PHILADELPHIA, Feb. 28.

FLOUR AND MEAL.—There has been less demand for Flour, but holders are as firm as ever in their views. Supplies from all sources come forward slowly, and with a relatively light stock, and high prices for wheat, the recent advance is fully maintained. Sales of 100 bbls superfine at \$5.50; 100 bbls Pennsylvania extra choice at \$6.50; 100 bbls Minnesota extra family at \$7.75; 300 bbls

Pennsylvania do do at \$7.25 at 50; 100 bbls do do, choice, at \$7.75, and 100 bbls Ohio do do, fancy, at \$8.50. Rye Flour is unchanged. Small sales at \$4.87½c. In Corn Meal there is nothing doing. We quote Brandywine at \$3.50.

GRAIN.—There is more demand for Wheat for the supply of local millers, but shippers are not operating at present prices. Sales of 7,600 bus fair and prime Pennsylvania red at \$1.60 at 52; 1,000 bushels do do on private terms, and 400 bus do amber at \$1.64. We quote prime at \$1.75 at 33. Rye comes in slowly, and 800 bus Pennsylvania sold at 95c. Corn is in better demand, but we can record no improvement in price; sales of 400 bus old Western yellow at 67c; 800 bus new do do at 62½c; 1,000 bushels Southern do do at 65a56c; 400 bushels Pennsylvania do, pale, at 65c; 8,000 bus Western high mixed at 66a 66½c, and 10,000 bus do do for forward delivery at 65c. Oats are dull; sales of 2,700 bus Western white at 54a55c, and 1,500 bus do mixed at 53½c. In Barley nothing doing. Barley Malt ranges from \$1.10 to \$1.30.

PROVISIONS are held firmly; sales of Mess Pork at \$14.50 at 14 75, and prime Mess at \$12.50; city packed extra Mess Beef sells at \$14.75 per bbl. Beef Bams command \$2.25 at 26. Bacon is steady. Sugar-cured city-smoked Hams sell as wanted at 11a12c; Sides at 8a8½c, and Shoulders at 6½a6½c. Green Meats are steady; sales of 800 tierces pickled hams at 9½c, sides at 6½a6½c, and shoulders, in salt, at 5½a5½c. Lard is held with much firmness; sales of 10 tierces at 9½a9½c for western steam and kettle-rendered. Cheese is in small supply and firm; sales of New York Factory at 16½a17½c. Butter—There is nothing exciting in the trade to note; the feeling, however, is better on all grades, and quotations are well sustained; the receipts are light, and the late accumulations are pretty well worked off; sales of roll at 17a25c, and packed at 12a16c. Eggs—Receipts light; sales on arrival at 32a33c per dozen. Receipts for the week, 653 bbls.

SEEDS.—Clover seed is more sought after, and 1,200 bushels were taken at 9a9½c, and 130 bushels cleaned at 10c. Timothy is held at \$3.62½, and Flax seed at \$2.00, with a great scarcity of the latter.

PHILADELPHIA CATTLE MARKET.

MONDAY, February 26.

There was only a limited demand for beef cattle this morning, and with liberal offerings prices favored buyers. Sale of extras at 7½a8c; choice, 6½a7c; fair to good at 5a6c, and common at 4a4½c. Receipts, 2,400 head.

Cows and Calves attracted but little attention, but prices were steady. Sales of springers at \$30a41, and fresh Cows at \$35a55. Receipts, 2-0 head.

Sheep met a fair inquiry at former figures; sales of choice at 10c; fair to good at 7½a8½c per pound, and common at \$3.5 per head.

Hogs declined, and were much in request. Sales of corn-fed at \$7a8 per hundred pounds, net, the latter for choice.

NEW YORK CATTLE MARKET.

MONDAY, February 26.

With a fair offering, Beeves were firmer and more active than on Thursday and Friday, and the offerings were nearly closed out at noon. Prices ranged from 10c to 13c per pound, with a few fancy sold at 13½c. Sheep were comparatively scarce, and the twenty carloads offered had a quick sale at 7½a9½c per pound, no poor lots being offered. There was nothing in Live Hogs, as the consignments were exclusively for slaughterers. Dressed firmer but inactive at 5½a5½c for western and 6½a6½c for city.

Cows and Calves have ruled dull and prices are unchanged. We quote at \$30a80, as in quality. Receipts, 128 head.

Veal calves are dull and in the buyers' favor. We quote at 5a11c. Receipts, 928 head.

Good Hogs are quoted at 5a: per pound.

PITTSBURG LIVE STOCK MARKET.

The Commercial of Saturday has the following: The following are the arrivals of live stock for the week ending to-day, as reported by Mr. C. K. Martin, yard master: Cattle, 320 cars; hogs, 129 cars; sheep, 85 cars, and horses, 57 cars. Comparing these with the arrivals of last week, we find there has been an increase of 4 cars of cattle and 14 of horses, and a clearance of 29 of hogs and 67 of sheep.

CATTLE.—As will be seen by the above report, the arrivals of Cattle for the week have been about the same as last, and the quality, taking lots all through, a little more common, though we believe there was a bunch or two of as good Cattle offered as have been on the market for some

time. One lot of them sold for \$7.12 per 100 lbs. The market during the week ruled moderately active, and last week figures were fully sustained on prime grades, and we think common sold a shade lower, though not enough so to make any quotable change. Toward the close the market ruled a little dull on Friday, with but few buyers present and some lots unsold. The demand for the week was not heavy, and dealers did not purchase liberally. Some few lots of Cattle are still unsold, one load of which goes to Alleghany for retail. Following are the rates current for the different grades: Extra, 1,300 to 1,500 lbs steers, \$6.50 to \$6.75; prime, 1,100 to 1,200 lbs steers, \$5.50 to \$6.25; common to medium, 1,000 to 1,100 lbs, \$4.75 to \$5.25; bulls, \$2.75 to \$3.50; cows, \$3.50 to \$4.50.

HOGS.—The receipts of Hogs for the week have been some 29 cars higher than the week previous. Prices have declined a little every day for the last few days, although the runs were not heavy. At Philadelphia trade was reported dull and sluggish, and with these advices in the market on the best grades declined steadily and slowly. To-day there is very little doing and the feeling has not improved any. A bunch of extra Philadelphia Hogs sold to-day, to be weighed on Monday morning, at \$5.40 per 100 pounds. The hogs are very good, and this figure may now be considered at the top of the market. Following are the current rates for the different grades and kinds as bought and sold here: Extra Philadelphia, \$5.25 to \$5.40; prime Philadelphia, \$5 to \$5.15; prime Yorker, \$4.50 to \$4.65; common, \$4.25 to \$4.45.

SHEEP.—The receipts of sheep to-day were light, and for the week some 67 cars higher than the preceding one. Trade has ruled moderately active on the best grades. Toward the close prices were a little lower, say from 5 to 10c per hundred pounds. To-day there is nothing doing; no buyers here, and business is at a standstill. The following are the current prices for the different grades bought and sold in the market: Extra, 100 to 110 pounds, \$8.25; from 85 to 90 pounds, \$7.75 to \$8; medium, 80 to 85 pounds, \$6.75 to \$7.50; common, \$5.25 to \$5.75; scallaws, \$2.50 to \$3.

CHICAGO MARKET.

CHICAGO, February 26, 1872.

Flour in light demand but holders are firm; extra spring \$6.50 to 65. Wheat in active demand but prices are unchanged; No. 2 spring \$1.25 1/4; seller, March \$1.25 1/4. Corn dull and declined; No. 2 mixed 39a39 1/2; corn on track, 37c. Oats dull; No. 2, 32c. Rye quiet and unchanged; No. 2, 74c. Barley quiet and unchanged; No. 2 fair 60c for regular and 60c for fresh. Mess pork dull and declined; sales for cash and March at \$12.35. Lard dull and a shade lower at \$8.82 to 85. There was no essential change in green and bulk meats. Hogs quiet; range from \$4.15 to \$4.60. Dressed hogs were in good demand; soft \$4.95; tier \$4.35 to 40. Cattle—good grades in strong demand, and the supply was scarce.

STEAM FOR THE DWELLING.

The matter of improvement in heating our houses has long been one of the most prominent items of discussion, both among builders and householders. Many have been the devices suggested; many have been the improvements patented. Many have been the bold ideas, emanating from fertile brains, only to find permanent burial in the form of models in the show cases of that great charnal house of invention, the Patent Office at Washington. And yet we are dependent on means of heating little better, for the most part, even if more complicated, than those enjoyed by our forefathers. The forefathers clustered by families around their old hearthstones, and our poets yet sing of our hearth-

stones. But the hearthstone of the past has given place to the hole in the floor, or opening in the wall, through which the heat ascends from the cellar, and the great fire place of former days is a thing of the past.

The open grate is cheerful to look upon, but troublesome to keep in order. It is dusty and costly in its operation. The best place to secure the heat generated by the fire which occupies it, is at the top of the chimney. A coal stove in each room may be "a thing of beauty," if the ornamental castings on it are handsome; but to have Bridget bouncing in at intervals, with a scuttle of coal, and to listen to the sound of the poker with which she vexes the burning anthracite, is hardly "a joy forever." The quiet working of a gas stove secures exemption from cinders, ashes and dust; but the carbonic acid generated by it is unwholesome, the expense is great, and, except for very small rooms, the heat obtained is inadequate. The furnace in the cellar spends a large proportion of its energy in warming the bricks which surround it, and in giving out heat to that portion of the house which is not generally used for habitation, save by cats and rats.

Are we on the road to anything better? Steam has been used with advantage, for the heating of dwellings, hotels and factories. A convenient low pressure apparatus seems to work well, the principal objection against it being its costliness. For small houses this is an insuperable obstacle to its general introduction.

The idea is now advanced that we may heat our dwelling-houses in cities by means of steam, furnished in pipes, from a certain steam apparatus, as gas is furnished. To a certain extent this may be practicable, but there is a distance at which steam loses its value, and stale steam is about as worthless a thing as can be charged for. If generators are placed within convenient distances of each other, there is no good reason why steam should not be furnished to whole neighborhoods as a means of heating and cooking. A block of houses could easily be heated in this manner, and with great economy. If the steam is furnished regularly and reliably, the amount of domestic comfort promoted would be incalculable. The saving of dust, ashes, smoke, cinders, and general botheration, would be incredible.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

APRIL, 1872.

No. 4.

AGRICULTURAL.

ATMOSPHERIC AND ELECTRIC FERTILIZERS.

MESSRS. EDITORS: Our venerable friend of Columbia seems to be determined not to believe in atmospheric fertilizers, nor in the salutary influence of electricity on plants, and is even skeptical as to the economical use of artificial manures. Now, I wonder if a little peal of California thunder, together with a trifling flash of lightning, might not have a tendency to shock him a little, and like on the vegetable kingdom, drive out all that is calculated to vitiate, and restore him to a healthy condition, thereby relieving his mind of that ignorance which he acknowledges with regard to atmospheric fertilizers.

For the purpose of bringing about the consummation of such a happy state of things, I will associate myself with an author, whose name I will not mention, not because I am not ashamed or afraid of him, for I will stick to him with the utmost tenacity, so long as there is a button left on his coat, and endeavor to ward off all interlopers who may attempt to rob him of his atmospheric fertilizing laurels:

"I know that it is not common to look on the gases in the atmosphere in the light of manures, but they are nevertheless decidedly so. Indeed, they are almost the only organic manures ever received by the uncultivated parts of the earth, as well as a large portion of that which is occupied in the production of food for man. If these were not manures, if there were no means by which they could

be used by plants, the fertility of the soil would long since have ceased, and the earth would now be in an unfertile condition.

"That this must be true will be proved by a few moments' reflection. The fertilizing gases in the atmosphere being composed of the constituents of decayed plants and animals, it is as necessary that they should be again returned to the form of organized matter as it is that constituents taken from the soil should not be put out of existence."

Thus in the course of nature the atmospheric fertilizers are plentifully supplied to the soil, without the immediate attention of the farmer. The laws of nature are so beautifully and harmoniously arranged, and perform their functions in such a quiet way, that unmiadful man may be surrounded with the most astonishing works, and enjoy all the benefits of their production, and yet be ignorant of the cause that produced the effect. But must this necessarily be so? Can we not by exercising our plebian reasoning faculties unravel, at least, some of the mysteries of nature? Now I claim no such honors for myself, but being dependent on the atmosphere, I am induced with Pope to say: "I am an atmospheric creature."

My associate, who keeps himself very close to my elbow, is continually whispering such things into my ear, and from the language that he uses I am inclined to believe that he knows something and has actually made some discoveries. Now I do not want him to prompt me too much with these newfangled ideas, or our friend might think that I am writing a novel. But he continues to say that the air, in circulating through the soil, gives up fertilizing gases to the carbon which it may con-

tain, and also gives an analytical table, in which he shows that ten bushels of wheat will extract from the soil twelve pounds of inorganic matter, and that the twelve pounds are composed of nine different ingredients, all of which are necessary to raise the ten bushels of wheat. Now of the twelve pounds 6.01 are phosphoric acid, a little over one-half of all the ingredients, showing clearly that this ingredient is very heavily drawn on, and that it is one of the principal constituents in the formation of wheat; hence the necessity of a liberal return to the soil of this ingredient in order to keep up the supply and insure success. Now as lightning contains a great deal of phosphorus, and during the prevalence of thunderstorms emits it freely, with which the air becomes impregnated, and the air circulating through the soil would naturally deposit it there, as one of the most important electrical atmospheric fertilizers. I have no doubt that all the other ingredients may find their way to the soil, through some natural channel of which we are ignorant.

Now, Messrs. Editors, as we farmers have been going on in the even tenor of our way, manuring and cropping year after year, and not knowing what ingredients, nor what quantity, we added to the soil, and also not knowing what amount of these ingredients our crops extracted from the soil, thus going it blind and being dependent on chance, may we not, by our ignorance of this, have exhausted, or so far reduced some of the most essential ingredients, as to cause the failure, and then leave nature to do what we didn't know how to do. Truly, sirs, successful farming has become a science, and in order to become successful we must become acquainted with the laws that govern it, or else continue to go it blind, and only to take good crops when nature will bestow them. There has been a great deal said in your journal about the failure; but no plausible cause assigned and no remedy suggested. I therefore ventured to offer a suggestion, with the hope of seeing some developments made and gaining some information on the subject, which appears to me ought to be the undoubted right of every reader. But our friend from "Columbia" seems to think there is no such thing as I suggested. Will our esteemed, unknown friend, with a name, have the kindness to suggest something more plausible and relieve me

of such a great ideal delusion? Until he does, I must continue to adhere to this like bricks to mortar.

Our friend has very truly said that "man may sow, but God giveth the increase." This he is doing all the time, by the wise and harmonious administration of the laws of nature, and doing it in such a quiet and mysterious way that we short-sighted men can't conceive it, but in innumerable instances are forced to acknowledge our ignorance.

But where is the man, especially the man engaged in agricultural pursuits, who is reveling, as it were, in the very lap of nature, that will look at nature around him and its wisely governed laws, that will not find some little room and time for study and admiration, and thereby, from some apparently novel (there is nothing new in nature, it is only because man is ignorant that it appears so), idea of the unbounded and indefinable claim of causes and effects.

I have formed a slight acquaintance with another author. "Oh! no I'll never mention him, but his name is sometimes heard," who says: "At sea the winds swell the mariner's sails, and speed his course along the watery way." By land they perform the office of an immense seedsman, scattering abroad the seeds of numberless plants, which, through the support of many animals, are too small for the management or too mean for the attention of man. Here are lightnings stationed, in the act to spring whenever their piercing flash is necessary, either to destroy the sulphurous vapors, or dislodge any other noxious matter which might prejudice the delicate temperature of ether, and impart that life-giving principle which is so necessary to all vegetation. Here we may well give vent to the ideas of Pope:

"Vast chain of being which from God began,
Nature's ethereal, human angel, man."

Now, Messrs. Editors, I hardly know what to do. This new companion, with whom I thought I had formed but a slight acquaintance, seems to be a very warm-hearted fellow, and is actually becoming more annoying than the first one. He keeps sliding up so closely, and seems fully determined to put into my head some of his newfangled electrical ideas, whether I am willing or not. "He seems determined to convince me against my will, but I think I'll hold my own opinion still."

Now mark what he says. It appears to me

he holds very singular ideas. He says: "One very particular effect of lightning is what the vulgar call fairy circles. These are of two kinds. One kind is a round, bare path, about a foot broad, with green grass in the middle, and is frequently seven or eight yards in diameter. The other is a circle of the same breadth, of very green grass, much fresher than that in the middle. These are generally observed after storms of thunder and lightning. And it is no wonder that lightning like all other fires, moves circularly, and burns more at the extremity than in the middle. The second kind of circles, without all doubt, spring originally from the first, the grass which was burnt up by the lightning growing afterward more fresh and green."

Now I must consider this matter a little while before I will allow myself to be convinced. Could the simple burning of the grass on the surface have produced this luxuriant growth? Or did the fluid in performing its revolutions impart an essential ingredient to the earth, that in the great natural laboratory was converted into food, and taken up by the unburned roots, that caused the grass to grow so wonderfully fresh and green? If the latter is the fact, and it certainly looks plausible, then I must admit that I am convinced, beyond the shadow of a doubt, and that there is such a thing as atmospheric fertilizers, and that this is one of the beneficial effects of electricity on all vegetation.

Our worthy friend asks whether I could suppose that electricity can effect beneficially wheat in the barn? This appears to me to be a most singular question. Who ever heard of such a novel idea? I am sure I didn't. I hardly know how to answer, but for the sake of having something to say I will suppose one of these vulgar electrical fairy circles wending its way into a mow stored full of wheat, and keep dancing around in there for a while in regular Indian war style. The only inference I can draw is, that it would very soon be in ashes, and that this would be one of the ill effects of electricity.

The ashes, however, might be beneficially used in the raising of another crop; but then, I think, it would require such a vast amount of chemical knowledge to apply it in such a manner as to make it pay that we might as well class it among our friend's extravagant artificial manures. Don't you think so?

Our friend, who "hails from the happy land of Columbia," seems to have his mind considerably disturbed for want of knowing a name. I am not much of a florist; but it appears to me I would select the rose, however, full of thorns, and nameless it might be, and allow him to hold on to the skunk cabbage with all its charming beauties and odoriferous allurements. Surely, my friend, according to the laws of equity, a fair choice would be no robbery. As to laurels, I claim none, and the interloper that would undertake to rob me would be most sadly disappointed, for in all my subtractions I have found that, to take nothing from nothing, nothing remained.

Our friend's skunk comparison reminds me of an anecdote I read some years ago of a well-to-do Irish farmer. I don't recollect the exact language, but will try to give something near it: He purchased a farm in a certain neighborhood, one field of which was detached by a small farm owned by an American, and as Americans are very fond of flowers, they had reared a beautiful flower-garden along the road-side, on which they erected a small implement-house with a board floor in it, and under which a skunk had taken up its "local habitation" for the purpose of propagating its race. Now as the attachment of the mother skunk to its young is very strong, she will show fight whenever annoyed.

Along this road the Irish farmer's son, a small boy, had to drive the cattle to pasture in the detached field. When he came along in the evening, while driving the cattle out for the night, this skunk would make its appearance and assume quite a menacing attitude; the boy, being afraid, kept off at a respectable distance. He repeatedly expressed his fears to his father, but he never heeded him until matters grew so serious that the son refused to drive the cattle along there any longer, and he begged to be allowed to drive them into another field. "No," said the heroic father, "there they must go; come along you, little afraid, I'll go with you and see if any of the American flowers can frighten me." Well, away they went, the son keeping on behind when approaching near the garden. The skunk, as usual, made its appearance; the son took to the fence on the opposite side of the road to witness the fight, and the old man with a brazen front approached the flowery enemy, and, when near enough, with

one dash of the foot sent him a-flying, however not injuring him much. As soon as the enemy recovered his equilibrium he put himself in position again, and with one twirl of his extreme appendage sent such a shower-bath of sweet-scented aroma on the old hero that caused him to change front and take to his heels; the enemy, taking advantage of this part of the battle, pursued. The son on the fence witnessing his father's defeat, encouraged him by crying aloud: "Run, big fraid, or little fraid will catch you." As soon as the would-be Irish hero arrived at home and recovered his equilibrium somewhat, but before being altogether relieved of the effects of the battle, he declared that if his American neighbors didn't quit raising such nasty things in their flower gardens, that will spit in their neighbor's faces in such a way, he would sell out and leave the country.

Well, there does appear to be something in a name. I have no doubt, if our Irish hero would have known the name and nature of the animal, he would have guarded himself with more precaution, and armed himself with the poor old Indian's gun.

Our friend also asks whether we may not hope for a crop of 30 or 40 bushels to the acre, next harvest, on account of the heavy thunder storms, after harvest last year?

Now, as inhalation and exhalation, in the very nature of things, are going on all the time, I will answer by asking another question. If our friend should happen to get sick (which I hope may never be the case), and be cured by a certain medicine, and after being cured he would take a dose of the same medicine, could he hope that that dose would cure him of the same disease a year afterward? Does he not believe that by a natural course of evacuation it would be carried off, and require a fresh dose?

Messrs. Editors: You no doubt have been tired of me long ago. I will therefore close by bidding our friend adieu, and wishing him every degree of comfort. I remain very truly an humble observer in a local

March 13, 1872.

HABITATION.

TO PREVENT CATTLE FROM JUMPING FENCES.—Clip off the eyelashes of the under lids with a pair of scissors, and the ability of disposition to jump is as effectually destroyed as Samson's power was by the loss of his locks. The animal will not attempt a fence until the lashes are grown again.

[We publish the following address of the National Agricultural Association in order to help to extend its organization and thus become more national.]

UNITY OF ACTION AMONG AGRICULTURISTS.

TO THE PRESS THROUGHOUT THE UNITED STATES AND TERRITORIES.

The duty of transacting the business of the National Agricultural Association *ad interim* devolves, by the Constitution, upon the President and Secretary. Our first and greatest duty, unquestionably, is to make known to the people throughout the length and breadth of our land the existence of such an organization; its purposes and objects, the time of meeting, the basis of representation and such other matters as may be of general interest to the farmers and other agricultural associations throughout the United States. There is no method by which this can be done so effectually and so quickly as by and through the press; and we trust that we are not asking too much of it to aid us in an enterprise so praiseworthy, so patriotic, and with possibilities for good so immensurable, widespread, and of such transcendent importance to the highest interests of the country.

Any improvement in the methods of agriculture guarantees an improvement in every other industrial pursuit. The business of agriculture lies at the foundation of all others, and unless the farmers are prosperous other classes cannot be, for the material of art must of necessity be supplied by the production of nature. Any organization, therefore, that looks to an enlarged and progressive development of agricultural science and a diffusion of agricultural facts and an elevation of agricultural industry, is of general and permanent benefit to the entire country. The objects of the National Agricultural Association are:

1. To protect this leading industry from unjust discriminations in the legislation of the country. All other arts and trades have their organizations, and their voices are heeded in our legislative halls. The farmers of the country have no perfected national organization. Instead of joining their united energies to effect deliverance from those evils that have oftentimes sorely oppressed them, they have preferred to work singly, pulling in various and often opposite directions; neu-

tralizing the power of each other and producing a state of rest and inactivity by the exertion of equal and opposing forces. In this way they have in a large measure nullified their influence and importance. One of the leading objects of the Association is to centralize and consolidate this power, so that it may be used at any time that it may be necessary for the protection and defense of the pursuit of agriculture.

2 To collect and disseminate information pertaining to agriculture, and to act conjointly with, and as an assistant to, the Agricultural Department at Washington.

3. To awaken among farmers a class spirit which induces co-operation and associated effort.

4. To dignify and popularize the business of agriculture, by showing its importance and usefulness to the country; by making it a desirable field for educated young men to enter; by holding forth its past history, its splendid promises, its many advantages, its independence, its liberalizing tendencies, its conservatism, its comparative freedom from failure, and its healthful and invigorating influences.

5. To create unity of aims as well as concert of action in reference to those measures calculated to insure efficiency and to secure the development of this great national pursuits; also to consider questions affecting its commercial relations and the means of transportation, and to take such steps as may be necessary and proper to protect it against the influences of the great accumulations of capital in commercial centers, guarding it against heartless speculators and great corporations.

BASIS OF REPRESENTATION.

The constitution provides that each State and Territory shall be entitled to *two* delegates, to be appointed by the State Agricultural Society or Association, if there be such an organization; if there is not, then the Governor of such State or Territory shall appoint its delegates.

Each agricultural college in the United States, organized in conformity with the law of Congress of 1862, made for that purpose, shall be entitled to one representative.

That each regularly organized agricultural society, of fifty or more members, which shall have contributed to the funds of this national organization, in proportion to their represen-

tatives, shall be entitled to one representative.

Delegates in all cases shall be active members of some agricultural organization; they shall present credentials under seal from their respective constituencies; their certificates shall state the bodies represented, and the number of members in each.

DUES.

At a meeting of the Executive Council of the National Association, upon the adjournment of the convention, it was, on motion, resolved that each agricultural organization in each State and Territory of the United States, upon the payment to the treasurer of five dollars for the first fifty members, one dollar for each additional fifty members, or fractional part thereof, and such further contributions as they may deem proper, shall be regarded as constituent bodies of this Association, and shall be furnished with a copy of every publication or report emanating from this association.

The present treasurer is F. H. French, Nashville, Tenn., to whom remittances may be made by the various agricultural associations.

The next session will be held in St. Louis, on the 4th Monday in May, 1872. We hope that every local organization in the United States will be represented. Essayists have been appointed, and it is expected that the occasion will be one of great interest to those engaged in agriculture. All who want more definite information can procure a copy of the constitution and proceedings, by addressing the secretary at Nashville, Tenn.

F. JULIUS LEMOYNE, President.

J. B. KILLEBREW, Secretary.

WHENCE PLANTS DERIVE THEIR FOOD.

FRRIEND FREAS: In the *Telegraph* of January 31st, Mr. Royal Smith has an article on this subject, upon which I wish to offer some comments. Although I am not a scientific scholar, I am a sort of a naturalist, and have learned many things from nature, observation and practice. I have also read some, and while working or reading my mind has been thinking.

Many years ago I learned that Judge Buel, the founder of the *Albany Cultivator*, the paper upon which our present *Country Gentleman* was

engrafted, went from Rochester to Albany and bought a piece of poor sand plain near the city. He cut a trench eight inches deep and three feet wide, and threw the sandy soil one side, then filled the trench with clay from adjoining land; then cut another trench, laying the sandy soil on the clay, and so went over his acres for a farm, the size I have forgotten. Then he had a poor sandy soil with a clay subsoil, naturally well underdrained.

He then sowed on clover and plowed in the crop, and repeated this two or three times until he had his soil equal to the best sandy loam. Although this was expensive, being near the city it was worth more than it cost. Now I have got the foundation text to preach from.

From whence did Judge Buel's soil get its fertility? From the clover, to be sure; and the clover must have returned to the soil a vast amount of fertility that it got elsewhere than from the soil. It cannot be from the rain water, for whilst we have three feet of rain water annually, the sterile clay or sand is not fertilized. Animal and vegetable growth are much alike in many respects; they both derive much of their food from the atmosphere.

But Mr. Smith will ask, why do we attach so much importance to rich soil and cultivation? The rich soil and manure are a chemical laboratory to assist in the manufacture of the *gases upon which the plant feeds*. The roots must have air to feed upon as well as water. Water is a mechanical agent to assist in expanding the cells, forming the leaves and growth of wood. The plant or tree is full of water and air, and is constantly giving off large quantities of water. It matters but little whether that water is from the well, rain or distilled water. It has to be finely filtered through the bark of the roots, and nearly all the earthy substance excluded from the pores of the wood. Experiments have taught us that when a tree was planted in a tub of earth it took but a small moiety of its weight when dried from the earth, and the water used by the tree was distilled to exclude earthy substances.

Professor Johnson, of Yale College—and we have no higher authority in our country—has told us “that from ninety-five to ninety-nine per cent. of the entire mass (weight) of

agricultural plants is derived directly or indirectly from the atmosphere.”

This was considerably more than my former calculation, and perhaps it will be quite incredible to Mr. Royal Smith, and most other farmers and gardeners. Nevertheless, I took it as a truth and set myself about its application and adoption.

We have been taught that a tree obtains its plant-food through the young, tender, succulent ends of its roots, called “spongioles,” and through its shreds and root-hairs. But I early learned that when I transplant a tree I leave all the spongioles, rootlets and root hairs in the ground, and set the tree out without them, and it immediately goes into action of growth, damaged only about in proportion to the amount of root left in its original place, and the damage of imperfect setting out. If we had left all its mouths to receive its food, we certainly should have killed the tree. It certainly receives food through every pore of the bark of all the roots, both great and small. I once transplanted a tree by setting it in stiff clay mud, and it never opened a bud. Why? Not because it lacked its spongiole mouths, but because I have often set out trees with their roots worse mutilated, and they grew readily. Not because it lacked a supply of water and earth. But because *it lacked air at the roots*.

Now from these facts and my practical experience I learn this lesson: The transplanted tree is in best condition when it has suitably rich earth, air and water, from which the gases upon which it feeds are generated, the earth finely pulverized and closely packed upon every part of the bark of all the roots, leaving the spongioles and rootlets out of the operation, and the work is well done. The tree feeds upon water and mostly oxygen gas, with some carbonic acid; but precisely how it manufactures them into leaves, flowers, fruit, wood and bark, is among higher laws of nature, the secrets of which I have never been able to get into. Mr. Smith is a little puzzled to know how it is that one crop exhausts certain qualities of the soil. Each variety of plant has the power of choosing and absorbing the particular properties of the gases it most delights in—the wheat, corn and potatoes, and the oak, apple and pine, varying somewhat in their wants; but more essentially varying in their inherent faculty of manufacturing the raw

material into their particular products. These are interesting studies, proper for students at our Agricultural Colleges, where the hand that works must accompany the mind that thinks.

SUEL FOSTER.

Muscatine county, Iowa.

[The above, communicated to the *German-town Telegraph*, involves a problem that perhaps never will be satisfactorily solved, and probably the solution is not of so much importance in vegetable economy as the *fact*. It brings to our recollection a *test* which was said to have been made when we were still a "small boy." A hundred pounds of earth, and one pound of willow were placed in a tub. After receiving nothing but water for five years, they were again weighed and there was twenty pounds of willow and still nearly a hundred pounds of earth. The question was, where did the nineteen pounds of willow come from? The answer was, that the earth, the water, and even fertilizers, are but mediums through which imponderable substances are absorbed, conveyed and condensed into ponderable and tangible substances, but *how* it is done, is perhaps not for us to know; all that we need is to *know* that it is so, without a peradventure.—ED.]

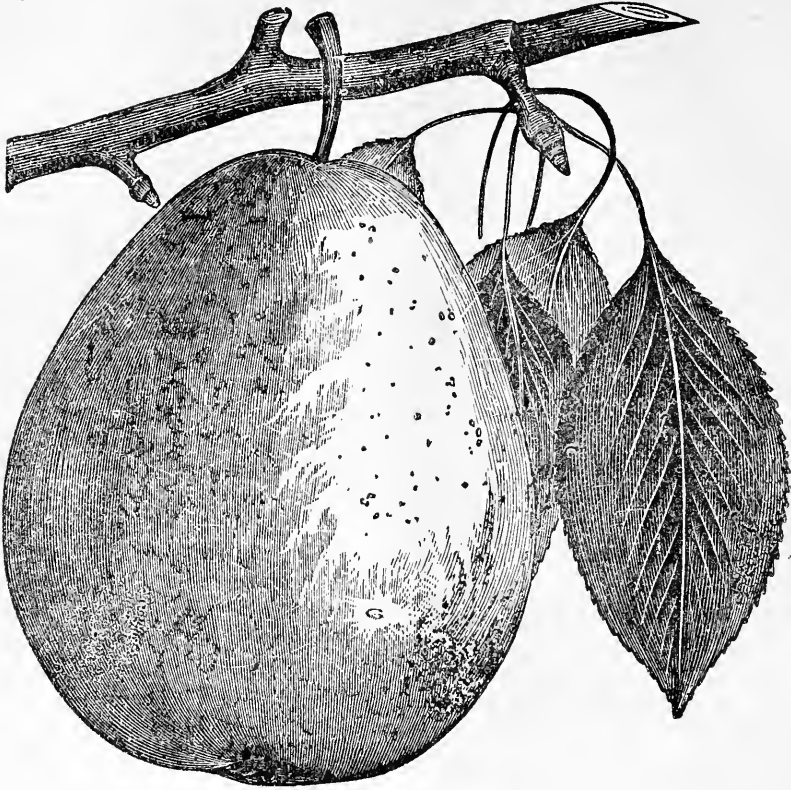
EGYPTIAN CORN.

WE have recently seen the advertisement of this corn in one of the most respectable journals in the country. The seed is now for sale by Mr. F. E. G. Lindsey, Holston, Washington county, Virginia, at \$1.50 per package; and when it is said that from one package of seed enough can be raised this season to plant twenty or thirty acres next season, our readers of a mathematical turn of mind may be able to determine by a rule of *supposition* how many grains of corn such a package contains. The original seed was brought to the United States by Mr. Jones, our consular agent, on his return from Egypt. In addition to Mr. Lindsey, it has been tested and indorsed by R. B. Hamilton, Esq., Raven's New P. O., Va.; Capt. T. M. Coble, Craig's mills, and Capt. J. C. Stanfield, Holston; and the veracity of these men has been indorsed by postmasters, ex-sheriffs and justices of the peace. The corn itself has been favorably noticed by the *Abington Virginian*, the *Clinton (Mo.) Advocate*, and the *Washington Constitutional Union*. Its merits are, early maturing, prolific character, and comparative indifference to soil, as well as its weight and nutritious qualities. It is alleged that it will

ripen as far north as the city of Boston, even when planted in the last of July, and in the South two crops on the same ground can be raised in one season.

One hundred and fifty bushels to the acre has been estimated as its yield with good soil and proper culture; but that an average crop may be produced with only the most ordinary culture. Its weight, by "sealed measure," is claimed to be sixty-five pounds to the bushel. For domestic purposes, it is said to be unparalleled, for when ground and properly bolted it is equal in fineness and color to wheaten flour. It grows in the form of a tree, and thirty-four ears have been known to grow on one stalk, but the average is from five to fifteen. Other merits are claimed for it, especially as a forage; but we cannot enumerate them here, and we only call the attention of our farmers to the subject from the fact that there seems to be a gap in the productiveness of our breadstuffs in this country and State that is waiting for something to fill it up. It is true we have *tobacco* in abundance, but what is this weed to the hungry poor in a season of the failure of wheat. Should the wheat, rye, and oat crop all fail in any season, there is still time enough to mature a crop of the Egyptian corn under ordinary circumstances. Of course the representations in reference to it *might* not be realized, but we confess that if we were a corn cultivator we would "risk one package anyhow."—EDS.

SOAP FOR BORERS.—The *Prairie Farmer* says that in order to make the application of soap to the trunks of apple trees entirely effectual for the exclusion of the borer, it is necessary to take a very thick soft soap; without diluting, heat it to the boiling point, and then paint the trees freely with it, especially near the ground and thence up some distance among the branches. It strikes into the bark when thus put on hot, so that one application about the first of June protects the trees for the season, killing the young borers or eggs which happened to be at the surface of the bark. We have never tried this mode, but have used the old one of rubbing with cold soft soap, which always proved useful, but never entirely effectual; and it was always necessary, in order to effect complete extirpation, to go over the trees once or twice a year with the knife and flexible wire. Our readers will, of course, understand that the soap has no effect on borers already in the wood.

*Easter Bergamot Pear.*

HORTICULTURE.

SYNONYMS

WINTER BERGAMOT; *Bergamot de Pâques*; *Bergamot d'Hiver*; *Paddington*. Described technically under the following formula: "Size, medium or rather large; round obovate, approaching turbinate, narrow at stalk; surface yellowish-green; dots conspicuous; stalks from three-fourths to an inch and a half long; calyx small; basin round; flesh firm, becoming melting, juicy, buttery; a second or third-rate dessert fruit, but fine for stewing, keeping through winter. Differs from *Easter Baurfe* in its inferior quality, rounder form, lighter color, and in its green shoots." This pair is said to succeed better on the quince stock than on pear, and therefore it should be mainly cultivated as a dwarf. A good keeping winter pear is certainly very desirable, and one that will keep well until Easter possesses a rare merit that will fully

compensate for a shade or two of inferiority in quality.

Although in an economical sense the pear, as an object of general fruit culture, cannot at all be compared with the apple, yet, when grown in full perfection, it far surpasses that fruit in its greater delicacy, its melting, juicy texture, and perhaps only falls below it in consequence of the less uniformly healthy habit of the two. The great number of varieties in this fruit is perfectly astounding, and every year this number seems to be increasing, so that without some reliable guide upon this subject the inexperienced culturist would hardly know what variety or varieties he ought to adopt. Some of these varieties, of course, are very inferior, and the only use in their culture at all has been to illustrate what ought to be rejected. There are not many *first-rate* pears, and therefore a fruit of this kind that is *second-rate*, or even *third-rate*, comes within the category of what is worthy of cultivation. A good winter culinary variety, as we before

have said, is surely something very desirable at that season of the year, when there is usually a dearth of the luxurious and refreshing summer fruits; and of such we think it safe to recommend the cultivation of the *Easter Bergamot*.

OUR REVISED FRUIT LIST.

WE again present to our readers, as the time approaches for transplanting, a revised list of fruit trees, vines, etc., which we can recommend for general cultivation. Twelve or fifteen varieties of pears and eight to ten of apples are all-sufficient, provided they are the best adapted to the soil and locality—a fact which each one, upon trial, must judge for himself. Frequently a pear, an apple, or a grape may do well for a few years and then deteriorate; or may do excellently well in one location and not in another, though separated by a very narrow space. In such case it had better be disposed of by grafting it with more reliable varieties. We have changed our opinion respecting a number of fruits within the last half dozen years, and yet in some of the instances we are convinced the fault was in the location and soil.

According to our present preference, we should select the following for our own planting:

STANDARD PEARS.

- | | |
|-------------------------|---------------|
| 1. Doyenne d'Ete, | 10. Seckel, |
| 2. Early Catharine, | 11. Giffard, |
| 3. Bloodgood, | 12. Howell, |
| 4. Summer Juliana, | 13. Lodge, |
| 5. Tyson, | 14. Sheldon, |
| 6. Bartlett, | 15. Anjou, |
| 7. Belle Lucrative, | 16. Lawrence, |
| 8. Boussock, | 17. Feaster, |
| 9. Manning's Elizabeth, | 18. Reading. |

For those who may desire a smaller number, we should select, 1. Doyenne d'Ete; 2. Bloodgood; 3. Tyson; 4. Bartlett; 5. Belle Lucrative; 6. Seckel; 7. Lawrence; 8. Reading. They ripen in the order they are arranged.

Of the above general list, from No. 1 to 5 are summer varieties; from 6 to 14 autumn; and 16 to 18 winter, thus affording a sufficient number for each of the periods, of the best known sorts for this region.

It will be seen that we have added the *Reading*, and are satisfied that it is fully entitled to a place in our list of standard pears. It is a sub-acid pear, fully as large as the

Bartlett, and is a brisk, spicy and most refreshing fruit. We had some grafts of it years ago, but being put on an old *Windsor* tree, they all died. At the city of Reading, Pa., it is highly esteemed, where it is raised in great quantities. As we write this we have half a dozen in our fruit closet, from a basket sent us by a friend two weeks ago, and they are decidedly the best pear we have at this season of the year. It will easily keep into March or later with care.

After the present year's trial we shall decide whether or not to retain the *Anjou* and *Howell* upon the list.

DWARF PEARS.

- | | |
|----------------------------|-------------------------|
| 1. St. Michael d'Archange, | 7. Belle Lucrative, |
| 2. Bartlett, | 8. Lawrence, |
| 3. Comice, | 9. Dearborn's Seedling, |
| 4. Rostiezer, | 10. Feaster, |
| 5. Diel, | 11. Bosc. |
| 6. Tyson, | 12. Boussock. |

APPLES.

- | | |
|--------------------|---------------------|
| 1. Maiden's Blush, | 5. Smith's Cider, |
| 2. Baldwin, | 6. Ward's Late, |
| 3. Russet, | 7. Fornwalder, |
| 4. Jelferies, | 8. Cornell's Fancy. |

PEACHES.

- | | |
|----------------------|---------------------|
| 1. Crawford's Early, | 5. Crawford's Late, |
| 2. Hale's Early, | 6. Northern Spv. |
| 3. Troth's Early, | 7. Freeman's White, |
| 4. Oldmixon, | 8. Smack's Yellow. |

GRAPES.

- | | |
|------------------|------------------|
| 1. Telegraph, | 5. Martha, |
| 2. Concord, | 6. Creveling, |
| 3. Hartford, | 7. Delaware, |
| 4. Rogers No. 4, | 8. Rogers No. 32 |

CHERRIES.

- | | |
|---------------------|----------------------|
| 1. May Duke, | 5. Belle Magnifique, |
| 2. Early Richmond, | 6. Downton, |
| 3. Black Tartarian, | 7. Eton, |
| 4. Black Eagle, | 8. Kentish or Pie. |

RASPBERRIES.

- | | |
|-----------------------|--------------------|
| 1. Brinckle's Orange, | 4. Herstine, |
| 2. Hornet, | 5. Philadelphia, |
| 3. Catawissa, | 6. Hudson Antwerp. |

STRAWBERRIES.

- | | |
|----------------------|----------------------|
| 1. Triomphe de Gand, | 3. Hovey's Seedling, |
| 2. Green Prolific, | 4. Albany Seedling. |

CURRENTS.

- | | |
|------------------|---------------|
| 1. Black Naples, | 2. Red Dutch. |
|------------------|---------------|

GOOSEBERRIES.

- | | |
|--------------|-------------|
| 1. Houghton, | 2. Downing. |
|--------------|-------------|

BLACKBERRIES.

- | | |
|------------------|--------------------|
| 1. New-Rochelle, | 3. Wilson's Early. |
| 2. Dorchester, | |

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. It is not fair to the nurseryman to ask him for a list of the best sorts, as he has all kinds to sell to accommodate every taste and demand.

The amateur or those who want only a few varieties will find the above list entirely reliable, and hence cannot go wrong by adhering to it.

"We cull from the columns of the *German*—

town Telegraph, of February 28, 1872, the above list of fruits, which, from our own limited observation and experience, but more particularly the indorsement of the *veteran editor* of that journal, we submit to the fruit growers of Lancaster county as worthy of their cultivation, subject to the contingencies and qualifications included in his explanatory remarks. Indeed we want no better general authority in matters of this kind than MAJ. FREAS, although, so far as it relates to this county, we would include in the list of apples our local varieties now becoming known under the names of "All Summer," and "Agnes."

And now, as german to this subject, we may be permitted to say that we have not a more able and welcome visitor on our exchange list than the *Germantown Telegraph*. Although it only devotes about one third of one of its large pages to practical agriculture in its various departments and economies, yet what it *does* furnish is condensed and reliable. Moreover, its literary, political and domestic departments are of a high order, and, on the whole, it supplies a place occupied by few other journals in the country, whatever their pretensions may be.—R.



Houghton's Seedling Gooseberry.

HOUGHTON'S SEEDLING GOOSE-
BERRY.

THIS variety is best suited to our climate on account of it being entirely free of mildew. The bush is a strong grower, hardy and very productive; fruit medium, roundish,

inclined to oval; skin, pale red, valuable market variety.

The above illustration and description of the Houghton's Seedling Gooseberry is taken from the illustrated and descriptive catalogue of small fruit, plants, seed potatoes, etc., cultivated and for sale by John G. Kreider,

nurseryman and fruit grower, Lancaster, Pa.

[We are pleased to see the perceptible advance which is being made in the culture of the gooseberry, and any variety which is free from mildew—which appears to have been the great drawback to its culture in times past, will be sure to reward the grower of small fruits for all his toil. As a general thing they are hardy and prolific bearers, and well adapted to the common run of soil, and for culinary purposes have not many equals. Their firm character makes them particularly desirable as a market article, as no small fruit can bear transportation better than they. Houghton's Seedling has received the indorsement of some of our best fruit growers, and therefore it must ultimately come into general favor.]

DOMESTIC.

EXPERIMENTS WITH ONIONS.

JOHN B. WOLF, M. D., of Washington, forwarded to the Farmers' Club, New York, the following communication :

On shipboard, at New Orleans, in the year 1849, in charge of one hundred marines, with cholera among them, I observed that those who ate freely of onions, supposing them to be healthy, were attacked certainly and fatally. Onions and salt cured the bite of a rattlesnake on my son, and are considered specific in all snake bites. I have found four separate witnesses of phenomena connected with small-pox and fever :

1. Onions in rooms with small-pox rot rapidly.
2. Blisters rise on them.
3. They retain and communicate the virus many weeks after the epidemic has subsided.
4. Applied to the feet of fever patients, they rapidly turn black.
5. They prevent the spread of small-pox in thickly populated tenements by absorbing the virus.

6. A man with hydrophobia, in his frenzy, ate voraciously of onions, and recovered.

From all these facts may be deducted :

1. That onions should not be eaten when there is a prevailing epidemic.
2. That onions sliced and frequently changed are good disinfectants.
3. That experiments should be made to test

the extent of their usefulness. For many years I have opposed vaccination as ordinarily done, and hence hail with satisfaction any means of mitigating the virus of this temper.

DOCTORING OLD ORCHARDS.

SEVERAL modes are recommended how this can be successfully done; but we do not see how it can be more effectually done than by the one we have frequently recommended. That is to cut out all the dying wood, and three-fourths of the suckers, scrape the trunks of the trees completely, removing all the old, hard, broken bark; wash with a preparation of whale-oil soap and water, a pound of soap to a bucket of water; and give the orchard, not merely under the trees, but every part of it, a heavy top-dressing of good barn-yard or compost manure. If there is any life or productiveness left in the trees this will bring it out.

The suggestion that the trunks of the trees should be shorn of all the boughs and allowed to sucker, and some of these when large enough *grafted*, will prove a failure. The grafting of the ordinary suckers growing from the trunks of old trees can rarely be done with success. We tried this several times, and the grafts all died at the end of the second or third year. Far better to graft the old trees whenever there is any *smooth-barked* wood near enough to a main bough. They will not only grow, but in most cases fruit the second year, and always the third year. We have now growing on suckers from the main boughs, grafts of the *Chance'lor* pear set *eighteen years ago*, and they are yet to fruit the first specimen!

Not a day should be lost in getting at the orchards.—*German town Telegraph*.

APPLES.

WE do not use apples enough in our families. Baked sweet apples should be on our tables every day; some prefer sour apples. We should use them in pies, tarts, puddings, apple sauce, apple butter, or in some way every day. They are more healthy than corn and pork.

The above is all very true, but that is not "what's the matter." We want to know how a man in indigent, or even moderate circumstances, is to keep his table daily supplied with either pies, tarts, puddings, butter, or

sauce, made of apples? Indeed it might be difficult for even a rich man to do so. We are exceedingly fond of apples, and have a high appreciation of their healthful qualities, but we confess that we cannot afford to use them as above recommended without an entire depletion or embarrassment of our finances, and we cannot but think that there must be a "screw loose" somewhere in the productive economy of the country, that a fruit which is deemed so *essential* to domestic comfort as the apple, should, to the larger portion of the people, and during the larger part of the year, so distinctly occupy the position of a *luxury*—and sometimes an exceedingly rare luxury. We have seen prominent fruit growers of this county pay as high as \$7 00 a barrel for apples, who had orchards of the capacity to bear hundreds of bushels; and where, or how, under such circumstances, is the poor man to get them? It is true "we do use apples enough in our families;" but how to get *enough* at a fair price is a problem, the solution of which we have long been looking for.

LIGHTENING HARD WORK.

THERE are many things in one's everyday work which will be done in different ways by different people. Some get over a great deal easily and in a short time, and this is termed by practical people the "knack" of doing things, and by others common-sense. We are not sure but some would say it was science. Be this as it may, it is a very good thing to have.

Here is a man trying to split a log. He drives in his ax from the top of the chunk downward, and keeps on driving with all his force, and very often gives it up in disgust. Another takes the ax, sets the piece up with the narrow end downward, and with one short, easy stroke the pieces fly apart as easily as if the log was a piece of cheese.

And now comes the *Country Gentleman*, with another kink which, simple as it is, will be a blessing to the boy who has to do the wood-splitting. After the pieces have been sawn into fire-place lengths in order to split, it is often the question how best to make the pieces stand up or lie, while they are operated on. Many a toe has been cut while steadying the block, and many an eye has been blackened by the flying piece! This genius gets a

hollow trunk, about half the depth of the piece to be slit, and sets said piece upright in the trunk. Thus they are split, but cannot fall down, and the splitter can keep on splitting till the whole is as small as (thick) match wood, and never stop to pick up one single piece!

And so it goes! It was at one time supposed that the editor had the easy work. He had to tell *how*, but the worker had to do the hard work. All the farm work is getting so light that we shall soon want to give up the pen, and take to the easier and much more delightful task of splitting wood.

HOW MUCH HORSES FEEL.

MR. ROWELL relates some horrible cases in which horses had broken their bones at the fetlock joint and were compelled to walk upon their stumps, with their fore-feet turned up, as we should turn back our knees, and yet continued to graze quietly until they were dispatched. He acknowledges that horses are keenly alive to the stroke of the whip, the prick of the spur and the sting of an insect. That they are peculiarly sensitive to lameness is also a matter of every-day experience. They groan when they are wounded on the field of battle, and by their looks and their restlessness betray great uneasiness when the lacerated flesh begins to inflame. The absence of pain, particularly instances of extensive injury, can only be temporary, in the same way that the soldier is often unconscious for a time that his arm has been shot off or a ball been lodged in his body. The numbness which appears to be produced by the concussion passes away, and the sensitiveness is to be judged by the suffering which ensues at a subsequent stage. Horses, no doubt, feel less than men, but they feel a great deal. It is impossible, however, to gauge with precision the degree of anguish which is allotted to each grade of animal life.

—*London Quarterly Review*.

[We hope that no owner or driver of a horse, will ever attempt to shelter himself behind the assumption that horses do not feel pain as sensibly as man. It is said, that when Maj. Ringgold had his both legs shot off—or nearly off—in one of the early battles of the Mexican war, he suffered no pain, but calmly sunk into the arms of death from exhaustion. A horse

or a dog, or any other *mammal*, may occasionally exhibit the same indifference to pain, but these are only exceptional cases, influenced by counteracting causes, whatever they may be. We believe, however, that the lower we go down in the scale of animal organization, the less they are liable to the sensation of pain—indeed, some of the very lowest—the *polypi* for instance—if cut up into pieces, each piece will become reorganized into a new and separate animal. Animals so circumstanced cannot be supposed to feel pain. So also dragon flies and bees which have been deprived of the abdominal portion of their bodies; the head and thorax—to which are attached the feet and wings—have returned to their accustomed food, as though nothing serious had happened, but a sudden crushing of the segments which compose their bodies will produce a nervous tremor which seems to indicate the presence of great pain. Instances of the apparent absence of pain might be enumerated amongst the *chelonians*, but it is most humane to regard all animals as subjects of pain.]

CHAPPED HANDS.—The easiest and simplest remedy is found in every store. Take common starch and grind it with a knife until it is reduced to smooth powder. Take a tin box and fill it with the starch thus prepared, so as to have it continually at hand for use. Then every time the hands are taken from the suds, or dish water, rinse them thoroughly in clean water, wipe them, and while they are still damp, rub a pinch of the starch thoroughly over them, covering the whole surface. The effect is magical. The rough, smarting skin is cooled, soothed and healed, bringing and insuring the greatest degree of comfort and freedom from this, by no means insignificant trial. We know many persons formerly afflicted with hands that would chap until the blood oozed from many minute crevices, completely freed from the trouble by the use of this simple remedy.

HOW TO MAKE FARM LIFE ATTRACTIVE.

First—By less hard work. Farmers often undertake more than they can do well, and consequently work too early and too late.

Second—By more system. The farmers should have a time to begin and stop labor.

They should put more mind and machinery into their work. They should theorize as well as practice, and let both go together. Farming is healthy, moral and respectable, and in the long run may be made profitable. The farmers should keep good stock and out of debt.

Third—By taking care of health. Farmers have a healthy variety of exercises, but too often neglect cleanliness, eat irregularly and hurriedly, sleep in ill-ventilated apartments, and expose themselves needlessly to cold.

Fourth—By adorning the home. Books, papers, pictures, music and reading should all be brought to bear upon the in-door family entertainments; and neatness and comfort, order, shrubbery, bowers and fruits, should harmonize all without. There would be fewer desertions of the old homesteads if pains were taken to make them more agreeable. Ease, order, health, and beauty are compatible with farm life, and were ordained to go with it.

ENTOMOLOGY.

A NEW POTATO INSECT COMING.

A CALIFORNIA paper says: Olive-green bugs about as large as a grain of flax seed have completely ruined several fields of potatoes in Petaluma valley. They appeared suddenly in great numbers, and in a day or two ate the vines to such an extent that they could not live. There is a demand for information about the best means of preventing their ravages, says the same paper. Will not Prof. Riley give us information in regard to this "new departure" from the Pacific slope, whose intent is to devastate our potato fields, perhaps, the coming season? "Forewarned is forearmed."

The above very lucid description of "a new potato insect" is going "the rounds" of the newspapers. Neither Prof. Riley, nor anybody else, that had not *seen* the insects, could give any more "information" on such a subject than if the writer had said they were as green as "cheese" and the size of a "piece of chalk." The essential preliminary steps, when any new insect depredator has been discovered, is to capture specimens of it and send them to an entomologist. They may, perchance, be *new* to him, but he will know to what order, family, and, perhaps, the genus they belong to, even if he does not know the species. He will then also be in a better condition to give information in reference to their habits, and the necessary means to effect their destruction.

BOTANY.

BOTANY—RANDOM SKETCHES.

BY J. STAUFFER.

WHAT can I say that has not been said over and over again, and may be found in the books? Still there are things learned in forty years' study that may be of use to others, and there are facts recorded in books to which many have no access, and are yet equally interested. I therefore crave the indulgence of the readers of the FARMER, who may know all about the matter, or do not care to know; the latter will no doubt skip it, and consider it a waste of valuable space.

But relax your austerity, and let us enjoy a botanical ramble together, in early spring, when nature laughs out in her thousand varieties of flowers. See! here is a fine white flower proceeding from the bosom of a young convoluted leaf—right here in the shady wood along our path; what is it? Every school boy knows the *blood-root*. Well, suppose we want to know what the books say of this, we find that it has many local names, such as Blood-root, Puccoon, Turmeric, Red-root, Poneson, etc.; in German, *Bothwurz* and *Blutwurz*. The botanical name is "*Sanguinaria canadensis*." The generic name is derived from the Latin—*sanguis* (blood) from the color of the juice in the root. This common and only species, growing in rich woods, is truly handsome in cultivation. The root is an acrid emetic, and dangerous in over-doses. The tincture in small doses excites the stomach and accelerates the circulation. It is used in various forms. Farriers use the leaves to sweat horses. The Indians used it as a paint, a dye and a medicine. It belongs to the poppy family, which have a milky or colored juice, like the celandine, the juice of which is orange yellow, while in the poppy it is white. The opium poppy is the *Papaver somniferum*.

Here also we find the May-apple in full bloom. Some call it *mandrake*, which name really is applied to the "*Mandragora*," quite a wonderful and celebrated plant, and is simply a corruption of its proper name; other local names are applied to it as—wild lemon, raccoon-berry, duck's-foot, pecan, yellow-berry, ground-apple, or in German: *Busch Apfel* and *Enten Fuss*. Thus we see the necessity of proper scientific names, at once ex-

pressive to every scholar at least, of whatever language. This well known common plant, has the scientific name of *Podophyllum peltatum*. I admit it is not so short as "May-apple." Excuse me for analyzing the scientific name, because many are prejudiced against the science on that account. This hard name is coined from the Greek—*Podos*, a foot and *Puillon* a leaf, just as the German proper name "*Enten Fuss*" or duck's-foot, the stem of the leaf centrally attached or *peltate* (shield-like) as in the "*sturtion*" properly *Nasturtium* or Indian cress, in which the leaves are *peltate* but undivided. The roots of this plant run along under the ground and form buds, and are really an underground stem, rooting at different points, which is termed a *Phizoma*, in botanical language, and not properly a root. This also has medicinal properties. However, we are not now on medical botany, but in the woods so familiar to all of us. Let us look around. Here is the common blue violet, but it has not the fragrant smell of the sweet violet—the *Viola odorata*, as we find it in cultivation. This is the *V. cucullata*, the tallest and commonest among the blue violets. The violet is emblematic of modesty—as it partially conceals itself amid the foliage, as it were in bashful timidity. W. Smith says :

"A woman's love deep in the heart,
Is like the violet flower,
That lifts its modest head apart
In some sequestered bower."

Yes, flowers have their language; theirs is an oratory that speaks in perfumed silence, and there is a tenderness induced while contemplating their variegated beauty. To the poetical mind, they are not mute, and to the pious they form links between us and the Creator. But come, let us look around us. See, here we find a small, modest, purplish flower, close to the ground, with its three lobed liver-shaped leaves, called the liver-leaf, and just so, botanically, it is the *Hepatica triloba*. The Greek *hepar* signifies the liver, and *hepatitis* inflammation of the liver, which it was supposed could be cured by this plant. Let us examine the flower more carefully, and we see what seems to be calyx is really an involucre, and the colored sepals are mistaken for petals. Compare it with other flowers, it really belongs to the *Apetalæ*; but the sepals are petal-like, the involucre like a three-leaved calyx.

Here, too, so early as May, we find a low plant of a single stem, terminated by purplish

flowers like in the common radish, cruciform, of four petals, with a whirl of three compound leaves, variously toothed; dig up the root, it is horizontal and fleshy, with a mustard-like taste, or like water cress, called tooth-wort and pepper root. This belongs to the natural order of the Cruciferae (mustard family) and is the *Dentaria laciniata*. There are other species, but not so common around here. Here we have come to a rocky portion of the woods along the stream. See the large white blossoms of the flowering dogwood. These grow from twelve to thirty feet and are very showy shrubs. A facetious wag told me he knew the dog wood by the "bark." This is the *Cornus florida*. These large round, or heart-shaped and notched white petal-like leaves, are not the flower, as many think, but an involucre. Examine closely and you find a group of small flowers in the center of the involucre, each having four petals and four stamens. The dwarf cornel or bunchberry is rather rare with us, more common northward. This has a similar involucre, but only grows to the height of five to seven inches. The other species of cornel are shrubs three to ten feet high. The *Cornus sericea*, common in damp situations, is the "silky cornel," or *kinnikinnik*. But the other seven species do not have the showing involucre.

The American papaw we find in flower. These are axillary and solitary, and very peculiar. The petals are dull purple, one and a half-inch wide, thickish; the calyx has three sepals, and the corolla is formed of six petals in two rows; stamens very numerous; a tree ten to twenty feet high; fruit, two to three inches long, and relished by some. These belong to a tropical family, and is the only one genus found outside the tropics, and is our custard-apple, the *Asimina triloba*. The papaw found in the East and West Indies is the *Carica papaya*, and is a remarkable plant or small tree, with a soft, spongy stem; large, deeply lobed leaves; having gashed segments, and unisexual flowers, succeeded by oblong, dingy, yellow fruit. Throughout the West Indies the juice of this tree, or an infusion of its fruit or leaves, is reputed to possess the remarkable property of causing a separation of the muscular fibre of animal flesh, and thus rendering the toughest meat tender. An old author describes our native species under the genus "*Annona*," and says: "All parts of it

have a rank if not a fetid smell; and few, except the negroes, relish the fruit. It usually grows in low, shady swamps, and in a very fat soil; it is a native of the Bahama Islands, Carolina, Maryland and Virginia." He might have added Pennsylvania. My neighbor, Mr. Matthias Zahm, has quite a tall tree in his lot in this city, that blooms and bears fruit every year.

CORRESPONDENCE.

CALIFORNIA CORRESPONDENCE.

PER J. B. G.—Your favor of 221 January came to hand a few days ago at the end of the snow blockade. Rain commenced December 17, 1871, and then it began to be a certainty that a intercourse with the East would be interrupted with for a while, and therefore I did not write, but was just going to write when I received yours, and for a few days since have been very busy day and night, hurrying through my grafting. We have had a most stormy winter, much worse than 1862. The ground is so wet that we can hardly go on it. We have had few perfectly clear days since December 17.

There will be double the crops put in this season than usual. But we vegetable men will be very late in getting in our crops. There was a short time before the 17th of December, when some little rain had fallen that some few got their crops in the ground, but generally the spring vegetables are behind. We have had here 38 80-100 inches of rain so far, with prospects of sudden showers daily. I hope it will be dry enough soon to lay out my orchard and to plant my peas, which were intended for early market, but will now go in as second crop. The snow blockade has been very annoying. It was over four weeks that we got no eastern mails. Now it is hoped we shall get mails more regularly. The mails have not all got in yet. The papers announced 800 bags to arrive to-day.

Last season was so dry that I lost all the grafts and cuttings sent me from the East. I put in one graft of cumaloo grape, in a stock four years old, in May, when the shoots were twelve to eighteen inches long. It lived and made twenty-seven good cuttings besides wood to bear fruit this season. Besides that I had about twenty varieties of the best American grapes, new kinds, and lost them all. I shall mail you a package containing two trees of my Egerton peach, some of the Japan plum "Domby," and some of the Utah hybrid cherry, a hybrid between a plum and a cherry, highly recommended, but curiously, is to be worked on the peach stock. The Egerton peach is, I am satisfied, as early, or a few days

earlier, than Hale's early, and then, oh, how much better.

You mention snow with you. We had a little here on the 17th of December, but it did not reach the ground. Some on the mountains near last several days, but since the storms set in the rains have been warm, and no frost.

If I succeed in my operations this year and get my orange orchard I think it will be a paying investment, for I expect to clear from \$300 to \$1,000 per acre, when three to five years old, and "ten acres will be enough," sure.

Yours, etc.

A correspondent in Indiana writes me as follows—abridged:

"I have all the new varieties of grapes you mention, with many others new and valuable; I also have a number of Utah grapes, seven generations from the old mission grape of California, perfectly hardy, and very valuable; beside those named in *Rural New Yorker*, I have Greeley, Judd, Ledger, Elizabeth, Susan, Marcellus, Florence, Harris, Tucker, New Seedlings of Mr. R. Steward, and all very promising; have also Thompson's Farmers' Club, N. C. Eby, Lavina, Eleanor, Grant and Carpenter, of which the two latter are remarkably fine in fruit and vine; I have Caywood, red Walter, improved Hybrid, Clinton, Mohawk, and Hudson, also Herman, Cottage, Una, Angwick, Cynthia, etc., etc."

I began collecting fruits for the purpose of having fine fruit myself, but finding it easy to propagate I have concluded to go into that. I propose, friend Garber (God willing), to have a garden of fruits unequalled in the West, and shall spare no means or labor to have it so, and propose letting out new fruits at *living prices*, knowing full well that present prices of most nurseries are too high. I have over 80 varieties of new grapes; I also have 250 varieties of pears, *choice and new*, many of which cannot be had in the United States. I have bought them, at great expense, from all parts of Europe and even Asia. I have gotten my pears from England, Germany, France and Prussia; my apples from Russia, France and England, besides all American varieties of real value. I received, last November, 70 new varieties of pears from France—have an order out now for 100 varieties of new, choice European fruits, to be sent me in March. I propose issuing a catalogue next fall and giving descriptions and prices of all such fruits as I have ready to spare. Will send you some cuttings of grapes and pears.

Very respectfully, etc.,

and merciful providence shows in this economy of creation a never-ending movement in the change from summer to winter and the reverse, which alternation supplies us with the bounties of earth, are we not admonished thereby to aid in our efforts and co-operate with the beneficent Father of creation? Let our watchword then be *onward*, and let our efforts be untiring in the production of new fruits and in the improvement of our time in raising, if not new varieties, the best of what we have in our possession.

Gradual improvement and skillful practice in cultivation have given us the present varieties of superior apples, pears, peaches, and other small fruits which we now possess; and even wheat itself, the staff of life, is a production of skillful cultivation, being in its native state an inferior plant, no better than cheat or chess. The apple was originally raised from the sour and bitter crab; the pear from the hawthorn. All are excellent fruit was, in its native state, of a very inferior quality, and by the cultivation of the same from seed it has been brought to its present state of superiority. How many of us supplied ourselves with seed last fall, and having planted the same are now waiting with anxiety to see its germinating shoots appear above the ground and its subsequent growth as ornamental or fruit trees, and to which we might in after years point out to our children and grandchildren, and say to them: "This tree is one of my own planting from the seed." Have we looked all over our grounds to see if there be no suitable place for forest, fruit or ornamental trees? How much vacant space have we yet upon our land that is not so occupied? Have we made out a list of what we want and what we can plant to advantage on our premises? Have we been at our nearest nurseries to engage such trees as are appropriate for our places? If we have not done so let this be attended to without delay, and if we are unable to get the very kinds we desired, then let us take the thriftiest trees of other varieties. There is nothing like getting strong and vigorous growers when you are selecting trees to plant, for if you have not the kinds you should desire you can graft them with other varieties and soon have your orchard all that you desire. If you have not prepared yourself with grafts do so at once as the season is late. There is, however, time to do so yet.

I deem it useless to commend certain varieties of fruit, as most people have a choice, and it is not for want of a knowledge of varieties that planting is neglected, but because care and expense are required. It is well-laid-out money, however, that is expended in procuring fruit trees for a farm, and an ample interest is obtained on the investment. So long as a necessity exists that the planting of trees be continued every season, we should be excused for reminding our friends of their duty to do so for themselves, their children

MESSRS. EDITORS: We feel at times as if everything that could be said in favor of the raising of fruit had been already said, and that nothing remains to be added. If, however, we reflect that we live in an age of improvement and progress, and that a kind

and their neighbors. And is it our want of comprehension that induces us to infer that all is said upon this subject that can be said. The subject is inexhaustible, and should be discussed from time to time, or we will retrograde like the Egyptians and Persians, who have abandoned religion and the growing of forest and fruit trees, and yet who, in the early history of the world, were the first civilizers of mankind. L. S. R.

MESSRS. EDITORS of "LANCASTER FARMER:" Do you know what I would like to see? Can you guess? No, that's not it, so I'll tell you. I would like to see you issuing ten thousand copies of the FARMER each month! That's what I would like to see—yes, to our farmers of Lancaster county alone, and as many more to others outside of our county. Then you could "increase the size and reduce the price." Then you would not only find it a paying investment, but the subscribers would receive more valuable and interesting information, and that too for less money. Isn't that so? And why should not every farmer in the county, and hundreds of them outside the county as well, become paying subscribers, and readers? would not every one get the worth of his money? Certainly there are none so wise, but that they could meet with some items during the year, that would more than compensate them for so trifling an investment as a dollar and a quarter or if a number join on club terms, even for less than the dollar. Again, on the other side, is there a single man in the county so ignorant, or so involved in moral darkness, as to stand in his own light, and not see that a years reading of the FARMER, will give him information not otherwise obtainable, that will pay him ten times over, for the paltry investment? Then why do not all our farmers encourage our home papers, as well as home industries? Aye and thousands who are not farmers can, by subscribing for this "home farmer," and placing it within reach of their families, be benefited far more than the value of the dollar. Who that can look back for half a century, and recall to mind the wonderful discoveries and improvements that have been brought to light during this period of time! Well may we be astonished; will these discoveries and improvements be continued during the next half century? That is a question only to be answered by the next generation. These many discoveries and improvements that are called "labor-saving," have greatly benefited the farming community as well as mechanics, artisans and others. All the different trades, occupations and sciences are directly or indirectly connected and interested in the productions of the soil, in the progress and well doing of the farmer. The improvements in any one branch, directly or indirectly conduces to the well-being of others.

Formerly, and I well remember the time, farmers considered thirty bushels of wheat per acre only an average crop—forty bushels was not uncommon; now ten or fifteen is probably above the average. We have lately been told that "by proper management we may again raise thirty to forty bushels per acre." How this is to be done, we trust, will some time appear in our LANCASTER FARMER. This alone will be worth many times the price of the paper. Another discovery during the last half century we must bring into this article from its probable tendency to the improvement of our farms. We are now all familiar with that wonderful discovery of the electric telegraph; how it, the electricity, is made to carry messages all through and even around the world! May there not be other uses not yet discovered to which this subtle invisible fluid, or whatever it is, may yet be applied:

A late writer in the FARMER even suggests that "electricity is a powerful fertilizer, and might have used its influence in producing a better crop of wheat in 1871, than for many previous seasons." May we not, therefore, hope that this fertilizing element of electricity may in time become available as a manurial stimulus to our crops? "Wonders never cease," and "we know not what a day may bring forth." Thus I am fully convinced that by reading agricultural papers we become acquainted with all those new discoveries that relate, or are applicable, to our farming operations.

Therefore I would say, encourage our LANCASTER FARMER, our home organ, and the editors, who exchange with other publications of similar tendencies, will select such matter as may be new or interesting to our Lancaster county farmers, and by such means we can avail ourselves of all new appliances and improvements. *Progress*, as I stated before, is the watchword of these times, and he who fails to glean the knowledge spread broadcast over the land through the agency of the press, and especially the agricultural press, so far as farmers are particularly and pecuniarily interested, will not be enabled to keep pace with the times in any calling, and much less in the cultivations and utilizations of mother earth.

If the above remarks are true, then I would advise every farmer in the county, and many other counties, to at once subscribe and pay for our home organ, the LANCASTER FARMER and my word for it, you will receive in return a greater per centage in knowledge and information, than can be acquired by any other means. Wish we could reach every farmer in our county, and many outside of it, too, who do not read agricultural papers—but especially our LANCASTER FARMER. Then we would see our publisher issuing each month ten thousand or more copies. That, Messrs. Editors, I would like to see! Would'nt you?

J. B. G.

The Lancaster Farmer

LANCASTER, APRIL, 1872.

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Three Years in a Man-Trap.—By T. S. Arthur: The long expected companion to "TEN NIGHTS IN A BAR-ROOM" is nearly ready, and will shortly appear.

The popularity and great usefulness of that standard temperance book is evinced by the immense sales that have been made—much greater, perhaps, than any book of its class ever published.

Who has not read *Ten Nights in a Bar-room*, so true to nature, so intense in effect, and so terrible in its moral; and who that has read it has not wished for a companion. To satisfy this desire, the author has just completed a new volume that unmasks the liquor traffic in a way to startle the public. The new book, "*Three Years in a Man-Trap*," gives an inside view of the liquor trade, and portrays the terrible effects of the traffic, in a series of life pictures, full of interest, with the skill and fidelity to nature so eminently characteristic of the author. The book cannot fail to make a strong impression, and as a new auxiliary to the temperance cause will have a wide and powerful influence. Nothing could be more timely than its appearance now. We learn, by the publisher's circular, that it is to be sold exclusively by agents, and as it is a good opportunity to secure a book that will sell easily, and at the same time do a vast amount of good, those who desire profitable employment would do well to apply immediately to J. M. Stoddard & Co., publishers, No. 733 Sansom Street, Phil'a., and secure an agency.

ONE of the most welcome visitors to our editorial desk is *Wood's Household Magazine*. No name for a journal of its class could have

been more appropriately selected. Its pages abound with the choicest productions of our best writers, and the subjects treated awaken an interest in the reader that make him long for the coming of the next number.

We have hanging on the wall, over our desk, the beautiful chromo of Niagara Falls, which is given to every subscriber to the magazine for three years in advance. We will not attempt to describe this beautiful work of art, but will let our readers see the opinion of an exchange:

"NIAGARA FALLS.—We received, a few weeks since, this beautiful chromo from S. S. Wood & Co., Newburgh, New York, publishers of *Wood's Household Magazine*. As we glance at it as it hangs on our wall, in the deep gilt frame in which we have placed it, we seem to be looking, not at a picture, but at the real falls in the distance, and we almost listen to the roar of that wonderful sheet of water, as it rushes headlong over the precipice, dashing against the rocks beneath. The Tower and Horse-shoe Fall, with all their surroundings, are as clearly portrayed as the soft, silvery, overhanging mist will allow; and the scenery in the rear, so far away and yet so real, contrasted with the bold evergreens which stand out so distinctly in the foreground, lends an added charm to the picture, which is, in a word, a grand, truthful representation of a well-known and far-famed subject. The regular price of this chromo is five dollars. We know our readers will say, as they walk into our sanctum, it ought to be in the parlor of every family."

We have made arrangements with the publishers to place this magazine on our premium list, and can furnish this chromo, worth \$5, *Wood's Household Magazine*, \$1, and the LANCASTER FARMER, for one year, at \$4.25.

THE WEATHER.

THE weather—how cold how continuously and uniformly cold it *has* been, and *is*, the present winter; for, although far on in the month of March, as we are writing this, (March 20th) winter still reigns supreme. We may have had winters when the cold was more intense, but few, if any, within our life's experience of sixty years, of which we have a clear recollection, that were so evenly cold, and in which the cold weather commenced so early and continued so late. The Susque-

hanna river closed during the last quarter of November '71, and it is still bound in its icy fetters, a period of one hundred and fifteen days—nearly one-third of a whole year. Perhaps that ubiquitous individual, the "oldest inhabitant," who may be squatted somewhere, everywhere or anywhere, along its borders, cannot recall a similar event in the history of the weather, and its congealing effects upon that stream. There has been but little snow, and just as little rain during all that long period of cold weather; and this, in connection with the fact, that the water was at a low stage, at the time the river was first frozen in, has produced a result that might have been far otherwise if heavy snows, thaws and rains had supervened. What effect all this will have upon the crops, and the sanitary condition of the insect world, are contingencies that time alone can clearly manifest. Uniformly dry winters, although cold, are generally favorable to the preservation of hibernating insects, their eggs, their *larvæ* and their *pupæ*. Could our farmers have found any period, or periods, between the first of December and the fifteenth of March, favorable to turning up the soil with the plow, they might thereby have facilitated the destruction of many noxious insects in their various stages of development.

They could not have survived the many alternate severe night freezes and midday thaws, to which they would have been exposed. It would be difficult, under present circumstances, to prophesy what the final result may be in this respect; because there may be some counteracting influences at work of which we are not aware. Such a winter cannot be very favorable to the *winter grain*, and the grass crops, although copious spring rains, at the proper times, may effect a recovery of what has been delayed, diminished or suspended by a long open exposure and protracted cold.

R.

P. S.—After one of the most boisterous, coldest and dryest equinoctial blows, within our immediate recollection, the Susquehanna river is still fast bound in its icy fetters (March 28), a full period of four months, and the weather is still unseasonably cold.

ALSIKE clover, rye and orchard grass do best on moist soils. On dry soils they soon run out.

MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE regular meeting of the society was held March 4th, 1872, in the Orphans' Court-room, and after the reading and approval of the minutes, the president excused himself for his inability to attend the meeting at the Experimental Farm in Chester county.

On motion Milton G. Eshelman, of Paradise township, was elected a member of the society.

Casper Hiller, took occasion to call attention to the Krouser apple, as one of the best varieties that he grows. It keeps better even than the old Romanite, and is one of the kinds that every one setting out a new orchard should procure.

Jacob G. Peters obtained leave of the society to introduce to the attention of the members his new improved "Celebrated Champion Combined Cultivator." Mr. Peters, in stating the advantages of this new improvement, explained that with it a man did the work that is now performed by five other implements of husbandry, and that a workman could with it do double the amount of work in one day than can be done with the old cultivators. He showed that his improved cultivator is recommended by a number of the leading farmers of the county, who regard it as a great labor-saving machine, and the best they have ever seen.

Henry M. Engle was fully convinced of the utility of this new improvement, and intends procuring one this season. He sees its superiority from the fact that it can be turned to so many useful purposes.

J. G. Frantz has used this machine, and seen it in use, and he is fully satisfied that it surpasses anything as a cultivator of which he has any knowledge.

Cyrus T. Fox has examined this machine, and he is satisfied that it is going to be a great improvement upon the farm. He agrees with Mr. Hiller in his estimate of the Krouser apple, and considers it one of the finest apples grown in this locality. It is a native of Berks county. The Krouser apple is an excellent cooking apple, and serves both as an early and late one. It gets ripe early in the fall and lasts till May, and is a good eating apple all this time.

Henry M. Engle, in accordance with announcement, proceeded to deliver a lecture

upon grape culture, and illustrated his method of culture by means of the blackboard. He regards wood ash the very best manure for the production of a good grape. The best vines are grown from cuttings of a single eye; cuttings with two eyes are also good, having one inch of wood above the last eye, and the cutting should be placed so that the earth covers the eye. Some varieties of grapes grow from cuttings better than others. Those growing best are the Isabella, Concord, and Hartford Prolific. Grafting the grapevine has been successfully practiced.

In the matter of producing grapevines, the plant should be placed five or six inches beneath the surface of the earth; grow the plant for the first year with a stake to assist it; after one year's growth cut the vine back to a few eyes; the plant should be left one foot or fifteen inches in height. The second season take the vines growing from the two eyes, and attach each to a stake; there will be laterals growing out from the vine, and when these laterals obtain a length of several eyes pinch them back to one or two eyes, so as to give more strength to the main vine. After the second season the vine is ready for trellising, having attained a height of perhaps six or eight feet. Now take away the stakes and cut the vines down to a height of about five feet. After training upon the trellis, pinch off the laterals, and you now have a bearing vine, each stem producing probably two or three bunches of grapes. As these stems grow upward on the trellis they should be occasionally pinched, in order to give strength to the base of the vine, thus driving out the foliage below, which is always to be desired. The sap will continually course upward, and by pinching back, the cane obtains more strength at its base, which is just what ought to be. The question now arises how to keep this vine upon the original trellis, how to prevent it from running out and away from the base, until it will require another trellis to accommodate it. The matter is simple: cut the old cane away, down to the first eye, next the base, and from this eye raise your vine—the rule being to look to your one-year old wood for fruit, two-year old wood seldom producing, although it does occasionally in some varieties of grape.

On motion members of the society were permitted to take one book out of the library, for a month at a time, and if the member

retain it when over a month he shall be liable to a fine of twenty-five cents for every month till it be returned.

Cuttings of Duchess de Bordeaux and Cynthiana pears (the latter from Texas) were presented for distribution by Jacob B. Garber. Also, cuttings of the Mount Vernon pear were presented by John Huber, of Lititz.

On motion society adjourned to meet on the second Monday of April instead of the first Monday.

HORSERADISH is an excellent condiment to mix with the food of cows to give them an appetite, and make them sleek and thrifty. It should be fed freely to all animals that are not well, and it will be of great service to working oxen troubled with heart. If given to cows in doses of a pint, mixed with potatoes or bran, it will prevent or relieve cows of the disease called cake in the bag. Few animals will refuse to eat, and some will eat of it greedily, as much as half a peck at a time.

BOILED CUSTARDS—EXCELLENT.—Mix the yolks of 4 eggs with 1 spoonful of sugar, 4 of milk and a pinch of salt. Beat the whites till you can turn the plate over without their falling off; heat a pint of milk in a flat dish like a spider or pan; just before it boils put the whites of the eggs in the milk, a spoonful in a place, turn immediately, each spoonful separately. Take out on the plate; turn the yolks in the milk; stir constantly till it begins to boil; do not let it whey; turn into a dish for the table; flavor with vanilla and lemon; put the whites on top with bits of jelly on each. To be eaten cold.

ASPARAGUS.—Sow early in spring, in rich soil, in drills a foot apart, and one inch deep, thinning the plants to 3 inches apart in the rows; when one or two years old transplant to well-trenched and enriched ground, planting in beds 4 feet wide, with path 2 feet wide between, and setting plants 1 foot apart each way and 4 inches deep; late in the fall mow off the tops and cover the beds deeply with manure, which fork early in the spring and give a good dressing of salt; allow two seasons of growth before cutting from the bed.

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

POCKET DICTIONARY.—We have received from the publishers, 138 and 140 Grand street, a copy of Webster's Pocket Dictionary, which is a great improvement over all previous editions and all similar works. In the first place it is neatly printed, and bound in morocco, with gilt edges. Then it contains 200 pictorial illustrations, which give a much clearer idea of the meaning of many words than could possibly be conveyed by the usual definition. The little volume, while being no larger than an ordinary pocket-book, embraces in its vocabulary a careful selection of over 18,000 of the most important words of the language, with definitions sufficiently clear, though necessarily brief, to meet the ordinary wants of any one requiring its use. Prefixes to the work are tables of money, weight and measure, abbreviations words and phrases from foreign languages, rules for spelling, explanations, etc. It is in fact a most valuable little book, and is doubtless worth the dollar it costs. The publishers, Ivison, Blakeman Taylor & Co., 138 and 140 Grand street, New York, will forward it by mail on receipt of one dollar, or it can be bought at almost any book store.

We do not consider the success of the Blanchard Churn to be wondered at. Every body knows that "the best" will always win.

THE CELTIC WEEKLY.—In appearance and contents the first number of this new illustrated journal is fully equal to our most popular literary weeklies. Every column is filled with entertaining matter, fact and fiction of the choicest kind. The staff of writers embraces a host of names well-known in the high walks of Irish and Irish-American literature. As a family journal, we know of none that can be considered superior to this new competitor for popular patronage. Its illustrations are finished, and full of vigor. No advertisements admitted to its columns.

WHO WAS "DOLLY VARDEN?"—The only correct thing from which to make up lovely spring dresses for ladies is a gorgeous material—all bright blossoms and maize intertwining stems—known as "Dolly Varden." Whence this singular appellation for dress goods is naturally queried at the fair sex. The new name in dry goods is that of one of Charles Dickens' heroines. "Dolly Varden" is one of the female characters in "Barnaby Rudge," is the daughter of Gabriel Varden, a locksmith; is sought in marriage by "Sim Tappertit," a vain London apprentice, and Joe Willett, a very exemplary young gentleman indeed. Miss Dolly becomes Mrs. Willett. She is described by Dickens as possessing "a face lighted up by the loveliest pair of sparkling eyes that ever locksmith looked upon; the face of a pretty laughing girl; dimpled and fresh, and healthful—the very impersonation of good humor and loquacious beauty." As for Miss Dolly's attire, we refer our readers to the illustrated editions of Charles Dickens' Works, published in endless variety, and at all prices, by T. B. Peterson and Brothers, No. 306 Chestnut street, Phila.

A NOBLE LORD, being the sequel to "The Lost Heir of Linlithgow," by Mrs. Emma D. E. N. Southworth, is in press, and will be published in a few days by T. B. Peterson & Brothers, Philadelphia, Pa. It is said to be the best book that this popular authoress has ever written. "A Noble Lord" will be issued in a large duodecimo volume, uniform with Mrs. Southworth's other works, and will be sold at the low price of \$1.75 in cloth, or \$1.50 in paper cover; or copies will be sent by mail, to any place, post-paid, by the publishers, on receipt of the price of the work in a letter to them. The following new books are having immense sales, and should be read by all: "John Jasper's Secret," being the sequel to Charles Dickens' "Mystery of Edwin Drood;" a new and enlarged edition of "Meister Karl's Sketch Book," by Charles G. Leland; "Aunt Patty's Scrap Bag," by Mrs. Caroline Lee Hentz; "A Noble Woman," by Mrs. Ann S. Stephens; "Cerrilla," by author of "Initials;" "Kate Kennedy," by Mrs. C. J. Newby; "Monsieur Antoine," by George Sand; and the popular poem of "Beautiful Snow." Send to T. B. Peterson & Brothers, Philadelphia, for their Illustrated Catalogue.

WESTERN POMOLOGIST AND GARDENER.—Devoted to Pomology, Horticulture, "Orticulture," etc. This journal, now reduced in size to the popular magazine form, is among the best works of the kind on our exchange list. Ably conducted, and illustrated; Des Moines, Iowa. Terms, \$1.50 a year.

SOME of our very best dairymen tell us that they complete the whole process of butter-making, churning, working and salting, to their entire satisfaction in the Blanchard Churn, without touching their hands to the butter. We know it can be done.

THE STOCKHOLDER, a "monitor of finance and industry mining and railway record," a royal quarto of 16 pages, published by D. SMORE & Co., No. 59, Cedar street, N. Y. As its title implies it gives a copious account of all the different kinds of public stocks in the country, including railroad shares, bonds and earnings, municipal securities and bonds, bank stocks, insurance, telegraph, gas and express stocks, State and U. S. bonds, and a record of the daily transactions therein, with interesting miscellaneous matter. Price 10 cents a number.

INDUSTRIAL BULLETIN, devoted to the "Protection of American Industry;" published by the *Industrial League*, Johnstown, Pa.—an ably conducted royal quarto of 8 pages.

AMERICAN BANK CIRCULAR, and "Investor's Guide," of the same date as the immediately preceding. A. Wilkins, editor and proprietor, Detroit, Michigan. Terms, \$1.00 a year. A very useful medium in all that relates to financial enterprises and investments.

INDUSTRIAL MOTOR—"For the promotion of industry science, art, health, wealth, virtue and happiness" issued from the Iowa patent office, Des Moines. A spirited eight-page royal quarto; monthly, at 50 cents a year, occupying an important place in economical literature.

THE PRACTICAL FARMER.—The March number of this most excellent and substantial agricultural monthly is on our table. It is edited with judgment, ability, and possesses a corps of correspondents who are eminently practical men, discussing practical questions from the standpoint of actual experience. The *Farmer* is thus rendered one of the very best journals of its class published, and is worthy of a large patronage. For terms and specimen copy, address Paschall Morris & Knight, No. 18 North 13th street, Philadelphia.

NATIONAL BUSINESS INDEX.—The *National Business Index* is a new monthly magazine; "an encyclopedia of business knowledge for the people." It contains a very large amount of information both interesting and valuable to the general public. Every thing is classified and arranged with thorough system, and at the same time presented in a readable, attractive style. The price is exceedingly low, only 50 cents a year. The publishers also present a very fine chromo, "Apple Blossoms," (one of Frang's, worth in the art stores \$1.00 each), to each subscriber. Send for specimen copy to THE INDEX COMPANY, 443 West Jackson street, Chicago, Ill.

AMERICAN FARMER'S ADVOCATE, the "official organ of the Agricultural Congress," devoted to the special interests of the farmers of the whole country, at \$1.00 a year. Issued at Jackson, Tenn. A large quarto of 20 pages, full of entertaining and instructive matter on agricultural and domestic subjects.

THE "FARMERS' CLUB," a spicy, eight-page quarto, by F. P. Lufey, Oxford, Chester county, Pa. devoted to the interests of the farm, and, especially to "Farmers' clubs," at \$1.50 a year.

NURSERY CATALOGUES FOR SPRING, 1872.—James J. H. Gregory's "Retail Catalogue of Choice Vegetable and Flowers." Myrtlehead, Mass. S. B. Flemming's Retail Catalogue of "Choice Farm and Garden Seeds." Jamesport, L. I., N. Y. Edward J. Evans & Co.'s "catalogue of fresh genuine Garden Seeds." York Pa. "Monthly Report of Dept. of Agriculture," Washington D. C. Peter Henderson's "Spring catalogue of new, rare and beautiful plants." C. L. Allen & Co.'s "illustrated catalogue of seeds, bulbs and plants."

MARKETS.

NEW YORK MARKETS.

NEW YORK, March 28.
FLOUR, &c.—Only a limited demand for Flour, and the market is heavy for the low grades and steady for the medium grades and fairly active and quiet and firm for family extras. Good No. 2 and superfine in fair demand at full price. At the close the market is fairly active for all grades above \$8. The sales are 9600 barrels. We quote: Sour, \$5.62 20; No. 2 at \$5.65 15; superfine \$6.40 67 1/2; State extra brand, \$6.85 17; State, fancy brand, \$7.20 7 1/2 50;

western shipping extras \$675a7; Minnesota extras \$7a 850; good to choice spring wheat extra \$73a775; extra amber Indiana, Ohio and Michigan \$780a8; Ohio, Indiana and Illinois superfine \$640a670; Ohio round hoop extra (shipping), \$7a710; Ohio extra trade brands \$730a775; white wheat extra Ohio, Indiana and Michigan \$775a80; double extra do. do \$860a950.

Rye Flour is in fair demand and is steady. Sales of 190 bbls. Western at \$10a470; State and Pennsylvania at \$165a505. Corn meal is firm but dull. The sales are 350 barrels. We quote: Jersey at \$350a355; western at \$350a370; western white at \$350a360; Brandywine at \$375a380; do puncheons \$1825a1850.

Grain—A limited demand for spring wheat, and the market is heavy and unsettled. Winter is held with much firmness. At the close the demand is fair, but at prices below the views of holders. Spring is steadier and winter stronger. The sales are 33,800 bushels, at \$150 for No. 2 Chicago spring, in store; \$160 for No. 1 Milwaukee, in store; \$170 for red western, in store, \$16a169 for red Jersey, on pier, \$190 for white Michigan, afloat; \$175 for amber do, in store.

Barley is heavy and the demand light; sales of 11,200 bushels two-rowed State \$1, and Canada Lake on private terms, supposed \$110. Barley Malt is in limited request; the supply is fair; sales of 5200 bushels, at \$1 for two-rowed State and \$140a150, prime. Oats are less active and easier for mixed and firm for white; the sales are 16,400 bushels; western mixed at 53c store and 55c afloat, and white at 57c on track and 58a59c afloat. State mixed on track at Thirty-third street at 56c. Rye in active and steady; 83c bid for western, in store. Corn is quite active and much better, with more inquiry for the future; the demand is chiefly for export; the sales are 136,000 bushels; damp and unsound at 70c; western mixed 70a71c afloat, closing strong at 71c and 71c for next week, and 70c in store; do white at 72c; do yell w at 72a73c; southern white at 76a76c; do yellow at 72a72c; Jersey do at 71c afloat.

PROVISIONS.—Pork is in moderate demand at about former rates, with fair offerings of stock. The sales cash and regular, are 400 bbls. at \$123a1250 for old mess, and \$1287a13 for new do. For future delivery the market is dull. Sales of 250 bbls mess at \$1275 for April and 250 bbls at \$1285 for May. Beef continues in fair jobbing demand and the market is steady. Sales of 175 bbls at \$8a10 for plain mess, and \$10a12 for extra mess. Tierce beef is dull and nominal, though former figures would be accepted. We quote at \$15a18 for prime mess, and \$18a21 for India mess. Beef hams are firm for all choice grades with a fair trade demand current. Sales of 70 bbls at \$22a26 for western.

Cut meats are fairly active and steady for light weights, but heavy stock is weak. Sales of 300 pkgs at 83a9c for hams. Bacon is wanted, and clear stock steady, but the offerings are fair. Sales of 1100 boxes at 7c for long clear, and 7c for short clear. Dressed hogs steady. We quote at 53a6c for city.

Lard is dull, and the market stands at about former rates. Sales of 300 bbls. and tcs. at 83a88c for No. 1; 83a88c for city; 83c for fair to prime steam, and 9c for kettle rendered. For future delivery firm.

Hay—The market for shipping continues quiet but firm at \$135a140. Retail lots are steady and quiet at \$140a175. Salt Hay is quoted at 50a65, and Clover at 75a80c. Straw remains dull and unchanged at \$105a115 for long rye; 85a95 for short do, and 75a85c for oat.

Broom Corn—The market is dull and unchanged. We quote old mixed at 3a6c per lb; new red 3a5; medium green 5a8c; choice hull at 9a10c. Brooms are quiet but firm.

Seeds—Clover is in limited demand, and steady at 9a9c for Ohio, and 9a10c for Indiana. Timothy steady at \$3a325.

PHILADELPHIA MARKETS.

THURSDAY, March 28, 1872.

SEEDS—There is more Cloverseed offering, and the demand is limited; sales of 100 bbls. in lots at 83a9c, the latter for choice. 300 bags Timothy sold at a price kept secret; we quote at \$257a3. The market is bare of Flaxseed, and it is wanted at \$2.

Bark—The stock of quercitron bark is reduced to a very low figure, and holders now demand \$35 per ton for first quality No. 1. Tanners' Bark is nominal at \$13a14 for Chestnut, and \$17a18 per cord for Spanish oak.

FLOUR—The flour market continues very firm, but the demand is less active. The receipts continue small from all sources, and the stock is now greatly reduced. Sales of 100 barrels, low grade, superfine at \$525; extras at \$625a75; 200 bbls. Northwest extra family at \$775; 100 bbls. Minnesota do. at \$812c; 600 bbls. Pennsylvania

do at 775a8; 500 bbls. do, on secret terms; 600 bbls. Camden Mills, also on secret terms, and fan y lots at \$950a11. Rye flour is firmer, and 200 bbls. sold at \$475a5; 100 bbls. we taken on secret terms. Corn meal is inactive; holders ask \$35 for Brandywine.

GRAIN—The receipts of Wheat continue small, and choice lots are held firmly at the advance recorded yesterday, but the demand is limited; sales of 2,600 bushels Pennsylvania and Western red at \$176a177; 400 bushels Western amber at \$178, and 400 bushels Pennsylvania white at \$188c. Rye is very quiet; we quote Western and Pennsylvania at 87a88c. Corn is dull, and, with increased offerings, prices favor buyers; sales of 5,000 bushels yellow at 65c; Western mixed is offered at 64c without finding buyers; 15,000 bushels sold on private terms. Oats are quiet and lower; sales of 3,000 bushels Western white at 53c, and 2,000 bushels Western mixed at 51a53c. Barley is held firmly, but no further sales have been reported. Barley Malt ranges from \$115 to \$150, according to quality.

CHICAGO MARKETS.

THURSDAY, March 28, 1872.

FLOUR—Extra spring, \$650a7. Wheat firmer; No. 2 spring \$120a122c. Corn firmer, but quiet; No. 2 mixed, 37a37c. Oats quiet; No. 2 at 30a30c. Rye stronger; No. 2 at 69a70c. Barley easier and quiet, at 50c. Mess pork unsettled, at \$1130. Lard unsettled, at 8a15. Bulk meats unchanged; loose shoulders, 33a4c; clear rib sides, 53a6c; clear sides, 63a6c. Hams in pickle dull, at 63a8c. Live hogs lower, at \$1a160. Cattle firm, at \$5; shipping at 8c, \$725.

BALTIMORE MARKET'S. March 28.—CATTLE opened with some little animation, but closed dull and 1/2c lower; very best on sale today 6a7c; that generally rated first quality 5a6c; medium or good fair quality 4a5c; sales 961 head; 977. Hogs in full supply and only moderate demand, and declined about 1/2c; sales at 63a7c; net receipts 9610 head. Sheep in light supply and good demand and 1/2c higher; sales at 63a9c; receipts 791 head.

CINCINNATI MARKETS.

THURSDAY, March 28.

Four dull and drooping. Wheat quiet and unchanged; red \$170a172. Corn opened firm but closed dull at 45a46c. Rye in fair demand and firm at 90a92c. Oats and Barley quiet and unchanged.

PROVISIONS.—Mess pork dull and unchanged at \$12asked. Lard in fair demand and lower; sales prime steam at 83c. Bulk meats quiet and unchanged; shoulders, 4c; sides, 5c, 6a6c. Bacon unchanged at 5, 63a7c. Live hogs steady at \$45a485; receipts 1300 head.

PHILADELPHIA CATTLE MARKET.

MONDAY, March 25 P. M.

Beef Cattle were dull this week, but prices remain about the same as last week. 2050 head arrived and sold at 75a8c for extra Pennsylvania and Western steers; 63a7c for fair to good do., and 4a6c per lb., gross, for common, as to quality.

Cows and Calves were dull of sale. We quote springers at \$10a50, and fresh cows at \$15a55. Receipts, 200 head. Sheep were in demand at full prices at 9a95c for choice; 83a95c for fair to good, and 7a8c for common. Receipts 15,000 head.

Hogs were also in demand, but prices favor buyers, at \$675a775, the latter for corn-fed. Receipts, 4600 head.

TRIMMING GRAPEVINES.—A correspondent of the weekly *Sun*, living in western Maryland, sends us the following, which is in fact the application of rude surgery to plants. But, unless the trimming be delayed until the sap begins to rise in the spring, there is hardly any necessity at all for stanching:

"Last February I trimmed some of my choicest vines too close, thereby causing them to bleed so much that I was in danger of losing them. Seeing that some of the smaller ends had dried, and thereby having their pores closed did not bleed at all, I heeded the lesson it taught me, and heating an iron seared the wounds, which closed up the pores and saved my vines."

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

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MAY, 1872.

No. 5.

AGRICULTURAL.

AGRICULTURAL CHEMISTRY.

An essay read before the Lancaster County Agricultural and Horticultural Society, by JACOB STAUFFER, 1871.

MR. PRESIDENT & GENTLEMEN:
Being desired to make some remarks on Agricultural Chemistry, at this meeting, I shall comply without wasting any time in making apologies or a lengthy preface. You will, however, bear in mind that chemistry is so intimately connected with the soils, manures and vegetable physiology, that it is not an independent science, its actions being manifest in all the changes taking place in the germination of seeds and the growth, maturity and decay of plants.

Agricultural chemistry, in its application to farming, is comparatively a new science, and professors of chemistry are too apt to overestimate their own powers, and set themselves up as guides, without that experimental knowledge to enable them clearly to explain themselves in a manner as to be truly beneficial to practical men.

We require experiments made for special purposes, researches carried on in the field as well as in the laboratory. A general knowledge of the principles involved is certainly of great advantage, and will enable the judicious agriculturalist, to step aside from the mere imitative routine established by custom, when changed conditions demand a change of operation.

It is ascertained by analysis of various soils, that certain elements are found in various proportions. For instance, a square foot of

earth, 6 inches deep, through which rain-water is passed, in one million parts of this filtered water the soluble constituents are classified and a table of each of five experiments given by Dr. Fraas, of Munich. Drying the solid residue at 212° and analyzing the solution, he found potash, soda, lime, magnesia, peroxide of iron, chlorine, phosphoric acid, sulphuric acid, and soluble silica.

The soils experimented upon gave good crops of corn and straw, and the quantities of potash and phosphoric acid required by these crops much exceed those which would be furnished by solutions of the above composition. Moreover, the comparison of ash of cereals, and the substance dissolved from the soil, is inconsistent with the opinion that the food of plants is supplied in solution, unless they are supposed to possess a very considerable selective power.

In reference to the culture of root crops, Prof. Vœlcker says, that generally, ammoniacal manures, such as guano, are thrown away on roots, and the phosphates are more profitable. Guano and superphosphate of lime both rather retard the germination of the seeds, but they push forward the young plant in its early growth. This we believe to form the true value of such manures, though perhaps this is over-estimated.

It is remarkable, that in none of the residues, above referred to, could the presence of a soluble compound of alumina or of ammonia be recognized. It was only by boiling for a long time with concentrated caustic potash, that ammoniacal reaction became perceptible, and that was probably due to the decomposition of a nitrogenous organic substance. There is, however, so large an amount of ni

tritic acid present, that when the residues of of evaporation are heated upon platinum foil they deflagrate; and when the solution is heated with sulphuric acid, it decolorizes indigo solution.

This nitric acid may originate chiefly from ammonia by oxidation, or in part be produced directly by the combination of atmospheric nitrogen. With the oxygen condensed by the soil, ammonia would always be oxidized first, and converted into nitrate of ammonia. However, since the nitric acid in the solution from soils exists in the state of a lime or magnesia salt, this is a further proof of the powerful attraction of the soil for ammonia.

Nature is a vast chemical laboratory, performing its wonders silently and unseen, and when we consider the numerous compound products used as food, for medicine or in the arts, resulting from the assimilation, absorption and elaboration of the elements diffused through earth, air and water, it is truly marvellous. Such as gum, sugar, starch, gluten, albumen, fibrine, extract, tannin, coloring matter, bitter principle, narcotic principle, acids, oils, wax, resin, gum resin, balsams, camphor, caoutchouc, cork, woody fiber, sap, proper juice, charcoal, ashes, alkalies, earths, and metallic oxides, and perhaps other products omitted, all resulting from chemical changes produced by the analysis of certain and various plants, or derived from the vegetable kingdom; exhibiting a great diversity of combinations, mainly comprised of carbon, oxygen, hydrogen and nitrogen.

As water is a compound of hydrogen and oxygen, it is itself the chief element of food to plants; as certain plants perform all their functions when immersed in water, without the aid of any soil, or exposure to the atmosphere. Nevertheless it is not the only food as some writers have supposed, and offered experiments in proof of their theory—among whom were such distinguished men as Von Humboldt, Boyle, Bonnet and Du Hamel; the latter reared in water alone, plants of the horse chestnut and almond to some considerable size, and an oak till it was eight years old—on which these opinions were based.

Tulips, hyacinths and other bulbous roots, as well as some other plants, are known to grow and flower in water. Nevertheless, the atmosphere is known to supply not only food, but gives a vigor and stimulus, aided by the

changes of light and darkness, performing very important offices in the growth and perfection of plants—their blossoms and fruit.

That water is absolutely necessary to the commencement of vegetation as well as to its progress (to the roots especially), there is no question. We will now consider a few facts resulting from the experiments of *Thenard* and *Gay Lussac* with respect to the proportional constituents of the elements combined.

1. Vegetable substances are always *acid* when the oxygen they contain is to the hydrogen in a *greater* proportion than in *water*.

2. Vegetable substances are always *resinous*, or *oily*, or *spiritous*, when the *oxygen* they contain is to the *hydrogen* in a smaller proportion than in *water*,

3. Vegetable substances are neither *acid*, nor *resinous*, but *saccharine* or *mucilaginous*, or analogous to woody fiber or *starch*, when the *oxygen* and *hydrogen* they contain are in the same proportions as in *water*.

Water is a compound of oxygen and hydrogen; two volumes or measures of hydrogen gas, and one of oxygen gas. The proportion of the ingredients in weight, is 88.9 parts of oxygen to 11.1 of hydrogen, as analyzed by *Berzelius*.

Oxygen is an electro-negative basifying and acidifying elementary principle. It is the vital part of the atmosphere. In union with azote or nitrogen, it forms atmospheric air, of which it constitutes twenty-one parts to seventy-nine of azote or nitrogen out of every one hundred parts, by volume. The name *azote* is derived from its fatal effects on animal life, but more generally *nitrogen* gas, from its forming nitric acid by combination with oxygen. Combined with hydrogen, in a certain proportion, it forms ammonia, and it enters into the composition of most animal substances, particularly of the muscular fiber.

Hydrogen gas is an æriform fluid, the lightest body known, and though extremely inflammable itself, it extinguishes burning bodies, and is fatal to animal life. Its specific gravity is 0.0694, that of air being 100, or in round numbers, 700 times lighter than the air we breathe; hence it is employed for filling air balloons. As these elementary principles are frequently mentioned and perform important offices in the economy of nature, I can do no less than give a brief definition; to this we might add carbon, an elementary, combustible substance, existing pure and crystallized

in the diamond and sometimes in graphite. One equivalent of carbon and two of oxygen composes carbonic acid gas. One of carbon and one of oxygen is called *carbonous acid*.

The gases constituting, or in other words, the atmospheric air, is indispensably necessary to the health and vigor of the plants, as may be seen by the different aspects of plants exposed to a free circulation of air and plants deprived of it; the former are vigorous and luxuriant, the latter weak and stunted.

The result of experiments on this subject is, that atmospheric air and water are not the only principles constituting the food of plants. In the experiments of Dr. Priestly and others, the results are: 1st. That carbonic acid gas is of great utility to the growth of plants vegetating in the sun, as applied to the leaves and branches, and whatever increases the proportion of this gas in their atmosphere, at least within a given area, forwards vegetation. The combustion on railroad trains, lime kilns, furnaces, etc., I apprehend aid in increasing this element. 2d. That, as applied to the leaves and branches of plants, it is prejudicial to vegetation in the shade if administered in a proportion beyond that in which it exists in atmospheric air. 3d. That carbonic acid gas, as applied to the roots of plants, is also beneficial to their growth, at least in the more advanced stages of vegetation, but found to be altogether prejudicial in the process of the germination of the seed.

The chemical phenomena of germination consist chiefly in the changes which are effected in the albumen or nutriment of the seed, destined for the support and development of the embryo until it is converted into a plant. I must be very brief on this and kindred topics. I simply wish to refer to the important agency of oxygen gas, which is indispensable to germination; being gradually inhaled by the seed, the farina or albumen is found to have changed, either to an acid or analogous to sugar, precisely like fermentation in barley when converted into malt, as known by the name of the saccharine fermentation, in which oxygen gas is absorbed, heat and carbonic acid evolved, and a tendency to germination indicated by the shooting of the radicle.

The effect of oxygen, therefore, in the process, is that of converting the farina of the albumen or cotyledons into a mild and sac-

charine food, fit for the nourishment of the infant plant by diminishing the proportion of its carbon and in augmenting, by consequence, that of its oxygen and hydrogen. The radicle gives the first indication of life, expanding and bursting its integuments, and at length fixing itself in the soil; the plumule next unfolds its parts, developing the rudiments of leaf, branch and trunk; and finally, the seminal leaves decay and drop off, and the embryo has been converted into a plant, capable of abstracting immediately from the soil or atmosphere the nourishment necessary to its future growth.

The flower-bud will not expand if confined in an atmosphere deprived of oxygen, nor will the fruit ripen. Flower-buds confined in an atmosphere of pure nitrogen faded without expanding. A bunch of unripe grapes introduced into a globe of glass which was luted by its orifice to the bough and exposed to the sun, ripened without affecting any material alteration in its atmosphere; but when a bunch was placed in the same circumstances, with the addition of a quantity of lime, the atmosphere was contaminated and the grapes did not ripen. Oxygen, therefore, is essential to the development of the vegetating plant.

The proper tissue of plants is composed of three elements only, namely: Carbon, hydrogen and oxygen. Plants as a necessary result of assimilating their inorganic food, decompose carbonic acid and restore its oxygen to the atmosphere. On the other hand, animals in respiration continually recombine carbonic acid at the expense of the oxygen of the atmosphere and the carbon of plants.

What a field for reflection is laid open by the wonderful harmony manifested in the economy of nature, but we must not digress.

Though nitrogen gas is in so large a preponderance, it does not seem capable of affording nutriment to plants; for as seeds will not germinate, so neither will plants vegetate in it, but for a very limited time, with the exception of the *vinca minor*, *lythrum salicaria*, *irula dysemterica*, *epilobium hirsutum* and *polygonum persicaria*, so far as experience goes, which seem to be the only plants that succeed equally well in an atmosphere of nitrogen gas as in an atmosphere of common air. Nitrogen is found in almost all vegetables, particularly in the wood, in extract and in their green parts, deprived, no

doubt, from the extractive principle of vegetable mould.

This vegetable mould contains a large per cent. of vegetable extract; in the common soil it is not in general very considerable. The soil when deprived of this extract is not so well fitted for the plant as when it is present, and as the extract contains nitrogen; for it yields by distillation a fluid impregnated with ammonia. Although plants refuse nitrogen in a gaseous state, it is plain that it must admit it along with the extract and a small quantity of carbonic acid gas, which is also found to exist in the extractive principle.

The soil may be regarded as consisting of earths, water, vegetable mould, decayed animal substances, salts, ores, alkalies, gases, perhaps in the proportion corresponding to the order in which they are enumerated.

The food of plants, whether lodged in the soil or wafted through the atmosphere, is taken up by what is termed intromission, in the form of gas or other fluids. It is then known as their sap; this sap ascends to the leaves, where it is elaborated as the blood of animals is in the lungs. It then enters into the general circulation of the plant and promotes its growth.

The causes of the sap's ascent, and its elaboration, belong as much to vegetable physiology as to its chemistry. Many theories have been advanced in explanation of these phenomena, which we can not stop now to consider. The most satisfactory hypothesis, however, for the ascent of the sap, is that of M. Dutochet. He refers it to a kind of polarity or two distinct currents of electricity; one negative, by which the vessels have the power of absorption, which he calls the *endosmose*, and by which the vessels become turgid; and the other positive, by which the vessels exude or secrete, which power he calls *exosmose*. I can not follow him in his microscopical experiments and the reason he assigns for his philosophy. He also accounts for the causes, of the descent of the sap, or rather the proper juice. By way of a hint for further experiments, I will state that the experiments with several artificial stimulants have been found to operate as an agency to the vital principle when artificially dissolved in water, and applied to the root or branch.

Oxygenated muriatic acid is one. Nitre in solution accelerates the vegetation of hyacinth and narcissus. Dr. Barton, of Philadel-

phia, found that a decaying branch of the tulip tree (*Liriodendron tulipifera*) and a faded flower of the yellow iris, recovered and continued long fresh when put into water impregnated with camphor; though flowers and branches, in all respects similar, did not recover when put into common water.

When the sap has recovered its last degree of elaboration from the different organs through which it has passed, it is converted into a peculiar fluid, called the *proper juice*. This fluid may be distinguished from the sap by means of its color, which is generally green, as in periwinkle, or red as in logwood, or yellow as in celandine, or white as in euphorbia, milkweed, etc. Its principal seat is in the bark, when it occupies the simple tubes) or between the bark and the wood, as in the juniper tree or in the leaf, as in the greater part of the herbs. The virtue of plants generally reside in their proper juices.

When vegetables are burned in the open air the greatest part of their substance is evaporated during the process of combustion; but ultimately there remains a portion which is altogether incombustible, and incapable of being volatilized by the action of fire. This residuum we call *ashes*. Herbaceous plants, after being dried, yield more ashes than woody plants; the leaves more than the branches; and the branches more than the trunk. The alburnum also yields more ashes than the wood; and putrified vegetables yield more ashes than the same vegetables in a fresh state, if the putrification has not taken place in a current of water. The analysis of the ashes are found to contain alkalies, earths, and metals, which must therefore be considered as ingredients in the composition of vegetables. There are found other principles generally overlooked on account of their small proportions.

I am admonished by the facts before me, however much I may have omitted to say—even in this brief skimming most of it may be of little use for the practical members present. Yet I will say a few words on soils. To ascertain the quality of soils by chemical analysis, is both tedious and difficult. I will therefore state how the quality of soil can be discovered mechanically and empirically. 1st then as to the specific gravity. Take a vial that holds 4 ozs. of water, fill it half full with water, then add soil till the fluid rises to the mouth, the difference between the weight of

the soil and that of the water will give the result. Suppose it now weighs 6 oz.—then the soil weighs 4 and the water 2, or is twice as heavy as the water.

The presence of *clay* and *sand* in any soil can be felt by the touch, the one by its tenacity, the other by its roughness to the touch, and by scratching glass when rubbed on it.

Calcareous matter in soil is ascertained by pouring muriatic acid on it and observing if it effervesces freely. Calcareous soils, magnesian soils and clays, are, for the most part, softer to the touch than arenaceous or sandy soils. To ascertain the quantity of calcareous present, dry soil thoroughly, and weigh 100 grains of it, which gradually add to one drachm of muriatic acid diluted with two drachms of water in a vial balanced in a scale; the loss of weight will indicate the escape of carbonic acid, which will be 44 per cent of the quantity of calcareous earth in the soil.

Organized matter in any soil may be ascertained very satisfactorily by weighing it after it is thoroughly dried; then subjecting it to a red heat and weighing it again, the weight last found will be the proportion of organic matter and carbonic acid gas, if there should have been any. The same object may also be attained by ascertaining the specific gravity of the soil, but with less accuracy.

Metallic Oxides are generally known by the color. *Ferruginous* soils are red or yellow; *cupreous* soils, interspersed with *greenish streaks*, etc. *Cupreous* soil is rare, green or a greenish matter is also caused by *iron*, which is almost the only metallic impregnation in quantity. Salt, sulphur, coal, etc., may be known by the absence or peculiarity of vegetation, as well as by color, and the appearance of water of such soils. Saline soils may be distinguished by the taste; sulphurous soils by their smell when thrown on a hot iron; and the presence of coal by its fragments, which will be left after the soluble matters are removed by water and muriatic acid.

The capacity of soil for retaining water may be ascertained by placing a glass funnel or tube in a tumbler. Provide two such, put the soil moderately packed (like in nature) around the tube, in the center of the glass, of each sample; now pour equal quantities of water into each tube, and the capillary attraction of the soils, will show which conducts it more rapidly and prove to be the better soil.

AIDING THE CORN CROP.

THE first great point in corn culture is, to work the soil after the corn is planted. We will begin in the start and say it is difficult to work it too much. Every working enriches the land, gives a shock to the weeds and thus aids on the corn. Weeds rising up certainly hurt the crop, even if the weeds are but small, and here is a point that all should consider: *what the corn loses in its early growth is lost forever; the stunt goes with it to the end.* Attend then to the corn till the stand is well established. By this time it will be too large to work in, and the weeds will have been quieted. It will then take care of itself. But see that the start is a good one; ground kept mellow and worked till up to the corn. This keeping a *fresh* surface for the air to act upon—this is what is wanted, and there are so many implements to do this the man is inexcusable who neglects it. We must *help* our corn along, and as we have said, every neglect will be beyond remedy. Do not say the hot weather will bring it up. It will bring it up to a certain extent, but not to a full crop. Who ever heard of a premium crop being raised by early neglect? At best there is but a fair crop; never the large yields we read of. To secure this it requires the whole of the benefit. Push the early parts of the season, and when the heats of summer arrive they will find large corn to be readily pushed on to the highest point. What will prevent a large yield in such a case? A constant use of the implements is sure to aid largely, while without it what do we get? Weeds and stunted corn, yielding little. One or two workings will help, but they will not be sufficient. It wants a constant attention, occupying all the soil, so that the ground about the plants and in immediate contact is fresh and moist. If this does not pay, corn culture must, from necessity, be a failure, notwithstanding the richness of the ground, which may grow weeds, and it always grows them more successfully if let alone, overcoming the corn. The success of our corn crop is depending upon what we do to it the first few weeks or more after it makes its appearance —*Country Gentleman.*

THE Pennsylvania hay crop of 1868 reached 2,448,000 tons, valued at \$39,168,000.

ROTATION.

SHOULD THE FARMER TO APPLY THE USUAL
ROTATION TO ALL HIS LAND.

THIS is a nice question, and, we fear, is not sufficiently considered. There is great diversity of soil, and this diversity requires different treatment. Hence (for one thing) there is no end to the variety of rotation. A black sandy loam requires a different treatment from a coarse, stubborn clay. Color is essential, and has its influence on the direction of crops. We are more inclined to put corn on dark soil so as to get the heat of the sun. On the contrary, wheat wants the color of clay, requiring less heat. The grasses also, of a cool nature, flourish best on clay land. So the potato will thrive most on yellow or light-colored soil. Clover, oats, barley, peas, will do for all soils; these can be relied on for a regular rotation on any land.

But not only the soils in their color have an influence, adapted to particular grains, but the seasons have an equal if not superior effect. A cold season is hard upon clay, and corn, even on a rich soil, would not do well; but the grasses would flourish exceedingly, especially with moisture accompanying. So would wheat and other crops. On the other hand, a dry, hot season would give us the opposites, making a difference of half; this is good ground; on poor land the difference would still be greater, amounting almost to a failure in some cases. A warm showery season would favor all. Much rain would injure all, some more, some less, depending upon the amount of drainage and the kind of product. Thus the potato in such a season, on porous land, would do well, requiring coolness and moisture as it does.

Then the climate has its influence, in some some parts of the country varying more than in others, and making early or late crops unreliable. Particularly is this the case with respect to fruit-growing. Connected with climate is the inclination of the land, that facing north having a different influence from that facing south, and requiring a different management.

We have not mentioned all that goes to effect a difference, but sufficient to show that a strict uniformity in rotation will not do. It becomes us, therefore, to look carefully into the matter, so as to discriminate and apply

the means proper to each soil. This requires tact and extensive knowledge, and then much will have to be mere haphazard.

The farmer who has his hills of drift, light-colored and cold, will do well with clover and timothy, aided by light and rather frequent top-dressings, particularly of barn-yard manure or compost. In such case, and in almost all seasons, the best of crops are raised here, and for years requiring no rotation, as the land is improving all the while, the sod thickening and preparing the land for the plow. On such a soil, in a warm, moist season, corn may be raised; but it is not generally practiced. It is found that the lower land with the black mould will pay best with corn; that it seldom fails, while the hills frequently do. We raise oats, barley, wheat and other crops on our hill soils; this two years in succession, generally without manure; then the land is put to grass and clover again. In this way our hills have been treated for more than thirty years, and the result of what before was worn out soil is the land that is greatly improved; profitable crops meantime have been realized, and of late years, since the introduction of machinery, with little labor. Top-dressings of these lands are relied upon by the best of farmers, and are of more benefit than on the low land, a little manure going further than a little more in the valleys. It is remarkable how these uplands will show the benefit of small applications of manure, a thin coat from the stables in the fall raising a cloud where before was but an ordinary crop. A simple rotation will therefore do for these hills, grass and clover—that is timothy and clover—being most relied upon, and grass is nature's coat, that needs no change, but is improved by it sometimes; it is improved by enrichment (from the top) and by turning down and thoroughly decomposing and pulverizing the sod, thus preparing it for a better coat, and particularly for that most excellent of crops, the clover.

In a dark soil, in an interval for instance, a wider rotation may be practiced. Here corn follows the sod, succeeded by the grains, and a great variety of the latter may be indulged in. Root crops may be risked here, almost any crop in almost any season, so that the soil is deep and rich and well-drained. If quite dark, a dense growth will still lessen the heat (by its shade); and if cold, the heat will be invited by glimpses of the sun and the less

dense growth, so that there still may be a fair yield. If further the ground is made warm with manure and rich, it must be indeed an inhospitable season if there is not at least a fair yield, so that in the valleys we may practice a regular system of rotation—and we may do it with safety if the work is thoroughly done, drainage, manure, proper cultivation, being applied. This is different from the hills, which cannot therefore be brought under the same system of changes in the valleys. So we should aim to have less corn and more grass on our land inclining to the north.

Wheat will do well here, and potatoes and root crops, and will alternate well with the grasses. But the corn will only in a hot season do well, which cannot be foreseen; but as the seasons are getting more and more drouthy, there is less risk with corn when other grains are more suitable?

Thus we see that the same locality has different systems of rotation, the same farm, even, each adapted to the circumstances. There may be shorter or longer rotations.—*Cor. Country Gentleman.*



THE TULIP.

THE TULIP—*Tulipa gesneriana*.

PERHAPS no subject, in the long catalogue of flowering bulbs, has created so great a sensation in the floricultural world as that of the tulip, in times past; and yet, in many of the beautifully illustrated catalogues of the present day, we can scarcely find a single allusion to it, so completely does it seem to have been superseded by other beauties of the floral realm. Notwithstanding this general neglect, however, there are still a few florists who make it somewhat of a specialty. The tulip belongs to the natural family LILIACEÆ of Linnaeus. It is a native of the Levant, and is found wild in Syria and

Persia, and by the latter nation was called *Thoulyban*, from whence the French name *Tulipan*, and no doubt also the common German name *Dulibawn*, are derived—and the English name *Tulip*. Riéd says, it appears to have been brought from Persia, by way of Constantinople, into Europe in 1559, and about a hundred years thereafter it became an object of considerable trade in the Netherlands. For a considerable period after this time the demand for tulips among the Dutch became a sort of mania—so much so indeed that quite frequently a single favorite bulb has been sold for *five hundred pounds*, and immense amounts of money were lost and made

by speculators in this flower. It was introduced into England near the end of the seventeenth century, and about the beginning of the eighth century it had gained its zenith there, but soon after it declined, and the English taste was turned in a different direction. Although it has lost much of the fashionable patronage it at one time commanded, it is still cultivated extensively in Holland, from which all Europe and America have been supplied. Allen & Co.'s catalogue enumerates about seventy varieties which they have under cultivation, belonging to several groups, as the "Duc Van Thol," the "Parrot Dragon," the "Early Single Flowering," the "Late Flowering," the "Bizarres," and the "Double Tulips." We have seen some so very double that if it were not for the great distinction in the laws, they might easily have been mistaken for a *double poppy*. The brilliant colors of some of the varieties, their early blooming, and the fact that they may occupy ground upon which an "after-crop" of other flowering plants may be grown, together with old association, renders the tulip still much of a favorite as a bed and border garden flower. Frequent change of soil is recommended—as well as change of situation—as a means of expediting the variegation of tulips. In raising from the seed, that from the healthiest and strongest plants is preferable, and is not to be gathered until the pericarp or seed vessel assumes a brownish color. Offshoots should be planted very soon after they are separated from the parent bulb, in beds of fresh sandy loam mixed with decayed cow droppings, from seven to twelve inches below the surface, according to the best authorities, and in a dry, airy situation. Tulips will bear to be shaded or covered from light longer than any other plant, without sustaining any very perceptible injury. On this account, they may be cultivated under vines, shrubbery and trees, where if even the shading, if long continued, would be injurious, their blooming period would be past before the trees, shrubs and vines, would be in full foliage. The early, dwarf varieties are considered the best for forcing in pots or water glasses. The bulbs are perhaps less liable to disease than any other kind of bulbous plants, but when they are attacked by grubs, wire worms or *fungi* the best remedy is to remove them altogether and plant fresh ones.

HORTICULTURE.

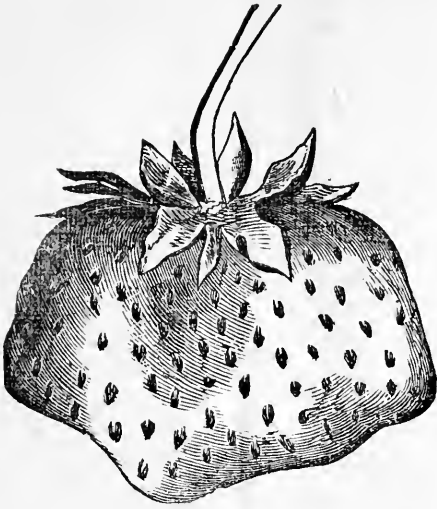
HOW TO SET CABBAGE PLANTS.

THE cabbage is a plant that needs to be worked, either with the hoe or plow; and in transplanting they should be so set as to facilitate the after-working. Our experience with them has been limited to garden culture, though on a pretty large scale; and we have long practiced a plan of setting that renders after-working with a hoe a very quick operation. We first ridge up the ground in beds, as if for cotton planting, and in dry weather, with the garden line, mark the row distinctly, so that the plants may be set in straight lines, which adds greatly to the fine appearance of the crop in the garden. This row is marked out, not on the top of the bed, but on the side of and as near the bottom, or water furrow, as it can be, not to have water stand or collect about the plants when they are set.

We prefer a rainy spell for setting plants, and the operation is performed in the usual manner, with a short pointed stick for a dibble.

As soon as the rain is over, and the soil dry enough, the plants are carefully but lightly hoed over; and we find frequent stirring of the soil, while the dew is on, early in the morning, very promotive of a quick, vigorous growth. By reason of the plants being set low down on the side of the bed, with the ridge of earth in between every two rows, the first three or four workings are very quickly done by merely drawing down a part of the bed and pulling the fresh earth up around the roots. The operation is much more quick than when the plants are set on the level ground, or on top of the beds, as is the practice of many persons. A chief advantage of this method, also, is that when the earth is finally worked down to a level, as it will be, after a few hoeings, the plant is then found to be deeply set in the ground, which is very necessary if the cabbages are expected to make firm heads.—*Ex.*

WATER FOR THE EAR.—From careful experiments, made by a physician of Lyons, it has been ascertained that the old remedy of warm water is the best solvent of accumulated wax in the ear, being superior to olive oil, glycerine, etc.



“TRIOMPHE DE GAND” STRAWBERRY.

“**F**RUIT, bright scarlet; flesh, very firm, sweet and juicy; strong grower; hardy and very productive; one of the best berries for both market and table use.”

Our illustration and brief description of the “Triomphe de Gand” strawberry is taken from the illustrated and descriptive catalogue of small fruits, plants and vegetables cultivated by Jno. G. Greider, nurseryman and fruit-grower, Lancaster, Pa. Although on the whole this strawberry may not be as prolific a bearer or occupy as wide and diversified a geographical range as “Wilson’s Albany Seedling,” yet in size, flavor and color it is far superior to it, and by comparison, in many instances, it has proved as profitable a bearer. The size that many of them sometimes attain is truly astonishing—looking, at a distance, more like a dish of clever-sized tomatoes than like strawberries—and the prices they often bring are fabulous. As an alternating crop with the the Albany seedling, and other prolific varieties, they have, perhaps, very few equals, if any.

Perhaps nothing has been so marked in the horticulture of our county—and the entire country—nor has produced such astonishing results, as the cultivation of the *strawberry*. From the insignificant position it occupied forty, and even thirty, years ago, it has risen to one of the most exalted among the “small fruits,” and millions of dollars are invested in its cultivation. From a rare luxury it has be-

come almost as essential as potatoes, and through the invention of the canning and preserving process, its use is extended from a few weeks throughout the entire year, and by hot-house culture, it has been brought into market, in this country, as early as February, as fresh and luscious as we find it in June. When properly ripened, no danger need be apprehended from its free use, for the fruit possesses sufficient astringent qualities to render it agreeable to the most delicate stomach, and decoctions of the leaves and roots are often administered in cases of intestinal laxation. It has been said that in the production of *large* strawberries, quantity is always attained at the expense of quality. This may be so, and if so, it is only a rule that may be, with equal truthfulness, applied to all kinds of fruits; but we think it would be difficult to prove that the Kittatinny blackberry is inferior in flavor to our common wild varieties.

The strawberry, however, is so superior in its flavor, and so delicious in its edible qualities, that we can afford to accept a dilution of these properties where quantity is insured. Indeed, the very pronounced and intense flavor of the strawberry is urged, by some persons, as an objection to it, especially when canned or preserved, but *most* especially in wines. To our mind there is only one thing lacking in reference to the strawberry, and that is, that it has never yet been produced in this county in quantity large enough, and in price low enough, to bring its consumption within the means of the poor. Indeed a family that can afford to use strawberries but once a day during their season, at the prices they have heretofore brought, cannot be exactly ranked with the poor families of our county. Therefore, there need be no apprehension that we shall have too many strawberries for some time to come. Neither is there much danger of a reduction in prices unless everybody who has a garden begins a skillful cultivation of them for themselves, and if so I would admonish them that in making their selections of stock they should not forget to include the *Triomphe de Gand*.

R.

THE STRAWBERRY MARKET.

THE following remarks, made by J. B. Lyman before the Rural Club of New York, and published in the *Horticulturist*, contain many interesting facts on the influence of latitude on the strawberry market.

I have been astonished at the evidences of enormous growth in the strawberry business. From the frequency with which this most delicate of fruits is met with on our tables, from the length of fruit trains and the number and size of coasting vessels engaged in the transport of strawberries, we have supposed that the business had largely increased. But a day spent among the commission men along our wharves has convinced me that we have now three great national fruits, the traffic in which must be reckoned by millions of packages, and the proceeds from which make handsome incomes for thousands of farmers. These great fruits are the strawberry, the peach and the apple. The strawberry season now covers one-fourth of the year. On the 10th of April 560 packages of berries were received by the Charleston steamer. Last year the shipments from Rochester, and the cool, late clay lands of Wayne and St. Lawrence and Niagara counties in New York, lasted till the 20th of July. Beginning at the southern margin of the Republic, on soils warmed by mellow airs from the Lower Gulf, and closing with the growth of Upper Canada, the extremes of the season take in a hundred days.

But in a commercial sense the business commences its upward grade on the middle of April, continues to wax and wax till the 10th or 15th of May, and then holds its way on a table-land of perpetual demand and supply till the 20th to 25th of June, when it enters on a down grade, which falls off quite rapidly till the middle of July, when strawberry time is over. Charleston has begun the work of making April a full strawberry month. By another year our receipts from that coast will number thousands of crates. There is more profit in extending the season at this end than from pushing it into July. In April it comes in competition with nothing but the cranberry. In July and the last quarter of June it keeps up a brave contest with the raspberry, with currants, with cherries and Arkansas plums, with early blackberries and with Carolina peaches. Yet it dies game, for well in July such berries as Dr. Hexamer shows us will command fifty cents a quart, when the finest raspberries are slow at fifteen. About the first of June there often occurs that curious phenomenon, that crisis in demand and supply which the market men call a glut. There are probably 200,000 of our

population who eat strawberries about as often as they eat fresh figs; yet while streets and wards full of the poor are languishing and growing sick for want of a varied and generous diet, a pint of berries will sometimes sell on the tip of this island for one cent. The last large glut happened two years ago, on the 8th of June, 1869, and this is the description of it in the language of the market:

"This is the greatest day ever known in the strawberry line, so far as receipts go. The New Jersey road alone brought in twenty-eight car loads, besides two express loads and thousands of crates by boats. Never before were so many berries carried over as remained unsold to-night. Besides the enormous receipts, the weather has been very unfavorable. In such a glut the peddler boys usually go in heavy, and help the dealers out; but the showers of to-day interfered with them. Norfolk berries are over. The stock to-day was half Jersey, the other half from Maryland and Delaware. It is impossible to give any fixed quotations, prices varying from twenty cents for fine to ten for medium. The sales of one dealer are a fair sample: Thirty-three crates Wilson, hulls on, at twenty; soon after the same berry sold at sixteen—then fifteen; then, as they were in danger of going over, ten cents. Small baskets of hulled berries, four to a quart, sold at two and three cents, and some at one cent."

Yet seven days later we find Extra Wilsons selling at twenty-five cents per quart, and Fancy Jucunda, Barnes and Agriculturist commanding twenty to twenty-five cents per pint. So, within a week, we find small berries selling at two cents a pint, and berries such as these worth twenty-five, the former a slow sale and the latter eagerly sought. Sometimes bitter things have been said of the cupidity and heartlessness of hucksters who would throw crates of delicious fruit into New York harbor rather than lower the demand or allow a plethora to have legitimate effect in forcing down the price. Most of those strictures are unjust. I find the truth of the old saw is perfectly understood on our wharves--

The worth of a thing
Is what it will bring.

The real cause of a glut is not overproduction; it is large arrivals of fruit unfit for shipment to the northern towns. For instance, two days of moist and hot weather will bring 10,000 crates of Delaware and Jersey berries

on our wharfs. We can consume 5,000 in the usual course of trade; the other 5,000 should be shipped up the Hudson, on the Fall River line, up Erie and toward Hartford, Springfield and Worcester, some should go to Portland, and Montreal would appreciate two or three score crates. But the moist, dog-day weather sours the berries, shippers are afraid of them, and leave them in first hands. This creates a glut. In short, the producer has two elements in his calculations. He may be sure that he is growing for a consuming population of 10,000,000 an article that every individual of those 10,000,000 likes and is willing to pay him for. On the other hand, his product is in the last degree perishable, and if the weather is bad he cannot reach his consumers with a berry which they will buy at any price.—*Country Gentleman.*

ONIONS.

ONION growing near cities or railroads, may be made a very sure and profitable business by those having a good, strong, kind-working soil, with plenty of manure at hand. If the proper care be taken in selecting and preparing the ground, and in cultivating the crop, there will generally be a good yield; and, if convenient to market, there will always be a ready sale for the product. This profit, too, may be increased by raising, as we do, one's own sets. It requires from 8 to 10 bushels of sets to plant an acre. These sets are worth, here, two dollars per bushel, thus making it cost from eighty to a hundred dollars to plant one acre of land. This expenditure may be, for the greater part, saved by sowing onion seed in the fall, and raising your own sets. Four pounds of seed will plant an acre, costing \$20. The following remark will show our plan of growing this crop:

New land is not so good for an onion crop as older, clean, nearly level land, which has been previously manured for other crops. We use the same land every year for onions, as this is one of the crops which do not require rotation; and we find that, after having cultivated this crop on the same land for two or three years, we have but little trouble with weeds, and consequently can work over the crop in a short time, and do not have to work it over so often. Having selected the ground, about the 15th of September, manure

it very heavily. Bear in mind, that to make large crops of fine onions, the land must be *very rich*, light, deep and well pulverized. Spread the manure evenly over the surface. After you have put about enough on, at least what you suppose to be sufficient, put on as much more, and you will have it about right. Turn over, five or six inches deep, with a turning plow, and follow in the same furrow with a two-horse sub-soil plow, as deep as the team will readily pull it. There's no danger of getting too deep in red clay land, provided the soil is in good working condition. After it has been plowed thoroughly, harrow until the soil is well pulverized and the surface level; then pass a roller over and crush the remaining clods, which will leave but little work for the rake.

Mark off, by stretching a line across the land and marking with an instrument made to mark off five rows at a time, ten inches wide and one inch deep. Sow the seed in the rows with a seed drill or with the hand, rather thick, for some of the young plants may be killed by winter weather. Cover lightly with a rake or hand roller; the latter is preferred, as the seed come up better when the soil is pressed on them with a light roller. Work the plants over after two or three sharp frosts, to destroy the weeds which the frosts fail to kill, but do not thin them to a stand until spring, so that you may have enough plants to take the places of the few killed by the winter. In the spring, so soon as the land is in good working order, we apply a top-dressing of Peruvian guano, fine bone dust and salt. Work it lightly by hoeing. At the same time, thin out the sets so as to leave them standing three inches apart in the row, and fill missing places with the sets pulled out. After this they will require three or four more careful workings. And here we suggest, in regard to working this, and, in fact, all other crops, that the proper time to work them is just as soon and as often as the grass and weeds make their appearance, and not, as most people seem to think, when the patch has become beautifully green with grass and weeds. One man can work over more garden ground in one day, when the weeds are just starting from the ground, than six or eight men, after the weeds are six inches high.

The onion crop may be harvested in time to get another crop of late cabbage, turnips or late potatoes, by those who wish two crops on the same land.

From three to six hundred bushels of onions may be grown to the acre—much, of course, depending on the season, ground, manure, and preparation and cultivation of the soil. They bring in this market from one dollar to one dollar and a half per bushel. We do not know how many could be sold here; but we do know that there are not half enough raised here to satisfy the demand. Nearly all the onions used in winter in this State are brought from the North or East. This should not be so. Let us grow at home at least what vegetables and fruits we use. The farmer who attends well to his garden and orchards will have better living, better health, more real enjoyment of life, and more money, than he who neglects garden and orchard to “*plant all cotton.*”—*Rural Southerner.*

DOMESTIC.

VISITING.

I HAVE often thought that there should be a change among farmers' families in their mode of visiting. No one enjoys to a greater extent than I do myself the friendly intercourse between families, especially those engaged in farming. Nothing indeed conduces more to that feeling of good neighborhood which should ever prevail in the same community. It is one of the salts of the earth, and without it we should all become selfish and morose.

But what I desire to suggest in the brief communication is that these visits should be *properly timed*. When a formal visit is made, that is, when intended to spend the day, or stay for a meal, it should always be an understood thing with the family to be visited, in order that they may have no other engagements upon their hands, and that their domestic affairs may be properly arranged to suit. This, however, is not the case generally. Indeed, it is the common practice of many never to give notice of their intended visit, but to go just when it suits *them*, however in convenient it may be to others, or whatever engagements others may have. This should not be. A visit should produce equal pleasure to both parties; but this will never be the case while this practice continues.

But where these matters are suitably arranged I know of nothing so agreeable. The very essence of it is friendliness and good

neighborhood, and promotes a kindly feeling which cannot be too much sought after in this world of so many troubles and trials. They banish selfish thoughts for a space, and inspire other and better feelings, and make of us all an improved human machine. I know of nothing so pleasant in rural life and toils as good, kind neighbors, and I shall try at least to be one of them.—*Germantown Telegraph.*

DOMESTIC RECIPES.

INDIAN BANNOCK.

Take one pint of Indian meal and stir it into a pint of sour milk—fresh buttermilk is better—half a teaspoonful of salt, a spoonful of molasses, and a spoonful of melted butter. Beat two eggs and add, and then stir in a pint of wheat flour; then thin it with milk to the consistency of drop cakes, and when ready to bake add two heaping teaspoonfuls of soda dissolved in hot water. Pour in square buttered pans an inch thick, and bake fifteen minutes. This quantity makes two pans. Try it.

SODA CAKES.

Take one quart of flour, one tablespoonful of soda, and one of cream tartar, dissolved in hot water; one tablespoonful of lard, one of butter, rubbed into the flour; a little salt; mix soft with sour or buttermilk, and cut with a tin in round cakes; bake in a quick oven. These are very nice for tea.

GRIDDLE CAKES.

To one quart of flour add one teaspoonful of cream of tartar and one three-fourths full of soda; mix with sour or buttermilk and bake on a griddle; season to taste. Buttermilk cakes made the same way, adding two eggs, are very nice.—*Ibid.*

A CURE FOR THE PILES.

The *South Side Signal* publishes the following:

ED. SIGNAL: I feel it my duty to communicate to you the following directions for the cure of the above-named disease, and by giving publicity to it, no doubt you will confer a great favor on many of the *Signal* readers. In the first place, put about or e-half pint of cold ashes in the bottom of a chamber, and on these ashes a coal fire, and on the coal a piece of rosin the size of a pea, or a little larger, and sit immediately over the burning rosin a

few minutes morning and evening, for a few days. A cure can thus be effected at the expense of less than two cents.

In proof of the above remedy, I would say I suffered extremely for a number of years, earnestly sought every remedy within reach that appeared reasonable, but hardly obtained momentary relief, and feared I should have to give up labor entirely, as a neighbor of mine had done, and had taken his bed expecting to die with this disease, as his father had. This was in May, 1870, and in a most suffering condition, his doctor failing to relieve him, a friend of his hearing of his illness sent the above directions. I called to see him the same evening, when he told me of the cure; that he was *immediately* relieved of the soreness and unpleasantness of the disease. I went immediately home and applied the same remedy, and was relieved in two minutes of the pain and soreness, and after applications of perhaps not more than six or eight sittings over the burning resin, I was relieved of all soreness and afflicting sensations. I write thus particularly, for if only *one* of your readers should be benefited as my neighbor and self have been, he will have cause to regard you as the instrument of conferring a great blessing upon him. After two years' liberation from such extreme suffering, I submit the cure for other afflicted ones. It is

NO HUMBUG.

ANTHRACITE COAL.

This coal was discovered in Pennsylvania about eighty years ago. A gentleman named Guiter was hunting among the mountains and found some out-croppings of anthracite coal; but he did not know it was coal, and nobody else thought it was coal; so it was called "blackstone." First one and then another looked at the blackstone, and after a few years some few began to think that it was a peculiar kind of coal. Some took a little home and tried to make a fire, but nothing could be done with it, no stove could burn it.

At length a gentleman in Philadelphia thought he could do something with the "blackstone." He tried it in a stove, in an open fire, and in a furnace. Many and various ways he tried, and at last he discovered that he could burn it; that it was fuel. He went to his dinner one day feeling sad, very sad; he had been trying all the morning to make the

"blackstone" burn, but nothing could be done with it. Twelve o'clock came, his dinner hour; he pushed to the furnace door, and off he went to dinner. That was just the thing needed; the draft was open and while he was eating his dinner the coal took fire from some burning wood inside the furnace, and lo! the heat was so great that his furnace was nearly destroyed. Sadly he walked back to his furnace after his dinner; he little thought what had been going on, never dreamed of finding a hot fire, and his astonishment and delight can be better imagined than described.

The news spread—the "blackstone" was coal! the "blackstone was fuel! Forty years had passed since the anthracite coal had been discovered by the hunter. The world had been forty years in learning how to burn anthracite coal.

FARMERS' GARDENS.

Few are aware how much a good and well-cultivated garden saves to a family in the course of a year. There are certain things which may be regarded as indispensable, whether regarded in point of health or economy. Many of our garden vegetables are great luxuries. They can be had cheaply and fresh only in the farmer's own garden. Radishes, rhubarb, celery, asparagus, strawberries and the smaller fruits generally, ought to be cultivated on a much greater extent than they are, and consumed more extensively in every farmer's family.

Green peas, too, are easily cultivated, and to most persons they are very healthful and nutritious; and so are summer squashes, cucumbers, melons, and a vast number of other plants that might be named. The more general use of these vegetables would reduce the amount of the butcher's bill and also that of the doctor.

Now is the time to prepare for a supply of these important articles, and the means of information in regard to all these crops are so easily within reach of all, that there should be no hesitation in attempting their culture, even on the part of those who have never raised them.

If any farmer has neglected his asparagus, or his rhubarb plants, let him begin now. If any one has neglected to set out a strawberry bed, let him neglect it no longer. If any one has failed to have a supply of currants, or to

give them the proper care and treatment, let them begin to set out and care for a few plants, and he will soon find his family well supplied. If farm work presses, never mind. The garden will pay better than the farm and ought to have the first care.—*Massachusetts Ploughman.*

LONGEVITY OF FARMERS.—In a late address before the Farmers' Club of Princeton, Mass., Dr. Nathan Allen said that according to the registration report of deaths in Massachusetts, published now for about thirty years, and preserved with more accuracy and completeness than anywhere in the country, the greatest longevity is found to obtain in agricultural life. In the ten different occupations as given in these reports, the cultivators of the earth stand, as a class, at the head, reaching, on an average, the age of nearly 65 years, while that of the next class, merchants, is only about 45 years; that of mechanics, of all kinds, about 43 years, and that of shoemakers, about 41 years. Thus there is an advantage of about 15 years on the side of farmers as compared with merchants, and they reach an average age but little short of the three score years and ten allotted by the psalmist for human life.

RYE FOR MILCH COWS.—A foreign paper says: When rye is of good quality, it certainly constitutes an excellent food for all kinds of stock. Dairy cows fed daily on five pounds of rye meal and a sufficiency of cut straw have been found to yield very large quantities of milk. In Holland, which is famous for its excellent butter, rye is a common food for milch cows; and, indeed, generally throughout northern and central Europe there exists as great a prejudice in favor of rye as a cattle food as there is a prejudice against it in these countries.

HOW TO GET RID OF RATS AND MICE.—A gentleman of large experience, and fully as humane as the most of us, says he gets rid of rats by putting potash in their holes and runs. The poor wretches get it on their feet, and over their fur, then lick it and don't like the taste of it; it burns them somewhat, and the more they see of it the less they like it; so they clear out almost as soon as the application is made. To get rid of mice the same person uses tartar emetic mingled with any favorite food; they take it, become sick and take their leave.

WONDERS NEVER CEASE.

MESSRS. EDITORS:—In looking over the last FARMER, the above sentence was brought to my notice, in an article produced by our venerable agricultural father. It appears to me the sentence contains a vast amount of meaning, but for want of time I will have to content myself with but a brief consideration of it, as well as some other portions of the article.

If the list of subscribers to the FARMER could be swelled to the magnitude that his imagination fancies—and it is a consummation most devoutly to be wished—then it would truly be wonderful, and then indeed we might experience the verification that “wonders never cease;” because there might be such an array of scientific, electrical theorists brought into the ring of contributors that could give us their experiences, not only theoretically but practically, in manner so plain that would cause us to stand aghast with utter astonishment and wonder at our own ignorance, and as wonder is the effect of novelty upon ignorance we might well be filled with wonder and amazement at things that might happen.

There is not a solitary discovery made, nor machine or implement invented, however simple or complicated, with which, through daily use, we have become familiar, and which now to our minds appear very simple, yet when first discovered were the great wonders of the age, and even aroused our prejudices against them, which took a considerable time to overcome and teach us the utility of their use. Bacon says: “To try things and never to give over doth wonders.” Truly, sirs, “Wonders will never cease.”

However numerous the discoveries may be, there are yet millions upon millions of secrets hidden in the future, which leaves plenty of room for the mind of man, and as the tide of improvement is upward and onward, so long as the inventive genius of the mind of man will continue to pry into the secrets of nature “wonders will never cease.”

Will we have to leave to the rising generation all the discoveries? Is it not a duty we owe to God, our fellow-men and to ourselves to exercise the reasoning faculties with which we have been endowed, in such a manner as to gather information and hand it down to posterity, thereby elevating ourselves in the scale of being to that point for which we were designed by creation. The

more we study the works of nature the nearer will we approach to that stage of perfection which imperfect man is capable of gaining. Creation is so immense and nature so diversified in her productions that the mind of man, comparatively speaking, is but a myth; but when we look at nature around us, and by chance discover some of her mysteries, and then reflect how many mysteries are hidden from our view, may we not be well induced to exclaim with astonishment—truly, “wonders will never cease!”

There is not a day that will not force upon our minds something apparently new (however old in nature), and the mind thus engaged cannot help but fill up, and betimes overflow, and impart something that will be beneficial to his fellow-man.

Among the many discoveries made, within the last few years, for the benefit of the agricultural portion of the community, is the “Buckeye Feed-Steamer Baker, Drier and Range, all combined, and complete in one machine, which stands pre-eminent in point of utility and economy. There is an old adage, that the man that causes two blades of grass to grow, where but one grew before, is a benefactor.” But what shall we say of the man who has invented a machine that will economize and utilize one-fourth of a crop raised by the sweat of the brow of the farmer? Truly, sirs, “Wonders will only cease” when men cease to think and act. Without going into a discussion of the merits of this machine, I would in conclusion say, that all it needs is a fair and impartial trial, to remove every prejudice, and satisfy every discerning mind.

I very respectfully remain an humble observer, in a loca

HABITATION.

April 15th, 1872.

A DYING NATION.

THE accounts of the famine in Persia, which continue to arrive in greater detail, bid fair to treat the world to a spectacle of a calamity, the like of which has not been witnessed, in historic times at least—the sudden extinction of a nation from want of food. This has really been the fate of the great States which once filled the valley of the Euphrates, and it is a fate which has for centuries been threatening some modern States—Spain, for instance. Man has stripped the soil of trees; the absence of trees has brought droughts; droughts have slowly diminished the productive powers of the ground, and finally destroyed them—the population in the mean time dwindling in numbers and vitality. Spain had forty millions of people in the time of the Romans, and flowed with milk and honey; it is now an arid region, only half of it under cultivation, with only sixteen millions of inhabitants, and if modern science had not come to its aid, would probably go the way of Babylon. Persia was one of the most power-

ful States of antiquity, and even in the fourteenth century was able to support the army of Tamerlane, who marched without commissariat or baggage during a bloody contest. It is now almost a wilderness, with a population of two millions—about half of them nomads—which is rapidly perishing from famine brought on by a three years drought. The worst of it is, that owing to the absence of either common roads or railroads, it seems to be impossible for the charity of the rest of the world to reach the sufferers, so that there is really a strong prospect of the depopulation of the whole country. The moral of this horrible story is—look after your trees.

[The above extract from the *New York Nation* is sent to us by an anonymous friend of humanity, with a request that we should give it a place in the columns of the *FARMER*; which we cheerfully do, for there is a significance in the spirit of the article that must excite the reflections of the commonest mind that reflects at all. The general theory of the climatic and sanitary changes caused by the wholesale, and often wanton, destruction or displacement of forests in our country, has been discussed, through various articles on that subject, which have appeared in the columns of this journal; and although some of them have been sufficiently pronounced, as to what is likely to occur from this cause in the future, none have so explicitly identified with it the calamities and ruins of the present and the past. Indeed the men living now, who were able to make observations upon the gradual, though marked, climatic changes, which have taken place in this country during the past fifty years, have come to the very general conclusion that these changes are largely, if not entirely, attributable to the removal of our forest trees. We are convinced that all warnings on this subject, as a general thing, will be about as futile as “preaching sermons to millstones” so long as there is a demand for lumber, and lumbering is pursued as a business of profit. But there are some who will think of the matter, if they do not heed the warnings, and those we would admonish to begin to devise some amends for the mutilations and destructions of the past. A time certainly *will come*—it may not be in our lifetime—but it may be in the life-time of our immediate posterity—when the use of lumber *must* be superseded by some other material for building purposes, just as its use *has been* superseded as a subject of fuel. A more thorough cultivation and regeneration of the cleared land we now have, and the replanting of the bare hills and ridges—where crop cultivation is not practicable—will be absolutely necessary, and will so far restore that equilibrium which has already been destroyed. And not only this, but every lane and public road should be flanked with rows of trees, and if these should involve too much danger in the case of railroads, these should be flanked with rows of hedge, which would not be so liable to prostration and perilous obstruction from the intervention of storms. If fence lines *must* be continued to divide farm lands, or for special inclosures, let hedges be used for this purpose, for before the close of the century, timber fencing may be too expensive, except to men of the most ample means. And if there were no other considerations than merely pecuniary economy, there are many places where the

surface of the soil would afford ample material to build stone walls instead of lumber fencing, and would leave said soil in a better condition for productive cultivation. The country needs this labor manipulation, for without a healthful and prosperous country around it, there cannot long continue a healthful and prosperous city or town. But these prospective, prosperous and economical results are merely secondary considerations, when compared with the future sanitary condition of the country—the prevention of the droughts, the epidemic, and the famines which may be in store for the future victims of our present selfishness—a future, although far distant, yet which will surely come, and when it comes, may leave a desolate wake behind it. R]

EDS. FARMER—Sirs: In the April number of your valuable monthly appears an abridged portion of a private letter written by me to my friend Garber. Inasmuch as I never thought of its appearing in print and as its construction is such as to cause misunderstanding, I ask you to insert this in May number. In the article referred to I speak of having Mr. R. Stewart's and Thompson's seedling grape, many of which are indeed very good. I here remark that I have not the right to sell these, although negotiations are pending for the purchase of Mr. Stewart's. I have several other kinds also on trial, not being permitted to offer for sale.

My object is to work for the general good of the friends of pomology, and in order to do so to test critically any new fruit trusted to my care.

Among the new grapes I regard especially valuable are Onondaga, Croton, Senasqua, Paxton, Wordens, Irving, Early Black, Carpenter, Grant, Sumner, etc.

Of new pears, "Clapp's Sarah," Mt. Vernon, Goodale, Dr. Reeder, are very promising, and of European kinds, Souvenir du Congres, Marshal Wilder, St. Louis, Leclere Thounin, are very good and trees remarkably fine.

In conclusion allow me to say it will afford me pleasure to report my success of any new fruits which I may have, and when I am prepared to offer for sale due notice will be given to the people of your section through the advertising columns of the LANCASTER FARMER.

Yours, etc.,

Delphi, Ind.

J. H. HAYES.

GOD FIRST AND LAST.

MESSRS. EDITORS: This may seem a queer piece to put in the FARMER; but might it not have a place, too, while we find many persons that do not believe that God has anything to do with the affairs of men and nations, in regard to their prosperity and adversity on their rise and downfall?

Now I contend that in proportion as a people own and seek after God, just in such a degree will it go well with them? Therefore I send this with the hope that it may induce

some to raise their thoughts higher than I or the things that perish.

Have ye not known? have ye not heard? hath it not been told you from the beginning? have ye not understood from the foundations of the earth? It is He that sitteth upon the circle of the earth (and the inhabitants thereof are as grasshoppers); He that stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in; that bringeth the princes to nothing; He maketh the judges of the earth as vanity. Behold, the nations are as a drop of a bucket, and are counted as the small dust of the balance; behold, He taketh up the isles as a very little thing. All nations before Him are as nothing, and they are counted to Him less than nothing and vanity.

To whom then will we liken God? or what likeness will ye compare unto Him? who hath measured the waters in the hollow of His hand, meted out heaven with the span, and comprehended the dust of the earth in a measure, and weighed the mountains in scales, and the hills in a balance?

Who hath directed the spirit of the Lord, or being his counselor, hath taught Him? With whom took He counsel, and who instructed Him, and taught Him in the path of judgment, and taught Him knowledge, and showed to Him the way of understanding?

Lift up your eyes on high, and behold who hath created these things, that bringeth out their host of number; He calleth them all by names, by the greatness of His might, for that He is strong in power; not one faileth. Who hath wrought and done it, calling the generations from the beginning? I the Lord, the first, and with the last. I am He. Is my hand shortened at all, that I cannot redeem? or have I no power to deliver?

Behold at my rebuke I dry up the sea; I make the rivers a wilderness, and I have made the earth, and created man upon it; I, even my hands, have stretched out the heavens, and all their host have I commanded. Hast thou not known, hast thou not heard, that the everlasting God, the Lord, the Creator of the ends of the earth, fainteth not, neither is weary? Thou shalt worship no other God. And ye shall dwell in the land that I gave to your fathers, and ye shall be my people, and I will be your God, and I will call for the corn and will increase it, and lay no famine upon you. And I will multiply the fruit of the tree [without any patent compound, etc.] and the increase of the field, that ye shall receive no more reproach of famine among the heathen, etc. Then the heathen that are left around you shall know that I, the Lord, build the ruined places, and plant that was desolate; I the Lord have spoken it, and I will do it. And they shall say, this land that was desolate has become like the garden of Eden. Thou art worthy, O Lord, to receive glory, and honor, and power, for Thou hast created all things, and for Thy pleasure they are and were created.

JOHN B. ERB.

The Lancaster Farmer.

LANCASTER, MAY, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

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All advertisements, subscriptions and remittances to the address of the publisher, J. B. DEVELIN, Inquirer Building, Lancaster, Pa.

WHAT WE WANT.

"Man wants but little here below,
Nor wants that little long."

WE are compelled to confess that we are just "weak and vile" enough to be dissatisfied with the abstemious philosophy of the above little, widely-known, and oftly-repeated couplet. We want a *large* number of good advertisers and a *long* list of paying subscribers. We want to enlarge and improve the FARMER, and we want a longer list of good contributors. We want to make our journal the honorable and well-merited representative of the most honorable and useful men, as a class, that grace any community, and we want them to *permit* us to make it so every new paying subscriber is such a *permit*. We want sufficient pecuniary emolument to cover our expenses for the paper and ink consumed during the past three years or more, working in its editorial harness—not even a pint of peanuts more—to say nothing about the *time* employed in its service. This may be an extravagant want, and not in harmony with our poetic quotation, but then we have placed it at the head of this article to be understood Pickwickianly.

We have as large and respectable a list of "foreign exchanges" as any other paper in the country, and our journal in its circulation reaches farther; and although this might be regarded as length sufficient to gratify the ambition of any editor or publisher, yet we confess we want a little more breadth, as a base of home operations. We want to circulate at least seven thousand copies of the FARMER among the *one hundred and twenty*

thousand inhabitants of Lancaster county, before the close of the present volume, and we want every intelligent farmer to have it in his family. We are often told by subscribers, far away, that they read, with "pleasure and profit," our whole journal, from "beginning to end," every month; and we want our home readers to do likewise; and we believe they will be equally pleased and profited. *That's what we want.*

THE CROP PROSPECT.

WE must confess that the prospects of even a "half-crop" of cereals, which are now immediately before us, are by no means encouraging, if they are not absolutely gloomy. The *fly*, last fall, and the cold, open and dry character of the intervening winter, have had a bad effect upon the growing grain, over our whole State, with few exceptions. A few of our farmers are plowing down their worst grainfields, and are preparing the ground for a crop of corn. This may be "wise or otherwise"—just in proportion to its present *real* condition, and the character of the coming summer and autumn. At least, we have known instances, in our life-time, when those who "plowed down" made a mistake, and those who did not realized an average crop. Circumstances, however, alter cases, and if therefore a large crop of corn can be secured, it will be some compensation for the loss of wheat. In addition to this, if the weather should prove favorable, we may also have the oat, potato, vegetable and tobacco crops to fall back upon. It is true that *tobacco* would be a poor substitute in case of entire failure or famine; but then it brings in *money*, and with *money* in a country so vast and diversified as ours, if the means of subsistence fail in the one district, it can be obtained from another more fortunate one. Along the "Pacific Slope," especially in California, the prospects seem to be more favorable. So far as we have been able to learn, up to the present writing, the prospects of a fruit crop are more promising, and even *now* the trees are blooming profusely beautiful. The injury which the fruit trees really sustained last winter cannot truly be known until the fruit begins to "set." But even if it has escaped injury from winter freezing, storms, hail and cold dashing rains, at the fertilizing period,

may produce results as damaging as freezing—results which we have had cause to deplore on many previous occasions. These results probably will never cease, as contingencies, until there can be some return to primitive forest protection? far in the future we fear.

MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE regular monthly meeting of the society was held, pursuant to adjournment, on Monday, April 9, 1872, and in the absence of the chairman, Levi S. Reist, First Vice President, called the society to order, and the minutes of the previous meeting were read and approved.

A committee of ladies representing the interests of the Children's Home called upon the society and asked that the members would consent to inaugurate a plan for the raising of supplies for the Home in different parts of the county.

On motion of Jacob G. Peters a committee of four members of the society was appointed to act in conjunction with the managers of the Home to devise some method for the raising of supplies for the Home, and to report to the next meeting.

Committee, J. G. Peters, H. K. Stoner and Jacob M. Frantz.

D. L. Resh was elected a member of the society.

Henry M. Engle proceeded to submit some views as to the best method of raising early potatoes. He considers the Early Rose the leading potato now grown as regards productiveness, quality and earliness.

Milton B. Eshelman agrees with Mr. Engle in his estimate of the Early Rose. He thinks small white potatoes the best for planting.

Levi S. Reist thinks the Early Rose will do well also for a late potato.

Henry M. Engle thinks that the Early Rose will do well for a late potato. A difficulty in having it for a late potato, however, is that it grows very early in the spring. The process to secure an early variety of potatoes is to plant always those that first mature, for a number of years, and you still get them earlier and earlier, and *vice versa*, by planting the late-maturing ones you get a late variety. This seems to be a web of nature that obtains not only in potatoes, but also in corn and other vegetables.

To question of H. K. Stoner, Mr. Engle replied that it makes no difference whether we plant large or small potatoes. He has planted large and small ones, side by side, and no perceptible difference in the crop was ever perceived. He however is inclined to think that by constantly planting the largest, the variety may be improved, and on the other hand by planting the small ones for years they would in time degenerate.

To question of Israel Landis, concerning Chester county mammoth corn, Johnson Miller said that he had tried it last year, and he found it not equal to Lancaster county corn. Milton B. Eshelman knew a farmer who had grown at the rate of one hundred bushels of Chester Mammoth corn per acre.

Johnson Miller thinks farmers should always select the finest ears of corn for seed.

As regards the comparative quality of fertilizers, Milton Eshelman said that although he owned a bone mill and sold considerable quantities of bone dust, yet he was free to say that he still regards stable manure as the best of fertilizers. Next to stable manure he estimates bone dust.

Israel L. Landis had seen in an agricultural paper, that the tobacco growers of Connecticut had abandoned all fertilizers except barn-yard manure.

Webster L. Hershey remarked that manure is better preserved in the Eastern States than in Pennsylvania. There they generally keep their manure under cover.

H. M. Engle whilst ready to concede that in most cases barn-yard manure is the best, yet in some cases he thought artificial fertilizers might answer equally as good a purpose.

Milton B. Eshelman was named as essayist for the meeting in May, and Ephraim Hoover for the June meeting.

Society on motion adjourned.

ALL kinds of poultry and meat can be cooked quicker by adding to the quart of water in which they are boiled a little vinegar or a piece of a lemon. By the use of an acid there will be a considerable saving of fuel, as well as shortening of time. Its action is beneficial on old, tough meats, rendering them quite tender and easy to be digested. Tainted meats and fowls will lose their bad taste and odor if cooked in this way, and if not used too freely, no taste of it will be acquired.

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

GARDENER'S MONTHLY.—We know of no journal, devoted to a similar speciality, more punctual, more refreshing, or teeming with a greater variety than this ever welcome monthly. The April number, before us, "last and best," is *apropos* to the season.

We have received a copy of an "Address to the Agricultural Organizations in the United States, prepared by a committee in obedience to a resolution by the *National Agricultural Association*, together with the Constitution and proceedings," and also a list of its officers. We refer our readers to our April number, page 64, and hope to publish the address in some future number.

NEVER get a poor farm implement. Get the best. Get the Blanchard Churn.

A. B. ALLEN & Co's "Descriptive catalogue of Live Stock, both imported and home-bred, including horses, neat cattle, sheep, goats, swine, dogs, poultry, pigeons, rabbits, and useful and ornamental fish," is the very thing for stock fanciers to consult. Address, P. O. Box 376, New York.

THE SOUTH—An 8-page folio, "devoted to the material interests of the Southern States," contains a vast amount of useful information, especially to those who think of emigrating to that sunny region. New York. \$3.00 per annum.

THE IRON WORLD AND MANUFACTURER, "a representative of American Metal Manufacturers, Workers and Dealers. This is a royal illustrated folio, containing the 'prices current' and much other useful and interesting matter relating to the subjects embraced in its title. Pittsburgh. \$4.00 per year.

AMERICAN RURAL HOMES, a royal quarto, devoted to mild and stock husbandry, rural miscellany, horticulture, practical science, the hearthstone, Sabbath reading, literature, exchange, the outside world, and house-keeping. Rochester, New York. \$2.00 per annum.

THE BUILDING ASSOCIATION JOURNAL, published by Charles H. Marot, 23 North 6th street, Phila., is on our table. This journal should be in the hands of every member of a Building Association. It is published monthly at only 50 cents per year.

OVER Fifty Thousand Blanchard Churns are now in successful operation. Pretty good proof that they are liked.

OUR CHURCH WORK—"Nil desperandum deo duce" published monthly by the "Church Press Association," Baltimore, Md., Rev. Hugh Roy Scott editor. An Episcopal disseminator of religious instruction to the common people. \$1.00 per annum.

THE American Agriculturist and the *New York Rural*, those twin princes in agricultural and domestic literature, are regularly upon our table, and freighted with useful and entertaining matter in their special departments. They are both too well established to need any eulogy from us.

THE Germantown Telegraph, the *New York Observer*, and the exchanges generally, which have been noticed in our February, March and April numbers, have come regularly to hand. Also the *Manheim Sentinel*, the *Valley Spirit*, *The Free Press*, the *Mount Joy Herald*, and other city and county papers.

A NOBLE LORD, sequel to "The Lost Heir of Linlithgow," by Mrs. Emma D. E. N. Southworth, has just been published by T. B. Peterson & Brothers, Philadelphia.

All who have read that most fascinating of modern novels, "The Lost Heir of Linlithgow"—and who has not, as it has passed to four editions in five weeks—will be pleased to learn that its gifted authoress has provided a sequel to the wondrously interesting story. "A Noble Lord" is the title of the conclusion of the last entrancing narrative from the prolific and graphic pen of Mrs. Southworth. It takes up the thread of the absorbing romance where the final chapter of the "The Lost Heir" left it, and

from the woof and web of the thrilling incidents, mysterious circumstances, and interesting and sharply individualized characters, the practiced and talented novelist has wrought out a literary masterpiece in the popular field of prose fiction. Those desiring entertaining reading of the highest order should secure both Mrs. Southworth's last great novel and its sequel. Published in uniform, elegant and durable style by T. B. Peterson & Brothers, No. 306 Chestnut Street, Philadelphia, Pa.

It is issued in a large duodecimo volume, and sold by all booksellers at the low price of \$1.75 in cloth, or \$1.50 in paper cover; or copies will be sent by mail, to any place, post-paid, by the publishers, on receipt of the price of the work in a letter to them.

THE LADY'S FRIEND for May. This number opens with an uncommonly beautiful engraving of "The Lady Ellyn"—who is kneeling at an open window, and evidently awaiting the coming of her own true Knight. The Fashion designs are as usual, novel and stylish, and the pattern department is amply illustrated with models for useful and ornamental wear, suitable for ladies of moderate means, as well as the wealthy. In the literary department, which is as rich as usual, we note "Pink Corals," by Daisy Ventnor; "The Old Maids of Hope-ton," by Sarah Brion; "Shiloh," by Mrs. M. C. Pyle; and Mrs. Henry Wood's absorbingly interesting story of "Within the Maze; or, Lady Andinian's Trial," which none of our lady readers, who like a good story, should fail to peruse. The Music this month is the song of "Ethel Wayne." Price, \$2.00 a year. Four copies, \$6.00. Eight copies (and one gratis) \$12.00. "The Lady's Friend" and "The Saturday Evening Post," \$4.00. Published by Deacon & Peterson, Philadelphia. *Single copies for sale by all News Dealers, and by the Publishers, price 20 cents.*

HOME AND HEALTH.—The April number of this valuable and spicy family and health journal is received. The May number is to be greatly enlarged, and will be under the editorial management of Rev. GEO. LYON, a gentleman of rare acquisitions. In every number there will be the most entertaining and instructive reading for parents and adults, valuable information on plants, fruits and flowers useful hints on housekeeping and cooking, together with the most varied and elaborate articles on hygiene and medicine, and on the home treatment of all diseases and ailments. Notwithstanding all these improvements the price is to remain the same, \$1.50 per annum. Address, Home Publishing House, or De Puy, Lyon & Co., 52 Fourth Avenue, New York.

THE PRINTERS' CIRCULAR published by R. S. Menamin, 515, 517 and 519 Minor street, Philadelphia, is on our table, and is as interesting as it is useful. Our friend, "Bob," knows how to cater to the good tastes of the printers. His journal is more reliable than any other of its class published.

PURE HUBBARD SQUASH.

Having been the original introducer of this famous Squash, I am prepared to supply seed dealers and farmers and gardeners with the purest seed of my own raising. Catalogues with prices, *free* to all.

JAMES J. H. GREGORY, Marblehead, Mass.

MARBLEHEAD MAMMOTH CABBAGE.

This is the largest Cabbage in the world; has been grown to the weight of sixty pounds. Packages of seed with an engraving of this Cabbage, and full instructions for growing, 25 cents:—per ounce, \$1.00. I am the original introducer of this Cabbage, and my seed is pure. Descriptive Catalogues *free* to all.

JAMES J. H. GREGORY, Marblehead, Mass.

It will pay you to send to Porter Blanchard's Sons, Concord, N. H., or to any dealer in *first-class* dairy machinery, for the circulars of their excellent churn.

THE New York Independent is the one of all our religious American newspapers that deserves to find a place in the family of every farmer of our country. Its articles are from the pen of the most talented writers, and they breathe a freshness and vigor of thought that are peculiar characteristics of the *Independent*. The circulation of this paper, which in 1862 was already very large has since that time almost trebled itself, is steadily increasing. Any of our readers who wish to subscribe for a first-class religious paper, should procure the *Independent*. Terms \$3.50 per annum. Address, Henry C. Bowen, publisher, No. 3 Park Place, New York.

PHILADELPHIA MARKETS.

MONDAY, April 29, 1872.

BARK is scarce and firmly held at \$37.50a40 $\frac{1}{2}$ ton for No. 1 Queciron. Tanner's is nominal.

SEEDS.—Cloverseed moves slowly and ranges from 8 to 8 $\frac{1}{2}$ c for common, up to 8 $\frac{3}{4}$ a9 $\frac{1}{2}$ c for good and prime Pennsylvania and Western. Timothy is nominal at \$2.87 $\frac{1}{2}$. Flaxseed is scarce and commands \$2.10a2.15.

FEED.—Bran is dull and offer-d at \$29 $\frac{1}{2}$ ton.

FLOUR.—There is less activity in the Flour market, but, with very moderate receipts and a greatly-reduced stock, holders are very firm to their views, particularly for desirable grades of extra families. The demand is principally from the home trade, who are temporarily well supplied. Small sales of superfine at 5.75a6.25; extras at \$5.50a7.25; 100 bbls Wisconsin extra family, good, at \$8, 100 bbls Iowa do. at \$8; 100 bbls Minnesota do. at \$8.50; 400 bbls Pennsylvania do. good and choice, at \$9a9.25; Ohio and Indiana do., in lots, at \$9a9.50; 200 bbls Western fancy at \$10; and high grades at \$10.50a11. Rye Flour is unchanged; sales of 100 bbls at \$5.25. In corn meal nothing doing.

GRAIN.—The receipts and offerings of Wheat are small, and holders are very stiff in their views, in fact, many are indifferent about operating at present prices; sales of 500 bushels Pennsylvania red at \$1.92; 2,300 bushels Western do. at \$1.91a1.93; 800 bushels Indiana amber at \$2; 400 bushels Michigan white at \$2.10; 400 bushels Pennsylvania do. at \$2. and 400 bushels No. 1 spring at \$1.77. The receipts of Rye are small, and it is held firmly at \$1. Corn is in fair request at Saturday's quotations; sales of 1,200 bushels yellow at 69c; 400 bushels low and high Western mixed at 68a69c, and 40,000 bushels do. on private terms. Oats are in moderate request at former rates; sales of 1,400 bushels Western white at 55a56c, and some mixed at 53a54c. In Barley and Barley Malt no sales were reported.

PROVISIONS are without improvement. Sales of Mess Pork at \$13.25a13.50 $\frac{1}{2}$ bbl, prime Mess at \$12, and Mess Beef at \$14.50a14.75. Beef Hams are worth \$23a27. Bacon is depressed; sales of plain sugar-cured city-smoked hams at 10a11c, canvassed Western at 11a11 $\frac{1}{2}$ c, sides at 7a7 $\frac{1}{2}$ c, and shoulders at 5 $\frac{1}{2}$ c. Green meats are steady; sales of pickled hams at 9 $\frac{1}{2}$ c for 14 lbs averages. 9 $\frac{1}{2}$ c for 15 lbs, and 9c for 16 lbs; sides at 6a6 $\frac{1}{2}$ c, and shoulders, in 5 lb, at 4 $\frac{1}{2}$ a4 $\frac{3}{4}$ c. Lard attracts but little attention; sales of bbls and tcs at 9a9 $\frac{1}{2}$ c for Western steam and kettle-rendered.

CHICAGO MARKETS.

CHICAGO, April 29, 1872.

FLOUR—Strong but quiet; spring extra \$6.25a7.25. Wheat strong; No. 2 at \$1.35. Corn active; No. 2 mixed 43 $\frac{1}{2}$ a44 $\frac{1}{2}$ c. Oats active; No. 2 at 35a35 $\frac{1}{2}$ c. Rye strong; No. 2 at 75c. Barley firm; No. 2 at 57c. Provisions opened strong but closed weak. Mess pork \$12.55a12.60. Lard \$7.55a8.00. Bulk meats steady; shoulders 4 $\frac{1}{2}$ c, clear ribs 6 $\frac{1}{2}$ a6 $\frac{3}{4}$ c, clear sides 7 $\frac{1}{2}$ a7 $\frac{3}{4}$ c, hams in pickle 8a9 $\frac{1}{2}$ c. Live hogs active but a shade easier at \$4.10a4.45. Receipts—Flour 5,000 bbls, wheat 400 bush, corn 187,000 do, oats 35,000 do, rye 100 do, barley 2,000 do, hogs 3000. Shipments—Flour 6,000 bbls, wheat 55,000 bush, corn 780,000 do, oats 26,000 do, rye 2,000 do, barley 8,000 do, hogs 4,000.

ST. LOUIS MARKETS.

ST. LOUIS, April 29, 1872.

FLOUR—Demand light and holders firm; treble \$8.25a8.75; family \$9a9.80. Wheat active and higher; No. 3 fall \$1.65; No. 2 winter red \$2.05; No. 2 spring nominally higher at \$1.40. Corn active and higher and irregular; No. 2 mixed 43 $\frac{1}{2}$ a45c. Oats higher; No. 2 at 40c. Barley dull; choice Iowa 70c. Rye firm; No. 2 at 82c. Provisions—Mess pork higher at \$12.75; generally held at \$13. Dry salted meats active and higher; loose shoulders 4 $\frac{1}{2}$ c; clear rib sides 6 $\frac{1}{2}$ c; clear sides 6 $\frac{1}{2}$ c; hams 7 $\frac{1}{2}$ a7 $\frac{3}{4}$ c; boxed 8c. Bacon active and higher; packed shoulders 5 $\frac{1}{2}$ c; clear rib sides 7 $\frac{1}{2}$ c; clear sides 7 $\frac{1}{2}$ c; last half May 8c; loose clear rib sides, same option, held at 7 $\frac{1}{2}$ c. Lard wanted at 8 $\frac{1}{2}$ c; held at 8 $\frac{1}{2}$ c. Live Hogs quiet at \$3.75a3.70. Cattle unchanged at \$3.50a3.75. Receipts—4,000 bbls flour, 4,000 bush wheat, 15,000 do corn, 4,000 do oats, 2,000 do barley, 1,000 hogs.

PHILADELPHIA CATTLE MARKET.

MONDAY, April 29, P. M.

BEEF CATTLE.—The prominent features of the cattle market remain substantially the same as at the close of our last report. Some extra droves were on sale, and were taken up quickly at very full figures, but for other descriptions there was no demand of moment, and prices, if anything, favored buyers. We quote extra at 7 $\frac{1}{2}$ a9c; choice at 7a7 $\frac{1}{2}$ c; fair to good at 5 $\frac{1}{2}$ a6 $\frac{1}{2}$ c, and common at 4a5c $\frac{1}{2}$ lb. gross. Receipts, 2,100 head, of which 1,200 were from Pennsylvania.

COWS AND CALVES met a fair demand at about last week's figures; sales of springers at \$40a55; fresh cows at \$50a70; receipts, 200 head.

SHEEP.—The general market was devoid of animation, and prices favored buyers; sales of woolled at 10a10 $\frac{1}{2}$ c for choice, 9 $\frac{1}{2}$ a9 $\frac{3}{4}$ c for fair to good, 7 $\frac{1}{2}$ a8 $\frac{1}{2}$ c for common, and clipped at 6a7 $\frac{1}{2}$ c $\frac{1}{2}$ lb. gross. Lambs were taken as wanted at \$2.50a4 for common up to \$5.07 for prime; receipts, 16,000 head.

HOGS attracted but little attention, buyers purchasing only to supply pressing wants; sales of slop at \$6.25a5.50, and corn-fed at \$7a7.25 $\frac{1}{2}$ 100 lbs. net; receipts, 4,049 head.

NEW YORK MARKETS.

NEW YORK, April 29, 1872.

FLOUR, ETC.—Our market for Flour is quiet but firm; the demand is chiefly for the low and medium grades; these are in moderate supply and wanted for the West Indies. Family brands strong. At the close the market is quiet but firm. The sales were 7,500 barrels. We quote as follows: Sour, $\frac{1}{2}$ barrel, \$5.00a6.75; No. 2 \$4.70a6.45; superfine \$6.55a7.00; State, extra brands, \$7.25a7.60; State fancy ditto, \$7.50a8.20; western shipping extras \$7.15a7.40; Minnesota extras \$7.90a9.50; good to choice spring wheat extras \$1.90a8.75; extra amber Indiana, Ohio and Michigan \$8.60a10; Ohio, Indiana and Illinois superfine \$6.60a7.00; Ohio round-hoop extra shipping \$7.60a7.95; Ohio extra trade brands \$8.00a9.00; white wheat extra Ohio, Indiana and Michigan \$8.80a10; double extra do \$9.80a10.50; St. Louis single extras \$9a9.75; St. Louis double extras \$9.55a11.75; St. Louis triple extras \$11.85a13.25; Genesee, extra brands, \$9.25a10.

GRAIN.—At the close the market is heavy and inactive for spring and firmer for winter. The sales are 31,600 bushels, at \$1.85 for red western in store; \$2 for white Michigan on canal, and \$2.10 afloat; 1.93 bid for amber do in store.

Barley is inactive and tame for common but firm for choice. Barley malt is dull and heavy. Oats are more active and firmer. The sales are 61,400 bushels; new Ohio mixed at 52a52 $\frac{1}{2}$ c in store; white at 54c in store; western mixed at 52c in store, a d 53c afloat; white at 58c on track. Rye is better and more active, the demand in part speculative. The sales are 28,600 bushels; western at 93a94c in store, and small lots at 56c; State at \$1.00.

Corn is less active, and closes tame; shippers hold off, and there is only a limited speculative inquiry for the future. The sales are 82,600 bushels; western mixed at 76a77c, closing tame at 76c; western white at 77c; western yellow at 77a77 $\frac{1}{2}$ c; southern white at 78; State round yellow at 86c.

SEEDS.—The market for both clover and timothy remained inactive and quotations entirely nominal at 9 $\frac{1}{2}$ a10c for clover and \$2.75a3 for timothy.

Tallow dull and nominal. Most of the holders ask 9 $\frac{1}{2}$ c for city. Later sales of 25,000 lbs at 9 $\frac{1}{2}$ c.

TOBACCO.—Seed leaf continues in good demand and the market is firm, but in prices we learn of no particular change. We quote old crop at 25a40c for Connecticut and Massachusetts wrappers, 20a25c for do. second, and 15a16 for do. fillers; 20a40c for Ohio and Pennsylvania wrappers; 15a25c for average lots, and 12a15c for fillers and binders, and new crop at 8 $\frac{1}{2}$ a10c for State running lots; 12 $\frac{1}{2}$ a21 $\frac{1}{2}$ c for Pennsylvania lot to fine; 10a14 $\frac{1}{2}$ c for Ohio running lots, and 8 $\frac{1}{2}$ a9c for Missouri and western.

HAY.—There continued a good demand, and the market is firm. We quote: \$1.40a1.45 for shipping; \$1.50a1.85 for retail lots; 60a80c for salt hay, and \$1a1.10 for clover. Straw in limited demand and steady, at \$1a1.15 for long rye, 80a85c for short do, and 80a90c for oat.

PROVISIONS.—The pork market is fairly active and steady, but offered with a little more freedom. The sales, cash and regular, are 800 bbls at \$13.25 for old mess, \$13.90a14 for new do; \$13a13.50 for western prime mess. For future delivery dull. Beef is in moderate request and prices are steady. Sales of 200 bbls, at \$8a10 for plain mess and \$10a12 for extra mess. Tierce meat is in rather better demand, and though no higher, the market has a comparatively steady tone. Sales of 300 tcs at \$15a18 for prime mess and \$18a11 for India mess. Beef hams are firm and in good jobbing demand. Sales of 195 bbls at \$22a27 for western.

Cut meats are sparingly offered, meet with a good demand, and generally rule quite firm on all grades; sales of 275 pkgs at 5 $\frac{1}{2}$ a5 $\frac{3}{4}$ c for shoulders, and 9a10c for hams in dry salt and pickle. Bacon is not active and hardly so firm; sales of 25 boxes at 7 $\frac{1}{2}$ c for short rib. Dressed Hogs are firm; we quote 6a6 $\frac{1}{2}$ c for city. Lard is not active and barely steady; sales of 350 bbls and tcs, at 9c for No. 1, 9 $\frac{1}{2}$ c for city, 9 $\frac{1}{2}$ c for fair to prime steam, and 9 $\frac{1}{2}$ c for kettle-rendered. For future delivery, sales of 2,000 tcs at 9 $\frac{1}{2}$ c for June and 9 $\frac{1}{2}$ c for July.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

JUNE, 1872.

No. 6.

THE LONELINESS OF FARMING LIFE IN AMERICA.

IN *Scribner's Monthly* for June, which is already upon our table, Dr. J. G. Holland gives a new and not over-agreeable picture of American farm life in the following sketch:

An American traveler in the Old World notices among the multitude of things that are new to his eye, the gathering of agricultural populations into villages. He has been accustomed in his own country to see them distributed upon the farms they cultivate. The isolated farm life, so universal here, either does not exist at all in the greater part of continental Europe, or it exists as a comparatively modern institution. The old populations, of all callings and professions, clustered together for self-defense, and built walls around themselves. Out from these walls, for miles around, went the tillers of the soil in the morning, and back into the gates they thronged at night. Cottages were clustered around feudal castles, and grew into towns; and so Europe for many centuries was cultivated mainly by people who lived in villages and cities, many of which were walled, and all of which possessed appointments of defense. The early settlers in our own country took the same means to defend themselves from the treacherous Indian. The towns of Hadley, Northfield, and Deerfield, on the Connecticut river, are notable examples of this kind of building; and to this day they remain villages of agriculturists. That this is the way in which farmers ought to live we have no question, and we wish to say a few words about it.

There is some reason for the general disposition of American men and women to shun agricultural pursuits which the observers and philosophers have been slow to find. We see young men pushing everywhere into trade, into mechanical pursuits, into the learned professions, into insignificant clerkships, into salaried positions of every sort that will take them into towns and support and hold them there. We find it impossible to drive poor

people from the cities with the threat of starvation, or to coax them with the promise of better pay and cheaper fare. There they stay, and starve, and sicken, and sink. Young women resort to the shops and factories rather than take service in farmers' houses, where they are received as members of the family; and when they marry, they seek an alliance, when practicable, with mechanics and tradesmen who live in villages and large towns. The daughters of the farmer fly the farm at the first opportunity. The towns grow larger all the time, and, in New England at least, the farms are becoming wider and longer, and the farming population are diminished in numbers, and, in some localities, degraded in quality and character.

It all comes to this, that isolated life has very little significance to a social being. The social life of the village and the city has intense fascination to the lonely dwellers on the farm, or to a great multitude of them. Especially is this the case with the young. The youth of both sexes who have seen nothing of the world have an overwhelming desire to meet life and to be among the multitude. They feel their life to be narrow in its opportunities and its rewards, and the pulsations of the great social heart that comes to them in rushing trains and passing steamers and daily newspapers, damp with the dews of a hundred brows, thrill them with longings for the places where the rhythmic throb is felt and heard. They are not to be blamed for this. It is the most natural thing in the world. If all of life were labor—if the great object of life were the scraping together of a few dollars, more or less—why, isolation without diversion would be economy and profit; but so long as the object of life is life, and the best and purest and happiest that can come of it, all needless isolation is a crime against the soul in that it is a surrender and sacrifice of noble opportunities.

We are, therefore, not sorry to see farms growing larger, provided those who work them will get nearer together; and that is what they ought to do. Any farmer who

plants himself and his family alone—far from possible neighbors—takes upon himself a terrible responsibility. It is impossible that he and his should be developed and thoroughly happy there. He will be forsaken in his old age by the very children for whom he has made his great sacrifice. They will fly to the towns for the social food and stimulus for which they have starved. We never hear of a colony settling a Western prairie without a thrill of pleasure. It is in colonies that all ought to settle, and in villages rather than on separated farms. The meeting, the lecture, the public amusement, the social assembly, should be things easily reached. There is no such damper upon free social life as distance. A long road is the surest bar to neighborly intercourse. If the social life of the farmer were richer, his life would by that measure be the more attractive.

After all, there are farmers who will read this article with a sense of affront or injury, as if by doubting or disputing the sufficiency of their social opportunities we insult them with a sort of contempt. We assure them that they cannot afford to treat thoroughly sympathetic counsel in this way. We know that their wives and daughters and sons are on our side, quarrel with us as they may; and the women and children are right. "The old man," who rides to market and the post-office, and mingles more or less in business with the world, gets along tolerably well; but it is the stayers-at-home who suffer. Instead of growing wiser and better as they grow old, they lose all the graces of life in unmeaning drudgery, and instead of ripening in mind and heart, they simply dry up or decay. We are entirely satisfied that the great curse of farming life in America is its isolation. It is useless to say that men shun the farm because they are lazy. The American is not a lazy man anywhere; but he is social, and he will fly from a life that is not social to one that is. If we are to have a larger and better population devoted to agriculture, isolation must be shunned, and the whole policy of settlement hereafter must be controlled or greatly modified by social considerations.

The above comes from such a high literary authority, and contains so many good thoughts on *Social Economy*, that we have concluded to transfer it to our columns, as something which every progressive and intelligent farmer ought seriously to ponder. We never can forego, or by any morbid system of isolation or exclusiveness hedge in or stamp out the *fact*, that man is normally and essentially a social being, and that deviation or departure from this *status* is an abnormal condition of his being—whether it is self-imposed or through circumstances over which he has no control. Perhaps no man who has been

brought up exclusively in the country can call up more pleasing recollections than those connected with his school-days, the country singing schools, or the annual Christmas festivals, mainly on account of the predominating social elements which gave them their specific characters. From the period of boyhood to early manhood, wherein the social principle ruled, they were bright, joyous and progressive, and only receded from this condition and became moody, dull and selfish in proportion as they withdrew from and abjured the social circle and social sentiments. No wonder then, in obedience to their natural impulses and instincts, so many of those residing in the rural districts should be yearning after the social intercourse of the towns. And, although that social intercourse—from a want of judgment, consequent of their former isolated condition—in many instances may be morally and socially hurtful, yet under proper discriminations it is edifying, enlarging and elevating. But, man is not only *naturally* a social being, but he is also *spiritually* so, and he feels a greater moral and spiritual consolation and support when he unites with his fellow-man in social worship, than he does when he has worshiped alone, especially when he engages in religious exercises with those whose sentiments and experiences are in harmony with his own. R.

SCIENCE.

FACTS AND SCIENCE.

BY J. STAUFFER.

THERE is an inherent tendency in every reflecting mind to acquire knowledge; there is a pleasure, independent of the many extrinsic advantages which it brings to every individual, according to the station of life in which he is placed. The pursuits of *science* have a peculiar interest for men of a peculiar turn. Some thirst after general knowledge. These may acquire a fund of information scattered over various fields of research, and yet are not considered *scientific*. Profound *erudition* is obtained but by few.

Science, it is claimed, is the natural enemy of superstition, and as such it has assailed and overthrown idolatry, witchcraft, and kindred

follies, but with them deep gashes and festering wounds were given to theology.

Learned men of perverse minds, unhappily, were as fanatical in their skepticism as those they abused for their fanatical faith. Hence, they are as dogmatic and rampant in one extreme as the ignorant boor may be in his superstitious notions in the other.

Such results arise from a morbid train of thought running in certain grooves, and as the faculties of the most learned men differ in certain modes of reflection, they arrive at different conclusions. Hence, a one-sided knowledge, no matter how great, may prevent a due perception of the most essential qualities for arriving at correct conclusions.

But to which side this morbid action of the mind is chargeable, causes the contest, and volumes of controverted matter was and is written continually in vindication of both sides, and each side has its adherents and claims the triumph of their opinions.

Pope says: "A little knowledge is a dangerous thing." No doubt in the mind of one puffed up with conceit such is the case of all superficial knowledge; yet we may ask like Denham:

"Can knowledge have no bound, but must advance,
So far to make us wish for ignorance?"

Yes, science unfolds marvelous things, and vain man finds God in matter, and matter God; an accidental monad in time to people space, by evolution, aggregation and subdivisions. We may exclaim:

"Are there (still more amazing!) who resist
The rising thought, who smother in its birth
The glorious truth, who struggle to be brutes?
Who fight the *proofs* of immortality?"

So I turn from that science that links man to the monkey and the latter with the reptile, and take my stand with a higher class of thinkers, who believe that God is absolute being above the world, which is of God, but which is not God. He is the unity of specialties; having the perfection of being, therefore self-existent; unconditioned as to time, therefore eternal, having neither beginning nor ending; unconditioned as to space, therefore everywhere present; having the perfection of power, therefore almighty. In Him all specialties are resolved into universality, therefore he is incomprehensible. Thus there is no point in space, no atom in matter, in which God is not. Change indicates growth

or decay, and God being eternal, there can be neither one nor the other in Him.

With this view of the matter we can accept the wonders discovered by Lenwenhoeck, Mantell, Spallanzani and others, who have found that the microscopic animalcules, suffered to dry up on the glass on which they were swimming about in a drop of water, and the glass stuck into dry sand, were again restored to life after twenty-one months, by being simply moistened with water, and this as often as fifteen times repeated. This would stagger our faith, but science has established the fact. Many formerly considered animalcules are now found to be the nuclei of vegetable structures, called zoospores—found active in Algæ, etc., endowed with apparently voluntary motion.

The occurrence of spores of this class was formerly considered so surprising that it was either rejected as unworthy of credit, or the organisms which produced them were considered as animals.

It is now, however, generally allowed that there is no essential difference between animal and vegetable life, and that therefore the usual indications of either are not to be regarded as decisive of the especial kingdom to which beings belong in which they are manifested. *Zoospores*, so long as they are free, have indeed a great likeness to *infusoria*, but as soon as they have found a fit resting place all traces of motion cease, and their offspring comforts itself as a vegetable.

We must actually witness these wonderful minute creations in all their diversified forms and prolific increase—in short, without giving the subject some attention, no one would dream of the wonders made known by the microscope, in the minute things, as also with the telescope in the vastly great.

Reflecting upon this subject connected with the germination of seeds, something like the following came before my mind's eye. So far as I know it is original, but may have occurred to others.

Let us examine a grain of corn, in its milky state; how soft and tender, with its delicate thread of silk attached to each seed, so neatly arranged to its rachis or cob, and carefully wrapped up in the husk. When we reflect that these numerous seeds, leaves, tassel and stock have all sprun from a single seed, it

seems truly marvelous, but too common to arrest our attention.

What are called Twilight Monads are only 24-1000 of an inch long; some only 12-000. The conception of such minuteness is beyond the grasp of our mind; yet each is proved to be an organized structure, and is adapted to the mode and range of its existence. The question arises, are not all the vegetable juices stimulated in their vital action, from external relations, impelled by such minute living bodies to branch, bud, bloom and fructify. In other words, to return to my grain of corn: just as miriads of polypi build up the gigantic sponges—a living vase called the Cup of Neptune (Neptune's cup—*Raphidophora Patera*), corals, stone lilies, etc., might also be cited, but the sponge referred to comes nearer the vegetable structure.

These fragile animals work each on its own hook, commence on the bare and narrow stalk, widen out, and flute the sides and excavate the top, so that when the habitation is finally complete, three feet in height perfectly symmetrical without stiff or formal outlines, but gracefully curved and rounded so as to form an object of beauty. In this structure the animals can be seen at work. Should it be a sign of mental weakness to suppose that still more minute organisms constitute the vitality and growth of plants, and dwell in their juices, like in the sap, elaborated into the milk of the grain, this becomes consolidated into the albumen, the silicious particles forming the husk or hard outer shell of the grain, the nutritious portions encased and the vital action retires to a point and dries up as the animalcula mentioned before, not dead, but the vital principal dormant, locked up—until again started to action through moisture, and the chemic action of the albumen in the act of germination, again to reproduce all the phenomena of growth, flower and seed, turning its course to its ultimatum, and then resting. Is this strange? It is at least true, account for it as you will.

FOWLS that show lassitude or weakness may be strengthened by giving a decoction of citrate of iron mixed with water in such proportion as to be given every perceptible taste of iron. Iron-water for fowls, made by putting some scrap-iron of any kind in a trough or pail of water, also answers them the same.

METEOROLOGICAL.

THE LAW OF STORMS.

IN the fourth meteorological report by Prof. J. P. Espy, of Washington, D. C., we find the following instructive generalizations:

1. The rain and snow-storms, and even the moderate rains and snows, travel from the west toward the east in the United States, during the months of November, December, January, February and March, which are the only months to which these generalizations apply.

2. The storms are accompanied with a depression of the barometer near the central line of the storm, and rise of the barometer in the front and rear.

3. The central line of minimum pressure is generally of great length from north to south, and moves side foremost toward the east.

4. This line is sometimes nearly straight, but generally curved, and most frequently with its convex side to the east.

5. The velocity of this line is such that it travels from the Mississippi to the Connecticut river in twenty-four hours, and from the Connecticut to St. John's, Newfoundland, in nearly the same time, or about thirty-six miles an hour.

6. When the barometer falls suddenly in the western part of New England, it rises at the same time in the Valley of the Mississippi, and also at St. John's, Newfoundland.

7. In great storms the wind for several hundred miles on both sides of the line of minimum pressure blows toward that line directly or obliquely.

8. The force of this wind is in proportion to the suddenness and greatness of the depression of the barometer.

9. In all great and sudden depressions of the barometer there is much rain or snow; and in all sudden great rains or snows there is a great depression of the barometer next the center of the storm, and rises beyond its borders.

10. Many storms are of great and unknown length from north to south, reaching beyond our observation on the Gulf of Mexico and on the northern lakes, while their east and west diameters are comparatively small. These storms therefore move side foremost.

11. Most storms commence in the "far

West," beyond our Western observers, but some commence in the United States.

12. When a storm commences in the United States the line of minimum pressure does not come from the "far West," but commences with the storm, and travels with it toward the eastward.

13. There is generally a lull of wind at the line of minimum pressure, and sometimes a calm.

14. When this line of minimum pressure passes an observer toward the east, the wind generally soon changes to the west, and the barometer begins to rise.

15. There is generally but little wind near the line of the maximum pressure, and on each side of that line the winds are irregular, but tend outward from that line.

16. The fluctuations of the barometer are generally greater in the eastern than in the western part of the United States.

17. The fluctuations of the barometer are generally greater in the northern than in the southern part of the United States.

18. In the northern parts of the United States the wind generally sets in from the north of east, and terminates from the north of west.

19. In the southern parts of the United States the wind generally sets in from the south of east, and terminates from the south of west.

20. During the passage of storms the wind generally changes from the eastward to the westward by south, especially in the southern parts of the United States.

21. The northern part of the storm generally travels more rapidly toward the east than the southern part.

22. During the high barometer on the day preceding the storm it is generally clear and mild in temperature, especially if cold weather preceded.

23. The temperature generally falls suddenly on the passage of the center of great storms, so that sometimes, when a storm is in the middle of the United States the lowest temperature of the month will be in the west on the same day that the highest temperature is in the east.

Some of the storms, it is true, are contained entirely, for a time, within the bounds of my observers, and in that case the minimum barometer does not exhibit itself in a line of

great length, extending from north to south, but it is confined to a region near the center of the storm, and travels with that center toward the eastward.

From the experiments it may be safely inferred, contrary to the general belief of scientific men, that vapor permeates the air from a high to a low dew point with extreme slowness, if, indeed, it permeates at all; and in meteorology, it will hereafter be known that vapor rises into the region where clouds are forced only by being carried up by ascending currents of air containing it.

WEATHER AND CROP OBSERVATIONS.

ONE feature distinguishes modern scientific researches from those of past times, and that is the wide extent of their range. In former days philosophers were comparatively few, and scattered here and there. They had to rely on their own observations and their own comparisons of the observations made by others, and these were not always easy of access. It might be months, or even years, before the discoveries of a scientific man in this country could be made known to one in a far distant land, Russia, for instance. Now how changed is all this! By mutual arrangement and the use of the telegraph, observers far apart from each other can make simultaneous observations of any given object, and these can at once be classified and published. What formerly required years to achieve can now be done in a few days with greater ease and certainty, and the results to the world are as much greater as the extent of the area of the operations is widened. A very striking illustration of this occurs in a project recently suggested for the establishment of a system of weather and crop observations all over the world, from which reports can be framed, keeping producers in all lands informed of what is going on everywhere in matters which specially concern them.

This has long been a desideratum among agriculturists, merchants who deal in agricultural produce, and manufacturers whose raw material comes from the farm and the plantation, for it is important for them to know wherewith they are competing, and

what their prospects are in the markets. They are, in fact, incessantly engaged in a competition with all the producers in the world, but at present it is carried on to a great extent in the dark. A blight may fall on the crops of Southern Russia, and yet remain unknown to producers in other countries; yet the failure of the former crops will cause an increased demand for those of this and other countries, and, of course, materially effect the prices of the latter. But if the producers remain ignorant of the fact, the middlemen and speculators, who make it their business to keep themselves informed of the state of the world's markets, take advantage of the rise in the prices, and realize enormous profits, but a small share of which, if any, goes to the producers. So again, the cotton crop in India may turn out very poor; yet our Southern planters may send their produce to market without having the advantage of early information. Some striking illustrations of the losses suffered by our agriculturists from the present unreliable methods of estimating the value of the coming crop have been recently published.

During the eight particular years, in the interval between 1853 and 1860, estimates were made of the coming crop, which fixed its amount on an average for each of the years at 21½ per cent. in excess of what it afterward really proved to be. The price paid to the planters was based on this estimate, but when all the cotton had been sold by them and was in the market, it was found that its amount fell short of the anticipation, and consequently prices advanced in the same ratio as the amount of the crop had been overestimated. This advance, which properly belonged to the growers, went into the pockets of the speculators, and was, of course, so much loss to the farmer. It is estimated that the loss for these eight years aggregated to the enormous amount of \$375,000,000. Similar losses by farmers, through incorrect reports of the growing wheat crops, are also noticed. Thus, the price fixed for wheat in London and Liverpool, in October, 1866, based upon the unreliable reports then at hand, was \$1.49½ per bushel; but the crop, when delivered, falling short, it rose to \$1.59¼ before the end of the year, and to \$1.92¼ in 1867; so the farmer lost 42½¢ per bushel, or at the rate of \$8.07½ per acre of 19 bushels. The instances

cited are sufficient to prove the value of some remedial system. The most recent suggestion was submitted to the Rockford Agricultural and Mechanical Society of Virginia at one of its recent sessions. It provides for united meteorological observations in all countries, and on board national cruisers, the results of which are transmitted by telegraph from one meteorological station to another and each commercial center. It also provides for the elaboration of a scheme of universal crop reports, by the perfecting of the method of the Agricultural Bureau, and by the appointment of crop inspectors to every 10,000 square miles of territory in all the civilized countries of America, Europe, Africa and Australia, and of course in all parts of Asia where practicable, as in British India and the Russian dominions.

By this telegraph meteorological system it is expected that an approximately correct idea may be formed of the laws which govern atmospheric phenomena and that forecasts of the weather, useful alike to the agriculturist and the seaman, may be made. And by the system of crop reports, based on personal observations of the state and prospects of the growing crop, it will be possible every year to form correct, or nearly correct estimates of their quantity and quality, and thus enable the farmer, the planter and the merchant to determine with a considerable degree of probability the prices which ought to rule in the coming season. It is proposed to petition the Government to communicate with the Governments of all other civilized nations, in order to take steps by a convention of the leading meteorologists of the world (similar to that held at Brussels in 1853, with reference to sea-coast observations), to introduce the system into general operation.

ALTERNATE MOWING AND GRAZING.

I ALLUDE more particularly to land lying in grass for many years, where a variety exists. A piece of the best hay I have seen for many years, cut and being cut last week, suggested my mentioning this subject again. Mr. Whimpy says that he mowed it the year before last, having done so some preceding years too, and manured it, as he does all his land, with stable dung brought from Balti-

more, as well as what he makes at home; but the grass, chiefly timothy and orchard grass, was becoming thin in the bottom, and last year (spring of 1870) it looked rather unpromising for hay, so he rented it to a dairyman for the summer, and it was well grazed, Mr. W. thinking to plow up and seed down again. However, there has come such an extraordinary mass of white clover and bottom grass of other descriptions that it is a prodigiously heavy crop, and the quality the very best, taking two and three days turning to cure, being so young, thick and full of sap; in short it is like much of the best English upland hay, and like that, leaves the ground looking, after the grass is cut, as if the roots were killed, the short stems being yellow; but there is already a densely thick aftermath two inches high on the parts first cut. The owner has rented more this season for grazing, and will continue to do so, and it is probable that he will harvest every year nearly as much hay, and of much better quality, from half the land, and pocket the rental of the other moiety, besides using six times the afterfeed, as mowing so much earlier as he is obliged to do, lest the white clover and orchard grass should ripen, the quantity to graze is in fact much more than is mowed by those who mow year after year when their grass is ripe. Here are two fallacies exposed which are very serious to the country—that grazing injures an old mowing, and the mowing early and eating the after-grass does so too.

I mentioned some years since the particulars of a piece of land on the side of the bottom part of one of the New Hampshire mountains, which, having been closely grazed down for two successive summers with sheep, was supposed to be ruined, and being unexpectedly brought to the hammer through the owner's death, made several dollars per acre less than had previously been paid for it, and afterward proved to be the thickest set grass in the neighborhood, and continued benefited by close grazing. I saw an instance given where a mowing had been grazed because it was not worth mowing longer, the intention being to plow up and plant corn; the result in this case was similar—complete renovation and the springing into existence of a new set of bottom grass which made it better than it had ever been before.

Although I may lay myself open to a charge

of repetition I cannot avoid asking graziers who still hold the opinion that half the pasture ought to rot on the ground, to look at the parts closely eaten down, and see, whenever the stock is taken away for a while, and after a shower, where the grass starts first, and to notice near any premises where all kinds of animals have access and thus always kept short, if there is any bottom grass thick like a beautiful lawn, as that is among those fields where half rots on the ground.—*Cor. Country Gentleman.*

AGRICULTURAL.

DEEP PLOWING—TURNING UNDER CLOVER.

MR. THOMAS FOSTER has recently furnished the writer an account of some experiments in deep plowing and turning under clover, made on his farm in Clarendon, Orleans county, that may be of interest to others.

The most interesting experiments were made on a field situated on an elevated ridge, at some distance from the barns and not convenient to manure with barn-yard manure. The soil is a limestone, clayey loam, naturally good, but was reduced by repeated cropping, without seeding down or manuring, before it was purchased by Mr. Foster. It then produced about 15 bushels of wheat per acre, and was seeded to clover. The next season, when this clover was in blossom, it was plowed under. The plow was taken on to the barn-floor and set to run one foot deep, and the field plowed with it thus gauged; but the actual depth plowed averaged ten inches. The land was then fitted with the harrow and cultivator, not plowed again, and the wheat sown broad-cast; the yield was 25 bushels of Mediterranean wheat per acre.

Clover was sown with the wheat, and the next spring the clover was plowed under for corn, which gave a splendid crop. The next season this field was again plowed deep, summer-fallowed and sown to wheat, which also gave a heavy crop. Clover was sown with this crop of wheat also, and the next season saved for seed—the first crop giving over three bushels per acre; the subsequent growth that season was left on the land. This was in 1869. In

1870 the clover again made a heavy growth, and when in blossom was turned under, plowing as deep as first described, and the land fitted and sown to Treadwell wheat. Mr. Foster says there is now a splendid crop of wheat on the ground, which all who have seen it estimate at 40 bushels per acre; he says that if nothing happens to the crop, it may go 40 bushels.

Mr. Foster says that plowing under clover is the easiest and best way to manure such land. It makes the soil loose and mellow, and one good span of horses will plow his field as deep as described without difficulty. Turning under clover and deep plowing are all that are needed to make the land very productive; except plaster on the clover no other fertilizers are needed, and even the straw may be sold or used for the benefit of other parts of the farm, as may be convenient.

He also said that plowing under clover is the best way to manage clay land, and related an instance in which a field plowed up very hard and lumpy—the lumps so large and hard that they had to be pounded to pieces before the land could be got into good condition for the wheat. Plowing under one crop of clover made a great difference in this land; no more large lumps were seen, and now, after several crops of clover have been plowed under, the soil works up loose and mellow without the least difficulty. It is thus evident that a large amount of labor may be saved, as well as a great increase of fertility be secured, by a judicious use of clover.

Mr. Foster also related an experiment of top-dressing wheat with rotten manure. This manure was piled in the spring, and lime mixed with it when piled at the rate of three or four bushels to 100 loads of manure. The wheat was well put in on a summer fallow, and immediately after sowing, the manure was finely spread on the surface. This gave 36½ bushels of wheat per acre. This crop was grown last year. Clover was sown with the wheat, and this spring the land was well manured with coarse manure, plowed and planted to corn, and has a splendid crop now growing.

Mr. Foster also spoke very favorably of his tenant who raises these crops and carries out these operations under his general directions. The farm was first let for one year, but the tenant has now had it five years. Others

have asked how long he was going to stay, saying they would like to get him if any change was expected; but Mr. Foster says the tenant can stay as long as he does as well as he has done.

This is an example that should not be overlooked by men that take farms. There are thousands that only fail of procuring permanent situations on good farms like this, because they don't farm well. In England, farmers prefer to rent land instead of buying it, as their money used to work the farm, pays much better interest than when invested in land. With good farming this may often be the case here, and the tenants do better by thoroughly working a good farm than by any other course he could take.—*Cor. Country Gentleman.*

RESULTS OF THOROUGH MANURING.

AN exchange says: One of our neighbors, with land not any too good, barely able to support a family, tried upon advice the experiment of applying manure to wheat spread on the surface. It was compost, also made upon recommendation, and applied evenly on the land just before sowing. Only part of the lot was thus treated. The wheat was sown and the land well harrowed. At the end of the fall the difference was so great that a distinct line marked the manured part.

In the spring there was still the difference a whitish and partly green hue pervaded the manured part. The rest was barren. Here and there on the manured part, where the land was wet, the grain lay on the surface. This, however only in a few small spots. In a short time the manured part was a dense green, the rest straggling and backward, and most discouraging to all who saw it. Toward the last this, however, brought up some in comparison with the other. The manured part grew less rank and matured well, yielding over 200 per cent. more than the other. An estimate was made of the expense of the manure and labor, and there was something nice in favor of the application.

But the best, perhaps, is not yet told. The land had been seeded down early in the spring, and it was recommended to use plenty of seed, which was but partially followed out. Still the manured part of the lot showed not

only a good catch, but what was thought a thick stand, growing well, and continuing late in the fall. The rest of the lot was as usual, a poor thing, not paying for seeding; there was not the catch and not the growth as in the other.

This satisfied. The year following the difference was still greater (in the two the crops which it was advised to cut), not so much before harvesting as in the crops secured. Then it was found what a little manure did—that it brought all the seed, while the rest had lost much of it that did not come, and did not grow so well. In the spring following, upon advisement, the land was plowed and put to corn; the difference being even greater here, if possible, than in the preceding crops. This was followed by barley and oats mixed, continuing the same difference—a large crop on the manured part, and ordinary on the other. Seed was sown, and nearly the same variation was observable. But before this was reached other land was treated similarly, only that the manure was applied to the whole field. The neighbors took the contagion—all but the indolent—and there is a general improvement.

Why is it that this thing is not done more? So repeatedly is it advised to top-dress with manure land that is so worn, if poor and intended to seed down. And yet people are not doing it, only the few. It pays in the grain, and still more in the grass crop which is to follow, and in after culture. It is the manure that helps the grass (or clover) to the nutriment of the atmosphere, after first being established in the soil, getting not only a catch, but a thick stand. Then, aided by a little plaster, there can be no failure, especially with clover.

VALUE OF REPLANTED CORN.

THE practice of replanting corn is common enough, being usual on every farm and plantation where the stand is not perfect in the first instance. According to the suggestion of an intelligent planter, the replanted corn is of essential value in the crop, more than is apparent, and he himself makes it a rule to replant whether the first stand is good or not. If the first stand is perfect, as rarely occurs, he still replants in about every fifteenth or twentieth hill in every tenth or

fifteenth row, either cutting out the plant already growing, or putting in an extra hill, if the space will admit. The purpose of the replanted or late stalks is to furnish pollen, in case a dry spell should wilt the tassels of the first planting before the grains are filled. One stalk in two hundred will shed pollen in abundance.

If the weather turns very dry in the filling time, both the silks and tassels wilt. When rain falls, if it comes in time, the silks recover and become fresh again, but the tassel once dry does not revive. The replanted corn being younger; will when the tassel blooms furnish pollen for all the older stalks around. Deficient or unfilled ears are caused by want of pollen on the silk.

Such is the suggestion of an observant planter, and we submit it for the benefit of our readers.—*Planters' Journal*.

HORTICULTURE.

PLANTING TREES IN GRASS.

FOR setting out orchards of apples, pears, plums and cherries, the *Gardener's Monthly* recommends the following preparation of the ground and subsequent management: Manure the ground heavily and put in a crop of potatoes the first year; manure again lightly in October and sow rye. Sow red clover seed on the rye in April; take off the rye and set out the young trees in small holes cut in the clover sod, just large enough to receive the roots, in autumn. Tread the soil and trim in the head severely. The following spring "just break the crust and leave everything to grow." Cut the clover as hay in June or July—this, it is stated, will pay for all the labor. Then spread a quarter or half an inch of rich earth around the tree as far as the hole extended. Mow annually afterward, top-dressing every two or three years "for the sake of the grass," which is thus to pay the way. This is the substance of the proposed system.

An objection will occur to most planters—the loss of the two years in preparing the clover sod in which to set the young trees. Many would prefer planting the first year, in the soil enriched and prepared for the potatoes, allowing the trees and potatoes to grow together, and thus gaining at least two years.

There is no doubt the editor of the *Gardener's Monthly* has been successful with this treatment, or he would not recommend it; but it is obviously adapted only to peculiar circumstances. With a soil naturally very rich, and then heavily manured, and in a climate as warm at southern Pennsylvania, the young trees might be made to make a fair growth; but in most parts of New York and New England, the course would be little better than ruinous. As far north as our own latitude, we should almost as soon attempt to raise corn in clover, as to make young and newly set trees grow well the first year. In other instances they have barely survived, none making an annual growth of more than two or three inches; while on young trees set in potato ground, where the surface was kept clean and mellow, the growth of the shoots, under similar circumstances in other respects, was one and a half to two feet. We have seen a young pear orchard, which had been set out five years before, and kept cultivated, seriously checked and stunted by a single year of clover on the ground, although the vigor was subsequently restored in a great degree by plowing under the clover as a green crop.

John Morse, of Cayuga, N. Y., who sells annually from four to eight thousand dollars' worth of fruit from his standard pear trees, at first adopted the practice of allowing the ground to run to grass; but he has long since repudiated the practice, and he now keeps the whole surface plowed and cultivated, planting with corn, potatoes, and other hewed crops. The thrift of his trees (some 18 or 20 years old) has increased, and his fruit is so much improved that he obtains for much of his crop about twice the sum in market paid for fruit grown on uncultivated trees. His soil is naturally excellent for the standard pear, and the roots not being confined to the surface, a very small portion of them is injured by the necessary processes of cultivation. Doubtless the depth of the roots varies with the character of the subsoil; we have apple trees on our own grounds, thirty years old, and although some of them necessarily stand in grass where the surface roots are never disturbed, most of them run to a depth varying from one to four feet, and some deeper. It is an easy thing to injure an orchard, however, by cutting the roots in plowing, if this is done while the trees

are growing; but we have never known any injury whatever, when the plowing has been done early in spring, while the trees were yet dormant.

In discussing the merits of the different modes of cultivating and managing fruit trees a great deal of needless controversy would be avoided, if the partisans would observe the index or guide which we have repeatedly recommended, to determine whether to stimulate or increase growth by manuring and mellowing, or to check it by suspending cultivation and laying down to grass. The general instruction may be given, to check the growth when too vigorous, and stimulate it when too feeble; but how are we to determine, without some definite rule, when either of these conditions prevails, as they are merely comparative? We answer, by the very simple operation of inspecting the annual growth, laying it down as a general rule that young trees, in the first years of their growth, should not make annual shoots more than about two and a half or three feet long, and that older and bearing trees should not grow more than from one to two feet. If they grow only a few inches annually, they will not bear so heavy crops or so good specimens, and the trees must suffer by the cropping. Such trees obviously need stimulating.

A few words on the subject of manuring may not be out of place. We always obtain better and healthier trees (where the soil possesses a fair degree of fertility) by depending more on a clean, mellow surface than on manure mixed with weeds, grass and neglect. This is especially the case with standard pear trees, the frequent and thorough mellowing of the surface tending to promote a sufficiently thrifty and a healthy, well-ripened condition of the young shoots, which is the best protective against disease, and which cannot be obtained by making up through the application of manure for the neglect of cultivation.—*Country Gentleman*.

PRUNING IN JUNE.

IN your issue of Feb. 14, I noticed two correspondents asking for information as to the best time for pruning trees, and W. D. N., of Cedar Hill, N. J., asserting that spring was the best time, as he has always practiced it at that time, and his trees had done well. I

have been engaged in cultivating fruit trees for the past twenty years, and have pruned apple and pear trees in every month of the year. If I could always have the time to spare I would prefer to prune in the month of June, for the following reasons: First, the wound made by the removal of a branch at this season will heal sooner than one made at any other time of the year. Second, very few water sprouts will grow after pruning, and the fruit which remains will be much larger in consequence. Any person who is at all acquainted with the management of fruit trees, knows that if a tree is barked in June the wound will heal in a very short time. To prune in June, persons should wear rubber or other soft shoes, to prevent breaking the branches. My reasons for not pruning in the the spring are, we generally have high winds and copious showers, the winds dry and crack the new wound, and the rain enters and blackens it, which it does not do in June. Water sprouts will also grow, which will have to be trimmed off every season. You suggest covering the wound with paint or wax; but every farmer does not always have these materials at hand, and in June he does not need them.—*N. Y. Sun.*

HOW TO RAISE CELERY.—A correspondent of the *Journal of Agriculture* says: "There is no need of a hot-bed for starting celery plants. In April, as soon as the ground can be thoroughly worked, sow your bed. Keep the weeds out and use a little patience, as celery is slow to make its appearance. To insure stocky plants the tops should be shorn off once or twice before transplanting. About the middle of June prepare thoroughly the plat of ground you desire the celery to grow upon; transplant in rows three feet apart, setting the plants five to six inches from each other in the row. The ground should be moist at the time of planting; if not, press the earth by the side of the plant gently, with the foot. After this keep the weeds down and the ground mellow until August. During this month, for fall use, the bleaching process should be commenced. To do this it is best to use the hoe in drawing the soil up against the plant, and then, with the hand, press close around each plant the soil, the leaves being held firmly in an upright position. Draw up more soil as a support and finish by breaking up, with the

soil between the rows on each side, to the top of the plants. In this way the celery will be ready for the table in September."

A PRETTY WAY TO TRAIN FUSCHIAS.—When a slip has grown six or eight inches high nip out the top down to the last set of leaves; it will then throw out branches on each side. Let these grow eight or ten inches, then nip out as before; the tops of each branch, when grown the same height as the others, nip out again; then procure a stick the size of your finger, eighteen inches in length; take hoopskirt wire, twine back and forth alternately through holes made in the stick equal distances apart; place this firmly in the pot back of the plant, tie the branches to it, and you will have, when in flower, a beautiful and very graceful plant. Having one trained in that way last summer, it was the admiration of all who saw it.

ENTOMOLOGICAL.

NOXIOUS INSECTS.

YOUNG cabbage plants, after being transplanted, are frequently cut off at the stem by a black grub, which lodges in the ground. Whenever that is observed search around the root of the plant, cut off and you will find the grub a quarter of an inch under the surface, and kill it. If it is not there it will be on the plant next to it, and near by there will be another. They are always in pairs, and near to each other.

There is a small black flea in vast numbers, which eats off the leaves of young cabbage, both when they have just come up from seed and after being transplanted. If the plants are lightly dusted over with fresh slaked lime for two mornings, while they are wet with dew, the lime will kill or drive off the fleas and the plants will thrive.

There is a greenish, mealy louse that attacks cabbages when half or nearly full grown, frequently covering the whole plant. A dust of fresh lime for two mornings, over the plants while wet with dew, will kill all the intruders.

A large, green grub, with black bands around its body, which devours the leave of carrots, celery, parsnip and parsley. It is slow in motion, and can be gathered with the hands and killed.

All kinds of fruit trees should have their stems washed now with a strong solution of carbolic soap and water. It will keep off borers and cut-worms, and if the heads of the

tree are syringed with a weak solution of the carbolic soap and water, insects will not be apt to attack them. Another syringing of the heads of the trees, after the fruits are set, may keep off "curculio" from plum and peach trees. The cause of failures in keeping off insects is that remedies are not persevered in a sufficiently long time. A man standing upon a pair of steps ten feet high can syringe over trees twenty feet high.—*Journal of the Farm.*

[There is not a doubt that the above suggestions, if perseveringly followed, would very much tend to the diminishing of the number of "noxious insects." Although it is of some importance to know the name, and something of the history, of the insects referred to, still farmers and gardeners are so well acquainted with their destructive habits, that if they have the animal itself before them, and are able to apply the proper remedy, it makes little difference about the scientific name. They would only be unable to communicate to others—in the absence of specimens—what they had succeeded in destroying—that's all. We may suggest, however, that the washing with carbolic soap and the "syringing" process, would be an immense job—where the infestation should extend over an orchard of two or three thousand of fruit trees—be it ever so effective. Still, so far as it can be done, it ought to be done; not once only, but all the time, during the whole season, or so long as insects in any form are known to be present. The greatest failure in remedies, is perhaps not so much on account of the quality of the remedy, as upon a lax application of it, or the absence of a simultaneous effort by a whole neighborhood. Many remedies only go a little way in the destruction of insects—some so little that it would be almost as well not to try them at all—so little judgment is displayed in their use; and this lack of judgment comes from a lack of intelligence, and this is perhaps because people don't sufficiently "heed what they read," or what is less hopeful, don't read at all. It is true that many "humbug" remedies are from time to time published, but on the whole if people are occasionally humbugged in what they read, they may learn at least what to avoid, and although this may be only a negative kind of knowledge, it is much better than no knowledge at all. To conclude, we know that fresh, pulverized lime is death on all kinds of plant-lice, when properly applied.]

RASPBERRY MOTH.—This evening (May 20) through the open window came a beautiful little grass-green insect, which the uninformed would call a "tiny butterfly," but which belongs to the "geometer moths," of the order *Lepidoptera*, and which has been described by Mr. Chas. V. Riley as the "Raspberry and blackberry moth" (*Aplodes rubivora*) in his first report, on the noxious and other insects of the State of Missouri. The body of this little moth is about a quarter of an inch in length, and it is nearly three-quarters of an inch across the expanded wings. As we said before the color is a grass or verdigris-green, but the color is not opaque—indeed, through a magnifying glass the wings seem to be sparsely covered with the green colorings, and there are two delicate white lines across each of the fore wings and hind wings, dividing them nearly into three equal parts. As the larva of this little insect feeds on the fruit of the blackberry and raspberry, the appearance of the moth at this time seems a little premature. But that question does not bother us so much as the question of where it has been, and how it has preserved itself, during the long and severe winter which has intervened since the raspberry and blackberry season of last year. The larva, which we do not remember ever having seen—although the moth we have observed at intervals for more than twenty years—is described by Mr. Riley as a small, ten-legged "geometer," over three-quarters of an inch in length, and of a light yellowish-gray color; excavating the berries, and concealing itself by covering its body with small particles of the skins and seeds of the berry, and also its own debris. The extent of its depredations, as a general thing, must be very limited, although it is said to have done considerable damage to these fruits in some parts of Illinois. Under any circumstances, it is not pleasant to contemplate the presence of such a little pest, particularly as the application of a remedy would be as likely to injure the quality of the fruit as to destroy the worm.

THE SWEET POTATO.—To grow a pretty vine from the sweet potato, put a tuber in pure sand or sandy loam, in a hanging basket, and water occasionally. It will throw out tendrils and beautiful leaves, and will climb freely over the arms of the basket, and upward toward the top of the window. Not one visitor in a hundred but will suppose it to be some rare foreign plant.

MISCELLANEOUS.

THE AGRICULTURE OF PENNSYLVANIA.

ADVANCE sheets of the volume of Agricultural Returns, by the census of 1870, have just been received at the Census Bureau. The following are the returns for Pennsylvania for the year in which the census was taken:

Acres of improved land.....	11,515,965
Acres of woodland.....	5,749,861
Acres of other unimproved land.....	737,371
Total number of acres.....	17,994,200
Cash value of farms.....	\$1,043,811,582
Value of implements and machinery.....	\$35,658,196
Wages paid during the year.....	\$23,181,944
Value of farm productions.....	\$183,946,027
Value of orchard products.....	\$1,208,094
Produce of market gardens.....	\$1,810,016
Forest products.....	\$2,670,370
Home manufactures.....	\$1,503,754
Value of all live stock.....	\$115,647,075
Number of horses.....	469,339
Number of mules and asses.....	18,009
Number of milch cows.....	706,437
Number of working oxen.....	30,048
Number of other cattle.....	608,066
Number of sheep.....	1,794,301
Number of swine.....	867,548
Bushels of wheat produced.....	19,672,967
Bushels of rye.....	3,577,667
Bushels of Indian corn.....	34,702,004
Bushels of oats.....	36,458,581
Bushels of barley.....	529,562
Bushels of buckwheat.....	2,632,173
Pounds of tobacco.....	3,467,539
Pounds of wool.....	6,561,722
Bushels of peas and beans.....	39,574
Bushels of Irish potatoes.....	12,899,367
Bushels of sweet potatoes.....	131,572
Gallons of wine.....	97,165
Pounds of butter.....	60,834,614
Pounds of cheese.....	1,145,209
Gallons of milk sold.....	14,411,729
Tons of hay produced.....	2,848,219
Bushels of cloverseed produced.....	200,679
Bushels of grass seed produced.....	50,642
Pounds of hops.....	90,688
Tons of hemp.....	571
Pounds of flax.....	815,906
Bushels of flaxseed.....	15,624
Pounds of maple sugar.....	1,545,917
Gallons of sorghum molasses.....	213,373
Gallons of maple molasses.....	39,385
Pounds of wax.....	27,033
Pounds of honey.....	796,989

The following are some of the leading returns of the State according to the census of 1860 and 1850:

	1860.	1850.
Acres of improved land.....	10,436,296	8,628,619
Acres of unimproved land.....	6,548,844	6,264,728
Value of farms.....	\$662,050,707	\$407,876,699
Value of implements, etc.....	\$22,442,842	\$14,722,541

The total number of farms in Pennsylvania in 1870 was 174,041, against 156,357 in 1860, and 127,577 in 1850. In 1870 there were in the State 95 farms containing 1,000 acres and over; 76 containing between 500 and 1,000 acres; 38,273, containing between 100 and 500 acres; 61,268 containing between 50 and 100 acres; 74,348 containing under 50 acres. The percentage of unimproved land in farms was 36 against 38.5 in 1860. The average size of farms in 1870 was 103 acres; in 1860 it was 109 acres; and in 1850 it was 117 acres.—*Daily Express.*

From the work before named, of which we have also received an advanced copy, we quote the following, relating to the *County of Lancaster*, and which, according to the census returns, contains in area 540,691 acres, of which, 65,413 are woodland, and 11,445 otherwise unimproved; leaving 463,833 acres improved. From these figures, it seems self-evident that the early climatic and meteorological status of Lancaster county will never more be attained, so long as these disproportions of improved and forest lands exist.

The present cash value of these lands, including implements and machinery, is \$73,180,564. Total amount of wages paid, including value of board during the year 1869, \$1,979,768, and the total value of farm productions during the same year, including "betterments and additions to stock," was \$11,845,008. The orchard produce was \$218,566, and the produce of market gardens \$87,399. Value of forest products \$31,624, of home manufactures \$39,708, and the value of animals slaughtered, and sold for slaughter, \$2,371,860. The gross value of live stock was \$6,044,215, the details of which will be given in our July number.

The total number of bushels of wheat, rye, corn, oats, barley and buckwheat produced the same year, was 5,338,480, tobacco 2,692,584 pounds, wool 20,092 pounds, butter 2,462,376 pounds, cheese 82,614 do. and of hay 124,185 tons. The number of gallons of wine produced 7,722, and of milk 142,630; of peas, beans and potatoes 454,793 bushels. There are many other interesting details which we will note in our next number, in reference to these and other products. There are in the county of Lancaster, of all sizes, 7,447 farms, of which nine are under 3 acres, 927 over 3 and under 10 acres, 949 over 10 and under 20, 1,423 over 20 and under 50, 2,465 over 50 and under 100, 1,702 over 100 and under 500, and two over 500 and under 1,000 acres.

The whole state of Rhode Island has only 5,368 farms—2,079 less than the county of Lancaster, and yet the former possesses 2 farms over 1,000 acres. This gives a favorable exhibit of our grand old county, and illustrates that the days of large landed monopolies and consequent aristocracies, are gradually passing away, and that an era of greater social freeholds and pecuniary equality is approaching in our county, "a consummation devoutly wished for."

REVIEW OF THE MAY NUMBER.

BY "COSMOS."

LAST year we were much instructed and entertained by reviews of articles in previous numbers, by your correspondent Humboldt. That correspondent seems to have become defunct with the old year beyond hope of resurrection; but his spirit, like that of the old German philosopher whose name he had adopted, still lives in "Cosmos."

The first article in the May number is one well worthy of perusal and study by agriculturists. *Agricultural Chemistry* is a subject which is daily becoming of more importance to farmers. A thorough knowledge of this important subject would greatly enhance the material interests of our country.

Aiding the Corn Crop.—"What corn loses in its early growth is lost forever" is an agricultural truth. This crop can be greatly aided by putting a tablespoonful or less of stimulating fertilizer with the corn in the hill when planting, or on it as soon as the plants have made their appearance above the surface. Ashes, plaster, guano or hen manure are good. This plan was formerly pursued to a greater extent than at present, with much benefit. The young plants will thus get a start ahead of the weeds.

Rotation is carried out more perfectly, we think, in Lancaster county than elsewhere, and generally a uniform system is pursued. Will some old farmer, for the benefit of the less experienced, give a detailed account of the system under which his farm has been steadily improving for many years, notwithstanding heavy cropping.

In the article on onions it was shown that as a crop they are very remunerative in the Southern States. They are the same here. Why do we not pay more attention to this nutritious, health-producing, disease-preventing vegetable.

"*Habitation*," in speaking of wonders referred to the Improved Feed Steamer, but omitted to mention the two great *Lancasterian* inventions—which directly concern the farmer in the field. The first is the improved double cultivator, which can be used as a corn-marker and corn-cultivator, and also as a general field cultivator. With it one man can perform the labor of two men and a boy, in cultivating

corn. The little plants are not covered and no "setting up" is required. The second is the great improvement in farm fences. By the use of light posts and portable panels much labor and material are saved in the matter of fencing.

Plant Trees, by all means. Every one owning a plot of ground should appropriate a few dollars each year to the planting and care of fruit and forest trees, so that our now prosperous country may never share the sad fate of the "dying nation"—Persia. We should heed the moral of the dreadful story and pay attention to this much-neglected matter of planting trees. Our country is fast becoming treeless. A treeless country can never be a fertile one.

"*What we want*"—a first-class agricultural journal supported by every intelligent farmer in the county. This is a journal for the farmer, and from us farmers mainly must come its support. We have men and women, too, in the agricultural community, who have heads that think and hearts that feel in this work. Let us unite our efforts in raising THE FARMER to a still higher standard, and in increasing its circulation and thus advance the noble cause in which we labor.

SCIENCE AND FAIRY RINGS.

EVERY one, says *Once a Week*, who is accustomed to the country knows a fairy ring when he sees it. Each ring is only a belt of grass of a much darker green than that surrounding it. In a paper on "The Fairy Rings of Pastures," read by Professor Wray before the British Association, at Southampton, in 1846, it was stated that the grass of which such rings are formed is always the first to vegetate in the spring, and keeps the lead of the ordinary grass of the pastures till the period of cutting. If the grass of these fairy rings be examined in the spring and early summer, it will be found to conceal a number of agaries or toadstools of various sizes. They are found situated either entirely on the outside of the ring, or on the outer border of the grass which composes it.

The professor's view of the formation of these fairy rings was as follows: A fungus is developed on a single spot of ground, sheds its seed, and dies. On the spot where it grew it leaves a valuable manuring of phosphoric

acid and alkalies, some magnesia, and a little sulphate of lime. Another fungus might undoubtedly grow on the same spot again; but, on the death of the first, the ground becomes occupied by a vigorous crop of grass, rising, like a phoenix from its ashes. Dr. Wollaston and Sir Humphrey Davy both adopted this elucidation of Professor Wray's as the correct one; and his is the explanation most generally accepted by the best naturalists. The theory has also been very clearly stated in an early volume of the *London Medical and Physical Journal* thus: Every fungus exhausts the ground on which it grows, so that no other can exist on the same spot. It sheds its seeds around; and on the second year, instead of a single fungus as a center, a number arise in an exterior ring around the spot where the individual stood. These exhaust the ground on which they have come to perfection; and in the succeeding year the ring becomes larger, from the same principle of divergency.

LINSEED OIL.—Linseed oil is made from the seeds of the flax plant (formerly called lint-seed), by grinding them in a mill, and pressing the powder in a hydraulic or other power. When first pressed it is of a golden yellow color, but soon collects impurities from the air and turns brown. The impurities can be washed out by stirring water into it thoroughly, and leaving the water to settle. It contains no stearine, and hence does not congeal at low temperature. Its chief use is in decorative and preservative painting. Being mixed with the powdered colors, and spread on wood, stone or iron with a brush, it soon dries and hardens into a coating which acts as a cement-varnish, and shields from weather. To quicken its drying it is often boiled before using. It is sometimes used in medicine as a laxative, and for this purpose is made from the raw seed without roasting. It is quite an important article of commerce.

THE Manufacturer and Builder gives the following directions for a simple filter to purify cistern water: "Place on the perforated bottom of a box a piece of flannel, and on this some coarsely powdered charcoal, then coarse river sand, and cover the whole with sandstone broken into small pieces."

POTATOES IN THE OLDEN TIME.—An English writer of a hundred years ago thus speaks of the status of the potato: "This root increases prodigiously, and is very proper for feeding and fattening cattle. They are boiled in water, and require but little boiling, though they may have been kept two months in the store. Cattle can eat them raw, but for the stable they are wholesome boiled. I earnestly recommend the culture of this plant to husbandmen, as it is not only excellent food for cattle, but good for man in years of scarcity. After a little use the taste becomes at least as agreeable as turnips, and particularly if the potatoes are boiled with bacon and salt pork."

THE VALUE OF RED CLOVER.—Soils in our climate need to be kept covered in clover and grass to as great extent as is consistent with good husbandry. They improve under the shade of clover, because this dense covering prevents evaporation; and because also the long tap-roots of this fine forage plant penetrate deep-down into the soil where they root and furnish aliment for succeeding crops. A good crop of clover, turned under with a plow, is equivalent to a good dressing of barn-yard manure, for it contains all the constituents in which the cereals delight.

CORRESPONDENCE.

COLUMBIA, May 25, 1872.

MESSRS. EDITORS: I have often thought that we farmers do not fairly or fully comprehend the comparative value of artificial fertilizers, or more properly, as stimulants to vegetation—as their action on our soils is of short continuance and not truly permanent improvers of the ground. Our barn-yard manure, after all, is our main stay, though occasionally we have not this in sufficient quantity, or does not push things fast enough for this fast age, so we resort to these artificial stimulants to force vegetation into a more vigorous growth. Do we fully consider their real value (even allowing the preparation to be honestly prepared)? In plain language, are they worth what they cost? I would be pleased to see those better posted than myself take up this question and give us their experience or opinions through the pages of our LANCASTER FARMER—in comparison with barn-yard manure. I may at some future time try and have something more to say on this subject, but in the meantime would like to hear from others. J. B. GARBER.

The Lancaster Farmer.

LANCASTER, JUNE, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

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MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE monthly meeting of the Society was held May 6th, 1872, Levi S. Reist, in the chair. The minutes of the last meeting were read and approved by acquiescence.

Levi S. Reist read an essay on "*Wheat Failure.*"

Milton B. Eshelman next proceeded to read an essay upon labor, and was complimented upon its conclusion by a unanimous vote of thanks for the production.

Ephraim Hoover thought the essayist had furnished the ablest production ever read before the society, and concurred in the view of the essayist, that it is by labor that everything of excellence is obtained.

A. Harris regarded the essay as *par excellence* enunciating the soundest maxims of wisdom, as regards the importance of labor, that had ever been expressed before the society. The essay was a succinct resume of the advantages secured by labor, and the same that the wisest minds of all ages have concurred in expressing, and which the observation of every day practical life fully corroborates.

P. S. Reist agreed in characterizing the essay as the ablest ever delivered before the society.

C. L. Hunsecker regards labor as the basis of all prosperity, and he is ready to accredit high honor to the man who, by the sweat of his brow, rears his family in comfort and surrounds it with the blessings that a wise Providence showers upon the diligent and industrious.

R. L. Resh considers labor an admirable theme for the pen of the essayist. There are still too many in our country, however, who do not labor as they should. But our agriculturists should by no means neglect to avail themselves of labor-saving implements of industry, as by the application of these mental takes the place of manual labor, and success in agriculture is thereby greatly promoted. Idleness is the mother of vice. It is not for the accumulation of money solely that labor should be expended, as higher aims should be objects of man's aspirations, such as the elevation of humanity and the advancement of civilization.

Society on motion adjourned.

A CORRESPONDENT of the *American Stock Journal* says: We have been in the habit, for a long series of years, of weighing all the hay, fodder, straw, grain, etc., fed or sold on the farm, and we are satisfied that we have saved the price of a pair of good platform scales every year by so doing.

The profits of farming depend very largely upon the attention to things small in themselves, but in the aggregate amounting to a large share in one's income. With this instrument at hand he may know just how much corn is fed to the hogs and poultry; how many oats to the horse; how much seed is sown upon the land, and many other points equally valuable to know. For instance, in selling live stock, the weight is usually estimated by the drover or butcher buying at the farmer's door.

The careless farmer feeds his cattle until he thinks they are fat enough to turn off, sell them to the butcher at their estimated dressed-weight, and pockets the proceeds. How much of the amount is profit he cannot tell; he did not measure the feed or weigh the animal.

Long practice enables the buyer to weigh them very correctly with the eye, and thus he has the inexperienced seller at an advantage, which he is not slow to use. A good Fairbanks' Standard Platform scales would save its own cost in a few such transactions.

The careful farmer feeds out grain by measure or weight, and charges it to the bullock; at intervals of a week or so, he rigs his platform scale so that the animal can stand upon it, notes how much beef it shows for the grain

eaten, and when the feeding does not pay, sell to the butcher or drover. In doing this he is not afraid of the buyer's practiced eye, which can almost fix the notch at which a bullock will turn the scale.

THE WEATHER AND THE CROPS.

THE complaints and the anxieties we alluded to in our May number, in reference to the crop prospects, still remain in *statu quo*. There has been just sufficient rain to enable the seeds that have been planted to germinate, and give the grasses and the foliage of the trees a summer greenness. We do not, however, despair, but look to the future hopefully. An excellent and refreshing rain fell last night (May 23) that will be worth millions to the country, and although the wheat crop may be irrecoverable, still it will not be a total failure. But now that the long dry spell is broken, we may hope to have a succession of showers at the usual intervals. We can only judge the future by the past, and in all past times, the average fall of rain during the whole year has not very materially differed. If this rule proves true the present year, we may expect more rain between now and the first of November than we actually need.

The absence of drenching and disturbing rains have been rather beneficial to the fruit prospects, and these are beginning to loom up more prosperously than we had dared to hope earlier in the season. Of course, small fruits, not deeply rooted, and which depend more or less on a humid surface soil—as the strawberry for instance—will be shortened in their growth and productiveness by the want of rain at the proper time, but grape vines, peaches, apples, pears etc., will be able to bear a greater drought. On the whole we do not think it wise to entertain unnecessary anxieties about the future, but continue to do our whole duty in the present, and when the year 1872 closes we may have reason to be thankful, that an *unseen wisdom*, that far transcends our own, has “carried us through,” in “manner and matter,” far beyond our most sanguine expectation. But should these hopes not be realized? What then? “Why, be resigned, uncle Joe, be resigned!” What better philosophy can fretting suggest? It is worth trying in any event.

TOBACCO—AND HOW TO GROW IT.

BY “BRU.”

THE first thing necessary to the perfect growth of every plant is perfect seed. Without it the grain itself will deteriorate, and each succeeding crop will be less productive. With it the quality will become finer and the yield larger. Comparatively speaking—take care of the seed and the seed will take care of itself. This manifests itself plainly in tobacco.

THE SEED.

Let every tobacco grower first get perfect seed. Secure it early and sow it about the latter end of March. Seed sown at this time is as large as a man's three fingers by transplanting time. Spade barnyard manure down in some moist place in the garden and sow the seed. If the ground becomes dry sprinkle it with rain water. If your tobacco is good you should raise your own seed the coming year. Let the finest stalks grow and trim off the lower leaves. Twelve buds at the upper end of the plant will raise sufficient seed. Cut off the stalks when the pods are perfectly dry and hang them away in a dry room until you are ready to sow the seed.

THE SOIL

should be rich and loamy. Fall plowing is always preferable and should be from twelve to fourteen inches deep. Then haul on about eight four-horse loads of barnyard manure and one hundred bushels of lime to the acre. As soon as the frost is out of the ground plow again. Harrow once and roll if cloddy (a roller is always preferable to a drag). The patch should now be left lay until the latter end of May. Then plow shallow and harrow till it is thoroughly pulverized. Mark out four feet each way—known as “checkering.” Make a hole with the finger and set the plant deep.

CULTIVATE

thoroughly and keep the bed full. Cut-worms are sometimes bad. Replant every morning until the plants are well started. The ground should be cultivated at least once a week and oftener in cases of heavy rains. Keep the ground loose around the plants with a hoe. Continue this until the tobacco shades the ground. Hoeing alone is not sufficient. The

ground must be loosened up in order to absorb the dews and rains.

WORMS

are this plant's great enemy. The "eternal vigilance" of "early rising" is the only way to rid them out. Tobacco should be wormed every morning. The worms then in the middle and edges of the plant are easily seen; while in the heat of the day they keep close to the stem of the plant. The top should be pinched from every stalk when about fourteen leaves have grown thereon. Suckers now begin to come. When they are about three inches long, twist them off.

PUTTING AWAY.

Cut down the tobacco with a hatchet and leave it lay across the rows till it wilts. This prevents its breaking. Then haul away on a plank wagon. Load with butts out on both sides. There are several methods of hanging it. One is spearing on laths; another is nailing to rails. Spearing is the most speedy method and speared tobacco will cure sooner than any other.

SHEDS.

A good shed should be thirty-five feet high. It will then hold four tiers. Leave all the air doors open until the tobacco is half cured. They should then be closed until it is thoroughly cured. It should be stripped about the holidays. When the weather is rainy and damp open the air-doors. When the tobacco is damp and tough take it down and strip it. It should be well sorted into lots. Every stalk should make a "hand." Pack into a cellar and it is ready for market; or—sell it for twenty cents a pound.—*Marietta Register*.

Wal Oak Farm, Jan. 20, 1872.

TREATMENT OF SOFT CORNS.—A small piece of sal-ammoniac dissolved in two tablespoonfuls spirits of wine, and the same quantity of water. Saturate a small piece of sponge or linen rag, and place it between the toes, changing it twice a day. This will cause the skin to harden, and the corn may be easily extracted. A good remedy for soft corns is common chalk rubbed on the corn every day, and a piece of cotton wool worn between the toes affected, to prevent pressure; the chalk appears to dry up the corn.

DOMESTIC.

NUTRITIVE VALUE OF MILK.

A CHEMIST of Providence, R. I., states that milk is more nutritious than meat. The nutritive value of milk, as compared with other kinds of animal food, is not generally appreciated. There is less difference between the economical value of milk and beefsteak (or eggs or fish) than is commonly supposed. The quantity of water in a good quality of milk is eighty-six per cent., in round steak seventy-five per cent., in fatter beef sixty per cent., in eggs about sixty-eight per cent. From several analyses made last winter, I estimated sirloin steak (reckoning loss from bone), at thirty-five cents a pound, as dear as milk at twenty-four cents a quart; round steak, at twenty cents a pound, as milk at fourteen cents a quart; eggs at thirty cents a dozen, as dear as milk at twenty cents a quart. Many laborers, who pay seventeen cents for corned beef, would consider themselves hardly able to pay ten cents for milk, when, in fact, they could as well afford to pay fifteen cents.

Milk is a most wholesome and economical food for either the rich or poor. It ought to be more largely used. If the money expended for veal and pork were expended for milk, I doubt not it would be an advantage both to the stomach and pocket, especially during the warm season. Relatively speaking, then, milk at ten cents, or even twelve cents a quart, is the cheapest animal food that can be used. Whether farmers can afford to produce it cheaper is a matter for them to decide. It is very probable that were they to ask twelve cents, a very large number of poor people would refrain from its use from mistaken notions of economy, notwithstanding they are excessive meat eaters.

HOT CAKES.—A griddle for baking cakes should never be greased, as apart from the annoyance caused by the smoke arising from a greased griddle, the delicate flavor of the cakes is destroyed. Scour well with a cloth and sand, wash with hot suds, wipe dry, and just before baking rub with a coarse cloth and salt. It is not necessary to wash and scour it every time it is wanted; only once to get all the grease out; but use the cloth and salt every time you put fresh cakes on, just as you would grease the pan.

BATHING.—Many persons have lost their lives in the process of bathing; sometimes by going into the bath too soon after eating. No person should take any kind of bath sooner than three hours after a regular meal, and the room should show a heat of seventy-five degrees of Fahrenheit's thermometer, at about five feet above the floor in the middle of the room, in order to avoid dangerous chills; persons of a feeble circulation should have the room still warmer; if there is an uncomfortable feeling of coldness to the body when it comes out of the water, the room is too cold.—*Hall's Journal of Health.*

GRAFTING GERANIUMS.—Many of the new Zonal geraniums are wonderfully slow growers on their own roots, requiring two or three years to obtain a good showy plant. Among the plain-leaved sorts there are plenty of strong, vigorous growers. I am using these for stocks upon which to graft the more delicate kinds. Grafting geraniums has been practiced but very little in this country, but I think when our gardeners learn its value, it will be extensively used for the slow-growing but elegant Zonal varieties. Even for the purpose of obtaining a supply of good strong cuttings, grafting the weaker sorts upon the stronger will be found of considerable value to the commercial florist.

STEAMED PUDDING.—Two eggs, two teacupfuls of sour milk, one teaspoonful of soda, a little salt, flour enough to make it quite thick, or it will be heavy. Beat this smooth. Add cherries, raspberries, currants, or any dried fruit you may have. Steam two hours, taking care that the water is kept over the pudding or bag all the time, and that it does not stop boiling. Eat with cream and sugar, hard sauce, or any liquid sauce you may prefer.

CLEANING TINWARE.—An experienced housekeeper says the best thing for cleaning tinware is common soda. She gives the following directions: Dampen a cloth and dip in soda and rub the ware briskly, after which wipe dry. Any blackened ware can thus be made to look as good as new.

STORE HOGS should be kept in a growing condition, and not be suffered to stand still in their growth.

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

THE LADY'S FRIEND FOR JUNE.—The June number leads off with a charming picture of the heroine of the day, Dolly Varden. Here she is, in all her glory of youth and beauty. On the opposite page, a picturesque scene in Switzerland greets us. The music is—"Some One to Weep when I am Gone." Mrs. Henry Wood's novel, "Within the Maze," grows more absorbingly interesting with every number. There are also excellent stories by Daisy Ventnor and Anne L. Forcello, and Miss Douglas begins one of her attractive series, "An Every-day Heroine." The Fashion and Housekeeping Departments appear to be thoroughly attended to. Price, \$2.00 a year. Published by Deacon & Peterson, Philadelphia. *Copies for sale by all News Dealers, and by the Publishers, price 20 cents.*

THE New York Independent is the one of all our religious American newspapers that deserves to find a place in the family of every farmer of our country. Its articles are from the pen of the most talented writers, and they breathe a freshness and vigor of thought that are peculiar characteristics of the *Independent*. The circulation of this paper, which in 1862 was already very large, has since that time almost trebled itself, is steadily increasing. Any of our readers who wish to subscribe for a first class religious paper, should procure the *Independent*. Terms \$3.00 per annum. Address, Henry C. Brown Publisher, No. 3 Park Place, New York.

HOME AND HEALTH for June is before us, and is certainly a very valuable number. No other magazine surpasses it in the quality of its literature, while it surpasses all others of its size in the number and variety of its articles, and in its adaptation to all the wants of the family. Its department of Health Culture, and Home Entertainment, Humorous Incidents and Current Events, make it the most valuable and cheapest family magazine published in the country. Order it from the Newsdealers, or send direct to De Pur, Lyon & Co., No. 52 Fourth Avenue, New York. Single copies 15 cents; \$1.50 per annum.

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We again insert the above notice of the *New York Independent* because of the mistake that occurred in our May issue in making the terms of the paper \$3.50 per annum instead of \$2.50.

THE NATIONAL BUSINESS INDEX has more condensed information on Agriculture, Commerce, Education, Finance, Government, Insurance, Legal Intelligence, Legislation, Literature, Manufactures, Mining, Railroads, Shipping, Real Estate, Science, Art, Religion, Benevolence, Advertising, and Special and Miscellaneous matters, compacted in the smallest space, than any other publication in the country. Published by the *Index Company*, Chicago, No. 433 West Jackson street, at 50 cents a year. No. 1 for March, 1872, received.

THE INDUSTRIAL MONTHLY for May, 1872, is a rich and finely illustrated number, of a quarto, published in the interest of Manufacturers, Mechanics, Builders, Architects, Engineers, Inventors, and Railways. New York: \$1.50 a year.

Wood's Household Magazine—for June, '72—Newburgh, N. Y., one dollar a year, is "the early bird that catches the worm," and what it catches it keeps. Its contents are so interesting and so morally toned, as to be sure of catching the attention of the reader, and not only this, but also keeping that attention. No wonder it is sent to 15,147 post-offices, in fifty states and territories, where a further distribution among a larger number of intelligent subscribers takes place. Among its contributors are such names as Horace Greeley, Gall Hamilton, Harriet Prescott Stopford, James Parton, Violet Hastings, Dr. Dio Lewis, Luella Dowd, etc.

AMERICAN STOCK JOURNAL, Monthly Report Department of Agriculture for April, National Agitator, Iron World, Practical Farmer, American Farmers' Advocate, Journal of the Farm, New York Rural, Everybody's Journal, American Agriculturist, American Homes, Journal of Health, New York Independent, New York Observer, Germantown Telegraph, and the Patent Right Gazette, all freighted with the current matters of the times in their vari ous specialities, have been received for the month of May, 1872.

For simplicity, beauty, durability, cheapness, and effectiveness, we sincerely commend that Queen of dairy implements, the Blanchard Churn.

Few im-plements that farmers use have been tested and improved for so many years, that they are as near perfect as any thing can be made of wood and iron. The Blanchard Churn is one of this kind.

NEW YORK CATTLE MARKET.

NEW YORK, May 20, 1872.

The offerings comprised 4900 Beeves, 125 Cows and Calves, 4339 Veals, 15426 Sheep and Lambs, and 35302 Swine. Beeves are rather depressed, under heavy offerings, and prices are called at $\frac{1}{4}$ c. below below last Monday's quotations. The extremes of the market are 10 to 13 cents per lb. Milch Cows are in light demand. A few choice were sold at \$80; poor stock, \$25 per head; medium, from \$40 to \$60. Veal Calves active, and higher for all grades. We quote from $6\frac{1}{2}$ to $7\frac{1}{2}$ c. per lb., as in quality. Sheep are $\frac{1}{2}$ c. per lb. higher. Lambs abundant, and rather easier. The former sold at $6\frac{1}{2}$ to $10\frac{1}{4}$ c. per lb.; and the latter at $12\frac{1}{2}$ to 17 c. Nothing doing in Live Hogs; Dressed sell at $5\frac{3}{4}$ to $6\frac{1}{4}$ c. per lb.

NEW YORK MARKET.

NEW YORK, May 21.

Cotton is more active and in better demand; middling upland 24½c. Flour quiet; superfine western and State, \$7.10 to 7.30; common to good, \$7.60 to 8.10; good to choice \$8.15 to 9.00; St. Louis \$9.50 to 13.50. Rye flour and corn meal unchanged. Wheat unsettled; spring No. 1 \$1.73 to 1.75; No. 2 \$1.67 to 1.71; amber red western \$1.93; No. 2 Chicago spring \$1.68. Rye dull; western in store 90c. Barley and malt unchanged. Corn heavy; western mixed afloat 74 to 74½c. Oats active and firmer; western 56 to 58c; Ohio 57 to 60c. Hay firm; shipping \$1.75. Hops firm at 25 to 65c for '71; 10 to 30c for '70; 10 to 15 for '69. Pork held nominally at \$13.90 for mess. Beef and Cut Meats unchanged. Lard unchanged. Butter steady at 29 to 31c for new.

CHICAGO MARKET.

CHICAGO, May 20.

Flour quiet. Wheat active for spot; family active on speculation prices and higher; No. 2 spring \$1.52; spot \$1.52, seller June \$1.54½ seller July. Corn firm and advanced; No. 2 mixed 41½ to 43½c, spot; 43½ to 44½c, seller June. Rejected 43 to 45½c. Oats dull; No. 2 41½c. Rye firm; No. 2 85c. Barley quiet and a shade firmer; No. 2 fall 60 to 65c.

PHILADELPHIA MARKETS.

PHILADELPHIA, May 20, 1872.

Flour.—There is not much doing, but holders are demanding high figures. Sales of 1200 bbls., including superfine at \$6.75; extra at \$7 to 7.75; Wisconsin and Minnesota extra family at \$8.50; Pennsylvania do. do. at \$9.50 to 10; Indiana and Ohio do. do. at \$9.10, and high grades at \$11.50 to 11.50. Rye flour commands \$6 to 6.25. Corn Meal is dull.

GRAIN.—Wheat is quiet, and prices rather weak. Sales of 2800 bushels New York and Western red at \$2.20. Rye is worth \$1.10. Corn is in limited request, with sales of yellow at 74 to 75c., and Western mixed at 73 to 74c. 10,000 bushels of the latter sold on secret terms. Oats are unchanged; sales of 5,000 bushels white at 58c., and 4,500 bushels mixed at 57c. Barley and Malt are dull. The receipts to-day are as follows: 2121 bbls flour; 9,000 bushels wheat; 54,800 bushels corn; 11,700 bushels oats; 504 barrels of whiskey.

PROVISIONS continue quiet, but prices are unchanged. Sales of Mess Pork at \$13.75 to 14 per barrel. City packed extra Mess Beef is taken at \$14.50 to 15 per barrel. Bacon is steady; sales of plain sugar-cured city-smoked Hams at 11 to 11½ cents, canvassed western at 12c., sides at 8c., and shoulders at 7c. Green meats are quiet. Sales of pickled Hams at 9 to 10c., and shoulders in salt at 6 to 6½c. Lard is quiet; sales at 9 to 9½ per lb.

SEEDS.—There is less doing in Clover; small sales at 9 to 10c per lb. Flaxseed sold at \$2.15, and Timothy at \$2.75 per bushel.

PHILADELPHIA CATTLE MARKET.

PHILADELPHIA, May 20, 1872.

BEEF CATTLE were dull this week, and prices favored buyers; about 2000 head arrived and sold at 7½ to 8c for extra Pennsylvania and Western Steers; 6 to 7c. for fair to good do., and 5 to 5½c per lb. gross for common, as to quality.

Cows were without change; 200 head sold at \$3 to 6.50 per head, as to quality.

Sheep were in fair demand; 15,000 head arrived and sold at 6½ to 7½c per lb. for clipped, and \$3 to 8 per head for lambs.

Hogs were rather lower; 3261 head sold at \$5.75 to 7 per 100 lbs., net—the latter rate for prime corn fed.

WHEN SHOULD PIGS BE WEANED?

The *Field and Factory* gives the following answer to the above question:

"Eight weeks old is the best age. Seven weeks will do. They should become accustomed to food, such as ordinarily given to hogs before weaning, and then there will be no need of any loss in growth from the loss of the mother's milk. If they are at all inclined to scour, one of the best preventives is an occasional day's feed of whole corn, or a few kernels with their other food each day. They should have all they will eat, and the growth will generally pay at least fifty per cent. over and above the cost."

To take bruises out of furniture, wet the part with warm water; double a piece of brown paper five or six times, soak it in the warm water, and lay it on the place apply on that a warm but not hot flat-iron till the moisture is evaporated. If the bruise be not gone repeat the process. After two or three applications, the dent or bruise be small, merely soak it with warm water, and hold a red-hot iron near the surface, keeping the surface continually wet—the bruise will soon disappear.

BOILING INDIAN PUDDING.—Into one quart of boiling milk stir as much Indian-meal as will make a batter. Add half a pint of beef-suet, chopped finely; one quart of dried apples, chopped; a teaspoonful of sugar, and a teaspoonful of salt. Mix well together, and then proceed as with the flour-pudding, only boiling six hours instead of two. Dried cherries or pears will answer as well as dried apples. Serve with cream-sauce.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

JULY, 1872.

No. 7.

ESSAY.

THE SEVENTEEN-YEAR LOCUSTS OF 1872.

[*Cicada Septendecino.*]

ON the 25th of May last we were informed that a large brood of these singular insects had made its appearance in "Pine Swamp Valley," Hellam township, York co., Pa., and subsequently we noticed in the newspapers that "locusts were appearing on the surface of the ground in Union co., Pa., and also Perry county, and that the Sinking Valley farmers had plowed them up by millions." On the 29th of the same month, in company with Mr. H. M. Engle, we visited the Hellam township locality, and found the report verified—indeed, we found these insects more numerous than we had ever seen them before *anywhere*, especially in that portion of Mr. E's peach orchard, which seventeen years ago had been forest land. Peach trees, apple trees, pear trees, cherry trees, oak, chestnut, hickory, walnut, sassafras, and other sprouts, as well as wild grape, milk-weed (*Asclepeus*), clover and grass, and weeds in general, were literally covered with them. The ground everywhere was perforated with holes, and their evacuated *pupa* shells were found adhering to stones, clods of earth, chips, fences, weeds, trunks of trees, or any other object that first came in their way after they came out of the ground.

Mr. Jacob Fahrey, a farmer residing in the valley, informed us that to the best of his recollection, the locusts appeared in that locality about the year 1855, and that then, as now,

they were confined to the north side, which has a southern exposure, and few or none on the south side, and also that he heard they were appearing on the south side of the hills which bound Kreutz Creek Valley. After securing a number of specimens we returned home and addressed letters to several persons in York county, in order to ascertain the extent of the range of this brood. On the 6th of June Gen. A. H. Glatz wrote us to the effect that "the locusts have appeared in *great numbers* on the river hills from the Codorus to Pine Swamp, in the townships of Spring Garden and Hellam. On the 14th of June the same gentleman wrote us that while on a visit to the country he found that "the seventeen year locusts have appeared on the hills bounding the southern portion of the Kreutz Creek Valley," but could not learn how far they extended. About the same date the following response to our inquiries appeared, which we take from the *Lancaster Express*:

SEVENTEEN-YEAR LOCUSTS.—The York *True Democrat* of to-day says: "Some of our readers will no doubt be surprised to learn that the seventeen-year locusts, as they are called, have made their appearance in large numbers in some portions of York county. The localities they have visited are principally those bordering along the Susquehanna river, extending from Pleasureville, in Spring Garden, to a short distance this side of Wrightsville, in Hellam township. We have not heard of them being anywhere else. The peculiar croaking of a few of them has been heard a short distance beyond our borough line, in the direction of Prospect Hill Cemetery, but they are not numerous and are probably stragglers from the brood which has appeared in the localities above mentioned. It will be remembered that three years ago they were in the borough of York and its surroundings, and did considerable injury to young

fruit trees. The writer of this article had a fine, large pear tree, which was covered with fruit, entirely destroyed by them that season. This was, however, inside the borough limits. Pleasureville, where they have appeared this year, is a small village, about two miles north-east of York, in Spring Garden township. From that place on along the hills down to the Susquehanna river, they are said to be numerous. On inquiry we ascertain that there were none seen in this locality three years ago, with the exception of here and there a wandering one—a straggler, doubtless, from a brood which was operating in some near vicinity. But we never knew them to be more plentiful than they were in the borough of York that season.

In a letter from Mr. George Keesey, of Codorus Furnace, in York county, dated June 10th, he says: "The locusts are very numerous in our neighborhood, the woods being full of them. They extend all the way to York wherever there is timber, a distance of eight miles; also all the way from here to the Cone-wago mountains, a distance of twelve miles; where I understand, hogs have died from eating them.

"If I mistake not, they were in our neighborhood in the year 1855 and 1838. There were a good many of them in part of the timber, about a mile south of this place in 1868; and also about Mount Wolf, four and a half miles north-west of us, in 1851."

On our visit to Pine Swamp Valley, there were no locusts on the north side of the hill which separates this little valley from the Susquehanna, and many of those on the south side were pairing, and some even ovipositing; but on the 17th of June, Mr. Engle and others informed us that their area had been extended down the north side to the river, that they were as numerous and as musical as their valley cogeners, and that their songs can be heard distinctly across the Susquehanna, in Lancaster county.

By the 21st of June their area had extended on the face of the hills as far eastward as opposite the borough of Marietta, and the citizens of that place could hear them distinctly from the front street, near the bank of the river. This is the more remarkable because they appeared in that locality in 1834, 1851 and 1868, but we have no knowledge of their having been in the same locality in 1838 or 1855. In 1834 we resided at Marietta, and know the locusts to have been both in and around that town, and also along the

north side of the hills in York county opposite the town. We did not reside at Marietta in 1851, but Mr. Jacob R. Hoffer, of the borough of Mount Joy, informs us that he has a distinct recollection that when the locusts appeared in Lancaster county in 1851, they also appeared, about two weeks later, on the north side of the river hills in York county, and they were so numerous that he plainly heard them from the shore in Lancaster county. Mr. Joseph Windolph, of Marietta, informed us that he both heard and saw them in the same locality in 1868, but that there were none on the south side of the hills in Pine Swamp and Kreutz Creek valleys, but that the people informed him that they would appear there again in 1870. From this it will appear that they committed an error in their calculations, which is not at all surprising with people who do not make a written record of such events. This erroneous report having been communicated to M. C. V. Riley, State entomologist of Missouri, he thereupon made use of it in establishing his theory of *broods*; which, not being verified, was criticised by Rev. Morris, a distinguished entomologist of Baltimore, and both seemed to hold us responsible for the discrepancy in this part of the aforesaid theory, when we never intended it as evidence in support of any system of broods.

From all the foregoing, taken together, there seems to be a Lancaster and a York county brood, and that the area of these overlap each other along the north side of the hills which margin York county on its river boundary—at least, from Marietta to the Cone-wago hills, a distance of fourteen or fifteen miles, according to the testimony of Mr. Keesey, who is a man of intelligence, integrity, and of practical observation. But we have to notice another brood in our own county.

On the 10th of June—in answer to an inquiry on the subject—Mrs. P. E. Gibbons, of Enterprise, this county, wrote us to the following effect: That on mentioning the matter, a colored woman, in her employ, informed her that she could have brought her a pint of the pupa shells of the locust from Zion—the meeting-house of the colored people, near Penningtonville—the previous Sunday. This brought distinctly to her mind a remark made by her friend, J. Williams Thorne, at that time one of her most intelligent and observing

cal, or differently dated brood of locusts, made its appearance on one side of a ridge near his house, he then living on a farm on the "Mine Hill," not far from the Mt. Vernon Tavern, about two miles north-west of Parkesburg. They were then conversing upon the subject of the locusts of 1868. Mr. Thorne made the same remark to us at the June exhibition of the Lancaster Horticultural Society, in the Court House, that year, when we had some locusts on exhibition.

On the 15th of June, Mr. John Linville, an intelligent farmer, near Belleview, in this county, informed us that the locusts were then "swarming" on the Gap hills, from the aforementioned village to Mt. Vernon, a distance of two miles.

Mr. L. also informed us that the locusts were in that district in 1855, but that then, as now, there were very few in Pequea Valley, and that the old inhabitants had observed that at each returning cycle these insects were becoming fewer in that valley, and were principally confined to the hills which bound it. Only a few stragglers were found in the valley of the Pequea the present season, here and there, where there had been timber growing seventeen years ago. On the 17th of June, Mr. S. L. Denney, a brother-in-law of Mr. L., brought us a box containing thirty-eight locusts, which he had picked off a single bush that morning at Bellville, stating that they could be gathered by thousands anywhere on the Gap hills, for a distance of two or three miles. Mr. D. says that in a grain field of his, which seventeen years ago was timber land, he counted ten holes in a square foot, in a path which leads through it, and this was the first indication he had of their presence, for on extending his observations, he found the insects or their evacuated shells in great numbers on the stalks of growing grain. He says he has a distinct recollection of these insects being in that locality in 1868, in 1855 and in 1851. From this it will appear that there is a Chester county brood of locusts, which overlaps our Lancaster county brood on the east, as well as the York county brood on the south. Penningtonville, where the colored woman saw so many of their "hulls," is in Chester county, and perhaps the reason she did not see the locusts themselves, was because they are in such a physical impossibility. The last we hear of comes from York county,

had made their flight to the tree tops. It was the same in Mr. Engle's orchard, in York county. Where there were no trees the ground was perforated with holes out of which they had issued, and clods, sticks and stones, were covered with their pupa shells, but the insects themselves took to the bushes and trees. And here we may state that Mr. E. confirms an observation which we made in 1868, but did not record it, because it was only limited to one tree. It is this—although the "sprouts," which grew up around the stumps the present season in the "clearing" were full of locusts sometimes a hundred or more on a single bush, yet, when the time to oviposit came, they all left, and took to the older trees in the orchard, and even there they did not deposit any of their eggs in the wood of the present season's growth, but generally selected that of the growth of last season.

We have here, in the city of Lancaster, a small artificial, or introduced brood of the Chester county locusts. In 1855, Mr. George Hensel, of this city, was working in Chester county, when the locusts appeared there in vast numbers. He gathered a box full of these, brought them home, and set them at liberty on his premises. The box contained twenty-two hundred which were alive, and many that were dead. The living individuals immediately flew to the trees and shrubbery in his and his neighbors' gardens. Mr. H. is now engaged in the cultivation of flowering plants, and the present season he dug up numbers of the *pupa* in different parts of his garden early in the spring, and lately a goodly number of the mature insects evolved, which he has no doubt is a return of the brood he transplanted seventeen years ago. However, here and there in this city, as well as other places in this county, a few locusts have been heard and seen every season since 1868. We saw one or more specimens in 1869, in 1870 and in 1871. This was also the case in parts of York county.

Of course, the old stories of people being stung by locusts are repeated again the present season, but none of these tales come with sufficient authority to give them credence among intelligent people. It is not impossible that they should sting, but the circumstances under which such stinging usually occurs, are of such a character as to render that particular, to the effect that an interperiodi-

through a citizen of Marietta. A locust was sitting on a boy's back or coat-sleeve, or other part of his body, when another boy struck it off, and was stung in the finger. This could *not* be. Admitting a locust *can* sting, it could not sting so quick as that, either with its proboscis or its ovipositor.

In that respect it would be like a mosquito, a horse-fly, or a squash-bug or bed-bug. It would require some time to introduce its piercer, if it attempted to sting with its proboscis; and if with the ovipositor, it would be like a saw-fly, requiring some time to make an incision; for its ovipositor is not a *lance*, it is a *saw*. The ovipositor or sting of a locust is by no means like that of a bee, a wasp, a hornet, or a yellow-jacket—not so *sharp*.

A hand-saw would not be a very good weapon to execute "cut and thrust" with, but give the manipulator time, and he could "go through" more with it, than he could with a sword. And this brings us to the consideration of the damages done to vegetation by locusts. We often see paragraphs in the newspapers to the effect that *locusts* have appeared in great swarms in certain districts of our country, and have *devoured* the foliage of trees, shrubs and vegetation in general. The error here is in the misnomer of the insect. The insect known in this country as the "seventeen-year locust," cannot possibly "devour" vegetation. The organic structure of its mouth is such that it cannot masticate anything, and whatever food might be necessary for its sustenance, must be appropriated in a fluid form. But its life is so brief that food does not seem necessary, and therefore it is chiefly occupied in the propagation of its species, after which it soon dies—indeed the labors of oviposition are so great, that the females often die in a very short time thereafter from sheer exhaustion, and the males share the same fate soon after the labors of impregnation. Sometimes the lives of a few are extended beyond the usual time, but there is reason to believe that these are among those which have not been mated. But there is nothing on record to show that these insects have ever injured vegetation in any other manner than by the perforations the females make in the smaller branches of trees and shrubs in depositing their eggs.

In the whole history of this insect in this country, there has been but very little indi-

cation, above ground, to show that locusts have been injurious to vegetation under ground. It is, however, not impossible that they should thus injure it, but the subject is so completely covered, that there seems to be no certainty as to the where, when, and how. In those enclosures in this city and county where the locusts are remembered to have appeared at regular intervals of seventeen years, ever since 1783, no one has ever noticed that vegetation, immediately before and after their visits, was in anything different from what it was during the long interval between their visits, except the damage sustained by young trees and shrubbery, while they were above ground. Their earth range seems to be below that of garden vegetation, and if they tap the roots of trees, their demands are so limited, that a large tree would never feel the loss.

It is true, there is an isolated case recorded by Miss Morris, of Germantown, where a sickly pear tree was dug up, and the roots found to have a number of *larvæ* of the locust adhering to them, which were said to have caused the depletion, but if we do not soon have a more emphatic corroboration of this record than any made before or since, we fear that practical entomologists will ultimately come to regard it as a myth; and yet we do not dispute the *fact*, for it is a rational supposition that these insects must be physically sustained, by food of some kind, during their long larval period.

It is not known how far down into the earth they uniformly go. It was recorded in this county in 1834, that a single individual was found, some time previously, thirty feet below the surface. Others have been found six, eight, and ten feet down. In 1868, they came up through the bottom of a newly dug cellar, which was about eight feet deep, in the old south-east ward of this city (Lancaster.) It is certain that they approach the surface, and then retreat to lower regions in their burrows, according to the temperature of the weather, immediately before their septendecennial, or final issue, from their earthy homes. Mr. Engle informs us that the damage done to his young trees the present season will be very considerable, and that some of the smaller ones are injured beyond recovery, but that the larger ones will only receive a summer pruning from which they will ultimately re-

cover. Where locusts were abundant in 1863, we, on several occasions, have seen young trees totally destroyed. Some think that these insects infuse an active poison into the perforations they make, which kills the branches of the trees, and otherwise effects the whole body, but this does not seem to be warranted by all the circumstances of the case. The eggs of the locust cannot mature and hatch in a dead branch, unless it receives some moisture from other sources. In every instance where we have so tried to breed them from dead wood, we have failed. The eggs increase in size, and their incubation is assisted by the surrounding sap; therefore, all the young locusts which are bred from their eggs, are those which are in the living wood, and few or none from dead or dry wood. This has been corroborated by observations made in different parts of the country, where they have existed.

In conclusion we would remark, that we looked in vain, in the "Pine Swamp Valley" brood of locusts, on the 29th of May, for the small black variety, which was so numerous among the Lancaster county broods of 1834, 1851, and 1868. Nor were there any among those brought us from the Gap hills by Mr. Denney—nor yet, so far as we observed, but a single individual among Mr. Hensel's transplanted brood, of this city. Mr. D's collection was made on the June 17, ours on the May 29. He gathered his promiscuously, and among them were 29 females and 9 males, whilst in the York county brood there were about eight males to one female, and this was about the proportion of the sexes in this county in 1868. Before we close, we must say to our readers, that we throw ourselves upon their kind indulgence for having said so much upon a subject which seems so foreign to the objects of our journal; but the insects come so seldom, and there is something so wonderful about their coming and going, that we know it will be interesting to them and their children in future years, to be able to refer to these records, particularly because there are so few in any community who are in the habit of recording and dating events passing around them.

SEN. ED.

APOCRYPHAL.

--Since writing the foregoing sketch we have been informed by Mr. Thomas Cummings,

of this city (Lancaster), that *one year after* the appearances of the locusts in Lancaster county in the years 1834 and 1851, they had appeared in great numbers on the river hills opposite Marietta, in York county.

With due respect for the testimony of Mr. C., we are nevertheless compelled, in this instance, to regard it as apocryphal until verified by corroborative testimony. Unless there is a written record to appeal to—made at the time the event transpired—we find the verbal data of the appearances of these insects very conflicting, and therefore, in that degree, unreliable as a finality.

May it not have been in 1838 and 1855 instead of 1835 and 1852, that Mr. C. made his observations? He must have been a very "small boy" in 1835 at least. We were then twenty-four years of age, a married man, and not altogether unconscious of what was transpiring in the world of nature around us and although we have a distinct recollection of the locusts in Lancaster and York counties in 1834, we never before heard of those in 1835.

We are in the same predicament in reference to their appearance in that locality in 1852; but as we did not then reside in the vicinity, we had not the opportunity of a personal observation. All through the foregoing remarks, there seems to be the harmonious testimony of two overlapping broods of locusts on the eastern and southern borders of Lancaster county, the one appearing *four years* before or after the other, with the usual seventeen year interval between the appearing of each brood, but nothing of any other interperiodical brood. No brood of locusts appeared in that locality in York county in 1869 that we have heard of, although, as we before have stated, a few stragglers were found at different places, in both of the afore named counties, in 1852, 1853 and 1854, and then again in 1869, 1870 and 1871. Still we do not declare such reported events either untrue or impossible, and in making this addenda, our object is solely to place on record what is known and reported to be known about these singular denizens of the insect world, as a chronicle of future reference, leaving the matter to time and further observation, for a confirmation or contradiction of the statements therein made.

—*Ibid.*

AGRICULTURAL.

AGRICULTURAL PRODUCTIONS.

THE advance sheets of the third volume of the census returns of 1870 contain a great variety of the highly interesting statistics of agricultural productions in every State, territory, county and township in the Union. We extract the following in regard to our own county, compared with the productions of the adjoining county of Chester, which, next to Lancaster, rather makes the best exhibit on the whole, though Berks is very little behind Chester, and in some of the principle items largely exceeds it. In Berks, indeed, the total value of farm productions exceeds that of Chester more than half a million of dollars, the amount being given at \$9,150,789:

	Lancaster.	Chester.
Improved Land, acres.....	469,833	374,759
Woodland.....	65,413	62,161
Cash value of farms.....	\$7,072,998	\$46,737,683
Do. farm implements and machinery.....	\$2,475,656	\$1,806,211
Wages paid including board.....	\$1,979,768	\$1,658,256
Value of farm products and additions to stock.....	\$11,845,008	\$8,554,928
Orchard products.....	\$213,566	\$232,279
Produce of market gardens.....	\$87,399	\$35,163
Forest products.....	\$31,624	\$65,595
Value of home manufactures.....	\$39,768	\$8,675
Do. animals slaughtered or sold for same.....	\$2,371,869	\$2,181,799
Value of all live stock.....	\$6,044,215	\$5,192,517
Number horses.....	21,469	14,066
Do. mules and asses.....	2,569	708
Milch cows.....	31,368	32,670
Working oxen.....	1,142	3,371
Other cattle.....	32,549	18,545
Sheep.....	11,821	13,669
Swine.....	56,070	28,165
Wheat, bushels.....	2,677,413	753,893
Rye, bushels.....	88,245	12,481
Indian corn, bushels.....	2,820,825	1,540,125
Oats, bushels.....	1,913,577	1,634,430
Barley, bushels.....	15,526	1,541
Buckwheat, bushels.....	3,146	2,446
Irish potatoes, bushels.....	419,765	404,363
Tobacco, pounds.....	2,692,581	2,400
Wool, pounds.....	20,692	31,776
Butter, pounds.....	2,462,376	2,848,243
Cheese.....	82,614	8,526
Hay, tons.....	124,185	114,898

The tables embrace many minor products in addition to the above, such as milk, wine, grass seed, flax, etc., etc., which it is unnecessary to copy.

The only county in the United States outside of Pennsylvania in which the total value of farm productions approaches Lancaster, is St. Lawrence, N. Y., where the amount is \$9,598,071. Five other counties in New York range from seven to eight millions, one in Massachusetts (Worcester) \$6,351,411. Besides these, no county in the Union reaches six millions.

[We promised, in our last issue, to give further statistics from the census returns, of

the products of our county; but we find all that seems to be essential, for the present, in the above table which we extract from the columns of the *Daily Express*, although it may contain some items which we have given before. The most interesting feature of it is the comparison made between our *own* county, and the best of those outside of the limits of our State—when we say the *best*, of course we mean those which have yielded the largest aggregate products. From these returns, it appears that Lancaster county is the foremost in the Union in the amount of its agricultural or farm products. In comparison with our sister county of Chester, we find that she exceeds us in forest products, house manufactures, milch cows, working oxen, sheep and butter. Notwithstanding her area of improved land is nearly one-fourth less than that of our county, yet her annual product of butter is 335,867 pounds more than ours. Our greatest “offset” to this is our tobacco crop, which is 2,690,184 pounds more than hers; but this is a matter—except for its pecuniary value—might “not be much to brag of.”

But let the tobacco take care of itself—we think it has become sufficiently important to do so now. We will have to balance the over production of Chester's butter with our wheat, which is 1,343,615 bushels more than hers. From this it is manifest that Lancaster and Chester counties “bread and butter” a great many people beyond their respective borders, and that, in their specialties, they are both on the high road of usefulness. We feel sure that in looking over these figures, the farmers and producers of our county have abundant reason to entertain a reasonable pride in results so favorable to their locality and their callings, and also something to be thankful for. As there is abundant room for still greater improvement and productiveness in every department of agriculture, these facts ought to serve as a stimulant to renewed and intelligent effort, so that, when the next census is taken, an increase may be exhibited commensurate with the progressive spirit of the age. As the population increases the demand will increase, and this must be met with an increased supply. We must not it suddenly became cold, and all the insects deserted the carcass. They had visited it for the purpose of enjoying a temporary “winter snap.”

retrograde in anything; our march must be onward, and not *only* onward, but—if we progress healthfully—it will also be upward. Brighter days may be in the future.—Eps]

“THE KEY-NOTE.”

WE must raise larger crops; and to do this we must raise them less frequently. This is the key-note of the coming improved system of American agriculture in all sections where good land is worth less than \$100 per acre. In the neighborhood of large cities, and wherever land commands a high price, we must keep our farms in a high state of fertility by the purchase of manures or cattle food. Those of us in the interior, where we cannot buy manure, must raise fewer grain crops and more clover. We must aim to raise forty bushels of wheat, fifty bushels of barley, eighty bushels of oats, and one hundred bushels of shelled corn, and five bushels of clover-seed per acre. That this can be done on good, well-drained land, from the unaided resources of the farm, I have no doubt. It may give us no more grain to sell than at present, but it will enable us to produce much more mutton, wool, beef, cheese, butter and pork than at present. “But then will there be a demand for the meat, wool, etc.?” The present indications are highly favorable. But we must aim to raise good meat. The low-priced beef and mutton sold in our markets is as profitable to the consumer as it is to the producer. We must feed higher, and to do this to advantage we must have improved stock. There is no profit in farming without good tillage, larger crops, improved stock and higher feeding.
—Joseph Harris.

AGRICULTURAL ITEMS.

STABLE manure is sold in the Connecticut Valley for \$10 a cord.

The potato crop of Maine last year is estimated at 2,500,000 bushels.

A cheese factory is about being started at Lake Crystal, Minn., with the milk from 400 cows.

Nearly 800 barrels of sugar were produced last year from 250 acres of beets, in Sauk county, Wisconsin.

A Farmers' and Mechanics' Association is being organized at Mankato, Minn., with a capital of \$25,000.

The receipts of the Iowa State Agricultural Society last year were \$22,280.95, and the expenditures \$15,779.95.

The receipts of the Michigan State Agricultural Society last year were \$14,214.25, and the expenditures \$14,624.07.

The seed establishment of Briggs & Bro., Rochester, N. Y., is said to have over 60,000 square feet of floor room.

A Kansas paper says: “The beef of an average Texan ox, if the bones are taken out, can be salted away in the horns.”

Johnson county, Iowa, during the last three years, has sold \$70,000 worth of timothy seed and \$150,000 worth of flax crop.

The last year's pecan crop in Texas is estimated at over 1,000,000 bushels for export, which will realize to that State several millions of dollars.

The Springfield, Mo., Board of Trade offer a premium of \$175 for the best specimen and bale of cotton raised north of the Arkansas river.

In June last there were 6,700,000 sheep in Scotland, 4,500,000 of which were on regular mountain sheep farms; the remainder on arable lands.

M. M. Baldrige, of St. Charles, Ill., took 665 pounds of honey, net weight, from four stocks of bees in 1871, and had an increase of seven swarms.

Makanda, Jackson county, Ill., shipped the past year 90,840 boxes of peaches, 152,000 pounds of strawberries, and 24,850 pounds of raspberries.

The directors of the Northern Michigan Agricultural and Mechanical Society have voted to offer \$10,000 in speed premiums for horses at the fair next fall.

A correspondent claims that Montana will be the finest agricultural State west of the Rocky Mountains, with, perhaps, the exception of California. The Territory now contains 20,000 population.

In some parts of Virginia peanuts are, next to corn, the standard crop, and are very profitable. With good cultivation they yield from 50 to 100 bushels per acre, and average about \$2 per bushel.

Mr. Bidwell of South Haven, Mich., has successfully undertaken the culture of figs, having 300 trees in fine growing condition. He has already raised two crops, and has made a handsome profit.

So greatly has the stock of short-horned cattle in this country improved under the hands of American feeders and breeders, that English breeders are now to be found amongst the purchasers at our public sales.

The Ohio State Board of Agriculture have decided to locate the Ohio State Fair for the next two years at Mansfield. The fair will be held from the 2d to the 6th of September. Increased premiums are to be offered.

General Diven, of the Elmira, N. Y., Farmer's Club, thinks that five tons of straw, with one ton of cornmeal for feed, is equal to six tons prime hay. Rating hay at \$18 a ton and meal at \$40, straw would be worth \$13.50 a ton.

There is a great scarcity of hay in some of the counties of Pennsylvania, owing to the extensive drouth last summer. Speculators have found it out and are shipping to destitute localities, where they get about \$30 a ton.

The culture of rice is attracting the attention of agriculturists in California. The valleys of San Joaquin and Sacramento rivers are said to contain extensive swamp lands suitable for the culture, the climate also being favorable and the soil rich.

In the lowlands of Scotland about two acres are required, on an average, for each sheep, and each farm grazes from 500 to 2,500 animals. The principal stocks are the Cheviot breed. The Highland farms comprise from 1,000 to 2,500 sheep, a large proportion of which are the hardy black faced breed.

Mr. William Stewart, of the Belle View stock farm, Ill., has one cow, "Violets Forth," for which he paid \$1,800 in gold. He also has seventeen imported Cotswold sheep, the bucks costing \$160 each, two of the ewes \$120 each, and the remainder \$85 each. The value of the blooded stock on this farm is over \$30,000.

The most successful experiment in manufacturing beet sugar in this country is reported from Alvarado, Cal., where a factory has been built, capable of handling 60 tons of beets every twenty-four hours; 500,000 pounds of

sugar were manufactured in 1870 at a fair margin of profit, and it is thought the products of 1871 will be double that of 1870.

ENTOMOLOGICAL.

THE HOUSE CRICKET.

THIS little inmate of our dwellings is well known for its habits of picking out the mortar of ovens and fire-places, where it not only enjoys warmth, but can procure abundance of food. It is usually supposed that it feeds on bread. M. Latreille says it only eats insects, and it certainly does thrive well in houses infected by the cockroach; but we have also known it to eat and destroy lamb's wool stockings and other woollen stuff hung near a fire to dry. It is evidently not fond of hard labor, but prefers those places where the mortar is already loosened, or at least is new, soft and easily scooped out; and in this way it will dig covert ways from room to room. In summer, crickets often make excursions from houses to the neighboring fields, and dwell in the crevices of rubbish, or the cracks made in the ground by dry weather, where they chirp as merrily as in the snugest chimney corner. Whether they dig retreat in such circumstances we have never ascertained, though it is not improbable they may do so for the purpose of making nests. The Spaniards are so very fond of crickets that they keep them in cages like singing birds.

The cricket above alluded to is perhaps the "cricket of the hearth"—*Acheta domestica*—which is said to have been introduced into Virginia long ago from England. They are said to be running wild in the fields in Virginia, but hide themselves to human habitations at the approach of winter, where they are said to eat something more than vegetables. We had a specimen sent from Virginia fifteen years ago or more; and on one or two rare occasions, it has been found in this country. Once on a warm afternoon, during the month of November, we encountered in our path, the carcass of a calf which seemed to have died only the night before. Several places the skin was torn off as if by dogs, leaving the flesh exposed. These places were literally covered with crickets—*Acheta nigra* and *abbreviata*—which were so intent on gorging themselves, that they suffered themselves to be taken without making much of an attempt to escape. There were also many "carrion beetles" present—*Neorophorus americanus* and *orbicallus*. Three days thereafter

TO KILL CURCULIO ON PLUMS.

A CORRESPONDENT says that he wraps plum trees, below the lower limbs, with cotton, which he keeps wet with camphor and spirits of ammonia. He wets the cotton twice a week, and the result has been a good crop of plums and no curculio. A correspondent in another journal says:

"I have seen various methods for keeping these insects off plum trees, but none so simple or yet so effectual as the following: Soak corn-cobs in sweetened water until thoroughly saturated, then suspend them to the limbs of the trees a little while after blossoming, being sure to burn the cobs after the fruit ripens, as they will be found full of the young insects. A good plan is to change the cobs every few weeks. My theory is this—that the insects deposit their eggs in the cobs in preference to doing so in the young plums. The first season I tried it upon one or two only, and in the summer was rewarded by a good crop of as fine plums as ever ripened, while those on the other trees fell off when about half grown. I have since tried it more thoroughly and have never known it to fail."

Go ahead, try *anything*, and *everything*; but be sure not to wait until the plums are ripe before you burn the cobs. The man who would give such advice, don't know much about the "plum weevil"—indeed we doubt whether he would know one if he saw it. Just as if a curculio would remain in a dry corn-cob—for it must become dry, long before the plums are ripe, and wait until the fruit ripens, for the sole purpose of being gathered in and burned, if any ever got into a cob. But this remedy will not injure anything, therefore try it. If it don't kill the curculio, it will kill nothing else, except the time required to perform the operation. This insect has become such a desperate enemy to the plum, the peach and the apple, that any remedy, no matter how desperate it is, should be thoroughly tried. If you cannot circumvent it with your eyes open, then "go it blind," for it is said "a blind sow will sometime find an acorn." Knowing something about the habits and instincts of the curculio, we "can't see" how it could get its eggs into a tough corn-cob, unless it could manage to gain access to the pith in it. It *might*, however, do so, but then again it *might not*, and there is where the *rub* comes in.

ANSWERS TO CORRESPONDENTS.

Mr. U. S., Columbia, Pa.—The long four-winged insect, with the two long filaments at the hind end of the body, is an immature specimen of a "May fly" (*Palingenia bilineata*) which you will have found common along the Susquehanna during the month of June, with only ordinary observation. The *larvæ* and *pupa* live in the water, and require three years to come to maturity, when they crawl out, affix themselves to any object that is in the way, and undergo a pseudo transformation, after which the real transformation takes place, leaving their white skins adhering to the place of final change. They belong to a division called PSEUDO NEUROPTERÆ from this peculiarity in their metamorphosis. The *larvæ* feed on other small water *larvæ* (doubtless on those of the mosquito amongst the rest), but the mouth of the mature insect being nearly obsolete, they are incapable of partaking of any food, and therefore, after a very brief life, during which the females become fertilized, and deposit their eggs on the water to perpetuate the species, they all die. Many of them are blown into the streams, where they become food for fishes—others are eaten by birds and other animals.

MR. J. L., Landis Valley, Lancaster Co.—The white and brown striped, long-horned insect you brought on the 15th of June, is a mature specimen of the common "apple tree borer" (*Superda candida*), which at that period, and also earlier and later, comes forth in the beetle form, after having passed three years as a wood-boring worm near the base of somebody's apple, pear or quince tree. As a means of preventing the females from depositing their eggs around the base of the trees, they should be protected from the first of June until the first of August, by any kind of a contrivance that will effect that end. Stiff paper, canvas, old clothing, sheets of old tin, with the earth heaped up around them will answer, if properly done. Some wash the parts with tobacco decoctions, or saponaceous solutions—especially the carbolic and whale-oil soaps—but these require frequent renewals. These insects always deposit their eggs near enough to the earth to supply them with the necessary moisture to hatch the eggs, and also because near the roots, the bark is more tender and penetrable. These

GET UP CLUBS for the FARMER, the best, cheapest and only journal of its kind in the State.

precautions, of course, will have no effect upon the worms already in the trees.

MR. G. W. M., *Marietta, Pa.*—The minute insects appearing like "little heaps of powder," which have been coming up out of the ground in your garden-walks in the months of May and June, for the last two or three years, belong to a wingless order of insects called APHANIPTERA, or APTERA, by authors, the latter name meaning simply without wings; of which the *flea* of North America, and the *jigger* of South America, are the most common examples. These little subjects belong to a family in that order, called PODURIDA, or "Spring-tails," from the fact that they have a caudal appendage that turns under the body, and by the springing of which they propel themselves on the land, something like a lobster propels itself in water. We are not sure of the species, for about forty or fifty have been described in Europe and America, as belonging to the typical genus *Podura* alone. We are of the opinion, however, that these may be referred to *Symulthurus hortensis*, or "Garden-flea," of Dr. Fitch, or a species nearly allied to it. Twenty years ago, Dr. F. also described a similar species (*Podura nivicola*), commonly known as the "Snow-flea," because it was often found like gunpowder, scattered over the snow. "According to Nicolet, the PODURIDAE are very prolific, as he found 1,360 eggs in a single individual," and this may account for the immense numbers found in your garden walks; and the fact that they are found issuing from the ground there and nowhere else, may be owing to the fact of the presence of a stratum of "tan-bark" which underlies their present surface. These insects are said to have been injurious to young and tender vegetation in many places. They occupy a very equivocal position in systematic classification; some authors considering them a degraded family of *Neuroptera* which includes the dragon-flies, May-flies, etc. Scalding them as they come out of the ground would be perhaps the most ready way to extinguish them. Cold water, we apprehend, would have little effect upon them. We tried to immerse some of those you sent us in cold water, but we have not yet succeeded. After ten days they remain floating dry on the surface, "shake them up" as often and as violent as you will, whilst those immersed in alcohol all sank to the bottom within half an

hour afterward. The minute scales which cover them resist the action of the water similar to the feathers on a duck.

MR. H. M. E., *Marietta Pa.*—The brownly blotched apples which you brought us from Mr. D's orchard on the 25th of May, and those from your own orchard on the 17th of June, are similarly infected, but what the cause of the infestation is is more than we are able to say. It seems to be a species "blight," like that which sometimes effects bunches of leaves on apple and other trees, without any visible cause. On cutting them open, the inside is found to be perfectly sound, and no indication of the presence of an insect of any kind. On submitting small portions of the fruit to our highest magnifying power, we found a reddish-brown glazed surface, ramified by eccentric cracks or breaks in the skin, exactly like the upper surface of a brownly baked and glazed loaf of bread. Those first received are, at this writing, all shriveled up, and hard and dry as pine knots, so that they probably did not contain either insect or insect eggs. No puncture or incisions of any kind, that seemed to have been made by an insect of any kind, were visible. We could not discover anything even that looked like a fungus of any kind, and therefore we are reluctantly compelled to pronounce the case outside of the limits of our scientific accessibilities.

MR. P. M. *Philadelphia, Pa.*—In our communication in reference to the apples you sent us on the 6th of May we endeavored to explain what it was that gnawed those cavities on the fruit, and therefore we do not deem it necessary to say anything more on that subject now. We placed the apples on a smooth surface and turned a glass cup over them, and by the 17th of June we found all except the stems reduced to a brownish powder, and ten or twelve larvæ therein, most of them fully developed, which on examination are merely in correspondence with the larvæ of *Conotrachelus nemphar*, otherwise the plum curculio. We have transferred them to a vessel, and have also added some moist earth, and now await their final transformation. If all your friend's apples were infested as these were, we would not give him a pinch of snuff for his whole crop. In all our experience with the curculio we never before witnessed such a destruction, nor so many of the insects present in such a small quantity of substance.

There is just sufficient difference between these larvæ and others of this genus we have examined to indicate the possibility of a different species, although we have discovered variations in others.

HON. J. J. L.—*Marietta, Pa.*—The apples you brought to us on, the 1st of June, together with the two green *Lepidopterous* larvas have been under our observation since, but owing to the death of the one, and the other burying itself in the ground in the box in which we confined them, we are not able to give a specific account of them, any further than what may be based on conjecture. The larger green larva, about 1½ inches long, which you say you detected in the act of eating a cavity into the apple, burrowed into the ground on the 7th of June. On examining the earth on the 17th of June we found a plain pup of a mahogany-brown color, ¾ inch long, having two diverging bent spines on the caudal segment, and exhibiting the usual characters of nocturnal *Lepidoptera*, in other respects; this pupa was contained in a well-formed earthy cavity, having its wall very smooth on the inside; but until the moth evolves we must refrain from any attempt to locate it specifically or even generically. It can hardly be the "rascal leaf crumpler" of the west, for Mr. Riley says that insect changes to a pupa in its case among the crumpled leaves. (Strange that Mr. R. in neither his popular or scientific description of that larva says anything about its length.) The other larva was also of a green color, less than half an inch in length, and occupied a sort of silken case, in a cluster of crumpled leaves, held together by a number of silken cords; but it seemed to have been injured, and could not leave its case, and died a day or two after we received it. This larva seemed to be entirely different from the one first named, and makes an approximation to Mr. Walsh's "rascal leaf-crumpler," reproduced by Mr. Riley in his fourth report of the noxious and beneficial insects of the State of Missouri (*Pycita mebulio*), which he says is about half-grown when winter sets in, remaining in that condition among the crumpled clusters of leaves until the return of spring, when it completes its larval development, and appears in the moth state at various periods during the month of June. These clusters of crumpled leaves containing the larvas,

are fastened securely to the branches, and may easily be removed after all the other leaves are fallen, and then is the best time to gather and destroy them. But, as they are often infested by parasites, M. R. suggests the removal of them to some locality remote from trees, where the parasites would evolve, and the leaf crumplers would starve for the want of their proper food.

MR. J. G. H.—*Marietta, Pa.*: The large gray insect, with the two black velvety spots on the upper side of its chest (*thorax*), was a specimen of the largest species of "click-beetle," "Schnellkæfer" (*Alaus oculatus*), known to the Northern United States. Although we by no means regard it as a rare insect, yet, from the fact that it seems to be a "new thing" to you, it cannot be regarded as very common. The larva or "grub," from which the beetle is bred, is a wood-boring worm, but it is usually found in wood that is dried, or partially decayed. It, however, does not confine itself to one particular kind of wood for we have found it in white oak, apple and locust. It takes its specific name from the eye-like spots on its thorax, and when we tell you that over two thousand of these click-beetles, of various colors and sizes, have been described by naturalists, you can form some estimate of the value of specific names. In systematic classification it belongs to the "saw-horns" (*SERRICONICO*), the family of "click-beetle" (*ELATERIDÆ*), and the order of "sheath-winged" insects (*COLEOPTERA*.) It is not considered injurious to living timber, but accelerates the decay of that which is dead.

HOW TO WASH COLORED FLANNELS.—To wash colored flannels and prevent them from shrinking, take half the weight of soda there is of soap; boil them with water, allowing a gallon to every pound of soap, and use it when perfectly cold. Wet the flannel in cold water, wash it then in fresh water, with some of the above boiled mixture among it; change the water until the flannel becomes perfectly clean; then rinse well, and dry in the shade. To prevent flannels from shrinking at the first washing, put them in a pailful of boiling water, and let them remain until cool.

How to get a good wife—take a good girl and go to the parson.

The Lancaster Farmer.

LANCASTER, JULY, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

Published monthly under the auspices of the AGRICULTURAL AND HORTICULTURAL SOCIETY.

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A considerable deduction to clubs of five or more.

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All advertisements, subscriptions and remittances to the address of the publisher, J. E. DEVELIN, Inquirer Building, Lancaster, Pa.

It is not a little merit that an article for common use should be tastefully finished as well as thoroughly made. The Blanchard churn is one of the *handsomest* things a farmer can have in his house.

NATIONAL AGRICULTURAL CONGRESS.

SECRETARY'S OFFICE, }
JACKSON, TENN., June 20, 1872. }

Publishers of the Lancaster Farmer:

DEAR SIRS: To secure the most efficient co-operation among farmers, it becomes advisable and necessary for me to open correspondence with *all* of the Agricultural societies and clubs of the country. At present there seems to be no correct list of such societies obtainable, not even through the Department of Agriculture; and I ask your assistance to obtain such a list, for which I will reciprocate as opportunity offers. If the entire agricultural press of the country will give conspicuous place to the following notice in their columns, there is no doubt but some one or more papers will reach every society in the land.

NOTICE.—We are requested to ask of the officers of all agricultural, Horticultural and kindred societies and clubs that they will send at once the address of their President and Secretary, to Chas. W. Greene, Secretary of National Agricultural Congress, at Jackson, Tenn. It will be greatly to their interest to comply with this request.

The list will be carefully compiled and printed, and we shall be pleased to furnish a

copy to any publisher giving the above notice two or three insertions.

In this connection permit me to ask your attention to the following preamble and resolutions presented by Mr. F. C. Johnson, of Indiana, and unanimously adopted at the recent session of the Congress.

PREAMBLE. Whereas, we recognize the Agricultural and Horticultural press of our country as having a common aim and sympathy with us in advancing the interests of the agriculturists and horticulturists of the nation, and as being the best medium through which to disseminate the facts and principles it is the object of this organization to promulgate; therefore be it

Resolved, That we earnestly recommend to the county and district Agricultural and Horticultural societies throughout the country that they offer subscriptions to the best agricultural and horticultural periodicals published in their respective States or sections, as premiums on articles for which money or silverware of equivalent value are usually given, and that they aid by all other legitimate means in their power, as corporate bodies, to extend the circulation of such periodicals.

And also to the following:

Resolved, That while this Congress is without a recognized organ we invite the co-operation of the press, especially the agricultural journals of the country, in disseminating its transactions.

Very respectfully,

CHAS. W. GREENE,
Secretary.

JOHN REYNOLDS, Pres., Rockford, Ill.

LEE R. SHRYOCK, Treas., St. Louis, Mo.

CHAS. W. GREENE, Sec'y, Jackson, Tenn.

OBITUARY.

DEATH OF STUART A. WYLIE, ESQ.: Stuart A. Wylie, Esq., of the firm of Wylie & Griest, *Inquirer* printing establishment, died at his residence in Lime street, this city, between 12 and 1 o'clock to-day, in the 33d year of his age. Deceased was born in Lancaster, and at the close of his school life entered the office of the *Inland Daily* as a reporter, then published by Theo. Fenn and edited by H. L. Goodall. In this position he remained for several years, and on the 1st day of January, 1859, he started, in connection with several others, the *Lancaster Inquirer*, a weekly journal, which in 1861 gave support to

the presidential ticket headed by Stephen A. Douglas. Subsequently the *Inquirer* become a warm advocate of the principles of the Republican party, which it continues to maintain at this time. In September, 1860, Mr. Wylie became sole proprietor of the *Inquirer*, and on the 7th of July, 1862, commenced the publication of the *Daily Inquirer*, which was continued until February 13th, 1864. On the 1st of May, 1868, Mr. Wylie sold an interest in the *Inquirer* to Elwood Griest, which was the origin of the present firm of Wylie & Griest. The deceased was a young man of great energy, and succeeded in building up one of the most extensive printing and binding establishments in Pennsylvania, the present force of employees amounting to nearly two hundred persons. A few years since he completed the large four-story building on North Queen street, known as the *Inquirer* building, in which the business of the establishment is conducted. Mr. Wylie was extensively known throughout the county and largely in the State, and was regarded as a gentleman of strict habits and generous impulses. He was an active member of the Union Fire Company, and for the past ten years one of its vice presidents. He also belonged to many of the secret Orders—all of them, we believe, with the exception of the Masons. He had been in his usual good health up to Saturday last, when he was attacked with cramp in the stomach, and lingered in great agony until his death. He was a good citizen whose place cannot be easily supplied. Mr. Wylie leaves behind him a devoted wife and several interesting children who will sadly mourn their loss.—*Daily Express*, June 12th.

TRIBUTE OF RESPECT.

The employees of the *Inquirer* Printing House met on Thursday afternoon, June 13th, and organized as follows:

Chairman—Charles W. Wiley.

Vice President—Charles P. Krauss.

Secretary—Henry O. Gusley.

After appropriate remarks by several gentlemen the following paper was presented and adopted:

AN EXPRESSION OF GRIEF.

God, in His mysterious workings, having seen fit to call from earth, in the very midst of his usefulness, our dearly-beloved and highly honored employer, STUART A. WYLIE, we meet here to day to give oral expression to those feelings of deep sorrow and regret which fill our hearts to overflowing, and to mingle our grief and sympathy with those nearer and dearer to him than all else of this earth. We can do no more, for He who, in His all-wise dealings, bringeth sorrow to the hearts of his children, alone can heal.

1st. As an employer we always found him just and equitable—a friend, a brother. The dividing line between employer and employee

was never rigidly drawn by him, but he endeavored, by the exercise of a natural kind-heartedness and charity, to gain the affections of those in his service while commanding their respect. He taught us to love him; and now that he is no more, we honor his memory and shall ever cherish it fondly.

2d. We feel that his sudden death has left vacant a place not soon to be filled. A few of us know more of his secret acts of kindness and that "charity that vaunteth not itself" than, out of respect to a natural desire, when living, to hide them, we can here make public.

3d. As a citizen, his loss will be as deeply regretted as an employer. He was progressive, liberal-spirited, generous and honorable in all his dealings. As a friend, he was never-failing. With all public charities he was open-handed.

4th. In his intercourse with his employees he ever endeavored to make them feel that their interests were his, and he always evinced an unselfish and most liberal disposition to aid them collectively, or individually, in all honorable enterprises. But we have his genial companionship no more, and his good counsels will be no longer heard. The Omnipotent has stretched forth His hand: the silver cord is loosened: the golden bowl is broken, and we bow in humble submission.

5th. As a further expression of our respect and esteem for the deceased we will attend his funeral in a body, and order that this expression of our grief be published in the papers of the city and county.

JAMES F. DOWNEY,
CHAS. P. KRAUSS,
J. F. CUMMINS,
G. EDW. HEGENER,
GEORGE H. ROTHERMEL,
GEO. LEIBLEY,
AMOS HOFFMAN,
CHAS. G. BATES,
REUBEN S. KAUFFMAN.

[Although it is not usual for us—in our limited space—to notice the death of individuals, however distinguished they may be, yet the subject of these records, occupying the peculiar relation he did to our journal, forms an honorable exception.

It was mainly through MR. WYLIE'S enterprise in assuming the responsibilities of publication, when the matter still was involved in doubt, that the LANCASTER FARMER finally ultimated in a "local habitation and a name," and it has been printed by the establishment of which he was the leading spirit from that time to the present. There may be reasons for his sudden recall from a field of use in which he seemed so efficient, that cannot be comprehended by a finite mind; we can only submit to the Infinite, and try to properly

realize that "in the midst of life we are in death," whether in blooming youth, mature manhood, or decrepit age.]

NO STARVATION.

According to reports from the West we don't think there will be much starving necessary before the harvest of 1873. From the *Chicago Tribune* we learn that California will have ten million bushels of wheat for exportation, or at least four times as much as she had last year; and the increase of the exportable surplus in that State alone will add 25 per cent. to the usual annual export from the whole United States.

We congratulate our readers—and we trust that inwardly we do more—that many of our exchanges contain paragraphs like the above, and that there need be no unnecessary indulgence in fears of want, calamity or starvation from present indications. Indeed, if there is any disappointment in the crops, it seems likely now to be an agreeable one for things look much more hopefully than they did earlier in the season. There is a world of philosophical resignation in "Old Cudjo's" blessing, which it would be well to cultivate in times of threatened failure:

"Blessed am dem what don't expect nuffen, case dey won't be disappointed."

Even in Lancaster county some of the grain fields are looking promising, and although it is certain there will be less straw than usual, yet the yield of solid grain may be proportionally larger. The grass also in many places could not be desired better. Even if we get but a quarter of a crop no one need suffer. Our country is so vast and varied, our transportation facilities are increasing so rapidly, and our means of diffusing information are so effective and efficient, that we can soon learn the condition of every part and also have access to it, in a very short time and at a small cost.

♦
"EVERY-DAY" PUDDING.—Half a loaf of stale bread soaked in a quart of milk; four eggs, four tablespoonfuls of flour; a little fruit, dried or fresh, is a great addition. Steam and boil three-fourths of an hour. Serve with the following sauce:

"Wine sauce" without Wine.—Butter, sugar and water, thickened with a little corn starch and flavored with lemon extract or lemon juice and rind.

DOMESTIC.

HOUSEKEEPING HINTS.

HEALTH is impaired, and even life lost sometimes, by using imperfect, unripe, musty or decaying articles of food. The same money's worth, of a smaller amount of good, is more nutritious, more healthful, and more invigorating than a much larger amount of what is of an inferior quality. Therefore, get good food, and keep it good until used. Remember that

Fresh meat should be kept in a cool place, but not freezing or in actual contact with ice.

Flour and meal should be kept in a cool, dry place, with a space of an inch or more between the flour and the bottom of the barrel.

Havana sugar is seldom clean, hence not so good as that from Brazil, Porto Rico and Santa Cruz. Loaf, crushed and granulated sugars have most sweetness, and go further than brown.

Butter for winter use should be made in mid-autumn.

Lard that is hard and white, and from hogs under a year old, is best.

Cheese soft between fingers is richest and best. Keep it tied in a bag hung in a cool, dry place. Wipe off the mold with a dry cloth.

Rice, large, clean and fresh-looking, is best.

Sago, small and white, called "Pearl," is best.

Coffee and tea should be kept in close canisters, and by themselves. Purchase the former green; roast and grind for each day's use.

Apples, oranges and lemons keep longest wrapped in paper, and kept in a cool, dry place. Thaw frozen apples in cold water.

Bread and cake should be kept in a dry, cool place, in a wooden box, aired in the sun every day or two.

All strong-odored food should be kept by itself, where it cannot scent the house.

Bar-soap should be piled up with spaces between them in a dry cellar, having the air all around it to dry it for months before using; the less waste.

Cranberries kept covered with water will keep for months in a cellar.

Potatoes spread over a dry floor will not

sprout. If they do, cut off the sprouts often. If frozen, thaw them in hot water, and cook them at once. By peeling off the skin after they are cooked, the most nutritious and healthful part is saved.

Corned beef should be put in boiling water, and boil steadily for several hours.

Hominy or "samp" should steep in warm water all night, and boil all next day in an earthen jar surrounded with water.

Spices and peppers should be ground fine, and kept in tin cans in a dry place.

A good nutmeg "bleeds" at puncture of a pin. Cayenne pepper is better for all purposes of health than black.

Beans, white, are the cheapest and most nutritious of all articles of food in this country. The best mealy potatoes sink in strong salt water.

Hot drinks are best at meals; the less of any fluid the better. Anything cold arrests digestion on the instant.

It is hurtful and is a wicked waste of food to eat without an appetite.

All meats should be cut up as fine as a pea, most especially for children. The same amount of stomach-power expended on such a small amount of food, as to be digested perfectly, without its being felt to be a labor, namely, without any appreciable discomfort in any part of the body, gives more nutriment, strength and vigor to the system than upon a larger amount, which is felt to require an effort, giving nausea, fullness, acidity, wind, etc.

Milk, however fresh and rich, if drunk largely at each meal, say a glass or two, is generally hurtful to invalids and sedentary persons, as it tends to cause fever, consumption or biliousness.

HINTS FOR THE SICK-ROOM.

IN nothing is there so much ignorance manifested as in the proper arrangement of furniture and other surroundings in a sick-room. More persons die from their rooms being funereal and gloomy than people would generally believe. A writer in *Scribner's Monthly* says truly that a sick-room should have a pleasant aspect. Light is essential. Blinds and curtains may be provided to screen the eyes too weak to bear full day, but what substitute makes up for the absence of that blessed sunshine without which life languishes?

The walls should be of cheerful tint; if possible, some sort of out-door glimpse should be visible from the bed or chair where the invalid lies, if it is but the top of a tree and a bit of sky. Eyes which have been traveling for long, dull days over the pattern of the paper-hangings, till each bud and leaf and quirl is familiar—and hateful—brighten with pleasure as the blind is raised. The mind, wearied of the grinding battle with pain and self, finds unconscious refreshment in the new interest. A view out-of-doors is full of refreshment, especially in these days, when the birds are sporting in the newly clothed branches of the trees, and all nature seems aglow, looking with kindly eyes of interest even into the room where sickness is, giving the heart courage as nothing else will, and seeming to impart new life to the blood, carrying off the seeds of death, and bringing instead those of life. The writer quoted above says further that if nurses and friends knew how irksome, how positively harmful, is the sameness of a sick-room, surely love and skill would devise remedies. If it were only bringing in a blue flower to-day, and a pink one to-morrow; hanging a fresh picture to vary the monotony of the wall, or even an old one in a new place—something, anything—it is such infinite relief. Small things and single things suffice. To see many of his surroundings changed at once, confuses an invalid; to have one little novelty at a time to vary the point of observation, stimulates and cheers. Give him that, and you do more and better than if you filled the apartment with fresh objects. It is supposed by many, that flowers should be carefully kept away from sick people—that they exhaust the air or communicate to it some harmful quality. This may, in a degree, be true of such strong, fragrant blossoms as lilacs or garden lilies, but of the more delicately scented ones, no such effect need be apprehended. A well aired room will never be made close or unwholesome by a nosegay of roses, mignonette or violets, and the subtle cheer which they bring with them is infinitely reviving to weary eyes and depressed spirits.

Messrs. P. Blanchard & Sons give due credit for their large sales to a very liberal use of printers' ink. We agree with them, but must add that even printers' ink will not make a permanent success of a poor thing. They make "the best" churn.

GOOD RECIPES FOR CAKES.

Light Gingerbread.—Three cups of flour, one of sugar, one of butter, and one of molasses, three eggs beaten light, tablespoonful of ginger, teaspoonful of pearlash and some cloves. Beat the butter in sugar as for pound-cake, then add the other ingredients, putting in the pearlash last. Bake them in cake tins.

Cocoanut Cake.—For 1 pound of cocoanut grated, put a pound of loaf sugar and a sufficient quantity of flour to make a paste. Put paper on the tins and bake them in a warm oven.

Rock Cake.—The whites of four eggs beaten very light, pound of loaf sugar added to them, three-fourths pound of sweet almonds slightly bruised. Baked on paper in tins.

Gingerbread.—Three pounds of flour, one pound of butter, half a pound of sugar, a quart of molasses, two ounces of ginger, an ounce of cinnamon an ounce of allspice, ounce and a half cloves. Washed before baking, with molasses and water.

English Buns.—One pound of flour, $\frac{1}{2}$ pound of sugar, $\frac{1}{2}$ pound of butter, some cinnamon, $\frac{1}{2}$ pint of rasins; rub them all together and mix with milk and 4 or 5 drops of pearlash: wash them after they are baked with sugar water.

Almond Cake.—One pound of sugar, $\frac{1}{2}$ pound of flour, 10 eggs. 1 ounce bitter almonds, a glass of kase water: beat the yolks till they are quite a batter, then add the sugar and heat it well: having previously pounded the almonds fine in the kase water, add them to the yolks, the whites must be beaten very light, and then add the flour just stirred into the other ingredients. Bake it one hour and ten minutes in rather a quick oven.

Milk Biscuit.—One quart of milk, one pound of butter, enough flour to thicken it, a small tea-cup of yeast: set them to rise early in the morning.

Soft Gingerbread.—Take 6 cups of flour, 2 of sugar, 2 of butter, 2 of molasses and 2 of milk, 4 eggs, tablespoonful of ginger, a little allspice; beat the butter, sugar and eggs light, then stir in the other ingredients. And a teaspoonful of pearlash dissolved in vinegar.

Doughnuts.—Take 3 pounds of flour $\frac{1}{2}$ pound

of sugar, 1 pound of butter, 6 eggs, 2 wineglassfuls of good yeast, mix them with milk to a paste, set it to rise, shape them and fry in lard.

ANNIE LEE.

Philadelphia.

RAG CARPETS.

Most housekeepers seem to think of the height of economy and good management to convert their worn-out and cast-off clothing into good substantial carpeting. Sometimes it is; but we have known some of these gaily striped rag carpets to be very expensive affairs. Frequently articles are cut into carpet rags which could be worn much longer, or made over for the little ones. For instance, madam, this old pair of pantaloons, patched in the seat, and worn through at the knees, if turned, will be found to look like new on the wrong side: and a skirt for your little six years old girl can be made of it. You will find the gored breadths can be cut nicely from it. Trim with bands of blue or scarlet flannel, pinked on both edges and stitched on with the machine, and it will be prettier, and warmer and more durable than the felt skirts, costing from \$1.50 to \$2.

It is almost always the case that after the carpet is fairly off to the weaver's, and the good housewife is resting from her labors, that more of some particular color or stripe must be had to finish it. Then various articles now in use must be sacrificed, and the "gude man" is compelled to sleep with his last pair of unmentionables under his pillow for fear he will awaken in the morning and find that that insatiable rag carpet has absorbed even them. Sometimes the good housewife, in her ambitious attempts to make a carpet whose brilliant hues shall out-rival all her neighbors, buys yards of gay calico and flannel to tear into carpet rags. In such cases the actual cost of the carpet is about the same as English body Brussels.

Persons with any tendency to pulmonary difficulties should never work at tearing carpet rags. A dear friend of ours, after breathing the poisonous dust arising from the tearing of colored rags, died of quick consumption. A very expensive carpet, that, to her husband and little children.

But where the rags could not be better employed, it is far preferable to have rag car-

pets than the bare, desolate-looking floors we find in so many farmers' houses, and which cause so many hours of mopping and scrubbing to keep clean. And when your new carpet is tacked down, don't forget, from the balls that are left, to crochet rugs to lay over the parts most liable to wear, thus making the carpet last much longer.—*Rural New Yorker.*

HOW TO CURE HAMS.

ALMOST every farmer has his own particular recipe for curing his pork and hams. But this is not saying that every one of them succeeds in producing a first-rate article, and there is no doubt but some might improve upon their present mode of curing hams. The following four recipes are said to be those after which the premiums were cured that gained a prize at the Maryland State fair:

First Premium.—Mix two and one-half pounds saltpeter, finely powdered, one-half bushel fine salt, three pounds brown sugar, one-half gallon molasses. Rub the meat with the mixture; pack with skin down. Turn over once a week and add a little salt. After being down three or four weeks, take out, wash, and hang up two or three weeks until it is dry. Then smoke with hickory wood three or four weeks; then bag or pack away in a cool place (not a cellar) in chaff or hay.—*Thomas Love.*

Second Premium.—The meat, after being cut out, must be rubbed, piece by piece, with very finely powdered saltpeter, on the flesh side, and where the leg is cut off a tablespoonful (not heaped) to each ham, a dessertspoonful to each shoulder, and about half that quantity to each middling and jowl; this must be rubbed in. Then salt it by packing a thin coating of salt on the flesh side of each piece, say one-half an inch thick; pack the pieces on a scaffolding, or on a floor with strips of plank laid a few inches apart all over it (that is, under the meat); the pieces must be placed skin side down, in the following order: First layers, hams; second, shoulders; third, jowls; fourth, middleings; take the spare ribs out of the middleings. The meat must lie in this wise six weeks if the weather is mild; eight if cold, the brine being allowed to run freely.—*J. Howard McHenry.*

Third Premium.—Half bushel of fine salt, three pounds of brown sugar, two and one-

half pounds saltpeter, one-half gallon best molasses. Mix these ingredients together, then rub each piece well with the mixture until all be absorbed. The meat must be taken out of the pickle once a week for six weeks; the two first times the meat is taken out, there is to be a plate of alum salt added to the pickle.—*Mrs. William H. Harriott.*

Fourth Premium.—Two and one-half pounds saltpeter, dried and finely powdered, one-half bushel best Liverpool salt, three pounds of brown sugar, and one-half gallon molasses. Mix all in a vessel, rub the meat well with same, and pack with skin down. The above is the exact amount required for 1,000 pounds of pork. After being in salt three to four weeks, take out, wash clean the pieces, dry, and hang it up for smoking. Three weeks is sufficient to smoke them thoroughly by fire made of hickory wood. When smoked, take down or pack away in dry chaff or cut straw. Examine them occasionally, and if found to be at all damp, renew the packing with dry material.

COOKING FOOD FOR STOCK.

THOSE who oppose cooking food for stock on general principles will be pleased with the following from the London (Eng.) *Country Gentleman's Magazine*:

Thorough mastication of food is recommended as all-important, but it must be remembered that cooked food rarely calls forth the necessary process, and no amount of cooking will render food more nutritious. Mastication is necessary for two purposes—to break down and saturate the food with an important fluid—the saliva, that fluid effecting important changes in the nutritive elements to fit them to undergo subsequent actions by other juices of the digestive organs. It is not possible to supplant these secretions by any process of preparations by cooking or addition of fluids. Dame nature has supplied vegetable food for every season, and only requires of man that he should observe the peculiarities of each, and give the benefits to animals as far as possible. It is a decided mistake to cook the food of animals when it is sound and sweet. The mistake, so called, of supplying the dry food in winter, is more apparent than real. The exercise of common sense is called for in order to regulate the

practice with suitable roots and proper shelter and warmth, more than is usually done. It is a mistake to neglect the young stock so much as is commonly done. If more attention were paid to them, and supplying of artificial food increased during the period of their most active growth, adverse states would not be so general, and the remedy less sought after in useless preparations of food which run into expenses. Among working horses the effects of cooked food are something marvelous. Colic, and indigestion generally, with disease of the liver and kidneys, is of common and fatal occurrence. It may be more easily understood to say such preparations are quite unnatural, the digestive organs are constituted to act upon the most nutritive grains. It is also commonly believed that animals, especially horses, pass much away by the bowels that ought to be digested and appropriated to the system. This question requires more philosophical research before it can be definitely and accurately settled, but we can go so far as to say that when the masticatory organs are in good order, and digestion perfect, a proper allowance of food is thoroughly assimilated. Apparently whole grains may be found in the excrement, but upon close examination they will turn out to be the shells only, which, by the action of the digestive juices, have been divested of their internal nutrient parts. Some persons look upon digestion as a process in which everything must be utilized for the building up of tissue. They forget it is quite as essential that other substances should be present—those non-nutritious in themselves, but by their constitution and presence give bulk to the rest, and assist in their general reduction in the stomach of the higher animals, exactly as the sand and pebble act in the crops of birds. The success of feeding our domestic animals does not lie in the way of cooking food and administration of condiments, but in a judicious management generally, in which the peculiar features of organization, physiology, geology, meteorology, and hygrometrics, play their respective parts, and agricultural success will never be certain until these branches of science are more definitely acknowledged.

How LONG SHALL WE SLEEP.—The fact is that, as life becomes concentrated, and its pursuits more eager, short sleep and early

rising become impossible. We take more sleep than our ancestors, and we take more because we want more. Six hours sleep a day will do very well for a plowman or a bricklayer, or any other man who has no exhaustion but that produced by manual labor, and the sooner he takes it after his labor is over the better. But for a man whose labor is mental the stress of work on his brain and his nervous system, and for him who is tired in the evening with a day of mental application, neither early to bed or early to rise is altogether wholesome. He needs letting down to the level of repose. The longer interval between the active use of the brain and his retirement to bed, the better his chance of sleep and refreshment. To him an hour after midnight is probably as good as two before it, and even then his sleep will not so completely and quickly restore him as it will his neighbor who is physically tired. He must not only go to bed later, but lie longer. His best sleep probably lies in the early morning hours, when all the nervous excitement has passed away, and he is in absolute rest.

SCIENTIFIC FARMING.—Scientific farming consists altogether and solely in deriving the greatest possible profit from the soil. Lessen the labor and increase the yield, is the sum of the whole. To do this everything must be done at the right time, and in the best manner. By draining, the water must be got rid of; by cultivation, weeds must be destroyed; by manure, the soil must be enriched; by rotation of crops the largest yield must be secured; by improving stock, the feed must be economized and made of more value; and the how-to-do-all this is the sum and substance of agricultural science. Books on farming relate the experience of successful men, the experiments they have made, and the results they have attained. Any and every farmer who, by the use of his reasoning powers, is enabled to raise one bushel of corn per acre more than he has hitherto done, by improved methods, is a scientific farmer, however much he may disown the name; and not only has he done a good thing for himself, but the world at large is, to some extent, better for his efforts and success; his mission, as a man, has been to that extent fulfilled, and he will leave the world better than he found it.—*Hearth and Home.*

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

OUR OWN FIRESIDE.—A large quarto of sixteen pages, published by W. E. GUMP at \$1.50 a year, and devoted to home literature and domestic affairs, contains an immense amount of interesting reading matter of a healthy, moral and social character, with only a single page of advertisements. New York, No. 7, Sun Building.

THE PRINTER ARTIZAN.—A beautifully illustrated advertising quarto, of eight pages, devoted to the printer's art. The typographical execution is superb. Printed in colors on fine paper, by C. C. CHILD, at 56 Federal street, Boston.

AMERICAN NEWSPAPER REPORTER AND PRINTERS' GAZETTE, a royal octavo of sixteen pages, devoted entirely to matters relating to professional and practical printing and printers. A copious advertising medium for the trade, published by GEO. P. ROWELL & Co., weekly, No. 41 Park Row, New York, at \$2.00 per annum.

THE FARM AND FIRESIDE.—A folio of eight pages, devoted to domestic literature and agriculture. Illustrated and published by the "Farm and Fireside Association," No. 12 Pine street, N. Y., at \$1.00 a year.

THE VIRGINIA REAL ESTATE AND FARM JOURNAL, by A. F. ROBERTSON & Co., Lynchburg, Va., at \$1.00 a year. A medium folio of eight pages and devoted to the specialties named in its title.

THE COPY BOOK, "Issued in the interest of newspaper publishers throughout the United States. Printed from stereotype plates, which are imposed and held in columns by Blackwell's Improved Method; duplicate plates, to fit columns of various widths, furnished by the National Newspaper Union, 34 Park Row, New York." This Journal contains choice articles in Poetry, Miscellany, Agriculture, Biography, Anecdotes, Foreign Intelligence, Travelers' Sketches, Literature, Fashions, Household Affairs, Science, Useful Information, Wit and Wisdom, Humorous Incidents, Home Culture, and Religion. Each of the thirty-two columns has the number of the volume, the date, and the number of the column and similar numbers are also attached to each of its original articles; and we infer that any newspaper desiring to use any of these articles, can do so by paying a fee for the stereotyped plates, which would be a great saving of time, labor and expense, in getting up a paper.

THE COLORADO REAL ESTATE REGISTER.—A sixteen-page quarto; "Devoted to Real Estate, Railroads, Insurance, Finance, Agriculture, Mining, Live Stock, and General Industry of Colorado." \$2.00 a year. E. G. MATHEW & Co., Denver, Colorado.

AMERICAN HOMES SUPPLEMENT.—A New Oil Chromo, called the "Two Pets," has been issued by Chas. H. Taylor & Co., of Boston, publishers of American Homes, the popular illustrated magazine. It is a rich and beautifully executed chromo, and is given with the magazine for only \$1.25, through agents. People who subscribe by mail, send ten cents extra for postage on the chromo. "The Two Pets" consist of a beautiful little golden-headed girl and a large Newfoundland dog, and the *Intford Courier* and other leading newspapers well say that it is worth far more than the price of the subscription. The June number of *American Homes* is fully up to the high standard of the past, and the magazine continues on its bright career of prosperity, to which there seems to be no limit.

RECEIVED.—American Agriculturist, New York Rural, Farmers' Club, School Journal, National Oil Journal, American Stock Journal, Industrial Bulletin, Practical Farmer, National Live Stock Journal, Journal of the Farm, Building Association Journal, Journal of Health, Farmers' Zeitung, Manheim Sentinel, Everybody's Journal, Valley Independent, Carthage Gazette, Mount Joy Herald, Free Press, New York Observer, Our Church Work, Independent, Germantown Telegraph, and Volksfreund, up to the latest issues have been regularly received. Any of our subscribers who may have ability and desire to subscribe for one or more papers than they are now taking, will do well to consult the list of publications noticed in this Journal.

We acknowledge the receipt of a quarto volume of the Ninth Agricultural Census of the United States, containing tables 3, 4, 5, 6, and 7. We have published interesting extracts from it, in our June and July numbers, so far as they related to our State and county, and on future occasions we shall refer to its pages again.

Also, the *Report of the Commissioner of Agriculture, on the Diseases of the Cattle of the United States*: An illustrated quarto volume of 255 pages; from which we expect to cull some useful and interesting information, as soon as we can find time to look it through, which we will give to our readers.

Also the *Proceedings of the National Agricultural Convention*, held at Washington City, February 15, 16, and 17, 1872, an octavo pamphlet of eighty-four pages of interesting matter.

Also the *American Farmers' Advocate*—official organ of the Agricultural Congress, and *Sam McBride's Advertiser* Pueblo, Colorado.

PHILADELPHIA CATTLE MARKET.

MONDAY, June 24.

BEEF CATTLE.—The dullness which has marked the course of the market for all descriptions of stock for some time past was the prevailing feature to-day, and with liberal arrivals, in the aggregate reaching 3,000 head, prices favored buyers. A few purchasers could be found negotiating on small lines, but they were by no means anxious to handle stock, and did not bid very full figures; we quote extra at 73¢ a lb; fair to choice at 67¢ a lb; common at 55¢ a lb, and scawwags at 34¢ a lb.

COWS AND CALVES are excessively dull, and prices have a downward tendency; sales of Springers at \$22a30, and Fresh Cows at \$30a40. Receipts, 250 head.

SHEEP.—The market is without features of interest. The demand is quite limited, and the tone decidedly tame; we quote fair and good at 54¢ a lb, and stock at \$3a3.50 a lb head. Lambs are worth 8a10¢ a lb for good, and \$1.50a2.50 per head for common. Receipts, 13,000 head.

Hogs are in lively request at full figures; sales of corn fed at 6.50a6.75 a 100 lbs net. Receipts, 3,528 head.

NEW YORK CATTLE MARKET.

MONDAY, June 24.

Receipts, 9,500 head. Poor to medium Cattle 10a11¢; medium to fair steers 11a11½¢; good steers and fat oxen 11½a11½¢; prime to extra steers 12a12½¢; choice 12½a12½¢; fancy 13a13½¢. The majority of the sales were at 11½a12¢; average price 11½¢.

SHEEP heavy; receipts, 22,655. Clipped Sheep—Common to fair 5a5½¢; fair to good 5½a6½¢; extra 6½a6½¢ choice 6½a6½¢; Lamb 7a12¢.

Hogs.—Receipts 41,200 head. Prime heavy corn fed, live, \$4.50a4.62½; dressed 5½a6¢; medium live \$4.37½a4.50; dressed 6a6½¢.

CHICAGO MARKET.

MONDAY, June 24.

Flour dull and nominal and no sales reported.

Wheat dull and a shade lower for cash, and in fair demand but at lower rates for futures; No. 2 spring \$1.20½¢

cash, and \$1.30 $\frac{1}{2}$ al.30 $\frac{1}{2}$ for July and August; No 1 spring sold at 1.31 $\frac{1}{2}$ al.32.

CORN steady; No. 2 mixed 42 $\frac{1}{2}$ al.23 $\frac{1}{2}$ c on the spot for regular and fresh.

OATS in good demand and higher; No. 2 at 29c cash.

RYE dull and nominal; No. 2 at 62c.

BARLEY steady; No. 2 fall 50a55c.

PROVISIONS.—Mess Pork \$12.35 on the spot. Lard steady at \$8.75 cash. Bulk meats and Bacon steady and unchanged, and no sales of either.

CATTLE easier but not quotably lower; heavy receipts depress the market. Live Hogs active and higher at \$5.80a1.25.

NEW YORK MARKETS.

MONDAY, June 24.

FLOUR, ETC.—The Flour market is dull and declining. We learn of sales of 4,800 bbls at \$5.55a6.15 for superfine State; \$6.45a6.75 for extra State; \$6.80a6.90 for choice do; \$6.95a7.00 fancy do; \$5.55a6.15 for superfine western; \$6.45a7.00 for common to medium extra western; \$7.05a7.50 for choice do; \$7.95a9.40 for common to choice white wheat western extra; \$6.70a6.90 for common to good shipping brands extra round hoop Ohio; \$6.95a9.20 for trade brands; \$8.10a10 for common to fair extra St. Louis, and \$10.15a12 for good to choice do.

Southern Flour is quiet. The sales are 320 bbls at \$7.50a9.75 for common to fair extra, and \$9.80a13 for good to choice do. Rye Flour is dull. The sales are 200 bbls at \$1.20a1.15. Corn Meal is quiet.

GRAIN.—In Wheat there was nothing doing. At the opening holders advanced their prices, and shippers held back. The market closes easy for spring, with a limited demand. Winter Wheat is neglected and nominal. The sales are 32,400 bushels at \$1.50 for No. 2 Chicago spring alfalfa; \$1.62 for No. 2 Milwaukee; \$1.75 for white Canadian in bond.

BARLEY is quiet and prices are unsettled. Barley Malt in moderate demand and steady; sales of 3,000 bushels at \$1.00a1.15. Oats are firmer and fairly active, the demand chiefly for the trade, though in part speculative. The sales are 94,000 bushels: New Ohio mixed at 47c; white at 49a50c on track; western mixed at 47a47 $\frac{1}{2}$ c alfalfa; white at 49a50c; State at 51a53 on track. Rye is lower and in limited demand; sales of 7,800 bushels Western at 86c alfalfa. Corn in good supply and a shade easier, the demand fair at the concession. Much of the corn to land to-day was previously sold. The sales are 170,000 bushels: Damp at 61a61 $\frac{1}{2}$ c; 62a63c for steamer; western mixed at 65a66c; do white at 80c; do yellow at 66 $\frac{1}{2}$ a67c.

PROVISIONS.—Pork fairly active, but the demand not met and prices easy. The sales, cash and regular, are 900 bbls, at \$12.62a12.75 for old mess; \$13.25a13.50 for new do; \$10.75 for extra prime; \$12.75 for western prime mess. For future delivery in very good demand, with easy terms. Sales of 1,000 bbls mess at \$13.25 for July. Beef remains very quiet, but prices are without change; sales of 125 bbls, at \$7a9 for plain mess, and \$9a12 for extra mess. Three Beef is dull and heavy; sales of 70 tierces at \$14a17 for prime mess, and \$17a20 for India mess. Beef hams are dull and unchanged; sales of 30 bbls at \$20a25 for western.

Cut Meats remain about as before, very choice and fancy grades showing a steady uniform tone, but medium and common lots rather favoring the buyer. Sales of 175 pkgs, mostly pickled Hams at 11 $\frac{1}{2}$ a11 $\frac{1}{2}$ c, with a few light at 12a12 $\frac{1}{2}$ c $\frac{1}{2}$ lb. Bacon is in fair demand, and the market remains dull. Dressed Hogs are firmer; we quote at 57a60 $\frac{1}{2}$ c for city. Lard is firmer and in good demand to meet contracts; sales of \$50 bbls and tcs, at 8 $\frac{1}{2}$ c for No. 1; 8 $\frac{1}{2}$ c for city; 9.7-16a9.7 $\frac{1}{2}$ c for fair to prime steam, and 9 $\frac{1}{2}$ a9 $\frac{1}{2}$ c for kettle rendered.

PHILADELPHIA MARKETS.

MONDAY, June 24.

FLOUR.—There is very little demand for either export or home use, and the market continues very dull. About 600 bbls sold in lots to the home trade at \$5.50a6 for superfine; \$6a7 for extras; \$7.75a8.25 for Wisconsin extra family; \$8.75a9.25 for Minnesota do do; \$9.75 for Pennsylvania do do; \$9a10 for Indiana and Ohio do do; \$10.25a11.25 for fancy bran's. Rye flour is quoted at \$5.25a5.50.

GRAIN.—The Wheat market is exceedingly dull, and prices are weak. Sales of western and Pennsylvania red at \$1.90a1.95, amber at \$1.95a2, and white at \$2a2.65. Rye is held at \$1.75a1.80 for western and Pennsylvania. Corn meets with a limited inquiry. Sales of yellow at 66a67c, and 5,000 bushels western mixed at 64a64 $\frac{1}{2}$ c. Oats are unchanged. Sales of 7,000 bushels western at 45a46c for

white, and 44a44c for mixed. The receipts to-day are as follows: 2,565 bbls of flour; 2,800 bushels wheat; 40,000 bushels corn; 24,900 bushels oats, and 736 bbls whisky.

Provisions continue quiet, but prices are without material change. Sales of Mess Pork at \$14a14.25 $\frac{1}{2}$ bbl. City packed extra Mess Beef is taken at \$14.10a15 $\frac{1}{2}$ bbl. Bacon is steady; sales of plain sugar-cured city-smoked Hams at 12 $\frac{1}{2}$ a13c, canvassed western at 12c, sides at 8c, and shoulders at 6c. Green Meats are quiet. Sales of pickled Hams at 12a12 $\frac{1}{2}$ c, and shoulders in salt at 5 $\frac{1}{2}$ c. Lard is quiet; sales at 57a59 $\frac{1}{2}$ c $\frac{1}{2}$ lb.

SEEDS.—There is less doing in Clover; small sales at 9a10c $\frac{1}{2}$ lb. Flax seed sold at \$2.10; and Timothy at \$3.25 $\frac{1}{2}$ bushel.

A PERPETUAL WEATHER TABLE.

J. Cool, Mexico, Miami county, Indiana, sends the following table which, he says, was constructed by the celebrated Dr. Herschell, upon a philosophic consideration of the attraction of the sun and moon. It is confirmed by the experience of many years' observation, and will suggest to the observer what kind of weather will probably follow the moon's entrance into any of her quarters. As a general rule it will be found to be wonderfully correct:

If the moon changes at 12 o'clock, noon, the weather immediately afterward will be very rainy, if in summer, and there will be snow and rain in winter.

If between 2 and 4 o'clock P. M., changeable in summer—fair and mild in winter.

Between 4 and 6 o'clock, fair both in winter and summer.

Between 6 and 10 o'clock P. M., in summer fair, if the wind is north-west; rainy, if south or south-west. In winter fair and frosty, if the wind is north or north-west; rainy if south or south-west.

Between 10 and 12 o'clock P. M., rainy in summer and fair and frosty in winter.

Between 12 at night and 2 o'clock A. M., fair in summer and frosty in winter—unless the wind is from the south and south-west.

Between 4 and 6 o'clock A. M., rainy both in winter and summer.

Between 6 and 8 o'clock A. M., wind and rain in summer, and stormy in winter.

Between 8 and 10 o'clock A. M., showery in summer, and cold and blustery in winter.

THE lungs, after a full inspiration, contain 220 cubic inches of air, thus making their inner surface equal to 440 square feet, nearly thirty times greater than the body; and these organs on an average, make from 28,000 to 30,000 respirations in twenty-four hours.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

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ESSAY.

[As the *Colorado Potato beetle* has been found in Lancaster county, and very probably will "spread itself," and as the present indifference of many readers may change to anxious inquiry in future, we have thought it advisable to republish from the columns of the *Express* the following paper on that subject.]

COLORADO POTATO-BEETLE!!

TO THE FARMERS AND GARDENERS OF LANCASTER COUNTY AND ELSEWHERE.

THE unpleasant duty devolves upon me of proclaiming that the notorious "Colorado Potato-beetle," or "Ten-line Spearman" (*Doryphora 10-lineata*) is at last domiciliated in the Susquehanna valley, in Lancaster county. How extensive I am not able to say; but at the meeting of the Horticultural Society, held at the Court House on July 1st, H. M. Engle and George W. Mehaffey, Esqrs., exhibited about forty specimens of the mature beetle and larva in its various stages of development, gathered in the potato field of H. S. Musser, Esq., about half a mile above the western borough line of Marietta, along the railroad, and they report that they are also in potato fields of Messrs. Sharp and Sourbeer, in the same vicinity, with a probability of being at other places in that valley. On examination and comparison, I find these *true* Colorado beetle, which has for years been so damaging to the potato crops of the Western States, specimens of which had been sent me on various previous occasions, so that their identity is unquestionable. These beetles may be seen at any time during business hours at the corner of North Queen and Orange streets

(No. 101), Lancaster city, and, therefore, potato growers may make themselves acquainted with their appearance if they choose, for the time has come when the subject can no longer be regarded with indifference.

These insects were first noticed in the aforesaid locality on the 28th or 29th of June, but as the fully developed beetle, and the matured larva were also found, they must have been there some days, if not weeks, earlier. I have not heard of them being in any other part of Pennsylvania, and that they have appeared so suddenly, and so near the eastern limit of the State, is a marvel, unless they have been borne thither among the Western *freight* *cargoes* on the railroad. This suggestion is rendered at least probable from the fact that insects are often found here in Lancaster county which belong to localities and latitudes far north of this, and which are brought hither in cargoes of lumber from the north by way of canals, railroads, and the Susquehanna river. Indeed, the Hon. M. P. Wilder had communicated to the *New England Farmer*, last summer already, that these insects had been found in a potato patch in the town of Worcester, Mass., whither it was supposed they had been conveyed on the railroad. I have heard no tidings from that quarter since, but even that communication stimulated the State Board of Agriculture to at least *contemplate* some action in the case. About three years ago, some person unknown to me sent me a box containing about one hundred of these insects, all alive, from some point in Kansas. Not a single line accompanied the box. Now, suppose he had sent them to some person who had not known what they were, how easily they might have been colonized here; or suppose the box had been broken on

the way, how easily they might have then been scattered abroad.

In order to demonstrate this to practical entomologists as well as others, I would state that *Sphaeroderus niagarensis*, *Leptura canadensis*, *Upis ceramoides*, *Monohammus titillator* and *dentator*, and other rare species of coleoptera, have occasionally been found in the lumber yards along the lower Susquehanna—the last two named species quite frequently, even in the lumber yards of Lancaster city.

When we reflect that our common “cockroach,” and many other insects, as well as the “Norway rat,” have been imported in cargoes of various kinds from Europe, it will not be so surprising that this insect should be thus carried to different localities in our own country.

As the insect is now amongst us, the first inquiry naturally will be, how to destroy it, or prevent its increase? The first thing I would recommend, while its numbers must yet be limited, is a thorough examination of the vines, and vigorous handpicking. If you can help it don't leave a single survivor. This may be effectual in the present state of the case.

But more on this part of the subject hereafter; for the present allow me to call the attention of the reader to the history and habits of one of the most destructive insects known to those regions of our country, where it has had an existence, although from its recent introduction here, and want of time and opportunity, I shall be able to add nothing new to those who are familiar with its character. When we reflect that the losses which Western farmers have sustained from the ravages of this insect, may be estimated by tens of thousands of dollars—if not millions, it will become apparent how important the subject is, how criminal it is for those most affected by its presence to remain in blissful ignorance of its history and habits, and the means of its destruction.

HISTORY.

About the year 1846 Mr. John Wittick, formerly of Marietta, Pa., but then residing at Grand Detour, Wisconsin, sent me a collection of coleoptera from that locality, among which were four specimens of an insect, which an experienced entomologist labeled for me *Polygramma 10-lineata* Say, and during the war of the rebellion Lieut. J. M. Johnston

sent me specimens of the same insect from Tennessee; but prior to that, Judge Libhart had given me two specimens from Virginia. These, I had always supposed, were identical with the insect which is the subject of this paper; and according to Mr. Riley, in his “First Report on the Noxious and Beneficial Insects of Missouri,” “Up to the autumn of 1865 it was generally supposed, by economic entomologists, that this destructive insect had existed from time immemorial in the North-western States, feeding upon some worthless weed or other; and that of late years, from some unexplained cause, it had all of a sudden taken to attacking the potato plant.” But in the year above named, Mr. Walsh, of Rock Island, Illinois, clearly demonstrated that my insects were the *Doraphory juncta*, O Germar, and that the true Colorado potato beetle originated, or had its exclusive home in the Rocky Mountains, where it had been known to exist for at least forty-five years, feeding on *Solanum rostratum*, a wild species of the potato peculiar to that region, and that when civilization was extended to that far-off region, and the domestic potatoes began to be cultivated there, these insects gradually acquired the habit of feeding on that plant, in preference to the original wild species. This peculiar characteristic of insects is also manifested in other species, conspicuous among which are the “Curculio” and the “apple-tree borer,” and many others.

As the potato fields of the West sprung up and increased in numbers, the potato-beetle increased, and began to travel eastward, and in 1859 it already reached a point one hundred miles west of Omaha, in Nebraska. In 1861 it reached Iowa and in 1864 or 1865 it crossed the Mississippi and invaded the State of Illinois. In 1867 it passed through Illinois and advanced as far as Indiana and the south-west corner of Michigan. In 1868 it had already made its appearance in Ohio. Mr. Riley remarks: “Thus it appears that its average annual progress toward the east has been upward of seventy miles. At the same rate of progression it will touch the Atlantic ocean in about 1878; so that, in any event, it must have reached Pennsylvania within the present decade; but in some manner it seems to have anticipated its ordinary progress, and is now in the third county from the eastern border of the State.

HABITS.

The "Colorado Potato-beetle" belongs to the family of *Chrisomelans*, and among the common people would doubtless be called a large striped "Ladybird," or "Ladybug," and, like those insects, it has an ample pair of wings, folded up under its striped wing-covers, and, therefore, it can fly if it will, but does not readily do so, and hence it is easily captured. Its color is rather a cream yellow, and it has five black lines on each of its wing-covers. The thorax, or chest, is spotted blackish on top, two central spots being oblong and diverging in front, forming a disconnected V. The average length of the insect is half an inch, and its greatest width about a quarter of an inch, rather more than less. As it is entirely a new subject to Lancaster county, I can only speak approximately of its periods. In the West the mature insects issue from the ground about the first of May, and the last brood enters the ground to pass its winter hybernation some time in October. Although this insect is generally considered three-brooded, yet in the localities where it has heretofore existed it may be found almost at any time in its different stages of development. This, according to Mr. Riley, is owing to the fact that the female deposits her eggs in patches from time to time, covering a period of about forty days; and also to another fact, among insects in general, that from some cause or other some eggs will hatch sooner, and some *larvæ* will develop more rapidly than others, often making a difference of eight or ten days between them. Each female is capable of depositing about one thousand eggs before she becomes barren, and in from thirty to forty days after they are deposited they will have been developed into perfect beetles. These beetles are again capable of depositing eggs in about two weeks after they issue from the ground, and thus it will be seen that they possess extraordinary powers of increase.

When the larva is mature, it is about half an inch in length, of an orange color, has a black head, black feet, two rows of black spots on each side of the body, and the first segment transversely margined with black. It then goes into the ground and forms a hard and smooth cavity, in which it is transformed to a *pupa*, which is of the same color as the *larva*, and makes an approximation to the

form of the mature insect. In about ten days the *pupa* is transformed, and the beetle comes forth from the ground, very soft and of a pale color, and without any markings of the mature insects.

The true Colorado potato-beetle is destructively partial to the domestic potato (*Solanum tuberosum*), because this seems to be nearer the species of plant on which it was originally discovered, but occasionally it has been found feeding on the tomato, the "ground cherry" (*Physalis*), the "gymnion weed" (*Datura*) and on the "horse nettle" (*Solanum carolinensis*), the latter of which it prefers to some varieties of the potato. It is also said to be as destructive to the egg plant as it is to the potato, and thus it seems that the nearer the plant comes to the domestic potato the better the insect likes it. Mr. Riley says that he could never succeed in making them feed on any plant that did not belong to the potato family, although specimens have been sent to him, said to have been feeding on the raspberry and other plants not solanaceous. It is also on record that they not only eat the tops of the potato, but that they greedily attack the tubers after they are dug out of the ground.

REMEDIES.

First, there are *natural remedies*, that are constantly and silently operative, but these are not always present, or not in proportion to the evil, and wherever this absence or disproportion exists, there the *Potato-beetle* will get the upper hand. Therefore, although these natural remedies will ultimately assist the potato grower, he must not relax his individual efforts and depend on them. Among these are the "Lady birds," which destroy the eggs of the *Potato-beetle*. When these little insects once become located in a colony of those pests, they remain there all the time, and do not go into the earth to undergo their transformations. They not only feed on their eggs, but also on the "plant lice," and other noxious depredators. But there is a parasitic (*Lydella dorypharæ*) described by Mr. LeBaron, State Entomologist of Illinois, which is said to have been more efficient in checking the increase of the Colorado *Potato-beetle* than any other yet known.

The "Spined Soldier bug" (*Arma spinosa*), is known to have depredated extensively on the larva of the *Potato-beetle* in Illinois and Missouri, although it also destroys other in-

sects. This bug has been long known in this county, and may help to diminish the number of Potato-beetles, should they unfortunately be spread amongst us. We have also in this county the "Many-banded Soldier bug" (*Harpactor cinctus*), the Rapacious "Soldier bug" (*Reduvius raptatorius*), and others which have been observed to attack the larva of the Colorado Potato-beetle in some of the Western States. Among our local beetle (*Coleoptera*) there are also several species which have been occasionally noticed destroying the larva aforesaid. Namely, the "Fiery-ground beetle" (*Colosoma calidum*), a large black insect with brassy or coppery spots on its wing-covers, and the larva of which preys upon cut-worms and caterpillars, and hence is called the "cut-worm lion;" the "Elongate ground beetle" (*Pasimachus elongatus*) a black polished insect with a broad head, and thorax, and a deep blue line around the edges; the "Murky ground beetle" (*Pangus caliginasus*) of a dull black color, and longitudinal grooved lines on the wing covers; and, "strange to say," as Mr. Riley remarks, two at least of our "blister beetles," which are known to depredate on the potato vines, here and elsewhere, are known to have destroyed the larva of the potato pest, namely, the "striped blister beetle" (*Lytta lineata*) and the "ash-gray blister beetle," (*Lytta cinerea*.) Although these, and many other insects which I cannot even name in this paper, are destructive to the potato-beetle; yet, neither ducks, geese, turkeys, nor chickens will touch these insects when offered to them, and, therefore, the apprehensions of the people in reference to poisoned fowl's flesh, from this cause, are groundless.

ARTIFICIAL REMEDIES.

Of course, after hand-picking, or where it is ineffectual or impracticable, resort should be had to other means. In hand-picking a pair of wooden or iron pincers, made for that purpose, may be used, and every individual, as fast as they appear above ground, should be crushed. I used such an instrument effectually in crushing the "squash bug" (*Cereus tristis*) more than twenty years ago. After all that has been tried and written about in regard to artificial remedies, nothing has been developed for the purpose better than *Paris green*—that is, *pure Paris green*, mixed with flour or pulverized plaster of Paris. When

this poison is of a good quality, it will bear a dilution of 25 parts of flour to 1 part of the green. This powder put into a tin-box, with a perforated lid, like a large pepper-box, and with a handle of about four feet in length, if held inverted over the plants, and then a smart blow is struck on the handle with a small billet of wood, enough of the contents will be precipitated to kill the bugs. In this way the operator should follow the rows and give them a thorough peppering wherever the beetles may be found. Whether this poison affects the soil or the quality of the potatoes has not been satisfactorily demonstrated, but certain it is, that a notion to that effect exists, strong enough to make a distinction in the market price between potatoes raised with or without the aid of green. It may be necessary to say that *Paris green* is a deadly poison, inhaled in large and undiluted quantities, and therefore in applying it the operator should keep to the windward. Diluted it is not injurious or at least not dangerous in homœopathic doses.

There have also been several machines invented for striking the beetles off the vines and gathering them in a receptacle at the bottom; but in the present aspect of the case, in this county, it does not seem necessary to give a description of these *now*. The best experiences in the premises at this time recommends early, constant and vigilant *hand-picking*, as the simplest, the most harmless, and the most thorough remedy.

In conclusion upon this subject for the present, I would respectfully remark, that although I do not wish to create unnecessary alarm, yet I utter no uncertain sound: *The Colorado Potato-beetle is now located within the limits of Lancaster county*, and the people should know it. If "to be forewarned is to be forearmed" in any case it may be so in this; therefore, every newspaper in the county should publish as much of this article as may be useful to its agricultural readers, if it cannot publish the whole of it, without regard to the paper in which it *first* appears. The writer would cheerfully have furnished duplicate copies of the manuscript, but he has not the time to prepare them.

S. S. R.

Lancaster, July 4, 1875.

SUBSCRIBE for the FARMER, the best Agricultural Journal in the State.

BEE CULTURE.

THE BEE AND BEE-KEEPING.

MESSRS. EDITORS: Why so few bees are kept in Lancaster county, and these few receive so little attention—or so much inattention—is a mystery to me. They give a greater return for the amount of money expended and the care bestowed on them than any other live stock that farmers can keep. They help themselves; that is, they furnish their own provisions, and besides give us of their surplus for our consumption. All they ask of us is a proper home, and a little attention and protection.

I intend to write a series of short articles on the bee and bee-keeping, for the FARMER, which I hope may prove interesting to a portion of its readers. I do not claim that all or many of the facts which I shall give have been discovered by myself, or that the ideas advanced are original with me, but on the contrary, much of my information in the first place was received by reading books and periodicals on bee-keeping, and by profiting thereby. Although many of the facts and ideas are not original with me, they have been verified by my own observations. The first few of these articles will be for beginners and for those who have paid little or no attention to this subject. Those who have given this subject more study will, therefore, bear with me, if I do not leave first principles as soon as they may desire. So much by way of explanation and introduction.

THE QUEEN.

Every prosperous colony, or stock, contains one queen, several thousand workers. Some say a good-sized swarm contains forty thousand workers, and during a few months in the spring and summer, a few hundred drones.

Not many years ago a celebrated legislator declared that "the queen bee is a myth," and not long since an old gentleman who has kept bees for forty years or more contended in my presence that there is no such thing as a "queen-bee," giving as proof that in all his experience he had seen but two kinds: workers and drones. When such ignorance exists among those who keep bees, can the best result be expected? Bee-keepers should under-

stand the natural history of the bee; its habits and nature, to be successful.

The queen is a female, and hence the name king, which we still hear applied sometimes, is a misnomer. She resembles in shape the worker, more than the drone, but is longer than either. She possesses a sting but seldom uses it, except in a battle with a rival queen. She lays all the eggs, and as she does not govern the colony and regulate all its affairs as a queen proper, the name *mother* would be more appropriate than *queen*. She is reared in a cell entirely different from worker and from drone cells, and is fed on peculiar food, sometimes called *royal pap*. Queen cells are generally built at the edge of the combs, and instead of being horizontal, are vertical, hanging downward, the young queen standing on her head, while in the cell. While the queen cell is quite short the egg is deposited therein, and the same cell is never used more than once. After the egg has been in the cell about three days a small white worm may be seen at the bottom, or rather at the *top*, of the cell; it is then called a *grub* or *larva*, and remains in this state about five or six days, after which it is sealed up, when it is said to be in the *pupa* state, in which it remains about seven or eight days, thus taking about sixteen days from the egg to the mature queen. I should have said that as soon as she is a larva, the bees begin to lengthen the cell. It is argued by many that the queen never deposits an egg in a queen cell, but that the eggs are transferred from the worker cells to the queen cells, by the workers, when wanted there; that her antipathy toward another queen, although an immature one and her own offspring, is sufficient to prevent her depositing eggs in these cells. I do not believe that the bees ever remove an egg from a worker cell to a queen cell, and I have evidence to that effect. In making artificial swarms, as soon as queen cells were started and eggs deposited in some, we examine very closely all queen cells that were started, and we have found invariably that those queen cells that contained no eggs or larvae, when the old queen was removed, would remain empty, while worker cells containing eggs were changed into queen cells. Queens and workers are reared from similar eggs, while drone eggs are different. But more of this in a subsequent article. Worker cells can also

be changed into queen cells, especially when short or near the edge, by turning them downward and prolonging them.

HINTS FOR AUGUST.

I shall also, each month, give appropriate suggestions for the management of bees during that month.

During August weak colonies are in danger of suffering from the moth. As a protection make a mixture of molasses, water and a little vinegar, and set in saucers or shallow dishes near the hives at night. The moths are passionately fond of this liquid, and will be caught in it. Destroy every morning those that are alive, and set the liquid again in the evening. Colonies that were allowed to over-swarm, and late swarms might be entirely destroyed if not protected by destroying the moths.

In sections in which no buckwheat is raised the supply of honey has ceased—unless there be honey dew; and weak stocks must also be protected against robbers by contracting the entrance, and all surplus honey boxes should be removed, for if any unsealed honey remain it will be carried below. In buckwheat sections, strong colonies will store considerable surplus honey, and sometimes cast swarms. When the largest increase in stocks is desired they may be hived, if early in the buckwheat season, and they may store honey enough to winter. When an increase in colonies is not particularly desired, or if near the close of the buckwheat season, they had better be returned to the parent stock.

All box honey that is intended for keeping through the season must be watched. If a streak or white powder-like substance appear on the surface of the combs, it is a sign that a swarm is there; although yet so small as to be hardly perceptible. Put the honey box in a close box or barrel, and smoke with brimstone, but not so strong as to discolor the combs.

The early part of the present season was cool, which prevented the bees from storing early in the surplus boxes, and consequently they stored too much honey in the hives, occupying the place that should have been reserved for breeding. In consequence stocks that cast swarms will not have bees enough, but a superabundance of honey. If you have any such, and also swarms that have proportionately more bees than honey, and if you

use the movable comb-hives, exchange a comb or two full of honey for comparatively empty ones.

AGRICULTURAL.

SUPPLY OF NITROGEN.

IN speaking of the necessity of a combination of elements in the preparation of a perfect special fertilizer for grass, in an article on *Grass Lands* in the last issue of the *Ploughman*, we did not allude to the sources of supply of this all important constituent. Every farmer is of course interested in knowing where it comes from. Nitric acid is indeed the most important of all the compounds of nitrogen and oxygen and the source from which most nitrogen compounds are obtained. It occurs in nature most commonly in combination with potash or soda or lime in the soil, especially in tropical countries, and in some parts of India and Peru. When combined with potash it is known as nitre or the saltpeter of commerce.

There is, in Chili and Peru, a desert called Atacama, where it is found in vast quantities in combination with soda, and is the nitrate of soda, often called "Chilian saltpeter," or cubic nitre. We believe a very large proportion of the nitrate of soda now so largely used in the preparation of artificial fertilizers comes from there. Nitrate of potash is common saltpeter. Nitrate of soda is the "Chilian saltpeter" of commerce. In this crude form as it comes from the desert it is never pure nitric acid, and is of a sort of golden yellow color, though pure nitric acid is quite colorless. It is one of the strongest acids, intensely sour to the taste, ranking next in strength to sulphuric acid. It attacks most inorganic substances and all living or organic tissues, turning skins, feathers, and other substances which contain albumen, to a bright yellow. The orange colors in our common table cloths are produced by its use. In its pure and concentrated state it is so powerful that if the fibers of cotton are soaked in it only a few moments and then washed in water, they are changed into an explosive substance like the well known gun cotton.

The source of obtaining the phosphoric acid, to which we alluded in the same article as essential to a special grass fertilizer, is

bone dust or superphosphate. This material in a crude form is found in inexhaustible quantities in the phosphate beds of Charleston, S. C., or it may be from bones in any form, after preparation with sulphuric acid. The South Carolina phosphate beds are regarded as of immense importance to agriculture.

Potash is found abundant enough* in wood ashes, but these are so scarce, and expensive that the discovery of the potash salt beds at Strassfurth, in Germany, is regarded as of the highest value to the agriculture, not of Germany only, but of the civilized world. These salts are now extensively imported.—*Massachusetts Ploughman.*

SOWING FLOWER SEED.

THE time is now approaching for sowing the seed of annuals or other plants, and it is important that the work be properly done. We once employed a novice to sow some seed, in the absence of a better gardener, and he resolved to do his work well. He accordingly buried the seed so deep that few ever came up, and the seedsman was denounced for selling what was bad. A portion was left for a time, and then sowed in a hurry, the man having time only to give a thin dash of earth over them. These came up profusely, and the reputation of the seedsman was rescued. The rule which we have adopted for beds in open ground is to cover all seed from three to five times their shorter diameter—small seed receiving only a slight sprinkling, and larger a more copious sifting of the fine mould. No seed should be sown when the soil is not dry enough to reduced to fine powder. The best soil is sandy loam, but a larger proportion of clay makes a good material if dry enough to be made perfectly mellow. The addition of sand and leaf mould will make any soil of proper consistency. The best way to sow seeds is, in the first place in drills or circles; then the weeds may be easily taken out. If sown broadcast, it will be more difficult to keep the bed clean. Provide a quantity of finely pulverized mould in a basket or barrow, and cover them by sprinkling it evenly over with the hand. Avoid soaking the beds with water until the plants are up. If the surface is likely to become too dry after sowing, which is often the case, put

on a thin gauzy mulching. This may be pulverized moss, thin canvas, or even a newspaper. Every person who plants a flower garden should know the hardy plants, which usually come up soon, and may be sown early, from the tender, which are often more tardy. Most seed catalogues designate these separately.

CLOVER—HOW IT ENRICHES THE LAND.

WE are afraid of clover. We are afraid to raise it largely; afraid to feed it extensively, especially as a main feed; and afraid to plow it in.

This is wrong, very wrong; we are constantly losing by not growing more clover; losing in many respects. Clover, if we could only impress the fact on the general farmer, is a plant that draws from the atmosphere and enriches the land. Other plants do this, but clover more; it has to do with the most vital and important element in manure, nitrogen, the very thing that is the rarest and most difficult to obtain. It improves the soil by its roots alone, if the crop is used for other purposes; this even if a seed crop is taken. How much more benefit, then, if a whole crop is turned down containing so much nitrogen? And you have the manure without working for it. The plant works for itself and for you. We get its strength from a free source, the atmosphere, the great storehouse that gathers from all sources, but most from the energetic farmer.

And you can make this plant work for you on a poor soil. A little manure applied on the surface will do this; and if plenty of seed is sown there will be a thick set. Then it needs but a chance with the atmosphere, and plaster will aid this greatly. With warm showers there will be a growth almost surprising. It will be dense, fine stemmed and of a fair length, depending somewhat on the season. Cut this when it begins to lodge, which will be about the time when blossoms appear, and then will be avoided all rot or mildew consequent on long, coarse lodging, and the yield will surprise you—two and a half or three tons, and such hay is not made from any other plant. And the second crop will be nearly or perhaps quite as good as the first.—*Live Stock Journal.*

HUNGARIAN GRASS.

IN answer to inquiries how to manage Hungarian-grass hay, we insert the following from a former number of our paper :

"The trouble about Hungarian grass is, that it is not generally cut at the proper time. I have raised it for twenty years and consider it the very best hay for horses. They will keep fat on it where on timothy they will grow poor. I sow one one-half bushel per acre. It then makes fine hay, and on good land should yield from two to three tons per acre. Cut it when in the blow, before any seed is formed; wilt in the swath the same as clover and make in the cock. The stalk is nearly solid and the hay very heavy, and if made in this way will be as green as grass, and a horse will want little grain for ordinary farm work. I only feed grain in the spring when doing heavy plowing. Give your horses all they will eat of it and they will fatten, with decent usage. But if allowed to turn yellow and form seed, it is the same as any other grain, and will of course injure a horse the same as if he were fed wheat in a bundle, to excess. Any over-fed grain is bad. It is better to rake it by hand, but on good soil you will tumble up a big cock in a small space."—*Prairie Farmer*.

ROOM OR PARLOR PLANTS.

EASTERN windows are preferable to southern ones; the sun is now too powerful, and the morning sun being more congenial than that of the after part of the day, even west or north windows are now better than those opening toward the south. Plants that become dusty should occasionally be put out during light showers, taking care not to drench them. Roses and geraniums should be kept very near the light, or they will lose color and become pale. Plants that have been in the cellar during the winter, ought to be exposed by the end of the month, unless the season should be unusually late. Re-pot or plant out such as require root room. Keep hydrangeas in shady situations. Cleanse wood and foliage as early as practicable. A little pulverized wood charcoal on the surface of the of the earth in the pots containing parlor plants is always advisable, and by changing it two or three time during the season, it will be

found to obviate bad odors, and to increase the thriftiness of the plant.

When potted plants are placed in the ground some earth should be drawn up about the stems so as to form a cone to lead off the excess of moisture. Very few plants that have been housed during the winter will stand the full sun in early spring and summer; therefore, the warmest exposures should not be selected for them.

THE USE OF CONCENTRATED FERTILIZERS.

THE cause of failure in the use of the concentrated fertilizers is often due to the manner in which they are applied. It is difficult for those who have been accustomed to use bulky manures to realize that the full fertilizing potency of a bushel of animal excrement may be held in a large-sized tablespoon, and that a handful of one adds to plant structures as decidedly as several shovelfuls of the other. A full dose of opium as given to patients, furnishes quite a dark, bulky powder or pill: but if we separate the alkaloidal principle upon which its hypnotic power depends, we have only a delicate white powder which a breath of wind will blow away.

The one-eighth-grain-powder will effect the human organism as powerfully as ten times the weight of opium. If we were so forgetful of potencies as to administer as much, or even one quarter as much of the white concentrated powder as of the bulky dark one, we should destroy our patient's life, or at least do great injury to his health. So it is in the use of genuine superphosphate or guano, or ground bone and ashes; we forget their power, and apply them too directly—we endanger the life of our plants.

An experiment made upon corn affords an illustrative case in point. At the time of planting, upon a field divided by a narrow strip of sward land, we directed that on one side a tablespoonful of the mixed bone and ashes should be placed in each hill, and well covered with soil; upon the other, four rows were to be treated similarly, and upon the remainder the hills should receive a double quantity. It is curious to observe the effect. The first field and four rows are remarkably thrifty. The corn came up well, and has manifested remarkable vigor from the start.

On the other hand, the overdosed corn appeared for a long while as if it had been paralyzed by some wasting disease. It could not bear up under so much of the good thing. More free ammonia was formed at the start than could be appropriated by the tender plants, and many of them perished from overstimulation and heat produced by the fermentative changes of the active bodies in contact. The corn that survived is at present growing finely, and will, no doubt, afford a large yield. Now, if this had happened in the course of our regular agricultural labors, and without any understanding of the nature of the fertilizing substance used, it is probable it would have been condemned as a worthless or dangerous article. This has been the case with hundreds of experiments, and is indeed a perfectly natural conclusion to reach. But we must learn to reason, learn to have patience, learn the character of the substances we employ upon our lauds. We must be careful how to reach conclusions; we must examine closely to see if they are based upon principles in agriculture; let us cling to them, and when we get results that are puzzling or paradoxical, we must study causes, and not judge hastily.—*Journal of Chemistry.*

FARMERS' GARDENS.—We find the following couplet of excellent suggestions about farmers' gardens in the *Tribune* of South Bend, Indiana:

As a general thing, we see the same form of beds and ridges as were common fifty years ago, some at least one foot high, and that too on our porous sandy soil. Now, if either should be higher, we would elevate the walks, and thereby we have the benefit of the showers, thus utilizing the resources for growth, and avoiding the collection of water in the walks and alleys; besides this, it requires much hard labor to make those high ridges and beds, and when made, they do with their inclined surface, throw off much of the water that is of vast account, especially in a season of light showers or drouth.

Have the garden so arranged that it can be cultivated by horse power. Select a suitable piece of ground where you can have good turning room at each end; then lay off your rows clean through. I find it pays to lay off the rows with a line, so as to have them perfectly straight and of uniform width. In these

rows, plant your vegetables—early potatoes, peas, beans, tomatoes, sweet corn, cabbage, &c. Now if you will run through these rows at least once a week with the horse and cultivator the hoeing will be a comparatively light job, and can be done by children. Beside, the frequent and thorough stirring of the soil will give your "truck" a much more vigorous and thrifty growth than the cultivation it usually gets in the garden. This is the method pursued by nurserymen, and market gardeners, and I am sure its practical adoption by farmers would be a great improvement on the little square "garden full of weeds" now so common.

SEED CORN.—A Maryland correspondent sends us a couple of ears of corn, which he calls Kent corn, and of which he says: "It was introduced into our county of Kent some years since, from Nova Scotia, and is now thoroughly acclimated. After experimenting with and testing all the prominent seed corn to be found here, I am convinced that this is the best and most productive, and hence take pleasure in recommending it for its early maturity and its large yield from the weight on the cob. In your market, 70 lbs., of corn on the cob is sold as a bushel of 56 lbs. Owing to the small cob of this corn, the yield is from 58 to 61 lbs., as I have often demonstrated by weighing on a fine balance. I send you two ears to look at—one shelled, which weighed 13½ oz. before shelling, giving 11½ oz. corn, or above 52 lbs. to the 70; hence about 70 such ears will produce 56 lbs. of shelled corn. In conclusion, will say that this corn can be purchased in our market (Baltimore) at the present time for about 65 cents a bushel—not a pint."—*Country Gentleman.*

MILDEW on plants may be removed by syringing them with a strong decoction of green leaves of the elder, or solution of nitre, made in the proportion of one ounce nitre to one gallon water. A mixture of soap suds and water will also answer.

ONE cord of wood cut and split fine, and corded up beneath a shelter while it is yet green, will furnish more heat after it has become seasoned than two cords of the same kind of wood which have been continually exposed to the alternate influences of storms and sunshine.

HORTICULTURE.

A FEW FACTS.

A FARMER who expects to raise nice-flavored apples and of large size, and yet takes no care of his apple orchard, will find himself greatly mistaken. It is one of nature's eternal laws that nothing can grow where the natural food is wanting. The trees of our woods have their leaves, the decayed branches and shrubs besides the natural benefits of rains and atmospheric influences. Still when oak woods have had their time, oak will grow no more in the same soil, at least thriftily, and without changing its constitution. It is a well known fact that virgin soils produce spontaneously, first the noblest among the forest trees, afterward an inferior grade, till nothing but cedars or resinous plants will cover the once rich but now worn-out soil.

The inquiry often arises, why do the apple trees fail of bearing, or why yield such a scanty crop? Why is the fruit of such poor quality? Why so wormy? and why will it not sell in the market like other fruit? The reply is easy. The soils are worn out by fifty or more crops of apples, and also by grass crops innumerable, by which the phosphates, carbonates and the once abounding potashes of the old forests have been carried to market, without any restitution to the generous soil. So much for the growth of the trees and their bearing. Now, when it happens that by a long interval of rest the trees have regained their strength, by some of the natural influences of the air, rain and snow, nitrogen and ammonia, they soon blossom and yield another crop of fruit. But the soil has been so long in grass, and so long neglected, that worms, bugs and a legion of insects have found in that undisturbed soil a permanent home for themselves and their generations, and no sooner is a fruit tree set than they are at work by hundreds to sting and deform it.

A fruit orchard requires higher cultivation than any other crop, because its cultivation is in two stories, a crop below and one above. All that seems so very plain that I am very often amazed when I see able and intelligent farmers, who would laugh at the idea of getting a crop of wheat in an old and worn out field without any manure or extra labor. To

the farmers we say look at your apple orchards and see if they are an exception to this rule; and can they expect them to bear every year, no matter how poor the soil is, because they did so fifty years ago? The country is now so cleared of forests that the winds sweep away all the leaves from under the apple trees and this deficiency should be made up by an application of ashes or manure of such a kind as the soil is deficient in.

J. L. HERSEY.

Tuftsborough, N. H.

THE GRAPEVINE IN SUMMER.

PERHAPS the most serious difficulty the vine grower—whether he has a single vine or a thousand, has to contend with is mildew. The trouble with this is that its approach is so insidious that the mischief is done before the inexperienced cultivator has detected the presence of the enemy. A discolored spot upon the upper part of the leaves is seen; in a few days this becomes brown, and the leaf, if severely attacked, curls up and dies. Mildew not only attacks the leaves but the fruit clusters and the young wood. It may be arrested if attacked in time. The vines should be frequently watched, and if grayish patches appear upon the under side of the leaves, upon the stem of the bunches, indeed, if they are found anywhere, apply sulphur immediately. Do not wait until the next day, nor even the next hour, but apply at once. So certain a remedy is sulphur, and so very apt are vines to be attacked by mildew, that many grape growers find it to their advantage to pursue a systematic sulphurizing, whether indications of mildew are visible or not. The vines are dusted as soon as the leaves expand, when they are in flower, when the berries are of the size of peas, and when the fruit begins to color. This is done regularly, and if any signs of mildew are in the intervals, sulphurizing is immediately resorted to.

Flour of sulphur is the form in which it is used, and it is best applied by a bellows. There are blowers and other implements in use, but a properly constructed bellows, such as may be had at the implement and seed stores, is the most convenient for applying it. The bellows having a curved nozzle, allows the undersides of the leaves to be dusted, which is very important. The application should

be made on a dry day, and if the rain should wash away the sulphur soon after it is applied, the dusting should be renewed. One with a little practice can so manage the bellows as to throw the sulphur in a fine cloud of dust, which will settle upon and cover all parts of the vine with an evenly distributed but almost imperceptible coating. Next in destructiveness to the mildew come the hordes of insects. The most effectual remedy for the majority of these is hand-picking. Old vines especially are disposed to push out adventitious buds and form branches where they are not needed. These should be rubbed off.—*American Agriculturist*.

COVERED GRAPE-TRELLIS.—The Superintendent of the Experimental Garden and Grounds at Washington says that inquiry is frequently made relative to the efficiency of the covered grape-trellis described in the report of 1861, and its effects as a preventive of mildew and rot. A trellis of this kind was erected in the garden early in the spring of 1863, and has proved valuable, enabling us to test the qualities of many varieties of grapes that failed to ripen on the common trellises a few yards distant, on account of the destruction of the foliage by mildew. The philosophy of the action of protection in this particular case seems to be its tendency to arrest radiation of heat, thus protecting the foliage from the cooling action of night temperatures, which in turn prevent condensation of atmospheric moisture on the leaves, thereby checking, to a certain extent, the predisposing cause of mildew.

In experiments with registering thermometers, it was found that during clear, still nights in July, an exposed thermometer would mark from six to ten degrees lower than that under the cover, the foliage being thus kept warmer, and in consequence dryer, on the protected plants. This would almost seem to give a reason for the early maturity of the fruit, which has been observed to result from protection from dew will enable many varieties of grape to mature which otherwise cannot be successfully grown in ungenial locations. These covered trellises do not seem to have any

decided effect in preventing rot in the berry, that disease proceeding from the soil rather than from atmospheric influences.

ENTOMOLOGICAL.

THE CABBAGE BUTTERFLY.

[*Pieris rapæ*.]

THIS insect has been imported into this country from England, and, like other imported insects, it increases more rapidly than any of our native species, or perhaps than it does in its native country. In England its common name is the "Little Garden White," to distinguish it from the larger species (*Pieris brassica*), which feeds upon the same plant.

It seems to have been introduced into Canada about the year 1857, from whence it spread over parts of that country, especially southward, and reached New Hampshire, Vermont and New York in 1866. In 1869 it was noticed in Massachusetts, and in 1870 it reached New Jersey. A few specimens were observed in Lancaster county, Pa., in the summer of 1871, although it may have been here earlier, but the present season it is quite numerous, and we learn very destructive to the cabbages in parts of Donegal township.

Mrs. Gibbons sent us specimens of the *larvæ* from Enterprise, and Mr. J. B. Erb from Beaver Meadow, where it has done considerable damage. We have noticed it at large the present season in Lancaster city, and there is every reason to believe that before long it may prove a serious obstacle to the cultivation of the cabbage in this and other localities where the insect abounds.

The *larva* is a green worm, about an inch and a half long, when it is fully developed, of a pale green color and finely dotted with black, but this dotting is not perceptible to most persons, without using a magnifier; it has a fine, pale, yellow line down the middle of the back, and a row of yellow dots on each side, on a line with the breathing holes. This worm is not content with merely eating the loose outside leaves of the cabbage, but bores into the very heart of the plant, and for this reason among the French it is called "Heart-worm," (*Ver du cœur*.) Mr. Riley says (*Amer. Ent. p. 75*): "It leaves the plant and changes into a chrysalis in the middle or lat

ter part of September, and in this stage it hybernates," the butterfly appearing the following spring.

There are two broods of the insect in this latitude in one season. Mr. Erb exhibited, at the meeting of the Horticultural Society, July 1, a cabbage leaf, having a number of larva, and two chrysalids upon it, from the latter of which butterflies evolved on the 15th of July; and at this writing the butterflies are at large in several parts of Lancaster city. On the 13th of July Mrs. G. brought us a similar group of larvæ and chrysalids, from which a butterfly evolved on the 17th. All of these larvæ are now changed to various colored pupæ, or chrysalids. Some are green of different shades, some yellowish, and others brownish, and all more or less speckled, with minute spots of black. We noticed that those pupæ which had changed on the leaf developed into butterflies much earlier than those which left it and changed on the sides of the cage that contained them.

The perfect butterfly expands two inches, and the body is about three-fourths of an inch in length. The color is white, faintly veined with black. The head and body, the tips of the forewings and the clubs on the ends of the antennæ are black. The other markings are sexual, for instance, in the male there is a round black spot on each of the forewings, near the middle of the outer third; and a small oblong spot near the front edge of the hind wings. The under surface of all the wings are a yellowish white or pale yellow. On the female there are two black spots on the forewings, similar to those of the male, but larger. Both male and female vary in their markings; in some the black spot on the hind wings is absent, and in some females there are three spots on the forewings and an additional small faint spot near the middle of the hind wings. In some males also two spots are visible on the underside of the front wings.

In company with the larvæ brought by Mrs. G. were two specimens, evidently of the "Southern cabbage Butterfly" (*Pieris protodice*) which we have noticed in this locality, in limited numbers, for many years.

Remedy.—As these larvæ usually leave the plant, and seek any convenient object upon which to undergo their metamorphoses, if pieces of boards, raised two or three inches from the ground, in the form of low, roughly

made stools or benches, were distributed through the cabbage patch, the larvæ would resort to these instead of the fences or other places, where the chrysalids might be collected and destroyed. The butterfly itself should also be taken in a net and destroyed, and the larvæ be hand-picked off the cabbages. When they are very numerous, perhaps a douche of tobacco water, or strong soap-suds, would be a quicker way to exterminate them. Pulverized quicklime, white Hellebore, or fine snuff, would have a beneficial effect upon those on the surface of the plant; but as these worms sometimes eat into the head of the cabbage none of these remedies would reach them. At this moment (July 19) one which we are still feeding has eaten itself about half way into the stem of a red-beet, upon which we have been feeding it, in the absence of cabbage. If sparrows, while they are rearing their young, could be induced to trust civilized beings, so far as to locate their nests in or about their cabbage patches, they might destroy many of these larvæ. The titmouse is said to eat them at all times, but we have not seen a titmouse within gunshot of a human habitation for a long time past.

R.

CORRESPONDENCE.

GOSSIP.

"WHAT I know about farming," is very little, practically; and as to theorizing we have any amount of it. I doubt much whether Horace Greeley acquired any popularity on the subject of farming. The numerous squibs and jokes circulating are enough to try his philosophy.

There are other things, however, 'worthy of cultivation, besides pumpkins and pickles—for instance, patience is an herb that it is well to have at hand on trying occasions, either on the farm or in the family. An o'd German couplet says

"Gedult ist das beste grant,
Das mann in America baut"

If that is not good German, it will pass for Lancaster County Dutch, whether Mrs. G. or Pete Schweffelbrenner approve of it or not. Addison in one of his poems, says—

"But tho' heav'n
In every breath has sown these early see s
Of love and admiration, yet in vain
Without fair culture's kind parental aid.

I claim, therefore, that not only *mental culture* and that of the social virtues are of as much, if not of greater importance, than *agri-culture*, and should, as it also is, be associated with it.

Now, I claim to be good-natured and not wholly void of good manners, and ask your civility, because I do not pretend to be wiser than my *gentle reader*. Mark Twain, has it "ferocious reader;" he says the word *gentle reader*, is too common-place, and has lost its meaning—played out; but Mark is no good authority on matters of taste, and has good sense enough to "own the corn."

There is no harm in using spice, in our food, and I relish it even in ordinary hum-drum matters of fact, be it on botany or horticulture. I trust I know enough to avoid as 'tis said i' the *adage*:

Id est, to make a leak a cabbage.

There is a kind of *cabbage*, that proves a *leak* in matters of finance, in *bank shares*; *plow shares* are less subject to being handled by the light-fingered gentry, who need *culture* and ought to be trained against a wall with a *sunny exposure*, or be planted below the *frost line*. If they wouldn't come up there would be no great loss to society.

If you consider this a medley of nonsense, I shall take no offense in being told so by the FARMER's critic, Humboldt, or "any other man." It is true, our self-love does not relish to own its folly. The Indian became exceedingly indignant when, on inquiring the road to his wigwam, the astonished per on observed: "What, an Indian lost?" Ugh! Indian not lost, but *wigwam*," was the surly reply, and, truly analyzed, he was right. He knew exactly where he stood, but could not tell the locality of his wigwam. Well it is for us if we really know where we stand. Our individual standing in the estimation of others, too, is highly important, and without due *cultivation* we may remain like stubble in the field, a standing disgrace, fit to be turned under to make room for a better crop.

It is said we have five senses, all of which can be cultivated, and yet some folks lack an important sense, which is common sense. But do you know, my "gentle reader" (I will say gentle, Mark Twain to the contrary notwithstanding,) that it is proved that we have six senses; thusly, make a cube of equal size, one of lead, the other of wood; gild them both,

and let them be as exactly alike as possible, and equal in temperature; and not one of our five senses is able to tell which is the wood and which the lead. Sight, hearing, taste, touch and smell will not aid you; but handle it, the *weight* determines the fact. Now it is argued that weight is as much one of the senses as any of the rest. This is considered a new discovery, but Dr. Thomas Brown and Sir C. Bell have propounded the doctrine of a sixth sense, called the *muscular sense*—our whole muscular frame being supposed to be a *distinct organ of sense*, a doctrine to which Dr. Whewell declared his adherence in his *Philosophy of the Inductive Sciences, etc.* Therefore, this new discovery of the sense of weight is not so very new after all.

But science is a wonderful thing; it makes grand discoveries, and is often fooled. A microscope will show you minute creatures, as lively in a drop of water as "eels in the mud," and more abundant and active, but it does not teach you how or where they come from. So they analyze the brain and physical man. What is the result? "A man is, chemically speaking, 45 pounds of carbon and nitrogen, diffused through 5½ pailfuls of water." In plants we find water thus mingling no less wonderfully. "A sunflower evaporates 1½ pints of water a day, and a cabbage about the same quantity." This is science, true no doubt in one *sense*, but we have six, and the other five must not be ignored. We are none the less conscientious and accountable beings that sadly need *cultivation*. The doctor's scalpel and the savans' materiality requires a higher training, than assumptions and conclusions drawn from surrounding matter. But science is wonderful. The London Chemical Society have discovered a new organic base, to which they have applied the name "Azodinaaphthylidiamine," and another they call "Azodinaaphthylidicitraconanaic." I have tried to give it in plain letters, for it is a sober fact, and copied letter for letter. If Mark Twain dislocated his jaw in trying to pronounce the name of a Russian lady that smote his fancy, I fear the task in getting the type right will prove a puzzle. I caution the setter-up, but it is hardly possible to exaggerate such names. "Fact is stranger than fiction," but the learned asses string a lot of Greek words in a row, after the manner of the Chinese. The whole word is composed of certain hooks and crooks forming

one letter, however long the word may be. Is it science or is it nonsense to coin names that are unpronounceable? I find strange inventions, also, of the sphygmograph, myograph stomatoscope, iridoscope, etc. We are familiar with stereoscope, and spectroscope. I like inventions and try to make myself useful to inventors. But I must stop or some Jew that hates pork will accuse me of *sandwiching* business into articles for the farmer—like slipping a slice of fine ham between two slices of buttered bread—not hard to take, provided you have no conscientious scruples. I do not mean to say that I am a “solicitor of patents” and will be at your service on fair terms, but you may infer what you please. What I say is in defense of your inference of what do I mean—that is, if you *don't* see the point, and just so, if you do. But I'll stop like the old lady that spoke out in meeting and then checked herself for talking and kept on talking to tell how ashamed she was for being guilty of disturbing the meeting. I will conclude by appealing for your pardon in the lines of Dryden

The powers above are *slow*
In punishing, and should we not resemble them?

J. STAUFFER.

FIG CULTURE.

MESSRS. EDITORS: As the cultivation of the fig is attracting considerable attention of late, I beg leave to make some inquiry through your columns.

Some forty years ago in a garden, not more than six miles from your city, I knew a clump of fig trees that would shoot up as thick as a cane-brake every spring, blossom, and be full of small figs, about two-thirds grown, when the first frost would come. That, of course, put a stop to their further development, and the winter following would kill all to the ground.

The following spring they would come up again and repeat the same story. One fall my father set a shock of corn-fodder around them, thinking to save them through the winter, but it availed nothing.

It was on a place in Pequea now owned by Cyrus N. Herr, if not lately changed hands.

Now it is possible that some one may still have that kind of fig on their grounds, and if so, it would interest me very much to get a start of them here; as I believe that the six

weeks more of a season we have here would ripen them, even if they would die down every winter.

If any of your readers (in case you should publish this) can give me any information on this subject, it will be thankfully received and reciprocated.

I have now four varieties of figs growing, and as soon as wood is to spare, will be ready to distribute gratis.

We have a semi-circular amphitheater between two lofty cliffs, facing the south, wherein they may even stand the winter after they are a few years old.

To give you an idea of our season, I will state that tomatoes are ripe, corn ten feet high, and in the tassel, a late variety; sweet corn for some time; Hale's early peach nearly ripe; Mary Ann grapes colored, etc.

Yours truly,

S. MILLER.

Bluffton, Mo., July 10, 1872.

THE LESSON OF THE LAST YEAR'S DROUGHT.

THE following extract is from a report by W. W. Daniels, Professor of Agriculture in the University of Wisconsin, which we find in the *Western Farmer*:

“While there is no means of preventing the recurrence of these extremes of climate, and, perhaps, no means of modifying their effects that will be universal in its application, there is a remedy, general in its nature, which is within the reach of all farmers. It is the adoption of a better system of culture, better and deeper plowing, better cultivating, and better manuring.

The stratum of soil needs to be deepened, to be more thoroughly pulverized, and to be made richer. Any means that may be adopted that will accomplish these ends will be of value as a remedy against drought.

There is another means of preventing the evil effects of both droughts and floods upon all clay lands or upon those having a clay sub-soil, and which at the same time increases the productiveness of the soil so as to pay well for its adoption. It is under-draining. The effect of under-draining is to pulverize the soil by natural means to nearly or quite the depth of the drains, and by this deep pulverization the soil is enabled successfully to withstand droughts so severe as to ruin crops upon similar land undrained, while the drains beneath the surface form a ready means of escape for the surplus water of wet seasons. In the adoption of a thorough system of under-draining upon all heavy soils will be found the most effectual remedy, and the one most general in its application, against such extremes as those of the past three seasons.”

The Lancaster Farmer.

LANCASTER, AUGUST, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

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WE respectfully call the attention of our readers, to the two entomological contributions in this issue, on the "Colorado Potato Beetle," and the "Garden White Butterfly," as two enemies to the potato and cabbage plants that are likely to become formidable in this county before many years. It therefore becomes potato and cabbage growers to keep a vigilant watch, and make an energetic warfare upon them. It will not do to remain ignorant of their history, their habits, and their appearance, and also of the best means to fight against them; because, the time may come when such ignorance may involve great loss, a loss too, that is as likely to reach the poor man as the rich one, because it strikes at the very foundation of the poor man's most reliable home supply. We hope that these enemies to vegetation may not have a wide circulation in our county; but the present season is peculiarly favorable for insect propagation, and therefore the chances are in their favor.

Since our last issue, the harvests of hay, wheat and oats, have been gathered, and although they have not been nearly so short as was anticipated earlier in the season, yet, if any calamity should befall the corn, the potatoes and cabbages, the supply of our necessary food might become scarce and high in price. Farmers are becoming vigilant enough in their warfare against the enemies of the tobacco, and this, so far as it goes, is perhaps all right; but there will not be much economy displayed in saving the tobacco at the expense of those productions more immediately connect-

ed with the life, the health, and the comfort of the people at large. We should think more upon poor famine-stricken Persia, and reflect that a similar condition here, cannot be reckoned in the list of impossibilities. On the whole we are still prospering, and therefore we should not be unmindful or unthankful of prosperity.

MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

SOCIETY met in the new apartment appropriated by the commissioners, for the first time after the division of the old Orphan's Court Room, June 3d, 1872. Minutes read and approved, none dissenting.

Henry M. Eugle, Chairman, called for the reports as to the condition of the crops.

S. M. Kendig spoke of the condition of the wheat crop as indicating better than it had early in the season. Farmers were putting out their tobacco crop. The first in general was well set and promises a good crop.

John B. Erb.—Wheat fields exposed to the winds look very poor. The cut-worms are very bad upon all things planted this spring. Had seen as much as ten or twelve worms at one stalk. Raspberries, except the hardy ones, were frozen down to the ground last winter. Apples promise well and potatoes have a good appearance.

Levi S. Reist did not agree with Mr. Kendig's estimate that the wheat was improving. With him it is not. He has plowed down some of his wheat. Apples with him do not promise well. Peaches are well loaded but the pears are not.

E. Hoover thinks in East Hempfield the wheat is quite as good as any he has seen in the county. The late rains have helped the wheat. Fruit promises well. Grapevines have been frozen very much.

D. M. Resh thinks in this section the wheat crop will not be over the one third of the usual crop.

M. B. Eshelman thought that the best fields of wheat would bring about half a crop. The weed called by the growers "dotters" has taken possession of the fields.

H. R. Stover thought in Lancaster the crop of the best fields of wheat will not be over a half a crop. Many have plowed their fields of wheat down, putting in other crops. He

has traveled over the county and also in Berks. The same condition in all places has been witnessed.

The hay crop will be very small. Grapevines have been very much frozen last winter.

Johnston read a report upon the condition of the crops within range of his observation.

Dr. P. W. Hiestand thought the reports too favorable. He did not believe the crop this year would be over half a crop. Apples will be plenty from appearance.

J. M. Frantz in his observations along the Pennsylvania railroad from Harrisburg to Philadelphia, had not seen a single good field of wheat. The appearances for a hay crop are also poor. He does not think the Lancaster county wheat crop will average over from 5 to 8 bushels per acre. In his opinion wheat that does not mature by the 4th of July is not usually good.

C. L. Hunsecker remarked that in New York and Canada, the harvest is generally a month later than ours and yet it matures well and good wheat is obtained. In 1835 the wheat was an entire failure on account of the fly. The crop in Lancaster county this year is going to be a great failure.

M. B. Eshelman agrees with J. M. Frantz that wheat to be good must mature early in July.

Johnson Miller is ready also to accept this as a sound view.

Henry M. Engle believed the quality of the hay cut this year will be better in proportion to its quantity, than if a more luxurious growth had been obtained. He does not apprehend a hay famine. The weather is now favorable for a good hay crop. High temperature is not favorable to potato and wheat crops, but is excellent for sweet potatoes. Fruit prospects are favorable. More fruit is set in this country than has been perhaps in any one for twenty years. Even during this year good manuring shows itself.

E. Hoover read an essay upon farming, "Does it Pay?"

Milton Eshelman regarded the essay as an excellent and sensible production, and one embodying sound maxims of wisdom. On motion a vote of thanks was tendered the essayist for his able effort.

C. L. Hunsecker.—It is generally considered that the occupation of agriculture is a very honorable one. All cannot, however, be

farmers. It is one of the safest occupations of man. But an occasional failure even occurs among farmers, as in other occupations.

J. M. Frantz was inclined to agree with all the sentiments of the essay. But he would not advise the farmers to feel entirely secure and that no failure can take place in this business.

D. G. Swartz considers that the farmers have the amplest opportunity for self-improvement of almost any other calling or profession of which he has any knowledge. In the circles calling for mental effort those in them have not that taste for reading which farmers might acquire. The farmer can alternate his time between reading and labor. He regarded, so far as respectability was concerned, all occupations as equal and should be so considered. The professions are no more honorable than the pursuit of agriculture. He enumerated as noble instances of farmers, Washington, Webster and Greeley. Cincinnati was called from his plow to assume the guidance of the helm of State. Other businesses are risky, ten-fold more so than that of agriculture. He cautioned farmers against going in debt, as a financial crisis may set in and prove destructive to many.

Peter S. Reist thought the essay one of the best we have heard. He regarded the farmers as the bone and sinew of the country. He did not regard, however, Webster and Greeley as instances of successful farmers, for they simply kept up their farms by their other incomes. This is not the kind of farmers we can imitate. Give a boy a fine education, and one hundred chances to one he will abandon farming for some other occupation. Labor, hard, steady labor, and economy are the requisites for successful farmers, and little save these. Education is not so essential.

Andrew M. Frantz, Esq., differed with Mr. Reist in the ideas expressed by him as to the advantages of education for farmers.

Society on motion adjourned.

Society met July 1st, 1872, and the attendance of the members being limited, the reading of the minutes of the last meeting were dispensed with.

J. B. Erb showed cabbage leaves which were badly infested with the green cabbage worms, which seemed to be depredating very much upon the cabbage in this county.

Henry M. Engle showed specimens of the Colorado potato-beetle.

On motion Mr. Abraham Herr Smith was elected a member of the society.

The Secretary submitted a letter from Johnston Miller on the condition of the crops.

Society on motion adjourned.

RANDOM SKETCHES AND FARM ITEMS, NO. 12.

BY H. M. ENGLE.

THE wheat crop south of fortieth latitude is now harvested. From reports of some farmers, the yield is better than was expected. Unfortunately, however, as usual, a large proportion of the crop was not cut until over-ripe, and consequently is much impaired in quality for the purpose of making fine flour.

It is very strange, that with all the facts and arguments, written and published for a number of years, by some of the ablest men in favor of early harvesting, the larger number of farmers still continue a custom so much against their own interests.

There is scarcely an intelligent miller who will not pay from three to five cents per bushel more for wheat harvested and housed at the proper time, than for such as has been neglected by overripening.

Farmers are generally considered shrewd as to dollars and cents, but in the above case they are certainly deficient.

The early potato crop will yield much better than was expected early in the season, but will not be so large as last year.

With all the urgent requests through the public papers to have farmers plant largely of late potatoes, the advice was not heeded as it deserved.

The late plantings, therefore, are not so extensive as circumstances required. Those that have been planted late do not promise as well as the early, the drouth, perhaps, being the cause of many not coming up. So from present indications there will be no surplus stock in those sections where drouth prevailed.

The Colorado Potato-beetle having made its appearance in this county, may well cause alarm among both producers and consumers of potatoes; although it will not effect the crop this season, it is not likely that it will be

prevented from multiplying and spreading rapidly.

Another enemy has made its appearance, which may well cause anxiety among sour-kraut eaters. The green cabbage worm, which has been so destructive in New York and New Jersey, is among us in formidable numbers, knawing the heart out of the plant, which prevents it from heading.

I have knowledge to what extent it prevails, but from information I suspect we shall soon hear more of its ravages than is at present suspected.

LEAKS IN DAIRY FARMING.

THE following discussion on "Leaks in Dairy Farming, and How to Stop them," we extract from the *Country Gentleman*:

Hon. Harris Lewis of Herkimer opened the discussion in a very practical and sensible way. He remarked that, as a general rule, it is not the large leaks that ruin the farmer, but the small ones. The large ones are easily discovered and stopped, while the small ones are suffered to run on.

The first leak he would allude to was the manner of driving the cows to and from the pasture. Many dairymen suffer the cows to be driven by dogs, and not unfrequently through a close and muddy bar-way, where permanent injury to the cows was often caused by their crowding and hooking each other. Boys are sometimes allowed to drive them with stones and sticks, often scaring them into a run. He would prefer a well-trained shepherd dog to any boy he ever saw. Carelessness in driving cows caused a leak of from ten to fifteen per cent.

2. *Time and manner of milking.*—Here is a big leak. No rough man, who storms and yells at the cow, should be allowed in the yard. The cows should be milked by the clock. Each man should have his own cows, and always milk No. 1 first, No. 2 next, and so on. It will not do to milk Polly first and Sally last in the morning, and Sally first and Polly last at night. Milk quickly and gently, without any noise or excitement. The cows will give more milk and more readily.

3. *Care in Feeding.*—It is important not only to provide good and sufficient food, but it must be fed regularly. If the food is delayed, the cows become impatient and fret like a hungry child.

4. *Kind of Stock*.—A great leak is caused by keeping poor cows. Every year dairymen have to milk cows that do not pay for their keep. Has had cows in his herd that made 700 pounds of cheese in a season, while others in the same herd gave not more than 200 pounds. We should select our herd with great care, and then endeavor to improve it. We must raise our own dairy cows. The native cows are the best to start with, if selected for their milking qualities. Then get a good thoroughbred bull of the breed we desire, and be sure that he comes of a good milking family of the breed. We should raise 10 per cent. every year. That is, in a dairy of fifty cows we should every year raise five heifer calves, and when they come in, turn off five of the oldest or poorest cows. His own choice of breed is decidedly the Durham, unless the pastures are poor, in which case he should prefer the Ayrshire. The Durham is good for beef, and if a cow fails to be a good milker, she can be sold to a butcher at a good price. Two years ago there were 1,500 cows sold in the fall at an average of \$13, which cost \$70 each the previous spring. The cheese from each cow cost 35 cents per pound, while it was sold for 14 cents. This was a big leak.

6. *Letting Hay get overripe*.—He would cut the grass when the first timothy blossoms appear, and so with clover. If you do not commence as early as this, the last cut hay will be overripe. Feed the early cut hay to the cows as soon as they come in. It is better than grain.

7. *Kind of Grass*.—Farmers are as wedded to timothy and clover as Ephraim was to his idols. They kill the native grasses by plowing the land, and then insist on making timothy and clover grow where the soil is not adapted for them. This is a leak equal to feeding a hog with a whole in the pig trough.

8. *Drainage* is destined to work a greater revolution in our grass land than all other things combined. The loss sustained from the want of drainage constitutes one of our worst leaks.

9. *Poor help to make Butter and Cheese*.—Better abandon the business if we cannot do the work ourselves or get good help. There is a great deal of butter made that is worthless except for grease. A few cents more a pound would pay for the best help and the best dairy utensils.

10. *Allowing Manure to Waste* is a great leak. He would always apply manure on the surface. As a dairyman he would rather have one load of manure applied on the surface than ten loads plowed under. Would draw out the manure fresh, and apply it at all seasons when most convenient, on the meadows and pastures. Had not a foot of land on his farm that manure did not agree with. It is all moonshine to fork over manure and rot it. It leaks away. He spreads his manure on the surface, and goes over it with a brush harrow.

11. *Poor Implements* are a great leak. He would always get the best that were to be had.

There are a great many other leaks. We are all acquainted with them, and often promise ourselves that we will stop them. He would leave the subject to the meeting.

Mr. Curtis of Saratoga—One of the most important implements on the dairy farm was the curry comb. Most farmers leave the animals to do their own scratching. It is as important to curry as it is to feed. The cows like it. They get impatient for their turn. Knew a farmer who had a quarrel with his hired man because he would not curry the cows. It is a great mistake not to provide an abundance of green food for extra feeding in summer. The cow is a machine for converting food into milk, and the more she will eat the better. It is great folly to give abundance of food when it happens to be plenty and to starve the animals when food is scarce. Comfortable quarters, shelter, and a good yard save half the food. He believed Mr. Lewis claimed that it saved three-quarters of the food. He did not agree with Mr. Lewis in regard to Durham being the best breed. True, they are better for food. But we want milk. A Durham cow will eat herself up twice a year before she is ready to turn off at the end of the year. He prefers the Ayrshire.

TANNING LEATHER.—It is often a matter of both convenience and economy in the household or the farm to be able to do a little tanning; so we give here an approved recipe which may prove useful. Soak the skin or hide eight or nine days in water, then put it in lime; take it out, and remove the hair by rubbing, and soak it in clear water until the lime is entirely out. Put one pound of alum to three of salt; dissolve in a vessel sufficiently large to hold the hide; soak the hide in it three or four days; then take it out, let it get half dry, and then beat or rub it until it becomes pliable. Leather prepared by this process will not do well for shoes, but answers for hamstrings, back-bands, and various other purposes on the farm.—*Boston Journal of Chemistry*.

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

PAPERS RECEIVED.—American Bank Circular, Journal of the Farm, National Oil Journal, The Copy Hook, Real Estate and Farm Journal, California Horticulturist, Monthly Report, Department Agriculture, Everybody's Journal, American Stock Journal, Farm and Fireside Journal, National Live Stock Journal, Practical Farmer, Western Pomologist and Gardener, Penna. School Journal, Proceedings National Agricultural Convention, Farmers' Club, Industrial Bulletin, American Farmers' Advocate, Free Press, American Land and Law Advisor, Our Church Work, American Agriculturist, Wood's Household Magazine, American Homes, The Valley Independent, N. Y. Observer, N. Y. Independent, N. Y. Rural Register, Manheim Sentinel, and other good publications which we really regret have neither time nor space to more than mention this month.

WE have never yet seen a book of testimonials containing more valuable evidence of real merit in an article spoken of, than the little pamphlet entitled, "What people say about the Blanchard Churn." Send to any dealer in dairy implements for one of them.

THE LADY'S FRIEND FOR AUGUST.—The leading engraving in this number is that of a most lovely lady on a balcony, waving her handkerchief—a beautiful picture. "Moonlight at Sea," is also something exquisite. The illustrations of stylish costumes and tasteful novelties in dress are rather more than usually captivating we should say. Altogether this August number of the Lady's Friend presents as entertaining a feast of light reading for the warm weather as could well be found. Price, \$2.00 a year. Four copies, \$6. Eight copies (and one gratis) \$12. "The Lady's Friend" and "The Saturday Evening Post," \$4. Published by Deacon & Peterson, Philadelphia. Single copies for sale by all news dealers and by the Publishers, price 20 cents.

"*Lights and Shadows of New York Life; or, the Sights and Sensations of the Great City.*" A work descriptive of New York City in all its various phases. Its *Follies and Wretchedness; Its High and Low Life; Its Marble Palaces and Dark Dens; its Attractions and Dangers; Its Rings and Frauds; its Leading Men and Politicians; its Adventurers; its Mysteries and Crimes.* By James D. McCabe, Jr.

What Paris is to the Frenchman, or London to the Briton, New York is to the American. It is not only the Metropolis, but it is the chief attraction upon this continent, the great center to which men and women resort for both business and pleasure, and as such is a source of never-failing interest. Of late years several attempts have been made to reproduce its varied attractions in book form. The most successful result of these efforts is the book now before us. The author has had unusual facilities to see every feature of the great city, and has written the work with an enthusiasm which is apparent in every page. He has not merely produced a sensational story, but has given us a record of actual facts, of which he is personally cognizant.

The book is as fascinating and absorbing as a novel, and were it not for the evidence he furnishes, we should be tempted to believe that he has carried us into the realm of fiction. He tells us the history of the great city which has grown to be the most remarkable in America, and relates its old traditions with zest and humor. He introduces us to all classes of people, and initiates us into their ways and manner of life. He brings us face to face with great merchants and bankers, actors, editors, working-women,

ballot girlstheives, gamblers, sailors, quacks, firemen and a host of others. He delights us with his sketches of the better and brighter side of city life, of the genius, enterprise, charity and humanity of the great city, and appeals us with his thrilling accounts of the darker and more terrible side of life he is delineating.

A truthful picture of New York life cannot be otherwise than deeply interesting. Our author has succeeded admirably in his task, and we predict for his book a large sale. It is brimful of useful information, brilliant and fascinating, and an emphatic warning against the vices of the city. It is pure and lofty in tone, and while it discusses fully many of the darker sides of city life, it does so with delicacy and candor. An interesting feature of the book is a powerfully written history of the Tammany Ring frauds, with sketches of the actors therein.

It is comprised in one large octavo volume of 850 pages, illustrated with nearly 200 fine engravings of noted places life and scenes in New York, and published by the National Publishing Co., of Philadelphia.

The low price at which the work is issued, brings it within the reach of all, and no one who wants to know New York as it really is, should fail to buy this book. It is published in English and German, sold by subscription only and agents are wanted in every county.

It is no joke, but a fact, that the Blanchard Churn is literally an *Automatic Butter Maker*. Try it for yourself. Send to any dealer in first-class farm machinery for a circular or a churn.

PHILADELPHIA MARKETS.

WEDNESDAY, July 24.

FLOUR.—The movements continue of a limited character and we have no change to record in prices. The demand for flour is confined chiefly to the wants of the home consumers. Sales of 650 barrels Market Street Mill on secret terms; superfine in lots at \$5.50; extras at \$5.75, 6.25; Iowa and Minnesota extra family at \$7.82; Pennsylvania, Ohio and Indiana do. do. at \$8.37, and high grades at \$9.10.50. Nothing doing in rye flour or corn meal.

GRAIN.—The offerings of wheat are small and prices steady. Sales of 7,000 bushels; old Western red at 1.89a 1.82; new Southern do. at \$1.67 1.75, and white t. 82. No sales of rye. Corn is dull. Sales of yellow at 61c. and 6000 bushels mixed Western at 59.50c. Oats quiet. Sales of white at 42c; 7000 bushels do. on secret terms, and mixed at 40.41c. The receipts to-day are as follows: 1229 barrels flour, 7,200 bushels wheat, 36,809 bushels corn, 8 500 bushels oats, 597 barrels rye.

PROVISIONS continue quiet, but prices are firm. Sales of Mess Pork at \$14.14 15 per bbl. City packed extra Mess Beef is taken at \$14.50a15 per bbl. Bacon is steady. Sales of plain sugar-cured city smoke Hams at 15a16c, canvassed western at 15½a16, sides at 8c, and shoulders at 6c. Green Meats are higher. Sales of pickled Hams at 13½a 14c, and shoulders in salt at 5½c. Lard is quiet; sales at 9a 9½c per lb.

SEEDS.—There is very little doing in clover; small sales at 11a1½c. per lb. Flaxseed sold at \$2.10, and Timothy at \$3.50 per bushel.

NEW YORK MARKETS.

WEDNESDAY, July 24.

FLOUR AND MEAL.—There was a fair demand for local wants, and moderately far export inquiry. Minnesota firmer and fairly active. Wisconsin choice brought higher prices. Southern St. Louis and Southern Illinois steady and in fair demand. Shipping grades scarce. Extra State in limited supply. Medium grades rather in buyers' favor. Superfine and No. 2 in better demand, with improvement in prices. Corn meal more active. We quote: Flour—Superfine, state and Western, 8 bbl., \$5.80a5.85; Extra State, &c., \$6.50a6.75; Western spring wheat extras \$6.20a 6.50; do. double extras, \$7.50a8.50; do. winter wheat extras and double extras \$7.10a7.50; city ship pining extra, \$6.75a 7; city trade and family brands, \$7.50a10; Southern do. \$3.75a10.25; do. shipping extras, \$7.25a8. Rye flour \$1.25a5. Corn meal—Western, &c., \$3.10a3.40; Bran'dywine, &c., \$3.70a3.85.

PROVISIONS.—Pork active and firm; 2,500 bbl's at \$13.75 for July, and 13.75a13.80 for August. Beef unchanged. Bacon about steady; 350 bxs. sold at 7½c. for long clear for next week, and 7c. for new short rib. In cut meats sales of about 25 tcs. pickled bellies at 6¼c., and about 25 tcs. bagged smoked hams, at 14¼c. Lard was quiet but steady; 450 tcs sold at 9½c. for western for July, 8½c. for fair new do., and 8¼c. for prime city. Dressed hog, firmer at 6½a 6¾c. Butter unsettled; prime State quoted at 24a26 c., and Orange county pails 25a30c., the latter for selections in a small way. Cheese active and firm. Eggs firmer at 15a19c. for western, loss off.

GRAIN.—Wheat 1c. higher on spring but less active. The demand was for both milling and export; sales of 62,000 bushels at \$1.50 afloat for No. 1 Milwaukee spring, \$1.48a 1.48½c. for Milwaukee No. 2 spring, \$1.45a1.46 for No. 2 Chicago spring, \$1.60a1.63 for winter red western, and \$1.80a 1.90 for white Tennessee. Corn firmer; sales 133,000 bushels at 61½a62c. for western mixed prime sail, 58½a59½c. for warin, 58a60c. for steamer mixed, 60½c. in store for western mixed sail, 62½a63c. for yellow western, 61a63c. for straw colored, and 65a68c. for white western. Oats steady; sales 72,000 bushels at 41¼a42c. in store, and 43a43½c. afloat for No. 2 Chicago, 46½c. on the track for fancy white, and 46a47c. afloat for good to choice white Ohio and State. Rye —S les 8,000 bushels western at 71c. in store. Canada peas flat at 90a95c. in bond.

LIVE STOCK MARKET.

NEW YORK, Wednesday, July 24.

The market was fair and most of the cattle were sold at previous quotations, 11a13c. ½ lb, good, fleshy steers selling generally at 12a12½c.

Calves were in demand at 6a9c. for milk-fed, with a few sold at 9½a10c.

Sheep were firm at 5a7c. ¾ lb., with the bulk of the sales at 5½a6½c. Lambs were barely steady at 10a13c. for ordinary to choice.

The hog slaughterers sold dressed hogs at 6¼a6½c. ¾ lb., an advance of about ½c. None were offered alive.

CHICAGO MARKET.

CHICAGO, July 24.

FLOUR.—Quiet and unchanged; extra spring, \$6.25a6.50; superfine, 3.50a4.25.

WHEAT.—Opened fair but closed dull; No. 2 spring Chicago sold at \$1.25; closed at \$1.28¾, cash for July; \$1.17½a 1.18, seller August; No. 1 ditto, \$1.26a1.26½; No. 3 spring, \$1.10.

CORN.—Fair demand and prices advanced; No. 2 mixed, 40½c.; regular, 41c. for fresh, cash; 41½a41¾, seller August; 43c. seller September; rejected, 37½c.

OATS.—Fair and advanced; No. 2, 26½c. cash; 25½c. seller August.

RYE.—Steady; No. 2, 55a58½c.

BARLEY.—Quiet and unchanged; no sales.

PROVISIONS.—Pork market buoyant but unsettled; cash nominally \$14.75; sales seller August at \$14.50; held at \$14.62½ at the close. Bulk meats, demand good at full prices. Shoulders, 5¼c.; clear rib sides, 7a7½c., loose. Bacon, demand good, at full prices; shoulders, 6a6½c.; clear ribs, 7¾a7½c.; clear sides, 8¼a8½c. Sugar-cured hams, 13a15c. all packed.

CATTLE MARKET.

MONDAY, July 22.

The cattle market was quite active this week, and prices were higher. 21,000 head arrived and sold at 7½a7¾c. for extra Pennsylvania and western steers; 6a7c. for fair to good do., and 5a5½c. ¾ lb., gross for common, as to quality.

Cows were in good demand; 3,000 head sold at \$30a45 ¾ head.

Sheep were in good demand; 3,000 head sold at 5a6½c. ¾ lb., gross, as to condition.

Hogs were higher; 3,100 head sold at the different yards at 7.25a7.50 ¾ 100 lbs. net.

RULES FOR THE CARE OF SHEEP.

A CIRCULAR issued by F. C. D. McKay, the general agent of the American Emigrant Company, gives the following: The have already 10,000 sheep scattered

among the farmers who purchase land of them, in flocks ranging in size from 50 to 200 head.

1. Keep sheep dry under foot with litter. This is even more necessary than roofing them. Never let them stand or lie in mud or snow.

2. Take up lamb rams early in the summer, and keep them up until December 1, following, when they may be turned out.

3. Drop or take out the lowest bars, thus saving broken limbs.

4. Count every day.

5. Begin graining with the greatest care, and use the smallest quantity at first.

6. If a ewe loses her lamb, milk her daily, for a few days, and mix a little alum with her salt.

7. Let no hogs eat with the sheep, by any means, in the Spring.

8. Give the lambs a little mill feed in time of weaning.

9. Never frighten sheep, if possible to avoid it.

10. Sow rye for weak ones in cold weather, if you can.

11. Separate all weak or thin or sick, from those strong, in the fall, and give them special care.

12. If any sheep is hurt, catch it at once and wash the wound; and if it is fly time apply spirits of turpentine daily, and always wash with something healing. If a limb is broken, bind it up with splinters slightly loosening as the limb swells.

13. Keep a number of good bells on the sheep.

14. Do not let the sheep spoil wool with chaff or burs.

15. Cut tag-locks in early spring.

16. For scours, give pulverized alum in wheat bran; prevent by taking great care in changing dry for green feed.

17. If one is lame, examine the foot, clean out between the hoofs, pare the hoofs if unsound, and apply tobacco with blue vitriol boiled in a little water.

18. Shear at once any sheep commencing to shed its wool, unless the weather is too severe, and save carefully the pelt of any sheep that dies.

19. Have at least one good work by you for reference. This will be money in your pocket.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

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No. 9.

EASTERN EXPERIMENTAL FARM OF PENNSYLVANIA.

BY H. M. ENGLE.

THIS Institution, with all its progress and energetic management, is almost unknown to the larger portion of farmers and citizens of eastern Pennsylvania, for whose special benefit it was established. It is located near West Grove, Chester county, and was purchased and is conducted as a branch of the Agricultural College farm in Center county, Penna.

Thos. Harvey, its first superintendent, although laboring under many disadvantages, succeeded in putting it on a good working basis, so far as financial means would allow. John I. Carter (son of Henry Carter of this county), the present superintendent, is also working industriously to bring the farm to the standard for which it was originally intended, *i. e.*, to make a succession of experiments in everything that pertains to agriculture, horticulture, pomology and dairying.

The benefits which may eventually be derived from said experiments by those engaged in the above departments of industry are at present appreciated by few, but it is to be hoped that the time is not distant when such establishments will be considered indispensable. Farmers and others are beginning to see that with the high prices for which farms sell in this section it will not pay to grow uncertain crops.

Thorough scientific and practical experiments only will bring farm husbandry upon a reliable basis.

It is evident that those engaged in the above pursuits cannot afford individually to make the experiments necessary to strictly successful tillage of the soil; hence the importance of experimental farms.

Having had the pleasure of attending the monthly meeting of the Experimental Farm Club, which met on the 25th ult., I was so favorably impressed with the proceedings that I would advise the establishment of such a farm, or at least a farmers' club, in every township. There were at least one hundred persons in attendance, among whom were quite a number of ladies. The majority were from Chester county, but there were some from our own (Lancaster) and other counties. The subject before the meeting was: Causes of failure in the wheat crop, and how to prevent a recurrence of the same, which was warmly discussed; but no definite conclusion was reached. It was then continued for next meeting.

Prof. Cook, of New Jersey Agricultural College, who had been announced to deliver a lecture before the meeting, was then introduced, and gave a very interesting and instructive lecture on Dairying in England, Holland, Sweden and Norway. Space forbids my giving a report in detail, but suffice it to say that the professor did ample justice to his subject. We of this section are sadly in want of light on the importance of dairying, while Chester and other of the eastern counties are wide awake, where this business forms an extensive part of farm husbandry. As the country becomes more densely populated a more diversified farm industry becomes indispensable.

Proper management and detailed reports of the results of experimental farms will supply in a great measure the wants created by such diversified farm husbandry.

I have no fault to find with the management of said experimental farm, but would rather censure the farming community of eastern Pennsylvania for its want of co-operation in bringing the farm to the standard which it should have reached at this period.

The superintendents and managers have labored industriously to make the farm what it should be, but the financial means have never been adequate for the objects aimed at. A moderate appropriation by the State sufficed to put up several buildings and repair others, but more funds are necessary to make improvements of which the enterprise is sadly in need. Some contend that it should be self-sustaining, but such have only a faint idea of the many little, but none the less important, things requiring strict and constant attention; for instance, the testing side by side of 20 varieties of wheat and as many of potatoes, or the same kind sown or planted at different periods, or a certain variety manured with ten or a dozen kinds of fertilizers, the planting and sowing at different distances or depths, selection of seeds and testing of farm implements, the test of various kinds of fruits, and their cultivation, pruning and training; vegetables of various kinds and their different modes of culture; stock raising and the comparative value of different bloods for beef, milk or butter; dairying, with best methods for making butter and cheese and shipping milk, and many other practical experiments which are being made from time to time.

An accurate account must also be kept of the condition of crops at different stages of their growth; and the results carefully noted. It being necessary to repeat these experiments for successive years to arrive at reliable conclusions, it will readily be seen that the management of an experimental farm requires close application, unceasing labor and liberal donations of money, to accomplish valuable results.

It is to be hoped that not only a few farmers, but the entire community of eastern Pennsylvania, will give this institution both moral and material aid sufficient to fully develop it, and the beneficial results which will flow therefrom will only be fully appreciated by posterity.

AGRICULTURAL.

[We had intended to condense that part of the census of 1870 which related to agricultural products for the use of our readers, but we find this so ably and satisfactorily accomplished in the following, that we have concluded to transfer it entire to our columns instead. No doubt some of our readers will be surprised to find that the products of some of our important crops have decreased during the last decade, especially the production

of Indian corn; and, also, that the increase in potatoes has been so small, to say nothing about sweet-potatoes and other items, which certainly should have increased to show a thoroughly healthy condition of the products of the country. Now why is this? Is it possible that the great increase in the tobacco crop in the Middle States has had anything to do with diminishing the crops of corn and potatoes? This ought not to be so at the next taking of the census in reference to the two sustaining products of the country, and the very two which, in case of an emergency, the poorer classes are compelled to most rely upon. Whatever money the cultivation of tobacco may put into the pockets of the growers, dealers, and speculators, it never can supply the place of corn and potatoes in a time of need.]

THE FARMERS' PROGRESS.

EXTRAORDINARY INCREASE OF OUR AGRICULTURAL PRODUCTS.

THE New York *Evening Post*, in a review of the census report, says: Our increase in all the chief articles of agricultural produce, as shown by the census report, is something enormous. Wine has increased fourteen fold since 1850, and nearly doubled in the last decade, California being its chief producer. Hops have increased seven fold in the same time, and more than doubled in the last ten years, New York growing two-thirds of the whole crop. Barley has increased six fold. Flax six fold, and flaxseed trebled. Wheat trebled and oats doubled. Irish potatoes has only increased one-third, and sweet decreased one-half.

Live stock trebled in value, and now amounts to the handsome total of one thousand five hundred and twenty-five millions of dollars, or an average of nearly two hundred dollars for every family in the nation. Animals slaughtered have nearly quadrupled in value, now amounting to four hundred millions of dollars annually.

Wool has increased from sixty to one hundred millions of pounds.

Cotton is half a million of bales above what it was in 1850, and three-fifths of its amount in 1860.

In only one instance is there a decrease of an important product, and that is in Indian corn, which falls short of the amount reported in 1860 by seventy-eight millions of bushels, or ten per cent. of the whole.

In some of the lesser products, however, the

downcome is considerable. Silk cocoons are only a third of their former amount, hemp a sixth, peas and beans and rice about a third each. Buckwheat has decreased from seventeen millions of bushels to sixteen.

The farms themselves, as may be expected from this great increase of product, have risen in value from three to nine thousand millions of dollars, while farming implements, valued in 1850 at \$151,587,638, now foots up \$336,878,429, an annual increase of nine millions of dollars. Few minds can form even the remotest conception of what these numbers imply. The value of the farms in dollar bills would take an expert accountant, capable of getting over one hundred a minute, five hundred years to count them, or if Communists and Internationals had their way, and their value was divided equally among the whole people, it would afford \$1,000 to each family, in addition to the million or two which would be sure to stick to the hands of the dividers.

The farms have considerably increased in numbers, but diminished in size, from 199 to 153 acres, being on an average fifty acres, each, less than in 1850. This decrease extends to every State in the Union save four: Arkansas, Massachusetts, New Hampshire and New Mexico. Of the present number of farms (2,659,485) 6,875 are under three acres. Those with more than 10 acres and less than 500, have increased, those with less than 10 acres decreased in number, one-sixth of the whole are over 100 acres and under 500, but the largest number (847,614) contain between 20 and 50 acres.

In France the extension of railways is said to have had the effect of shifting much of the wine product to those districts best adapted to the purpose, and most convenient to market. With us a process at least in part the reverse seems going on. Great exertions have been made from time to time, and much money expended, to get flax culture localized as an industry in New England and some of the Middle States, where the land for its products is of the best description, and facilities for market all that could be desired. But it could not be done, and it is now rapidly disappearing from those States that took most care to extend and keep it, and going West, to where the land is not better, if so good, for the finer qualities, and where the best part of the product—the fiber—has to be thrown to the manure heap, for want of a market. There it is extending with surprising rapidity, apparently without special effort on the part of any one to get it to do so.

Twenty years ago Kentucky supplied nearly a third of all our flax product; Virginia and New York about a million of pounds each, making up together as much as Kentucky; and Ohio supplied less than half million of pounds. But now Ohio has nearly forty times its former product, while Kentucky has only a tenth of it, and Virginia has gone down to a seventh. The chief flax producing States are: Ohio, 18,009,099 of pounds, or two-thirds of our whole product of 27,133,039 pounds, (the product in 1850 was only 7,209,676 pounds;) New York, 3,000,000, and Illinois 2,000,000; while New England, with the exception of a little in Maine and Vermont, may be said to have ceased to be flax-producing; as have also Alabama, Delaware and Georgia.

New York has now, as hitherto, about a sixth of the whole milch cows of the nation, and used to occupy a similar position as to working oxen; but now Texas has twice the number it can show. California has increased its sheep from 17,574 to 5,768,187, being an increase of 160 fold, and the largest made by any State in any important article. Louisiana still grows nearly all the sugar, but the pigs have changed their headquarters from Tennessee and Kentucky to Illinois and Missouri. Pennsylvania, which used to be the highest in the production of wheat, is now sixth upon the list, Illinois with 30, Iowa with 29, Ohio and Indiana with 27 each, and Wisconsin with 25, all coming before its nineteen millions of bushels.

The agricultural position of New England is a puzzle which *Œdipus* himself could not unravel. A people in the foremost rank for intelligence, force and good sense, more bent usually than most others in doing the right and the best, when opportunity offers—taking time by the forelock and not putting off till to-morrow what can be done to-day; having before them line upon line, precept upon precept; supported by experience on experience, as to the possibility, propriety and advantage of very greatly increasing their agricultural product at little or no increase of trouble, they stand face to face with a deteriorating position, with bountiful Nature ready to increase her product to almost any amount and put millions of dollars in their pockets, but they don't put forth a hand to help her or show any desire to be the recipient of her increased bounty.

They are content to go on year after year with every important crop decreasing in amount. Wheat, corn, oats, sheep, butter, swine, flax, wool and potatoes, all "getting smaller by degrees," and not "beautifully" but miserably "less,"

with even the bees—the prototype of their former activity, as if ashamed of the situation—leaving them, and honey and wax becoming a diminishing product. The only item in which New England has any credit, during the last decade, is cattle, of which there is a large increase, both in the value of the slaughtered and the live stock; to this Connecticut adds a large increase in tobacco, not exactly the direction in which we should expect “the land of steady habits” and utilitarian projects to be most progressive. The increase of manufactures will not put money into the pockets of the farmers, unless they have something to sell; but, going on as they have been, their bread products will soon hardly suffice for their own families, and New England, agriculturally, will be like a withered branch on a fruitful tree, or a sluggard’s field brought into bold relief by contrast with its neighbor, New York—active, energetic, progressive, always excelling in the most useful and best paying products, and those especially which New England is so much neglecting.

With their brains and money there is no excuse for the people of New England occupying such a position, but a little effort and change of system is needed to make this country a beautiful garden, affording, in richest abundance, the choicest and most desirable products, and they owe it to themselves and the nation, but especially to the high character of New England in other respects, to make their agricultural system also excellent, and thus get in accord with the rest of the nation and with themselves in other and even less important particulars.

PLOWING TWICE FOR WHEAT.

A CORRESPONDENT of the Cincinnati *Gazette* writes:

If any one will break his ground deeply and thoroughly two or three times during the spring and summer, the extra amount of wheat per acre will pay for plowing, and leave a handsome profit beside. I have tested this practice several times, with the most satisfactory results. In 1869 I had a field of 16 acres of like fertility. I expected to plant half of the field in corn, but for some reason I did not. In the half that had been plowed for corn after the ground had been broke, the weeds grew more rapidly. Consequently I broke it again the 20th of June. On the first of September following I plowed the entire field, and sowed in wheat. The result was as follows: The half which had only received a single plow-

ing yielded per acre 13 bushels and 18 pounds; the half that received three breakings yielded per acre 23 bushels and 40 pounds, which made a difference of more than 10 bushels per acre. At one dollar per bushel this would pay for the extra plowing, and leave a net extra profit of six dollars per acre beside.

◆
VALUE OF NIGHT SOIL.—Liebig relates that in the fortress of Rastadt and in the soldiers’ barracks of Baden, generally, the privies are so constructed that the seats open, through wide funnels, into casks fixed upon carts. By this method the whole of the excrement, both fluid and solid, is collected without the least loss. When the casks are full they are replaced by empty ones. The farmers about Rastadt and other garrison towns having found out by experience the powerful fertilizing effects of these excrements upon their fields, now pay for every full cask a certain sum (still rising in price every year), which not only has long since repaid the original outlay, beside covering the annual cost of maintenance, repairs, etc., but actually leaves a handsome profit to the department. The results brought about in these districts are highly interesting. Sandy wastes, more particularly in the vicinity of Rastadt and Carlsruhe, have been turned into smiling corn-fields of great fertility.

◆
-A LARGE WHEAT FIELD.—It is claimed that a farmer named Mitchell, in the San Joaquin Valley, California, is the largest wheat-grower in the United States. Early in March he had planted 35,000 acres, and expected to make the amount over 40,000 by the middle of that month. At 15 bushels per acre, which may not be too high an estimate this year, this would give a crop of 600,000 bushels, and that at 60 cents per bushel—not a high estimate—would bring \$360,000. The average expense of planting and harvesting wheat in that region is estimated at \$4 per acre, which would leave a clear profit of \$200,000.

ENTOMOLOGICAL.

MORE ABOUT THE COLORADO POTATO-BEETLE, ETC.

◆
SINCE our last issue, Mr. H. S. M. brought us specimens of the beetles which he had picked off his potato vines during July and August. He reports that they had generally disap-

peared from his field—only here and there a perfect beetle could be found. This disappearance may however lead to a fatal apathy, if too much dependence is placed in it. As soon as the *larvæ* is matured it goes into the ground and is there transformed into a beetle, and every female comes forth endowed with the power to deposit one thousand eggs, within the next twenty days. There is some consolation, however, in the assurance that when the ground becomes exceedingly dry and hot many of these *larvæ* perish. Still no potato cultivator ought to abate one iota of his vigilance on that account.

It has also been demonstrated in the Western States that these beetles have been found feeding on five or six species of *Solanum* as well as on the tomato, eggplant, night shade, and Jimson weed, also the ground cherry, and even the cabbage and raspberry, so that when they have destroyed the cultivated potato there is an abundance of other food to fall back upon.

It has also transpired in various localities, in the West, that ducks and chickens can be educated to eat them, and soon become fond of them, and that if, therefore, coops containing hens and their broods are set in the potato fields, the young chickens will destroy large numbers daily, of the smaller *larvæ* at least. Crows, partridges and skunks, are also said to feed on them, and these, together with their numerous insect foes, may assist the farmers to extinguish them.

We have received a letter from a member of the Kansas colony, stating that our article in the August number of the FARMER agrees substantially with their experience on this subject, and he admonishes the farmers of Lancaster county to use their utmost vigilance to prevent the beetle from getting a foothold here. Last year it almost totally "used up" their crop, and this year they are engaged in "fighting it down."

In regard to the "little garden white" or "cabbage worm," we have only to say that the country everywhere is teeming with them, and that probably not a single effort has been made to destroy a single one of them. If nothing should transpire, of a climatic character, between now and the next Spring season, to diminish or destroy these insects in their *pupal* hibernation, or if no insect enemy to them should, in the meantime, be developed, and the present apathy on the part of cabbage growers continues, we don't see how the cabbage crop, next year, can possibly escape total destruction; for we have never seen, in all our experience, so many butterflies of any one species—

not even our common yellow—so numerous, as this little white butterfly is at the present time in the city of Lancaster and vicinity.

Mr. Glover, in his report to the Department of Agriculture, for 1871, states that the "white helibore," which has been so freely recommended, although destructive to the currant and gooseberry worm, has little or no effect on the "green-worm," of the cabbage, and that therefore cabbage cultivators should depend upon

First: Vigilant and persevering handpicking.

Second: Destroying it in its *pupa* state, and

Third: In capturing and destroying the butterflies.

Although this worm, in its early stage, is so near the color of the plant as to be often overlooked, yet when it is nearly or quite full grown it is very noticeable, and is as easily picked as picking berries. These worms sometimes change to a pupa on the cabbage leaf, but they generally seek the lower side of a fence-rail. If, therefore, rough strips of board, three or four inches from the ground, were distributed among the cabbages, the insects would resort to them, and might be daily gathered and destroyed. To catch the butterflies, a wire hoop, on the end of a broom-handle, with a gauze bag-net attached to the end, will make a good instrument. If thistles in bloom are visited early in the morning, when the butterflies are hungry, they can be captured very easily with the hand, only exercising an ordinary amount of caution. The slightest pressure will then kill them and prevent egg-laying.

R.

INSECTS "FIDDLING."

THE chirping and singing of the cricket and grasshopper are frequently spoken of, but they do not sing—they fiddle. By rubbing the wings and legs together—each in a manner peculiar to the species—these insects produce the sound which characterize them. Perhaps our best insect instrument performer is the "katydid." Each wing contains a little tambourine, and by the opening and shutting of the wings these rub against each other, and produce the sound of "katy-did-she-did," which can be heard at such a long distance, and gives the insect its name. These sounds are supposed to be useful in enabling insects to find their mates; or they may indulge in them for their own gratification, and too add to the general harmony of nature.

In addition to the above, we may mention also

The fact that male insects alone are endowed with the "fiddling" facilities, the females being doomed to perpetual silence—poor things; but, *per contra*, the females alone possess the abdominal sting, and power to inflict a wound therewith—cruel things; and furthermore, it is only the female gad-flies, horse-flies and mosquitos, that puncture the bodies of animals, and suck their blood, or deposit therein their eggs—wretched things. It is true that all insects that are able to fly have more or less power to make a humming noise, by the action of their wings in flight, or in their efforts to escape, when taken in the hand. For instance, the common "mud-wasps" (*Shez pensylvanica* and *cerulea*) make a sharp, humming noise while they are in the act of adding a new pillet of mud to their nests, which seems to assist them in incorporating the fresh material with the old, but no female insects possess what is regarded as the vocal apparatus, if it can be properly called vocal. The little "tamborine" above alluded to is not located in all insects alike. In the katy-did, crickets, and the grasshoppers in general, it is located on the back, at or under the base of the wings, whilst in the cicadas the musical organs are under the base of the abdomen, or attached to the metasternum. Of course, the *object* of the musical faculty in insects is more or less conjectural, but it is supposed to be for the purpose of attracting the opposite sex, which is a rather reversal of the order, as it obtained in the human family, where the females are esteemed the sirens, instead of the males. But the attractive qualities are not *all* on one side of the insect world, for the "glow-worm," which is only the female of species of *lampyris*, is luminous, and this luminosity is supposed to be given her for the purpose of attracting the male, for she is entirely wingless and doomed to the nether earth, where the male could never find her, without this beacon of love.

Although not of a specially practical character, yet it may be useful to our readers to *know* something about the "fiddling" and other qualities of some of the denizens of the insect world. R.

THE APPLE-TREE BORER.

HAVING seen a great many remedies, and a great many plans for destroying the apple-tree borer, and none of them very satisfactory, suppose I give a case from actual knowledge of my own:

"My neighbor put out an orchard of fifty trees;

they were four years old from the graft, and as they had not been very well pruned in the nursery, pruning was done at the time of transplanting. The trees started all right in the spring, but, alas! the borer. The trees were punctured from root to branch, and took on the usual sickly appearance. The owner concluded to try an experiment, for it was nothing but death anyhow, so he prepared a whitewash as follows: Take fresh slaked lime and coal oil sufficient to make a good whitewash, and put it on with a brush from root to branch, or as high as the borer had been working. This proved a perfect success, for the trees cast off their sickly appearance the same season. I examined them the same fall, the whitewash still on them, and I think I never saw more healthy and vigorous trees. I have not tried this remedy in my own orchard, for there are no borers in it; if there were I should not hesitate a moment. We are not much troubled with the borer in this country, except on trees that have been wounded."

—*American Farm Journal*.

We often find paragraphs like the foregoing, published and republished in the agricultural and horticultural presses of the country, and we confess often with some feeling of disappointment at their unsatisfactory character. In the first place we are in doubt what insect the writer may mean, when he speaks of the apple-tree borer, knowing that there are a number of borers located in different parts of the apple tree, which differ from each other as much as an ox differs from a goat; not only in their forms, but also in their habits and periods of development. It could not have been the striped borer (*Saperda Candida*), for that insect confines its operations to the base of the trunk, and never "punctures from root to branch," but lays its eggs without a *puncture* at all, in little crevices in the bark as near as possible to the surface of the ground. If we just knew when and where the above event occurred we might suggest that the *punctures* alluded to were probably the work of the "seventeen-year locusts," or "tree crickets," in which case the lime and coal tar would, of course, destroy the vitality of the eggs. It could not possibly have the least effect on the borers within the body of any of the trees, although it might prevent the female insects from depositing their eggs upon it. Seriously speaking, does the writer of the above paragraph actually *know* the insect—popularly known as the apple-tree borer—when he sees it? We are always thankful for all the solid information on this subject we can get,

in order that we give the benefit of it to our horticultural readers, but we deplore such unsatisfactory experimental reports.

The base and roots, the trunk, the branches, and the twigs of the apple tree, are each infested with a different kind of a borer; but no man can gather from the above account which is meant, or whether a real borer at all. Lime and coal tar would doubtless destroy the barklice or scale insects, if any were present, but unless the trees are very young, these are usually found only on the more tender branches. We are not calling into question the *fact* and *effect* of the above treatment, but we doubt the *cause* of the disease treated.

R.

BEE-KEEPING.

THE BEE AND BEE-KEEPING, NO. 2.

THE QUEEN—(CONTINUED).

IN about five or six days after the queen has left her cell she leaves the hive to meet the drone. She chooses a clear, warm day, generally between twelve and four o'clock in the afternoon, at which time the drones are also flying out in large numbers. If it is during the swarming season, when drones are numerous, she seldom fails to meet one, and become impregnated during her first trip. If unsuccessful on the first trip, she will repeat it on the following day, and if necessary, for several days, until successful. This meeting is said to take place on the wing, high in the air. This is altogether probable, but I am not aware that any one has ever seen it; it is mere conjecture. It is, however, pretty well established that one fecundation lasts for life; that after having once met a drone, she never leaves the hive again for that purpose, nor for any other, except when swarming. Upon the young queen's return from her bridal tour, she sometimes mistakes the hive, and enters the wrong one, when she is destroyed, and the colony to which she belonged is queenless, and having no eggs or larvæ from which to rear another queen, it rapidly dwindles down, and, if not furnished with another queen, or material from which to rear one, is finally destroyed by worms or robbers. More colonies become queenless in this way than in all others. Hives should be placed *not less* than two feet apart; better three or four; and when all of the same form and color, as far as the space will permit. When hives are all alike, and crowded close together, probably one queen in six is lost by entering the wrong one, but

when the hives are sufficiently far apart, not one in one hundred is lost during her trip.

About the third day after fecundation the queen begins to deposit eggs. The number of eggs that one lays varies. She can adapt herself to circumstances. The full laying capacity of a prolific queen is not less than 2,500 every twenty-four hours, and probably much exceeds that number. The average age attained by a queen is about three years.

DRONES.

The drones are the *males*, and their only use seems to be the fecundation of the queen. Their bodies are large and clumsy. They have no sting. Their buzzing, when on the wing, is loud and different from that of the workers. The number reared is governed by the strength of the colony, and the amount of stores on hand or being collected. In the spring of the year, generally about the beginning of May or last of April, the queen deposits eggs in the drone cells. Drone cells are hexagonal, like worker cells, differing from them only in being a little larger and deeper. They are also more convex when the brood is capped over. The period from the egg to the mature drone is about twenty-four days. In this section they are killed and driven off by the workers as soon as white clover fails, which is generally in July. Some strong colonies frequently allow some to remain much longer, and probably a few the entire winter, but a scarcity of honey is early death to the drones.

The question might be asked, what use in such a large number of drones, when scarcely one in a thousand fulfills the important duty of fecundating a queen. If only one drone, or half a dozen, were reared in each hive, the chances of the queen meeting one in the air would be very small, but when each one rears a thousand or more, the chances are a thousand times multiplied. When several thousand are in the air, the queen can scarcely fail to meet one. Thus instinct teaches the bees to make as sure as possible by multiplying the chances. If a queen would have to leave many times, the chances of her being lost would be greatly increased, and as the loss of the young queen, at this time, would be the destruction of the entire colony, rearing so many drones is a wise provision of nature to perpetuate the species.

There are various theories in relation to drones, but it is proven beyond a doubt that an egg deposited by a fertilized queen, in a drone cell, becomes a drone, and in a worker cell, a worker. That the eggs differ is proven by the fact that all

attempts to rear queens from eggs laid in drone cells have failed, while eggs laid in worker cells will produce queens. There is no doubt that eggs laid in drone cells are not impregnated. In proof of this, I will cite the following facts: First, queens with faulty wings, or otherwise unable to fly out to meet the drones, or such as are reared very early or late in the season, when no drones exist, are certain to prove what are called *drone layers*, that is, every egg they deposit, whether in drone or worker cells, produces a drone. Second: All drones are like their mother, no matter with what kind of a drone she mated. If an Italian queen has met a native drone, her worker progeny will be hybrids—half Italian and half native—but her drone progeny will be just as beautifully marked—and as has been proven by other facts, just as pure—as of one not fertilized, or of one fertilized by a pure Italian drone. On the other hand, if a native queen has not an Italian drone, her worker progeny will also be hybrids, but her drone progeny will be without a trace of the Italian. To account for their not being impregnated, especially those laid by a fertile queen, various ingenious theories have been advanced, but which I will not give at present, but may refer to in a subsequent article.

HINTS FOR SEPTEMBER.

While bees are obtaining honey from natural sources they are not disposed to rob, but when there are no more flowers producing honey weak stocks are in danger of being robbed and entirely destroyed. This occurs in this section in September; even buckwheat will be cut off. Bees seldom attack a strong stock, where they would be powerfully resisted, and undoubtedly repulsed, but they attack the weak, and generally with such force as to overcome their feeble resistance.

If any stock is attacked by robbers its entrance should be contracted to a very small space in order to require less bees to protect it. If the attack of the robbers is persistent and determined, the entrance should be contracted until only one bee can enter at a time, and if they still persist the hive should be removed for a few days into a dark room. If a stock is once overpowered, its own bees will join the robbers in carrying out their stores and leave with them and probably join their hives. No honey should be left standing about, where bees can get it, as it induces robbing.

If any surplus honey boxes have not been removed, they should be at once, as no more surplus will be stored, and all unsealed honey will be car-

ried below, and the sealed will become darker every day it remains in the hive. The bees moving over it stain the combs, and all honey, however clear it may be, will become yellow if not removed as soon as filled.

Light stocks may be fed the latter part of this month, but I would advise putting it off until next month. In the October number of the *FARMER* we will speak in detail about feeding.

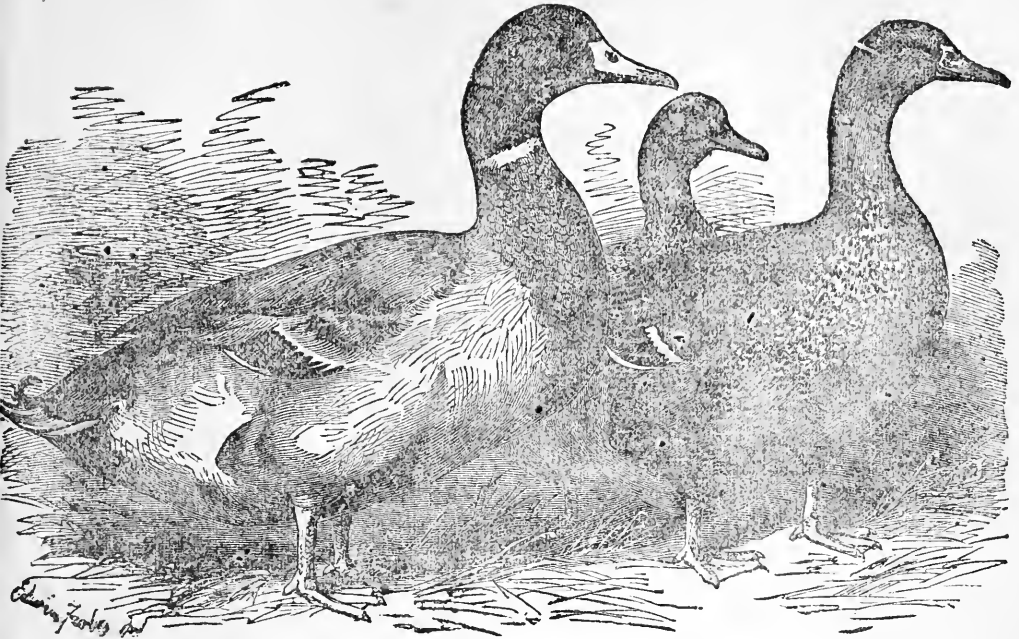
ULRICH STRICKLER.

Columbia, Aug. 13, 1872.

THE MALLARD DUCK.

(*Anas boschas.*)

THE Mallard, or common wild-duck, is perhaps only excelled in the excellency of its flesh by the "Canvass-back," and has a wider geographical range than any other species in the whole list of ducks. It is most amply spread over the whole of Europe and America, and exists also in Asia, specimens from India having been received in this country years ago. This is particularly an interesting subject of "duckdom," from the fact that it is the original stock from which our domestic ducks are derived, and although no special date may be assignable as to when it first became a subject of domestication, yet it has preserved its identity in a remarkable manner. Specimens may be obtained from wild flocks that are in no respect distinguishable from the common tenant of the barnyard. The wild Mallard measures about two feet in length, expands about three feet, and weighs over two pounds and a half. It is found in almost every fresh-water lake and river in the United States, during winter, but seldom visits the sea-shores or salt-marshes. Although instances are known of some solitary pairs breeding in our latitudes in autumn, yet their summer residence is in the north, which is the great nursery of the numerous species which belong to this and other genera of the ANATIDÆ. The nest is generally made in some solitary recess of the breeding ground, and usually contains from twelve to sixteen eggs. The young are led about by the mother the same as the domestic duck, but with superior caution. The male attaches himself to a single female, and is the protector of her and of her feeble brood. The stamp of slavery, however, seems to be impressed upon the domestic variety, in the dull and indifferent eye, and groveling gait, but still retaining something of the lofty looks of the wild duck, with his spirit of independence.



THE MALLARD DUCK.

Immense numbers of these ducks are captured in various ways, or slaughtered by powder and shot, every year, and furnished to the different markets of America and Europe, and perhaps

there are few "duckeries" to be found anywhere which do not contain a large proportion of this species. The domestic variety, for the sake of distinction, is sometimes called *Anas domesticus*.

HORTICULTURAL.

THE PUBLIC GRAPERY—A NEW FEATURE AT THE AGRICULTURAL DEPARTMENT.

THE Washington *Star* of Monday says: The grapery of the Agricultural grounds, constructed about one year ago, under the supervision of Mr. Wm. Saunders, attracts the attention of most visitors to these admirably kept grounds. It is 150 feet in length, running from the center of the main conservatory southward, 30 feet wide, with glass roof and sides, with ample ventilation by means of hinged sashes in the roof and sides, and so constructed as to exclude the rain. This building was erected for the purpose of cultivating and testing the most valuable varieties of foreign grapes, with the view of encouraging this industry, which is annually increasing throughout the country. The vines have been planted some three feet apart on the outside of the walls, and trained through openings in the brick walls and run up the inside on wire trellis

work toward the center of the roof and very near to the glass. The heating in winter is by means of hot water circulated through iron pipes running lengthwise the building. By this arrangement the required temperature can always be preserved, the rain and dews excluded, the rays of the sun unobstructed, and the full benefit of the rains to the roots of the vines secured. The ground inside is kept covered with tan bark, and stands of various foreign plants are placed around the interior, the whole forming a novel and pleasing scene. There are upward of one hundred varieties now growing in this room, and bearing fruit for the first time. The dark colors seem to be arranged on one side and the light colors on the other. Among the varieties grown are the Marmora, Black Muscat, Black Alcante, Black Lombardy, Frankendale, Madame Prince, Prince Albert, Lady Donne, Black Frontigan, Black Hamburg, Pope's Hamburg, Wilmot's Hamburg, Millhill Hamburg, Victoria Hamburg, Black Barbarosa, Alexandria, Royal Ascot, Purple Damascus, Black Prince, Trentham, Esperim, Madressfield Court, Zinfindel, Tripoli, Sonora, Duc

de Malacoff, Madame Prince, Muscat Hamburg, Grizzly Frontignan, Gros Marde, Scharges Hentin, Purple Hamburg, Burcharts Prince, Austrian Muscat, Black St. Peters, Prumvis Frontignan, Early Smyrna, Bouker Muscat, Chusselas Duhamel, Muscatel, Cannon Hall Muscat, White Tokay, Napoleon's Muscadine, Sultana, Deacon's Subert, Muscat of Alexandria, Marchioness Hastings, Golden Hamburg, Early Malingre, Chathworth Tokay, Rasin de Calabria, Syrian, Bowoods Muscat, Chasselas Vibert, Brickland's Sweetwater, Palestine Muscat, Chasselas de Fontainbleau, Muscat Frouren, Tottenham Park Muscat, White Malasia, White Nice, Chassalas Nursque, Reim de Nice, Santa Cruz, Royal Muscadine, Gros Granier, and many others. Most of these grapes are very fine samples, well developed; of different shapes, size, and color, and the combination of so many kinds are not often to be seen together. The whole arrangement is well conceived and carried out in all its parts with neatness and good order. Immediately south of the main department building are two long rows of trellis work also covered with a great variety of native grapes, and all in thrifty condition. These experiments will doubtless form the subject of an interesting chapter in the superintendent's next annual report.

[We commend the above paragraph to the consideration of our readers who possess pecuniary means, and who also possess the public or private enterprise to make a liberal and judicious use of them. There is no reason why we should not have fresh fruit at almost any season of the year, and at a reasonably fair price. Go to any large city—Philadelphia, New York, or Cincinnati for instance—and look in to any of their first-class fruit stores, at almost any season of the year, and your sight, at least, will be gratified with the view of fine, luscious, and fragrant fruit. Some of this fruit is raised in "hot-houses" in this country, but by far the larger portion of it—especially the grapes—is imported from foreign countries; indeed our foreign importation of fruit amounts to tons annually.

Of course much of this fruit, at certain periods, is too high in price for any poor man to eat, but the *fact* is very suggestive. We want fruit to eat, not only *in* season, but also out of its normal season and we want it not only to be looked at, but also cheap enough for a poor man, or a man in ordinary circumstances of life, to afford to *eat*. The fact also suggests, that if it *pays* to import it from other countries, it might be made to pay by raising it in cold and hot

graperies, or fruit houses, in this country. This is a contingency *that the future will develop*—it is only a question of time.]

BOTANICAL.

BOTANICAL GARDEN, D. C.

BY J. STAUFFER.

ON my late visit to Washington, D. C., I devoted a few hours to the inspection of the grounds of the Agricultural Department. Those who have the report for 1870 will find a plan of the department grounds, with numbers and description of the trees, introduced in groups, from No. 1 to No. 115, embracing many rare and beautiful trees, besides our common beech, poplars, plantain, walnut, cedars, the sequoia, among other rare and beautiful species and genera of this group—many of which were new to me—and I shall not attempt to enumerate them, as the mere mention of the botanic name will give no idea of their beauty or character; the plants must be seen to be duly appreciated.

I was agreeably surprised to find, in the superintendent of the gardens and ground, an old and highly esteemed friend and correspondent, when in Germantown, Pa., Mr. William Saunders, a gentleman thoroughly posted for the situation, and the right man in the right place. Although he had an engagement on hand, he received me so cordially and manifested his genial, courteous attentions to such a degree, that I feel truly grateful to my old friend.

I can only say that as a druggist for twenty-five years, and student of the vegetable materia medica in connection with botany, I was made familiar with the names, properties and products of numerous plants, many of which I had seen figured in books, but never had the pleasure of seeing the actual plant in bloom or fruit. This, to me, was a great treat, and I felt like blessing the institution that affords us such a facility.

We are all familiar with the coffee, tea, spices and perfumes, dye-woods, gums and many medicinal plants, as sold in the shops, and more or less interesting. Here are plants from all sections of the globe, luxurious, fresh and vigorous as in their native clime; growing in the extensive and well regulated and well kept conservatory of the department, such as, the plant that yields the coffee-berry. Introduced into Paris by the Turkish Ambassador, Soleiman Aga, in 1683, who caused it to

be served to his guests with all the luxurious minutiae of Oriental fashion, now so common. This belongs to the great family, *Rubiaceæ*, and is therefore allied to Peruvian bark and madder, also cultivated and found in close proximity. Our native "button bush," found in wet places (the *Cephalanthus occidentalis*), belong to this order. The "tea-plant," also a native of Asia, resembles the cultivated camelias. Tea-drinking was introduced as early as 1133 among the Germans. Lords Arundel and Ossory are said to have introduced it into England in 1666.

The poet Young says of a fashionable beauty that,

Her two red lips affected zephyr's blow,
To cool the Bohea and inflame the bean;
While one white finger and a thumb conspire,
To lift the cup and make the world admire,"

Apart from poetry, I found so much to admire, to gaze and wonder at, that I dare not begin to particularize any further—it would fill pages—and yet, if I could depict them as they seemed to me, blending the beauties, uses and legends, or plain history, it would still be read with interest, I doubt not, notwithstanding I would have but little to say, that has not been better said before, in some of the many books we have.

I will only add that of the cocoa tree, which flourishes in the green depths of the forests of equatorial America. The nutritive properties of chocolate were so highly valued by *Linnaeus*, the great Swedish botanist, that he christened it "*Theobroma*," or "a drink for the gods." Its native name, *chocolatl*, was given to it in Mexico, whence our common name, *chocolate*. I must, however, notice a plant in full bloom, of which Judge Livingston has a specimen, but never saw it in bloom. This is truly magnificent by the marked contrast of the bright crimson flowers, surrounded by a large purely white and petaloid calyx or involucre, in dense clusters, on delicate branching peduncles, bending over gracefully. This is the *Clerodendron belfourii*, a stove-climber.

On referring to Loudon, who gives the names of 15 out of 27 species known growing in China, East Indies, Japan, New Holland, Java, and Mauritius, he says *clerodendrum*, is derived from the Greek for "accident" and "tree," in allusion to the various effects in medicine by its various species. The *C. fortunatum* is useful. The *C. calami*, to sum, and *infortunatum*, dangerous. Thus we see species of the same genus differ, like children of one father; one may prove a *Cain*, the other an *Abel*. Such is the mysterious allotment in the mixture of good

and evil, of nutrition and poison, that makes food for reflection and teaches lessons of caution. That which we may admire in the glossy skin and beautiful markings of the tiger, we must take heed, and keep out of the reach of his claws. Beautiful he may be—but a tiger, still.

Yes, we cannot divest ourselves of the sense of an overpowering mystery, that shrouds much that comes to view, however well informed by scientific investigation. A feeling akin to that awakened in us by the nursery tales of fairies, fays, elves and gnomes, crowds back the cold philosophy which sees nothing but so much matter, as we gaze upon the singular colored markings of the different species of callidiums, begonias, cissus, and a host of others remarkable for the wonders of their foliage or diversity of their flowers. God has endowed us with the faculty of imagination, a power of seeing with the mental eye what is not revealed to the physical eyes. We are prone to yearn after things of beauty, novelty and grace, while we find many such in nature. There is nevertheless a dream world—a wonder-land, in which we picture to ourselves scenes brighter and fairer than those immediately before us—dreaming of worlds outside or inside of this actual every-day world. This tendency, fostered by the divine spirit, is an element of human happiness, and the great spring of human activity and a stimulus to improvement—our "ideal" takes a higher stand point, the scenes pictured to the mind are of a character more perfect than those we are familiar with—so that we are not completely satisfied with the attainments we may have made in our present condition; we seek and yearn for that enjoyment of superior excellence, based on scriptural truth, sustained by our instincts, and as matters of faith, convinces our judgment and philosophy, though we may not be able so to define it as to lead to the same joy or conviction in the minds of others; this is the office of a mysterious power with which we are intimately connected—and one of our chief aims should be to understand, so far as to be benefited by the wonderful provision, made and blended with the surrounding materials that go together to make up the wonders of creation.

In contemplating the plant world, we cannot avoid moralizing. We see the mineral kingdom support the vegetable. The vegetable, the animal, including man, in all his relations. The spiritual is no less tangible nor certain, however obscured or darkened by vain philosophy or stolid ignorance.

CORRESPONDENCE.

"WHAT I KNOW ABOUT FARMING."

MESSRS. EDITORS:—Owing to the importance of the subject, I listened with much interest to the discussion, at the last meeting of the Agricultural Society, of the question as to whether drilling tends to prevent winter-killing of wheat; and not wishing to occupy the time of those more experienced and practical than myself, I preferred hearing the views and experience of others rather than expressing my own.

Having had a limited experience in farming, however, both before and since drills came into use, I propose, with your permission, and at the risk of being thought presumptuous, to relate the same without occupying much of your valuable space.

The result of my experience is, that I have obtained *good crops*, and have also had *great failures* by both methods of sowing the seed. And, some years since, having had a field for seedling, part of which was stumpy ground, it afforded an opportunity for testing both methods side by side. I therefore sowed that part of the field which was stumpy, broad-cast, and the other with the drill, the result of which showed no appreciable difference, either in the quantity or quality of the crops.

It is, therefore, my opinion, that although in an ordinary favorable season, it makes but little difference by which method the seed is sown, but in a season in which winter-killing is likely to occur, the chances are in favor of the drill. It has, however, always been a question to me, whether, on the other hand, the advantage is not to some extent counterbalanced by placing the seed *too deep* to receive the full benefit of that which was intended to nourish the growth of the plant. I am, therefore, constrained to say that, although a "Paul may plant and Apollos water, God alone can give the increase."

W. McCOMSEY.

NOT being satisfied, as to the precise species of the multitude of little insects we received from Mr. Mahaffey of Marietta in June last, and whose inquiry we approximately answered in our July number, we sent specimens of them to Dr. Fitch, of New York State, who for many years has been observing and describing these minute insects. The following is the doctor's reply:

FITCH'S POINT, SALEM, N. Y., Aug. 7, 1872.

S. S. RATHVON, Esq. *Dear Sir:* Your letter of June 10th, *misdirected* to Rochester, N. Y., as appears from post-marks on the envelope, was

there advertised June 22d, and after lying some weeks uncalled for, was forwarded to Albany, and from thence was dispatched to me here, just now coming to hand.

On perusing what you wrote, I was aware the insect in question was, what an examination of the contents of the quill also indicates it to be, the snow-flea, *Podura nivicola*, as I named it in 1847, in my article on "Winter Insects," in Emmons's Journal of Agric. and Science, vol. v. p. 283. In the forests all over our country, when a warm, sunshiny day occurs in winter, the surface of the snow is covered with countless myriads of this insect, appearing like gunpowder scattered upon the snow. And when the snows are melting in the rills of water which they form, running down the hillsides, multitudes of these little snow-fleas are carried along upon its surface, in continuous strings and become collected in the eddies and still pools, in such quantities that they may be taken up in handfuls. Their bodies are coated over with a pruinose powder resembling a fine black dust, which keeps them from becoming wetted. By rubbing against each other as they are carried along in a rivulet, some of this powder becomes detached, and is seen here and there on the surface of the water, like a scum of soot or lampblack. In the winter of 1857 a severe snow-storm extended south into Virginia, where the ground remained several days covered with snow, until a rainy night occurred, and next morning the snow for miles was robbed of its whiteness and appeared like a vast sheet of colored velvet spread over the ground, these snow fleas being so thickly scattered upon it—having fallen (so the newspaper account sagely said) with the rain in the night! And all over our continent from as far south at least as Virginia, north to Hudson Bay, and probably to the Arctic Ocean, on the melting of the snow each year, these insects make their appearance upon it in this manner. They thus probably exceed in number the sands upon the sea-shore.

When I named this insect I supposed it occurred only in winter and early spring. But since then I have noticed it in about every month in the summer season. I doubt not it may always be found in damp moss in the forests. In mid-summer, on breaking open a damp rotten log in the woods, I came upon a cavity which was filled with more than a quart of these snow fleas. They cannot endure a dry atmosphere. Hence, in the instance you relate, they all disappeared from the garden beds during the middle and after part of the day, probably crawling down into the loose soil, or under straw or dead leaves, or into any other damp situation. Of course they will do no injury in the garden—everything that has been observed indicating that the species of this family all subsist upon putrid vegetable matter.

My reports since the 9th have only been published in the Transactions of the State Agric. Society; as I am about bringing them to a close, and design to revise and re-issue the whole, in probably two volumes. Yours respectfully,

ASA FITCH.

The Lancaster Farmer.

LANCASTER, SEPTEMBER, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

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We cannot refrain from the acknowledgment of a basket of luscious "Crawford's early peaches," from our genial subscriber, Mr. C. O. Herr, of Blue Rock. Such material tokens of remembrance compensate many a lonely and weary hour in the experience of an editor.

We should certainly wish that his "shadow might never grow less," did we not half suspect he might want it no *larger* than it already is—especially during this sweltering August weather—if not any less.

It is a gratification to know that his peach crop is an abundant one this season, and we sincerely wish it may continue so during many coming years, for we feel assured that he will know how to appreciate it, in the double blessing of giving as well as receiving. SEN. ED.

MEETING OF THE AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE regular monthly meeting of the society was held in the Orphans' Court room, Monday, August 5th, 1872. Reading of the minutes of last meeting was on motion dispensed with.

The reports on the condition of crops being asked for, Henry M. Engle stated that the corn promised equally as well as last year. Potatoes will not quite come up to last year's crop. Fruit of all kinds is plenty. Pears and apples will be good. While a tree however buds well in a season, if it be permitted to mature all it is injured for the following crop. The tobacco crop along the Susquehanna is as promising as he has ever seen.

Mr. Johnson Miller, of Warwick township, read the following crop report:

The wheat and oats crops have been harvested since my last report. Before harvest the prospects for the former were quite discouraging, while the latter was pretty fair; now, since harvest is over, the farmer is next interested as to the yield per acre. This cannot yet be ascertained, as little or nothing has been threshed up to this time save the rakings, which yield very good, taking quantity of straw into consideration; so that there will be a good yield according to the bulk of straw in the barns; which is, however, only about half as much as in former years. Corn looks very promising at this time; with the recent good showers we have had, it is growing very fast, and the prospect for a large crop has never been more encouraging; but one great mistake I find with farmers is planting too thick, which will only result in small bunnies and a short crop, with all such farmers as do not thin their corn to two stalks to a hill. Pasture is more plenty than some time ago; the late rains will keep up a fine supply of grass for cattle, so that there will be no complaining for some time. Tobacco has been a little backward, but it is growing finely now, and will be an average crop; but patches look very uneven, owing to the ravages of the cut worm in the spring. Consequently, late planting. Potatoes will be rather a short crop; the early planted were too far advanced when the late rains came, while the late planted will this year be a better crop with us than if we had planted early. The stalks are green, and will now produce a good crop. Fruit is promising finely; apples are plenty and of good quality, while peaches are an average; so with other things in fruit, farmers will go into winter quarters with cellars full of apples and cider barrels, and closets full of apple-butter and fruit cans; a happy season is at hand, my friends, in old Warwick.

M. D. Kendig—In Manor the wheat crop was small but of good quality. Oats average. Corn looks very promising. Tobacco also indicates a good crop. The fruit prospect is very fine.

Levi S. Reist thought the wheat was even poorer than it at first was estimated.

Henry M. Engle differed with this estimate of Mr. Reist, as he thought the wheat crop was better than had been at first believed. The early ripening wheat was good; that getting ripe later, not so.

H. K. Stoner did not think that wheat turned out as well as expected. It did not average over six bushels per acre. Potatoes are very good. Some farmers are already taking up their crop.

Corn looks very fine, as fine as he has ever seen. Fruit has a splendid appearance, and presents a better prospect than has been seen for years. Mr. Stoner here detailed his plan of growing grapes under glass, and stated that his grape house cost him about \$100, and this year he expected to get 200 lbs of grapes under glass.

D. L. Resh and A. C. Hostetter, agreed in the main in their report of the condition of the crops.

S. S. Rathvon submitted a supplementary statement on the Colorado potato beetle, to form a part of that already published in the *Daily Express* and the *FARMER*.

H. M. Engle deems it very important to be upon the lookout as regards the potato beetle. It has already appeared in one or two sections of our county, and if the most determined efforts be not made these enemies will obtain a lodgment in our midst, out of which it will be difficult to banish them. Indeed entomology is one of the subjects that it will become necessary for our farmers to study. We feel almost astonished of ourselves when we come to compare our fruit with that of the new States.

Israel Landis is not sure that even any united effort upon the part of our farmers could retard the progress of insects. We would greatly rejoice to see if something could be done to eradicate noxious weeds and insects. He would very willingly co-operate to that end, if united effort could be inaugurated.

Henry M. Engle thought that law if executed would secure the destruction weeds. As regards the midge it is very difficult to baffle, but in the Tennessee Valley by planting a new kind of wheat they were able to get rid of them, and then the old kind of wheat could be introduced.

S. S. Rathvon is not sure that insects can be destroyed, nor is he sure that it would be desirable to allow the friends and enemies of our crops to be in an equipoise. In that case the enemies will not be destructive.

Johnston Miller submitted a question addressed him by the Agricultural Department. 1st. *Does drilling tend to prevent winter-killing of wheat?*

Israel Landis thought drilling rather the best method of putting in wheat.

Henry M. Engle remarked that many of the most experienced farmers thought broad-casting the best.

D. L. Resh thinks it rather concurred in by the best farmers that drilling in wheat the best method.

Levi S. Reist is of the opinion that more wheat

can be grown by broad-casting than by drilling. Particularly is this the case upon upland.

H. M. Engle is decidedly of the opinion that it is less liable to freeze out when drilled in, than when broad-casted. There is no good philosophy to sustain broad-casting.

H. K. Stoner remarked that in the olden times farmers plowed their wheat in, and that was putting it deeper than the drill covers it, yet he thinks it should not be covered too deep. But when plowed in farmers raised good crops. The proper plan is to pulverise the ground well, then roll it and afterwards drill in the wheat, in this way the best crops can be raised.

Alexander H. Hood, Esq., submitted a few remarks upon the matter of winter-killing of wheat, and from the causes which produce this, drilling was surely the best plan to prevent this. He then presented to the President of the society two plum seeds which he had received from the Judge of Wyoming territory, who had written to him that they were the best he had ever tasted.

H. M. Engle altogether favors early cutting of wheat.

Dr. P. W. Hiestand favored the sowing of wheat which was two or three years of age. Old seed (the same of tobacco seed) brings much better crops.

H. M. Engle concurred with Dr. Hiestand as regards the sowing of old wheat. But it must be guarded against to prevent the wheat (intended for seed) from heating in the ground.

On motion Alex. H. Hood, Esq., Benjamin H. Longnecker and Peter Summy were elected members of the society.

Dr. Elam Hertz, of Ephrata, was named as essayist for the next meeting of the society.

H. K. Stoner stated that walnut water juice rubbed upon a horse will prevent flies from biting him.

Milton Eshelman does not think the juice will answer the purpose, for as soon as it gets dry, the flies again trouble the horses as before.

Society, on motion, adjourned.

ANSWERS TO CORRESPONDENTS.

Mr. P. S. Stevens, *Lancaster county*. The "worm with many legs," which you found among "rotten saw dust," and sent us by Mr. J. S. H., is a large species of Millipede (the largest we have of this kind in Lancaster county), and is scientifically named *Sqiroleolus marginatus*. This ani-

mal is generally found in such places, and feeds upon rotten wood and *fungi*. Although some of the smaller species of the same family, are sometimes found in gardens feeding on the roots of lettuce, radishes, beets, turnips, cucumbers, and strawberries, yet we have never seen this species eating anything but rotten wood, and occasionally *boletus*, a large kind of fungus, in its soft state.

Mr. A. R., *Columbia, Pa.* On a more thorough examination we find that the large "Hawk-Moth" you brought us, is a large specimen of *Sphinx* (*Macrosilla*) *carolina*, and not a *quinque maculata*, as we first supposed. It is the parent of the large green worm, with a dorsal horn or spine near the hinder end, that is found indiscriminately on the tobacco, the tomato and other solanaceous plants.

Mr. U. S., *Columbia, Pa.* The large gray insect, with the stout jaws and ample wings, is a female specimen of the "Horned Corydalis" (*Corydalis cornutus*). The larva, a long dark alligator-like grub, lives in the water, comes out and changes to a pupa in an earth cavity under some shelter, in the spring, from which the mature insect issues in a few days. As a fly it is entirely harmless.

Mr. A. S. K., *Manheim, twp.* The long slender green insect you brought us is a female specimen of the "specter insect" or "walking twig," (*spectrum femoratum*). It belongs to the same order as do the grasshoppers, the cricket, roaches, etc., and is a vegetable feeder, but so far as we know it has not attacked domestic vegetation. We have found it on the locust and the sassafras in the country.

Mr. A. B. S., *Frederick street, Lancaster, Pa.* The beautiful "Hawk-Moth" which you, in company with Squire F. brought us, some days ago, is a very perfect specimen of *Philampelis Satelitia*, or "Satellite-moth." The larva from which this moth is bred, is a large velvety greenish, and then brownish, worm, which may often be found on grape vines, upon the leaves of which it feeds. It may be distinguished from other similar worms, by having a conspicuous eye-like spot on the back, near the hind end of the body. It is a great feeder, and many of them would soon destroy the foliage of the grape vines. But it has many parasitic enemies, and therefore does not multiply very fast. This moth must have evolved from the pupa state, the night before we received it, and probably had never made an extended flight—twenty-four hours thereafter, it might not have been

so perfect—and in the absence of ether or chloroform, we were a little perplexed about how to kill it, without destroying its beauty, or marring its form. At length we thought of ammonia; and by inverting a glass cup over it, and placing beneath it a peice of sponge saturated with strong volatile ammonia, we succeeded more completely than we had ever succeeded before in killing an insect quickly and effectually; leaving it perfectly relaxed, and in fine condition for "setting," and we make this record for the benefit of those interested, although it may be nothing new.

The beautiful little spider, with a spiny, angular abdomen, left us by an intelligent farmer, but whose record and specimen we have unfortunately lost or mislaid, is doubtless a species of *Theridion* perhaps *T. trigonum*—and although not rare, is still not generally common.

It forms a little compact pear-shaped cocoon, which is found sometimes in clusters of half a dozen—more or less—suspended by a tolerably long and slender stem, from the branches of trees and shrubbery. Mr. J. B., E. of "Beaver Meadows," once brought us such a cluster.

MISCELLANEOUS.

CURIOUS THINGS TO KNOW.

"BESIDES the fact that ice is lighter than water, there is another curious thing about it which perhaps persons do not know; namely, its purity. A lump of ice melted will always become purely distilled water. When early navigators of the Arctic seas got out of water, they melted fragments of those vast mountains of ice called icebergs, and were astonished to find that they yielded only fresh water. They thought the ice was frozen salt water, not knowing that the icebergs were formed on land, and in some way launched into the sea. The fact is, the freezing turns out of it all that is not water, such as salt, air, coloring matter, and all other impurities. Frozen sea water makes fresh ice. If you freeze a basin of indigo water it will make ice as pure as that made from distilled water. When the cold is very sudden, these foreign matters have no time to escape either by rising or sinking, and are thus entangled in ice, but don't form any part of it."

Last winter the streams were frozen over very early in the season, and at a very low stage of the water, and they continued thus ice-bound for a period of more than one hundred days, the water becoming lower, and the ice freezing thicker.

Toward the last third of this time, diarrhea of a severe character prevailed at Harrisburg, Columbia, Lancaster, and various other places, where the inhabitants used water pumped out of the streams; and the question was asked by many—"What effect does long continued ice coverings on streams have upon the quality of the water?" Notwithstanding examinations were made at various places, and committees reported that the water was pure, and therefore not the cause of the disease, still there is a probability that it may have been the cause after all, but, that it was not the fault of municipal neglect, in whose behalf these reports were made. Under the organic law of freezing, if the half, the two-thirds, or the three-quarters of the water in the stream was frozen into ice, all the impurities in the same would be concentrated in the remaining unfrozen portion. This may also occur during a summer drought, when the streams become low through evaporation and non-supply.

This would necessarily affect the quality of the water, and we are convinced that in our individual case, and others of which we were cognizant last winter, it was the case. It is altogether a question of quantity. One pill may not have a laxative effect upon the bowels, two may barely move them, but when three or four are taken, the effect may be violent. It is just so that water may be charged with matter that produces diarrhea, and the more of it that is present, the greater will be the liability to the disease. The "*Curious things to Know*," which we clip from a contemporary journal, illustrates the theory of freezing, in its effects upon the residue not frozen. When during an intense cold season the water freezes at a very low stage, it would be safe to cut and melt the ice, instead of using the unfrozen water beneath it. Of course, when the streams are full and have a rapid under-current, which carry off the impurity of the water, the case would be different. Ice, is water solidified or crystallized by congelation, and any liquid substance crystallized—orange mineral, acid, or alkali crystallized—is purer than that in a fluid or massive state. Unless the solidifying or crystallizing process is sudden, it rejects all foreign impurities.

THE AMERICAN PRUNE.

MR. WM. MILLAR, of Lancaster city, has a tree growing upon his premises, at No. 20 North Queen street, which has, by a species

of common consent, been recognized under the name of "American prune"—*Prunus Americanus*—and for the last three years has borne very good crops. The tree is nine years old, and about fifteen feet high; has a very clean smooth, dark, chestnut-colored bark, and a moderately bushy form. The leaves are very dark green, large, smooth, and of the usual form. The fruit is a uniform purple, darkly colored; the skin smooth, thin, strong, and easily separated from the pulp, which is a greenish yellow, and very luscious, sweet, and juicy. Some of the fruit which we measured would average five and a half inches in their transverse circumference, and over five and three quarter inches in their lateral circumference, and in weight averaged two ounces. The seed is very free, a flattened pear-shape, over an inch long, and nearly three-quarters of an inch wide. The stem is medium, and the stem cavity almost obsolete. Every intelligent German who sees and tastes the fruit pronounces it a *prune*, whose original must have been the large German prune. The present season it bore about nine hundred prunes and ripened about five hundred. We never saw fruit so clean and free from the *curculio* as that which ripened this season on this tree. The rapid growth in many specimens, threw the egg of the insect out on the surface before it developed into a worm. It has been said that if the German prune was transferred to American soil, it would be free from *curculio*. This is a mistake. The late Mrs. Fisher, of Middle street, in Lancaster, had a tree brought from Germany twenty years ago, which bore prunes every year, and never matured a single one until the present season; all were destroyed by the *curculio* and the *rot*. The history of these two trees, and reports from other localities, seem to indicate that at some future period, perhaps still remote, we may expect an immunity from the attacks of this insect pest.

TREATMENT OF FELONS.—A felon is easily known by a sharp pain near the bone. Fill a pint tin cup one-fourth full of wood ashes, then fill the cup up with warm water and place it in the stove. Hold the finger or the affected part in the cup until the pain is removed. The contents of the cup must be kept as hot as the hand can bear. If the pain returns repeat the process. In the more advanced stages a poultice made of slippery-elm, flaxseed, or even bread and milk, is good; but the best thing to draw a felon to a head is to apply a salve made of the yolk of an egg thickened with wheat flour.—*Exchange*.

THE USE OF FRUIT.

WE think, as a general rule, fruits are best adapted to people who reside where they grow. The belt of country in which the cherry, strawberry and apple flourish best is the one in which they should chiefly be eaten. The country of the grape, peach, apricot and plum is the one where these products should be used. So of the orange, lemon, pineapple and banana. Oranges, pineapples and bananas are rarely fit to eat as far north as Richmond, Va., as they must be picked before they are ripe and transported to their place of consumption. And they become wilted by heat and sweating, and often become partially decayed or soured before they are eaten. Fruits, if properly canned, could be carried north or south and reach the eater in a fresh and normal condition. Pears, it is claimed, are nowhere better in America than in the vicinity of Boston. In California they grow to be very large, but, it is said, lack the fine flavor of eastern fruit. New England and Northern New York apples are finer than they are in the south-west, not so large, but of finer texture and richer flavor. The Rhode Island greening apple in New England will keep nicely six months from the time of picking. In the south and west the same variety grows larger, but does not keep nearly so long.—*Science of Health*.

DRY EARTH AND POULTRY HOUSES.

THE employment of dry pulverized earth as the means of deodorizing poultry houses, appears to be worthy of more attention than it has hitherto received. The fact that from four to five hundred fowls can, by this aid, be kept in one building for months together, with less smell than is to be found in any ordinary building capable of accommodating a dozen chickens, is very conclusive as to its efficacy. In the building of the National Company, where this fact has been ascertained, seven or eight fowls are kept in each compartment twelve by three, and yet there is no smell or trace of moisture. Mr. Greylin informed us that if a larger number are put into each run, the ground becomes moist, ceases to deodorize, and the birds at once become unhealthy. It should be stated that the droppings that fall from the perches during the night are removed from the runs each morning, and the dry earth only receives the manure that falls during the day; this has its moisture absorbed so speedily by the earth

that it at once becomes pulverized, mixed with the soil, and ceases to smell. So powerful is the deodorizing effects of the earth that it does not require to be renewed in the runs for many weeks together.

DANIEL WEBSTER'S OLD HOME.—Edmund C. Stedman has visited the old home of Daniel Webster, at Marshfield, and thus describes some of its features in a letter to the *Tribune*: "The mansion—a long, low, cross-roofed, wooden pile—has been so often pictured that I need only speak of it owing its attractiveness to an appearance of having grown, foot after foot, by alteration from some old building, and of not having been made bran new and at once, to the long piazzas, where roses and the Virginia creeper, wander at will, to its peaked gables; lastly, to the indefinite feeling one derives from it, that here has been a sturdy presence of manhood in the past, now gone forever, but leaving its latent individuality stamped upon the less transitory inanimate objects which surrounded it. 'We are what suns and winds and waters make us;' but here nature is as Webster transformed it. The house grew with him; the trees except 'the white apple tree' and the famous elm, were planted by his hand; and the rolling acres, the unbroken lawn, are the impress and the reflection of the man himself. The elm, under which Mr. Webster used to place his chair, and was painted sitting in country farmer's garb, differs from any specimen of New England's royal tree that I have ever seen. The trunk is of the largest, but the limbs shoot out not far above the ground, and whether by art or nature, are trained to cover a circle of 100 feet in diameter, drooping low, so that the tree casts a shadow beyond that of any Windsor oak, and enhouses you like a banyan. The great limb has yielded to a recent blast, and touches the ground with leaves still green upon it. As if a servitor, smitten in defense of the mansion, and sunk his wounded limb to earth, the tree still holds its head proudly, and wards off the tempest's onset with unharmed branches."

FRUIT IN TIN CANS.—The *Boston Journal of Chemistry* says: 'The impression prevails among those who use freely fruits which are put up in tin cans that they are injured thereby, and this impression is in many cases correct. We have long contended that all preserved fruits and vegetables should be stored in glass, and that no metal of any kind should be brought in contact with

them. All fruits contain more or less of vegetable acids, and others that are highly corrosive, are often formed by fermentation, and the metallic vessels are considerably acted upon. The cans are held together by solder, an alloy into which lead enters largely. This metal is easily corroded by vegetable acids, and poisonous salts are formed. Undoubtedly, many persons are greatly injured by eating tomatoes, peaches, etc., which have been placed in tin cans, and we advise all our friends who contemplate putting up fruits the present summer to use only glass jars for the purpose.

SCIENTIFIC.

AMERICAN MONSTERS.

THERE was a period in the history of this continent when elephants and mammoths were numerous. Which of the two lived first cannot be determined. But that the mammoth far exceeded in stature that of the elephant is abundantly proved by their skeletons. They appear to have had a range from the regions of the Ohio river, and plains of the Mississippi and Missouri rivers, quite across the great mountain ranges to the borders of the Pacific, bounded northerly in latitude about forty-seven.

Probably the Rocky Mountains had not their present elevation when the mammoth roamed over the vast extent of country in which their bones are found. In 1870, a tusk of one of those monster quadrupeds was found in a gorge of the Sierra Nevada mountains, nearly eight feet in length, and almost a foot in diameter at the root. It was exhibited at San Francisco.

How shall the problems of the day of extermination be solved? They evidently disappeared suddenly, but they must have been numerous, living to a great age, since their teeth indicate long service. Ohio and Illinois were favorite haunts, no doubt, from the number discovered of their remains constantly brought to light as bogs and low lands, their tombs, are explored.

SIGNALS.—The following particulars of railroad signals will be interesting: One whistle of the locomotive means "down brakes;" two whistles, "off brakes;" three whistles, "back up;" a continued succession of short whistles is the cattle alarm. The conductor's signal, given by a sweeping parting of the hands on a level with the eyes, means "go ahead." A downward mo-

tion of the hand, "stop." A beckoning motion, "to back." A lantern raised and lowered vertically, signals starting; swung at right angles or across the track, to stop; swung in a circle, to back. A red flag waved on the track is a signal of danger; hoisted at a station is a signal for stopping; stuck up by the roadside is a signal of danger on the track ahead; carried unfurled on an engine is a signal that another engine or train is on its way.

SOMETHING WORTH KNOWING.—It is worth while to know how to stop bleeding from the nose when it becomes excessive. If the finger is pressed firmly upon the little artery which supplies blood to the side of the face affected, the result is accomplished. Two small arteries, branching up from the main arteries on each side of the neck, and passing over the outside of the jawbone, supply the face with blood. If the nose bleeds from the right nostril, for example, pass the finger along the edge of the right jaw till the beating of the artery is felt. Press hard upon it, and the bleeding will cease. Continue the pressure five minutes, until the ruptured vessel in the nose has time to contract.—*Knoxville Chronicle.*

COLD AND GERMINATION.—M. Duclaux, of France, is engaged in a series of experiments to demonstrate that cold is indispensable to germination. He placed two portions of seed in an ice house for one and two months, respectively; a third portion was deposited in an apartment moderately heated. Cold is known to be essential to the silk-worm's eggs. Well, the three lots were placed in circumstances favorable to germination; the third lot showed no signs of life; the others sprouted; the seeds enclosed for two months in the ice house without an exception, those for one month but imperfectly.

REMEMBER THESE TWO THINGS.—Let your friend in, and let your enemy out. In other words, take measures to keep pure air constantly flowing into your house in every room; and give the impure air a chance to escape through the fire-place or open windows, or other means of egress. Multitudes of people are poisoning themselves by breathing impure air in crowded and illy-ventilated houses, when a little effort would remedy the evil. To every one living in a house we say: Let your friend in, and be sure to get your enemy out.

THE CORN-COB HUMBUG.

CARBON, hydrogen and oxygen, combined in certain proportions, make a good food for producing fat, but the fact that a substance contains either or all of those elements does not make it a valuable food. Add nitrogen to the above elements, and we have the constituents of the nutritious foods. It is not the fact that an article contains these elements, which makes it a valuable food, but the proportions and their mode of combination. Common rosin, for instance, contains carbon, hydrogen and oxygen, yet but a few farmers would care to adopt it as a diet for their cattle. Yet there are uses to which rosin is put for which wheat or corn would be of no value. Chemistry presents many curious contradictions; there are substances, which by analysis contain exactly the same elements in the same proportions, which are utterly dissimilar. Therefore, because a theoretical scientist finds that straw or corn cobs, or any other such stuff, contains a certain amount of carbon, nitrogen and oxygen, he immediately publishes to the world that they are preferable, as food, to substances which good old-fashioned experience has proven of value. We knew a farmer once who acted upon just such nonsense, and it cost him about ten cents a pound to fatten his pork on cob meal and corn meal mixed, while his neighbors fattened theirs on corn meal and potatoes at little over half the cost.

The next thing that we shall hear is that corn-cob meal is the best food for dyspeptics, and some vegetarian fool will be urging everybody to scratch their stomachs with it. We think it will do very well to go with the sawdust brandy, an article about which is going the rounds of the papers, and we venture the opinion that the man who eats the one and washes down the dry compound with the other will soon be in the undertaker's hands.

Much more sensible is the idea suggested by some one that the corn-cobs be used for fuel and the ashes be utilized for making potash.—*New York World*.

HOW MONEY IS MADE BY FARMING.

MUCH labor is done on farms that is not farming in its true sense. By such labor no money is ever made. A man may support himself and family, keep out of debt and have a few dollars in pocket by practising the most stringent economy. If he is otherwise than

industrious and sober, he is on the down grade with loose brakes, and the end is not reached. But farming in its true sense is a profession equal in dignity to that of law or medicine, and needs equal study, mental capacity, and intelligently directed labor to command success in it. The principle which underlies the practice of the true farmer must be well understood, and a steady, consistent course of operations must be followed. Having thoroughly learned the nature and capacity of the soil he possesses, and chosen the rotation most suitable, and the stock to be most profitably kept upon it, he does not swerve from his chosen course, but in good markets and bad, raises his regular crops, and keeps his land in regular increasing fertility. No special cry tempts or frighten him. He does not talk dairy this season or crops the next; but doubtless if any particular product be in demand, and brings a good price he has some of it to sell and heaps his share of the advantage. He saves as much money as some men make by care and economy in purchasing and preserving tools, seeds, manure and machines; and his business habits and constant readiness for all occasions give him reasonable security against the effects of adverse seasons and bad weather. Always prepared, he is never too late, and always calm, he is never too soon, and thus, "taking time by the forelock;" he has the stern old tyrant at his command, and turns him at his will. He has no losses, and his gains are steady.—*Exchange*.

BOOK AND SPECIAL NOTICE DEPARTMENT.

OUR BOOK TABLE.

THE School of Chemical Manures, or elementary principles in the use of fertilizing agents, from the French of M. George Ville, by A. A. Fesquet, Chemist and Engineer. Philadelphia: Henry Carey Baird, Industrial publisher, No. 406 Walnut Street, 1872—with appropriate illustrations—is a handsome and compact little 12mo. volume of 116 pages, which ought to be in the hands of every intelligent cultivator in the country.

This work is briefly and practically treated in six chapters, written in dialogue, involving some of the most interesting questions and answers in the whole school of Agricultural Chemistry, fully illustrating the experimental philosophy of the subject. An appendix discussing the "Plowing and Preparing the Soil;" the "Formulae of Manures" for the different kinds of seeds, roots and vegetables, with their compositions, variations and results; the Rotation and Alteration of the various kinds of crops, from one year to six. Also, "Experimental fields," with their soils, manures, and special results; with a "Vocabulary of Chemical Manures" illustrating their compositions and proportions. Nothing can be more striking than the productive results between the "ground without manure," and that with "complete manure," noting the

effects of "mineral manures without nitrogenized matter" and "nitrogenized manure without mineral matter." No intelligent and progressive Farmer's or Gardener's library is complete without this valuable little work; and although we may on suitable occasions, draw from it for the use of our columns, we would recommend in the mean time that every farmer of sufficient intellect and enterprise to comprehend and apply its doctrines, should possess a copy for himself. The letter, press and typographical execution of this little work are so plain and perfect, and the colloquial style so familiar, that it cannot but be a pleasure to the farmer to peruse its interesting and instructive pages.

We acknowledge the receipt of a copy of the "Report of the Commissioner of Agriculture for the year 1871," issued at Washington City under a special act of Congress. This volume of over 500 pages, octavo, contains an immense amount of practical information on agriculture, and allied subjects. Although two hundred and fifty-five thousand extra copies of this work have been authorized, they do not always seem to get into the hands of those who most need them—and *per contra*, thousands of those who really ought to read them have too great a dread of book-farming, to avail themselves of this knowledge diffused by the government. The book has twenty-eight full-page illustrations, besides a number of cuts distributed through the letter press; among them an interesting "Fungoid Series," illustrating the blights, mildews, or fungi, which infect the leaves and fruit of trees and vines.

The "Report of the Commissioner of Agriculture on the Diseases of Animals in the United States," 1871, an illustrated quarto of over 200 pages, had previously been received and mislaid. This volume contains many practical observations on the different diseases of cattle, and illustrates, by full-page colored plates, their effect upon the liver, lungs, spleen, kidneys, fat, uterus and bones of the animals. Also many statistical tables on the comparative effects of splenic fever, and ought to be in the hands of every cattle doctor at least.

An illustrated royal octavo pamphlet of over forty pages, giving a schedule of premiums, amounting to *forty thousand dollars*, of the twelfth fair of the St. Louis Agricultural and Mechanical Association, to commence on Thursday, the third day of October next, and to continue for one week, has been sent us by the Secretary. "Competition is invited from the whole Union," and no entry fee is charged. This association certainly manifests a living and progressive spirit, far in the advance of the older communities of our country.

The *American Farmer's Advocate*, devoted to the interests represented in the National Agricultural Congress, is one of the largest, and by far the cheapest agricultural paper in the country, and should be in the hands of every farmer. It should be remembered that the publishers offer it free with any \$2.00 or higher priced paper in the country, and at only 50 cents advance with lower priced ones. Price—single, \$1.00 per year; in clubs of four or more, 50 cents each. Address Advocate Publishing Company, Jackson, Tenn.

PHILADELPHIA MARKETS.

MONDAY, August 26.

Flour.—The market is very dull, there being no demand except to supply the immediate wants of the home consumers, whose purchases foot up 1,500 barrels, including 1,000 barrels Quaker City Mills on private terms: superfine at \$4 75a50; extras at \$5 75a60; Iowa and Wisconsin extra family at \$7a7 50; Minnesota do. do. at \$3 25

\$3 87½; Pennsylvania, Indiana and Ohio do. do. at \$3 50 a9, and fancy brands at \$9 12½a10 as in quality. Rye Flour is quoted at \$4.

GRAIN.—Poor Wheat attracts but little attention, but prime grades are in demand at full prices. Sales of 7,000 bushels Western red at \$1 50a1 55 and amber at \$1 60a1 65. Rye is held at 80c.

CORN moves slowly at previously quoted rates. Sales of 6,000 bushels yellow at 61c. and mixed Western at 60a 60½c.

OATS are unchanged. Sales of 5,000 bushels white at 46a48c., and mixed at 40a45c.

The receipts to-day are as follows: 3,561 barrels Flour, 18,000 bushels Wheat, 21,290 bushels Corn, 12,500 bushels Oats, 329 barrels Whisky.

PROVISIONS.—In the Provision market there is a firm feeling, and mess pork is selling in lots at \$15 25; smoked hams at 16a18c.; do. sides at 10a10½c.; salted shoulders at 8c.; smoked do. at 8½a9c., and lard at 9a9½c.

PHILADELPHIA CATTLE MARKET.

MONDAY, August 26.

The market for Beef cattle was dull this week and prices favor buyers. We quote common quality at 3a5½c., medium at 6a7c., and prime at 7a7½c. Receipts, 4,000 head.

Cows and Calves were quiet. Sales of 250 head \$20a\$45.

SHEEP.—The supply was less than last week. We quote sales of 5,000 head at 5½a6½c.; stock sheep at 3a4c., and lambs at 6½a8½c.

HOGS.—There was a large amount of offerings, and prices were lower. We quote at \$7 50a7 75 per 100 lbs. net for corn-fed, a decline of 75c. per 100 lbs. Receipts, 3,521.

NEW YORK PRODUCE MARKET.

MONDAY, August 26.

COTTON is quiet; middling upland 20c.

Flour is quiet and superfine western and State \$5 50a 6 15; good to choice \$6 80a7 60; extra Ohio at \$6 65a8 85. Rye flour in fair demand at \$4 20a5 00.

WHEAT quiet and steady; new amber Tennessee at \$1 63a1 98; white western \$1 67a1 85.

CORN lower, fair and active; steamer western mixed 60a61½c.; sail do. 61½a62c.

RYE, Barley and malt unchanged.

OATS easier; western 41½a43c.; Ohio 45a53.

HAY and Hops unchanged.

CHICAGO LIVE STOCK MARKET.

MONDAY, August 26.

CATTLE.—Receipts of 761 head. Rainy and market extremely dull; two lots common shipping steers sold at \$4 70a4 90 respectively; a few stockers at \$4 30a4 50; a good many Texans and Cherokees left unsold; shipments yesterday 1,137 head.

HOGS.—Receipts, 4,432 head. Yorkers very quiet at \$4 50 a4 70; heavy grades in fair demand and firm at \$4 75a4 90. Shipments yesterday 8,828 head.

SHEEP.—Receipts, 104 head. Dull and unchanged.

CHICAGO MARKET.

MONDAY, August 26.

Flour dull and in buyers' favor; choice extras nominally \$6 25a6 75; superfine \$3a4 25.

WHEAT quiet and steady at \$1 12a1 2½ cash.

CORN easier, closing quiet at 33½c.

OATS easier at 28c. cash.

RYE firm and saleable at 56c.

BARLEY strong at 62½c.

PORK inactive; nominally \$14 84½. Lard firm and quiet; saleable summer 8½c. sugar-cured hams quiet and nominally unchanged. Meats firmly held; offerings light; shoulders held at 7c.; short ribs 9½c.

NEW YORK CATTLE MARKET.

MONDAY, August 26.

Receipts.—Beefes, 9,600; Veals, 2,700; Sheep, 19,000; Hogs, 34,000. Beefes heavy and declining—poor to medium, 10a 10½c.; medium to fair steers 10½a10½c.; good steers and fat oxen, 11½; fancy, 13a13½c. Veals firmer; grass calves very dull; prime, 8½a9½c.; good, 7½a8½c. Sheep stronger; clipped, common to fair, 4½a5c.; fair to good, 5a5½c.; extras, 5½a6½c.; choice, 6½a6¾c. Lambs, 7a9½c. Live Hogs firmer; prime, \$5 37a5 50; medium, \$5 25a5 37. Dressed Hogs firm; Medium to prime, 6½a6¾c.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

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No. 10.

BOTANICAL.

GOSSIP.—NO. 2.

BY J. STAUFFER.

SHOULD any of my grave readers object to my gossip, as bad stock that don't pay to read, yielding no interest, there is other stock we know of in the same fix, and yet it is taken. Tastes differ, and we all have a good opinion of ourselves "individually." We see the failings in others. The Scotch bard, Burns, has written a short prayer on the subject—

"O wad some power the giftie gie us
To see oursel's as others see us!
It wad frae mony a blunder free us
And foolish notion."

Perhaps I make a *blunder* in writing gossip for the "FARMER," and if it is a "foolish notion," allow me to *indulge* the hope of being *indulged*—"For ye suffer fools gladly, seeing ye yourselves are wise." But the compositor and proof-reader complains, and say it is my fault, because they did not know that there were two distinct plants, one a *cacao*, and the other a *cocoa*; and consequently corrected me in the last article. Well, I stand corrected, and will try to do better—they do not profess to be botanists.

Practically, the readers of the FARMER know more about their vocation than I do, therefore I shall not be silly enough to attempt to teach them. I esteem them as an intelligent class, and far in advance of the tillers of the soil, even in the boasted land of our forefathers. An American traveler recently inquired of a group of farm laborers in England whether they were "prospering." "No!" replied one of their number, "we are hay-

ing!" It seems the word "prospering" was as new to them as "cacao," and supposed it referred to their work—or so intended.

We are all liable to make blunders, and it is often a difficult matter to get out of the old, deep-worn ruts of time and habit traveling in the same track produces. This is forcibly illustrated in the fact related of the West India negroes, who when furnished by their masters' humanity with wheel-barrows, in order that they might no longer carry such enormous loads on their heads, persisted in carrying their burdens in the good old way—*wheel-barrow and all!*

The venerable tyrants custom and fashion hold many in servility. See our modern belles, with high-heeled folly, unable to cook a meal or bake a pie. In such matters it is preferable to go back to the days of our worthy grandmothers of whom you could say individually:

"She was knowing in all needle-work
And shone in dairy and in kitchen too,
As in the parlor."

Knowledge does not necessarily puff up—and science properly so called is simply the record of the experience and investigation of men who gave their special attention to a special subject, who gleaned from the experience of by-gone ages, and use of new discoveries and appliances, of which knowledge we have a right to avail ourselves; and it will be found of practical value in our daily pursuits. Why turn up your nose at botany, as some do? It is the science that not only teaches us the names of plants we may meet in and around our farms and dwellings, woodland and meadow, but it embraces the subject of vegetable life, a knowledge of which is so essential to the horticulturist. He may know by his own

experience and the verbal instructions of his father, how to graft or bud, and succeed without a book, but no one man can teach us all, for a life-time is too short to learn by experience and observation alone; and these croakers against "bo k-learning," can learn much to their profit if they give their attention to the right kind of books.

We rejoice to know that the old prejudices are fast giving way and the study of vegetable physiology, or botany, recognized as pertaining to fruit as well as to flowers—and to wheat as well as weeds. I now write as a botanist, and as such you will indulge me. I may devote my remarks more particularly to that subject hereafter.

Chemistry is a science by which the relations and properties of vegetable and other matters have, whether for building up the muscular system or fattening stock, to utilize the gluten, starch, oil, sugar, albumen, etc., on the one hand, and the water, lime, potash, ammonia, etc., on the other, to deodorize organized matter in the process of decomposition, to imprison the volatile elements and hold them captive in compost for distribution to fertilize the soil. Agricultural chemistry is of vast importance, notwithstanding some men have fooled themselves by analyzing a pint of soil and came to sage conclusions on a very meager foundation.

Entomology is equally important. This teaches us what class of insects are injurious to vegetation and which may prove as a counter-check, and hence beneficial. This summer we have the air filled with a white butterfly having a few spots on the wings. Those of my readers who have the report for 1870 (published in 1871) of the Commissioner of Agriculture, may refer to page 78, or to page 153 August number of the *FARMER*, current volume, for a fuller account. They will find that it is the European cabbage-butterfly, introduced into Quebec, Canada, in 1856 or '57, and gradually coming on and as predicted, reached Pennsylvania in 1871. They were then but few and far between, and might have been easily prevented from exerting the wholesale destruction of the cabbage they have. My attention was called to a lot in which stood one thousand tattered fragments of what, a week before, promised to make that many fine heads of cabbage. Alas! for "sauer kraut." My German friend fought bravely, but like

Paddy who ran fast, but the train had just left as he breathlessly reached the depot. A gentleman observed—"You didn't run fast enough." "Sure," said Pat, "I ran fast enough, but did not start soon enough." So it is, my friend did not commence killing the caterpillars till the mischief was accomplished. He said he saw those butterflies, but did not know their character, or he would not have allowed them to lay their eggs on his cabbage. That was for want of a knowledge, hence we learn how important it is to learn entomology. I might also refer to geology, but have occupied sufficient space for this time.

AGRICULTURAL.

AGRICULTURAL COLLEGES AND PRACTICAL FARMING.

THE preacher who does not edify and instruct his congregation ought to be dismissed his charge, and be employed at something better suited his capacity; so of the school-teacher: unless he can teach his pupils it, and make them comprehend the lessons, he had better be employed at such manual labor that would require no exertion of the mind. In short, the men who are set forth as instructors, or rather set themselves forth as such, should be closely scanned, and have no right to claim exemption from public opinion, public praise or public censure. This is an age of investigation and of out-spoken opinion, an age of reason and reflection. When Prof. Bateman stated that after all the teaching in our agricultural colleges did not differ essentially from that of other colleges and universities, he, no doubt, told us a broad truth, and one that is becoming daily more and more apparent. At the same time, he said that it was a new education, but that, no doubt, he intended for a rhetorical metaphor, to show how an old thing may be called by a new name.

Next comes Prof. Turner, and advises that a part of our educational force should be expended in the elucidation of new methods and of new forces in nature. He would teach all that is now known, and at the same time be looking into the arena of nature for new laws and new developments. While these two

great luminaries of our educational firmament differ, the schools go on in the old routine, and make no effort to know which is in the right, and the farmer's son is consequently being educated for a profession, not for the farm.

The fact is that there is less to learn about agriculture than is generally supposed, but this knowledge is diffused through so many channels that it is not available to the masses of our people. If we had a class of professors who would sift out the wheat from the chaff, and reduce the whole thing to a system, we should have the foundation laid for a new order of things. Until we can do this in our schools we may call agriculture an art. But I do not like this term, for art implies a combination of skill and taste. Now the farmer must rest his success on laws that no skill of handicraft can compensate for. He, of necessity, must depend on the laws of science, or in plain terms, the laws of nature. One of the best farmers that I know is ignorant of what is called science, and yet he understands the science of farming better than any of our professors. This man's practical knowledge, reduced to a formula, might be called scientific farming. I said he is the best farmer, but this must be qualified to say the best manager of our clay prairie soils for the growth of corn, wheat, oats and grasses. He owned a large farm in his native State, but in an evil hour he was persuaded to go on the official bond of a relative, who proved a defaulter. He came to this State with his all in a covered wagon. The first year he rented a farm, and the next purchased a small one, nearly all on credit. To this he has added another farm, and now it is one of the best, if not the best, managed farm in the country. It is of such men that we may in part learn how to manage a farm. Had this man had the advantage of a truly scientific education, he might to-day be one of the best of teachers, for his would be a school of practical science applied to the routine of farm life. Among farmers such a man is called lucky, and well he may be, for he commands luck and it comes at his bidding. To call such a man an empiric is to show ignorance of the value of applied science. It is to such men that we must go in order to learn the true system of scientific agriculture, and when it becomes written down in form it may be called book-farming.—*"Rural," in Prairie Farmer.*

LIQUID FUEL.

THE lately published report of the British Coal Commissioners contains a contribution from Dr. B. H. Paul upon the use of liquid fuel, which contains many valuable suggestions. An English exchange thus reviews the paper:

The materials which have been proposed for use as liquid fuel are: Petroleum in a crude state; crude paraffine oil, obtained by the distillation of cannel coal or of bituminous shale; the heavy oil separated from these materials; waste products of the manufacture of burning oil, etc., from petroleum and paraffine oil; and dead oil, or creosote. All these materials agree in consisting essentially of mixtures of certain oils, composed of carbon and hydrogen, hence termed hydrocarbons. The oils do not vary much in the relative proportions of their constituent elements, but chiefly in their degrees of volatility and density. The average space occupied in stowing is by crude petroleum 43.41 cubic feet per ton; crude paraffine oil, or heavy oil from either, 40.93 cubic feet per ton; dead oil, or creosote, 34.25 cubic feet per ton; and coal, 40.20 cubic feet per ton. All these materials are much more inflammable than coal. This is especially the case with crude petroleum and crude paraffine oil, both of which contain a considerable amount of very volatile spirit, or oil, that will take fire at and below the ordinary atmospheric temperature on contact with flame, and will also give off vapor that is readily inflammable, and when mixed with air becomes explosive. But the oil from which this more volatile portion has been separated will bear being considerably heated without taking fire by contact with flame. The dead oil from the coal tar of gas works will bear being still more strongly heated before it will take fire, and it is scarcely capable of giving off inflammable vapor. In this respect, therefore, its use as fuel is attended with less liability to accident by fire than any of the other materials proposed to be used as liquid fuel.

The relative calorific power and evaporating efficacy of these materials, and of coal, or other kinds of fuel, can be estimated according to their chemical composition, and a comparative statement of the results obtained by such an estimate shows the heat generated and available to be by crude petroleum, crude

paraffine oil, or heavy oil from either, 20,000 units, of which 16,847 are available for producing steam; by dead oil, or creosote, 16,628 units are generated, of which 14,567 units are available for producing steam; and by coal 14,361 units are generated, of which 10,409 are available for producing steam. These figures represent the evaporation of 15 lb., 13 lb. and 9 31 lb. of water respectively for each 1 lb. of fuel consumed. The steam producing capability of the liquid fuel is, therefore, from 53 to 68 per cent. higher than coal, so that the saving of stowage space with liquid fuel would be less by 35 or 40 per cent. than that required for coal or equal steam-producing capability. One of the applications of liquid fuel first attempted was for generating steam.

The chief difficulty was that of insuring the perfect combustion of the oil at the proper place, under the steam boiler—so that production of smoke might be prevented, and the full heating or evaporative capability of the fuel might be realized. Dr. Paul points out that the advantages claimed for liquid fuel for generating steam on board ship are of such a nature as to appear at first sight very attractive, but they have been in many instances enormously exaggerated by enthusiastic advocates, and there are many other circumstances that require to be taken into account before the true value of these advantages can be properly estimated.

With regard to the danger of using liquid fuel, Dr. Paul remarks that it must be remembered that crude petroleum and crude paraffine oil are both highly inflammable even in the cold; that they both readily give off an extremely inflammable and very diffusive vapor, especially when slightly warmed, and that this vapor, when mixed with atmospheric air in certain proportions, becomes violently explosive on contact with flame or with any body sufficiently heated. These materials likewise possess a great capability of penetrating through extremely small apertures, and therefore, they would be liable to escape from any defect in the tanks containing them, and thus by coming in contact with atmospheric air in confined spaces to form an explosive mixture that might endanger the safety of a vessel; he also refers to the danger to be apprehended from the liquid itself taking fire. The only known material of this class that is free from the objections that may reasonably

be urged against the adoption of either petroleum or paraffine oil in the crude state, or the less volatile portions of them, is the dead oil or creosote obtained as a waste product from coal tar.

The prospects, moreover, of a supply of materials applicable as liquid fuel at a price that would permit of its use are anything but reassuring. The total production of petroleum in America does not amount to more than 400,000 a year, and the demand for it for lighting and lubricating are rapidly increasing. No other source of petroleum is known which at all approximates in extent to that in America, but even that appears trifling when compared with the enormous consumption of coal for steam navigation—upward of 10,000,000 tons a year. The present price of creosote is 22 per ton, f. o. b. in the Thames. Dr. Paul mentions, too, that all the liquid fuels possess a strong penetrating and, to many persons, disagreeable smell, which becomes much more perceptible when the oil is in contact with heated objects, even in very small quantity. Hence, in the use of any of these materials as fuel, a slight leakage of the reservoirs or conducting pipes, and the almost unavoidable presence of small quantities of the oil spilt or smeared about the stoke-hole of a steam vessel, would be likely to diffuse throughout the whole vessel a smell which might be considered highly objectionable, especially in passenger ships. Giving full weight to the various advantages capable of being gained by the use of liquid fuel, and considering the various circumstances of cost, extent of supply, etc. which would affect its applicability, Dr. Paul concludes that the use of liquid fuel for steam navigation purposes must in any case be very limited, and that it is only under special conditions that it would be desirable. But liquid fuel when burnt with a blast affords the same advantages as the gas furnace introduced by Mr. Siemens, and for this reason it appears to be likely that its application in this way for heating iron-plates, forgings, etc., would be attended with considerable advantage in iron works.

PICKELS.—1 gallon cold vinegar, 1 oz. white ginger root, 1 pound garlic, 1 pound mustard, 1 pound salt, 1 oz. pepper corns, cayenne pepper and spice to suit the taste.



Pheasants.—(Phasianus.)

PHEASANTS (PHASIANUS).

TO adopt the words of Buffon: "It is sufficient to name the pheasant to remind us of the place of its origin. The pheasant, that is, the bird of Phasis, was, it is said, exclusively confined to Colchis before the expedition of the Argonauts; those Greeks ascending the Phasis, to arrive at Colchis, beheld these fine birds spread along the banks of the river, and by bringing them back to their own country, bestowed upon it a gift more precious than the golden fleece.

"At the present day the pheasants of Colchis, or Mingulla, and some other of the neighboring counties, are the largest and finest in the known world."

Cassel says: "From these countries they have been extended in almost all the regions of the known world. They are found in the greater parts of Europe; they are abundant in Spain, in Italy, in some parts of Germany, and in the south of France. In the north they are less common. The common pheasant does not appear to inhabit Africa; but is greatly multiplied in China, where it lives in

the woods, without mixing with other species, which are also equally abundant in this vast empire. Pallas describes pheasants as found in Siberia. They are very common among the Kirghis, who ornament their bonnets with the plumes of this bird. Pheasants are fond of the shelter of thickets and woods, where the grass is long; yet, like partridges, they often breed in clover fields. They form their nests on the ground, where from twelve to fifteen eggs are laid, smaller than those of the domestic hen. The parent-birds and their brood, if undisturbed, remain in stubbles and hedge-rows for some time after the grain is ripe. If disturbed, they seek the woods, and only issue thence in the mornings and evenings to feed in the stubbles. They are fond of grain; but procure a subsistence without it, since they often feed on acorns and the wild berries of the woods." It has been supposed that the pheasant is destitute of sagacity; and that on being roused from its usual state, it will often perch on a neighboring tree, where its attention will be so fixed on the dogs as to suffer the sportsman to approach very near, but there are persons who can testify that an old cock-pheasant will take to thick and extensive coverts, when he has found himself pursued, and resort to many stratagems to elude his pursuers.

It may be necessary to state here that we have no bird, indigenous to the United States, except the wild turkey, that belongs to the family PHASIANIDÆ. What we call a pheasant belongs to the TETRAONIDÆ, or grouse family, and is the *Tetrao umbellus* of Temminck, and is still found in Lancaster county.

Our illustration represents a variety of the "horned pheasants" (*Tragopan hastingsii*?) which originally came from the northern range of the Himalayan mountains, and concerning which we yet know very little, except that it has been domesticated in Europe, and, we believe, has been introduced into the United States. It is said to be a very pretty bird, remarkable for its large pendent crest, and its rich, predominating maroon color.

FLOOR-WARMING.

IT is slowly dawning upon our people, that the system of heating the head, or the upper part of our rooms, to seventy-five or eighty degrees, while the floor, and consequently the

feet, are only fifty or sixty degrees, is radically and essentially wrong. Yet the warming of our floors instead of our ceilings is now becoming quite fashionable amongst thoughtful men; and sensible women, too, are quite charmed with it.

And now it is the architect's and builder's business to advise the best means of accomplishing so desirable an object. Of course, as in the introduction of all other great reforms, there will be many blunders committed at first and mistakes made; perhaps a few houses will be burned down, and various inconveniences experienced, before we arrive at perfection in this matter. But it is not in the nature of things that any great modification in the habits and style of living of an intelligent people should be effected at once. It must not be expected that we can jump at perfection in this matter of house-warming, any more than we can jump at correct practice in medicine, in building, in religion, or anything else. No man ever built a house he was entirely satisfied with. He always wants to build one more, that he may correct the mistakes he has made in the last one.

Most of our arrangements for artificial warming are of recent origin. They are generally very imperfect and unsatisfactory. But, on the other hand, we must not suppose that any system of warming and ventilation will ever be invented that will be perfect, that will answer for all the variations of our changeable climate, without further care. No: all artificial warming and ventilation is expensive, troublesome, and, at best, with all the intelligence and care that can be bestowed upon it, is far inferior to the natural warmth of the sun and ventilation of the external atmosphere; and we would earnestly recommend every one to avoid the artificial substitute as long as he possibly can. It is scarcely possible, however, for us to avoid them altogether. It would, no doubt, be better in many instances to wear more clothing in cold weather, and have our rooms less heated than are many of our American houses. This would apply especially to our bed-rooms. It is undoubtedly much more refreshing and invigorating to put on plenty of blankets, and sleep in a cold room with the windows open, in winter, than to sleep in a warm room, especially if closed, and even if well ventilated, because the breathing of cold air gives more

vigor than the breathing of warm. But how shall we do it? That is the question.

One of the first things we want to know is how warm should the floors be to give the greatest amount of comfort. The temperature of the blood is ninety-eight degrees; and the soles of our feet ought to be kept that warm also, to maintain a perfect circulation and action of the blood throughout the whole system. I at first thought that this temperature would be the best for the floors, as that, being the temperature of the blood, would feel neither warm nor cold. But many experiments in this direction seem to indicate that this is rather warmer than is generally desired. A temperature of eighty-five or ninety degrees seems to give the most general satisfaction, and if, in addition to this, many of the floors of the outside walls could be warmed, a great advantage would be gained. These may be warmed to one hundred and ten or one hundred and twenty degrees. Now, these temperatures are perfectly safe with any of the ordinary materials of our rooms. This is not warmer than the floor would be with the sun shining upon it, and is not injurious to wood, and ought not to be to any carpet with which the floors of a living-room should be covered. But to produce just this temperature and no more, is the difficult matter. If that could be done, it might be applied to any of our ordinary houses with wooden floors.

The circulation of hot water through pipes between the joists comes the nearest to accomplishing it. This has been done in many instances with marked success, and may be considered safe for the first floor where there is a warm cellar underneath; but it would not answer in second stories, or in exposed positions where the pipes were liable to freeze and burst. Steam answers a good purpose where there is considerable space for the circulation of air around them; and, where a pressure of less than five pounds is used, it is scarcely necessary to protect the wood work from immediate contact with the pipes. It is better, however, not to allow any wood to touch them. Although combustion would probably never take place from that cause, yet the wood thus in contact becomes very dry; and, if a fire occurs from other sources, such wood is in condition to burn rapidly. Wherever it is practicable to do so—and I

think that with a little ingenuity it would be found to be so in almost every case—the steam pipes should be run between the joists on the outside under the windows, and the space directly over them could be covered with soap-stone or with slate. The latter is becoming a favorite material amongst builders for various uses besides covering roofs. It makes an excellent tiling, and, in the ornamental manner in which it is now worked up, makes a very handsome substitute for the expensive marbles for wainscoting.

In cases where the ordinary hot air furnace is used, it is scarcely safe, with our present method of construction, to allow even the air from the “Æneas,” and the “Vesuviuses,” and such other lung-scorchers, to come in contact with the wooden floors (these floors are of so much more value than our lungs) for fear of burning them; but, where it is possible to use iron joists and a brick arch, it makes an excellent arrangement to let the floor be the top of the furnace. The floor is thus warmed; and, with a little ingenuity, the heat may be quite evenly distributed over a large space. If hot-air furnaces could always be used in this manner, it would quite retrieve their character, and render them a convenient, and perhaps a popular method of warming. From these few hints it can readily be seen what a field architects and builders have before them for devising new and improved methods of rendering our buildings far more comfortable than they now are, by adopting some means of keeping our feet warm and our heads cool.—*Lewis W. Leeds, Engineer of Ventilation.*

SALT FOR FARM STOCK.—Prof. James E. Johnson, of Scotland, says that half the saline matter of the blood (75 per cent.), consists of common salt, and as this is partly dissolved every day through the skin and kidneys, the necessity of continued supplies of it to the healthy body is sufficiently obvious. The bile also contains soda (one of the ingredients of salt) as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt, and neither will the bile be able properly to assist digestion, nor the cartilages to be built up again as fast as they naturally waste. It is better to place salt where stock can have free access to it, than to give it occasionally in small quantities. They will help themselves to what they need.

BEE-KEEPING.

THE BEE AND BEE-KEEPING.

NO. 3.

BY ULRICH STRICKLER.

WORKERS.

THE workers are imperfect females, that is, they are females with undeveloped organs of generation. Fertile workers occur occasionally. They are workers that have the power to lay a few eggs, but this power is only developed when a colony has lost its queen, at least we discover it only in queenless colonies. The eggs laid by fertile workers, hatch, but produce invariably drones. This is another evidence that drone eggs, or eggs that produce drones, are not impregnated.

The time from the egg to the mature worker, averages about twenty-one days, or three days less than for the drones. They are called *workers*, because they perform all the labor. Worker-bees are emphatically laborers, being without doubt the most industrious insects of which we have any knowledge—the ant not excepted. No opportunity for gathering stores is allowed to pass away unimproved. Every moment of time—weather permitting—is employed, and every nook and corner ransacked, so that no source of honey or pollen escapes their scrutinizing search. When their hives are well filled, having an abundant supply of honey and all things necessary to take them safely through the winter, without any more labor, if we furnish them additional room, they will toil assiduously to fill it up. Sometimes when their hives are filled, and we neglect to furnish them more room they will build combs and store honey on the outside, showing that industry is essential to their existence, and idleness contrary to their nature. The phrase “as busy as a bee,” and the song

“How does the busy little bee
Improve each shining hour,”

are “as familiar as household words,” and yet how few, comparatively, know how busy a bee really is, or how industriously it improves its time. But I am digressing.

They are provided with a sac in which they carry the honey to the hive. Pollen they carry in little pellets attached to their poste-

rior legs. Nature has furnished them with a sting and a virulent poison. These they use in defense of themselves and their treasures, but will not attack when abroad, only near their hives. They secrete wax, construct comb, nurse and feed the young, as well as prepare their food; in short, perform all the labor about the hive, except laying the eggs. For about ten or twelve days after leaving the cell, they are almost exclusively engaged within the hive; afterward they assist in collecting honey and pollen. Their age varies according to the season in which they are hatched. In the busy season the average age acquired does probably not exceed a month, a great many being lost every day, but when hatched in the fall, their life is extended during the winter, into spring, so that some probably live to the age of eight or nine months.

HINTS FOR OCTOBER.

Now is the time to select stocks for wintering. Every stock to winter safely should have twenty-five to thirty pounds of honey, and bees sufficient to cover all the combs nearly to the bottom. Some judgment is needed to decide about the number of bees. If the hive is very full of honey, the bees are crowded to the bottom, and appear to be more numerous than they really are. But where the combs are ordinarily filled, the bees will be near the bottom, and extend through all of them. Such usually winter best. When stores of honey are a little short, the bees will be farther up among the combs, and a large colony may appear quite small. *Too much* honey is also a disadvantage. The middle combs should be empty nearly to the top, that the bees cannot occupy only the space between the combs, but creep into the cells, pushing very closely together, to economize all the heat generated by them.

Keep all the colonies that can be made profitable next year, but decide *now* which are to be wintered. Some colonies cannot be wintered, and it is mercy to kill at once, rather than allow them to starve by degrees. It is mistaken kindness and false economy to decide to keep colonies that cannot be wintered. If it is desirable to keep light colonies, they should be put in the best possible condition this month, by feeding, that the honey may be sealed over before cold weather. Feed at night, and give them all they will

take, until they have enough. Feed in the top of the hive, that robbers cannot get at it without passing through the hive. Honey is, of course, the best feed, but a syrup made of the best white sugar and water—two parts of the former to one of the latter by weight—brought to a boil, and all impurities skimmed from the surface, is a very good substitute. There are several patented bee-feeders in use that are very convenient, but a home-made one, which any one can make, answers our purpose very well. Take four pieces of lath, about an inch wide and one-fourth of an inch thick, and of any length to make a feeder of the size desired, or suited to the top of the hive; tack together, and for the bottom take heavy unbleached muslin and fasten on. Or the sides may be made of tin, and the muslin pasted on with gum-arabic. Honey, or syrup of the proper consistency, will pass through the muslin just fast enough for the bees to take it from the under side. This feeder should be set over the openings in the honey board, on a frame the same size as the feeder. The bees can then ascend through the openings in the honey board, and get to the under side of the muslin, under the honey or syrup, and take it through without getting outside of the frame on which the feeder rests. Whenever the feeder becomes empty, it can be filled without any bees being in the way.

If any stocks cannot be wintered, it is better economy to put away the hives with their contents, after taking out all the bees, for a swarm another year, than to break out the honey for the table. Close it up, that neither mice nor bees can enter, and a swarm put into it the following season will pay for the contents and trouble.

Those who use movable frame hives—and every bee-keeper should use them—will have very little trouble with light stocks. A frame or two containing honey from a stock that can spare it, exchanged for one or two empty ones will help the difficulty; and it is all that is required, unless there are too few bees, when the bees clustering on the combs from the strong stock may be permitted to remain on, and be transferred with the combs to the weak colony.

BUTTER made in the Blanchard Churn commands the highest price, as the buttermilk is sure to be worked out more thoroughly than it can possibly be by hand. Expert butter buyers well know this.

ENTOMOLOGICAL.

IN DEFENSE OF THE COCKROACH.

A REMARKABLE result of modern utilitarian investigation is the discovery of the value of the cockroach as a scavenger. These repulsive animals, which have been deemed the enemies of correct housekeeping, and against which a thousand patent poisons have been discharged, is after all a friend of our race, and has been unjustly persecuted. And now for what the cockroach does. Recently a terrible disease has been discovered, which originates in the putrid paste on bill-boards in large cities. The cockroach has a strong liking for this putrescent, farinaceous food, and, when permitted, cleans it all up. In Paris they are encouraged in this work, and prominent men say that when the animals are allowed full swing, cerebro-spinal meningitis and kindred diseases are not heard of. Repulsive as it may seem, it has leaked out that bakers use the cockroach to clear the p tridity from yeast, and frequently insert them into the loaves of bread for sanitary purposes. New York is awakening to the sense of their utility, and is looking them up to clear off her putrid bill-boards a prominent doctor having insisted that "a bill-board is equivalent to the death of three hundred people, from the putrid matter it contains." A number of cockroach breeders were present at a recent meeting of entomologists in Salem Mass., and exhibited a number of different varieties of the insect. It was there demonstrated that the English breed is superior to all others for scavenger purposes. It was contended that the popular prejudice against the insect is groundless, the roach being perfectly harmless, and capable of great affection for his keeper. Who will inaugurate the cultivation of the new sanitary agent in this vicinity?

[It is so seldom that a good word is said in behalf of the cockroach, and we feel so naturally inclined to give even "the devil his due," that we cannot refrain from submitting the above to the consideration of our readers "for what it is worth," and nothing more. We can so far vouch for the truthfulness of the foregoing testimony as to corroborate what is said of the cockroaches eating the paste attached to papered walls, printed or otherwise, but at the very best this is but a negative virtue, for, to our great annoyance, he persists in also eating the paper in holes for two inches or more along the washboard of our kitchen. Still, as we do not *know* how much fatal disease this has prevented during the past hot summer, he may possibly have

performed a sanitary office in our household, and therefore will not unqualifiedly condemn him, but charitably give him the benefit of the doubt.

It has often been alleged by analytic temperance—or rather total abstinence—advocates that the extract of cockroach constitutes the coloring matter in some of the liquid compounds, manufactured and sold as human beverages. Be that as it may, we *know* from experience, that the immersion of cockroaches in limped alcohol, in not a very long time, changes it to the color of the most beautiful brandy. If it be true that bakers use cockroaches to destroy the putridity of yeast, and for other sanitary purposes, may they not have a sanitary effect upon the beverages in which they are used as a coloring matter? and if so, what becomes of the argument against the poisonous liquid compounds, so freely made use of by analytic temperance reformers?]

AN EGYPTIAN PLAGUE.

Reports from various sections of Ohio state that the potato crop will be almost an entire failure, on account of the ravages of the potato bug. Now that the cold weather is beginning to set in, the bugs are leaving the fields and seeking shelter in the houses, barns and other buildings. Every window is full of them, and the sides of buildings are in many places completely covered. Every path is crowded with them, and the residents cannot walk about their houses and barns without stepping on and killing hundreds of these destructive bugs.

We have a letter before us, more than corroborating all in the above extract. These insects are now seeking winter quarters in which to hibernate until next spring, but the number that do so are nothing in comparison to the number that go into the ground in the grub form, and those change to a pupa, and remain buried in the earth during the winter, away from accident and damaging exposure. Those therefore, that go into the ground, are comparatively safe; although they may be more numerous than those seeking winter hiding places above ground, yet they do not commence operations in the spring so early as the latter. We hope the potato growers of Pennsylvania may have entirely exterminated the broods of these insects which appeared the present season in different parts of the State, and most especially those that appeared

in Lancaster county. Next spring will tell the tale. Even if all these should have been extinguished—which is hardly probable—it will not be long before they reach our State from Ohio, for the letter above referred to was from Tuscarawas county, the northern line of which is only about forty miles from the Western Pennsylvania line. With the “potato beetle” and the “cabbage worm” in Lancaster county, judging from the ravages of the latter this season, we would not be able to look very hopefully for our usual supply of potatoes and cabbage, in the summer of 1873. As civilization advances, and the country is opened up to domestic culture, it seems there is a corresponding increase in the development of our insect enemies, and this is pretty much the case all the world over. It may be accounted for on the principle that an increase in the quantity and quality of the food on which certain insects subsist, increases and facilitates their development, in localities where these conditions exist. To show that we are not alone in these insect troubles, we append an extract sent us by a friend in the Sandwich Islands, exhibiting some of their depredations in that far-off and generally esteemed Elysium of the tropical realms. It tells a sad tale.

BLIGHT!

In that solemn, short significant word, is comprehended simply a nasty, shiny, dirty, little *louse*, yet so preposterously anti-Malthusian, that the smallest speck of him is to be dreaded as an enemy's invasion with a destroying army! It is the true trail of that malicious old serpent who poured his infernal poison into a frail woman's ear and then spit upon our cocoa and our coffee, and hasn't done spitting yet. This detestable little aphid can put whole countries into mourning, send fleets to rot for want of work, elude the vigilance of science and turn a smiling land into a waste wilderness, crying Havoc! with the biggest dogs of war! Look at our feeble alone. What might not this single Island of Hawaii have done but for this pesky parasite! Millions on millions of dollars it might have raised, and a revenue and a commerce capable of many hotels and palaces, worthy the benignant patronage of Foreign Relations in all his glory! There is scarce a limit to the amount of exportation that there might have been from the six *apanas* of Hawaii. With a chaplet of coffee leaves encircling her *unblighted* brow, and a wand of cocoa in her hand, guarding the green and fruitful plantations at her feet, and unnumbered cream dairies round among the hills, the Genius of Hawaii might have taken her imperial seat

on Mauna Kea with Mauna Loa for her breakfast table, and while sipping the ambrosial compound of her own inspirations, with a slight flick of her big toe, have sent the greedy sugar kings with their compound interest guns all rolling into the briny deep. I have a present pertinent cause for wrath, though impotent. For being something of a digger with the rest, in part pursuance of my allotment I planted "garden sarse," cabbages, corn and asparagus. As they sprouted I weeded and watered and looked proudly on. My asparagus took the form of feathery plumes, my corn sheltered scratching poultry and my cabbages swelled as if affected with hydrophalus. (Perhaps *hydrocephalus*—dropsy of the head.) So I weeded and watered on and grew prouder, and when a melancholy stranger in black hailed me as a "brother sinner" over the garden wall, I ignored the connection and told him to peddle allegories and mind his own business. And the *Philistines were upon me!*—the Aphides I mean, with a filthy clean sweep of utter destruction! They plastered my corn leaves with a dirty gum and turned them all to fly-traps. They broke my cabbage hearts and sprinkled them with odorless mummy powder, and they clad my asparagus with a mouldered-fluff. I might have known it. Hilo is *black with blight!* The very bread-fruit trees are going, the *kou* is gone, and symptoms appear all round. In parts of Hamakua and Kona the ants have taken complete possession of thousands of acres, and destroy all crops. In some shape or other it affects the people, as Molokai and the hospitals will testify, and (if you'll not mention it) I'm afraid it's in the Parliament. And what are you going to do about it? "Marry now, *tell us that* and unyoke!"

A desponding friend of mine who yet has good ideas, let himself out the other day, quite treasonably I thought, for when I hopefully suggested that we might be in *an epoch*, and the archipelago in the spasms of a *phase*, he threw away the stump of his cigar quite viciously and snarled out, "Not a bit of it; *it's a bilke!*" Of course that shut me up.

Yours truly.

CORRESPONDENCE.

YELLOW S ON PEACH TREES.

WILL HEADING DOWN THE TREES CURE THIS DISEASE.

MESSRS. EDITORS OF FARMER: Last season visiting several of my friends, and looking through their orchards and vineyards, I noticed on the grounds of Mr. Binkley, adjoining the farm of Mr. Levi S. Reist, a number of peach trees that had been headed

down, the year previous, close to where the branches started from the trunks of the trees. These trees were badly effected with the yellows, as Mr. Binkley told us, and he thought to try an experiment, "kill or cure!" Now, when I saw them a year afterward, all these trees had pushed out numerous sprouts, forming beautiful dense heads. The foliage and healthy appearance of these trees, apparently, left not the slightest doubt as to their perfect freedom from disease. As another season has passed round, I feel curious to know if thus heading down the trees has in reality, and radically, cured them of this destructive malady!

Mr. Reist, no doubt, can easily examine these trees, standing near his apple orchard, and, as he is a close observer, will Mr. R. give through the FARMER the result of this experiment for the benefit of all whom it may concern?

If the heading down of the trees will cure this formidable disease, it may be of interest for the peach growers to know it. There is to my mind, at least, some plausibility in this operation, thus preventing the trees from flowering for a season it may arrest, possibly cure this disease.

Many years since, I noticed that trees apparently affected one season and ready to die, on a cold winter, killing the germs in the flower buds so the trees did not flower the following spring; then the trees recovered, and remained healthy, and bearing fine fruit for years afterward.

J. B. GARBER.

WHY MATCHES IGNITE.—Although friction matches are as common as nails, a very small proportion of those who use them understand the principle on which they operate. It is in fact a very simple affair. The tip of the match is a combination of sulphur and phosphorous. The phosphorous ignites at the heat of one hundred and twenty degrees, which a slight friction will produce, and this in turn ignites the sulphur, which requires four hundred and fifty or five hundred degrees. The flame of the sulphur sets fire to the pine wood of which the match is composed, and which ignites at about six hundred degrees. The combination is necessary, because the phosphorous alone would not kindle the match, while the sulphur alone would not ignite with the ordinary friction.

The Lancaster Farmer.

LANCASTER, OCTOBER, 1872.

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HORTICULTURAL EXHIBITION.

THE exhibition of our local society, at Fulton Hall, on the 12th of September last, was the finest and largest display of fruit and flowers that has ever been seen in the City of Lancaster, and only shows the capabilities of the society, when it has a will to make a demonstration. The income came within a small fraction of covering the expenses, and would more than have covered them, but for the threatening character of the weather during the afternoon and evening. Under any circumstances, it may be regarded also as a financial success, for being the first exhibition of the society, held in a large rented hall, it was merely an experiment, and realized more than the society anticipated. This experiment clearly suggests what the society *can* do, and doubtless what it *will* do, on future occasions. Although there was a very large display of fine fruits and flowers, and also a creditable display of beautiful ornamental plants and evergreens, yet the quantity of vegetables and seeds on exhibition—although of a fine quantity—was very meager indeed, as a representation of the field and garden products of Lancaster county. This is not because these useful products do not exist, both in quantity and quality, but because of the habitual apathy of those who cultivate them. There is not sufficient personal pride in that which is proverbially the pride of our land, and the success of which, forms the physical basis upon which the superstructure

of all other occupations, professions, and enterprises are erected. One sister society at Marietta did infinitely better than we in this respect, and it only represents a single district in the county; but, to its credit be it said, it is, horticulturally, a live district, and on all such occasions, manifests a laudable enterprise.

Our late exhibition suggests another important matter; and that is, that it ought to be continued for at least two days in succession, and previous proclamation should be made at least one full month before the exhibition is held. It will require nearly all of the first day to get things properly in order, and it seems that publish and advertise as we may, many of the people receive their first knowledge of it from some friend or neighbor who has visited it. There are many other details in which the public have no special interest, but which ought to be clearly understood between the society and the managing committees it may appoint, to carry out its will, on future occasions.

Perhaps at no other period in the agricultural history of our country, has there been finer and more successful agricultural and horticultural displays than have characterized the present season. Improved culture, and improved products of the soil, must always command a remunerating price, and therefore the culturists of our progressing country have nothing specially to risk or fear, in this respect.

Simultaneously with the appearance of this number of our journal, the "Agricultural Park Association" will be holding its *fourth annual fair*, and the very liberal list of premiums it offers, ought to bring out a large amount of the choicest products of our county, in all its industrial departments. If any word of ours could be of any avail at this late day, we would admonish our friends to give encouragement to that part at least, which is in harmony with their sentiments, and secular interests, without regard to other features in which they are not interested. There must be *some* feature, on occasions of this kind, more prominent than others, and if you make that feature agricultural, horticultural or mechanical, it will not be in "trials of speed," to which some object. For the honor of Lancaster county we desire its success, at least in those departments in which our late exhibition so signally failed.

BLIGHT.

EXCEPT a similarity in external effect, perhaps there is no term in the English language which conveys a more indefinite idea in reference to the causes of certain phenomena, than that called "blight." It covers so many contingencies, that it would be altogether impossible to suggest a remedy in any case, where the description of an animal or vegetable disease, is couched in the simple word *blight*. If we look into a common dictionary, we find that it means "anything nipping or blasting." "A disease incident to plants, affecting them variously. Sometimes the whole plant perishes; sometimes only the leaves and blossoms, which will shrivel, as if scorched." The use of this term may be proper enough, if used merely to describe, briefly, an effect, without regard to the cause. But it is so often used with the definite article *the*, as a prefix, that it conveys the idea of a disease, in special cases, that is independent of any superinducing causes. Where vegetables are infested by certain species of *aphis* or *coccus*, which enervates them, and causes their leaves and fruit to wilt, they are said to be affected by the "blight." When the same effect is produced by the presence of immense numbers of minute *fungoids*, they are said to be blighted. The same general term is applied when the root is cut off a plant underground by worms, and the top withers and falls under the rays of the sun. It is the same in cases where the twig-boring and twig-girdling insects destroy the vitality of the smaller branches of trees and shrubbery, causing their leaves to wither; or where the same effect is produced by the punctures of the "seventeen-year locust," or the repulsive "squash-bug" and "Colorado potato beetle;" or when, after a violent summer storm, some of the branches of trees are found to have been killed by electricity; in all these cases, vegetation is said to have suffered from *blight*. Well, in a popular sense, and for the sake of convenience, it may as well be called by this general name, as any other. But admitting this, here is where the "trouble" comes in. Viewed as a simple disease, only apparent from the general outward effect, people will be looking for a simple uniform remedy, that will be applicable to all cases, when it is very evident that each particular case

may require a different remedy. In any case, little or nothing can be recommended as a remedy for blight, unless we know what has been the cause of it, and even when we truly *know* the cause, there may be many difficulties in the way of *applying* a remedy.

In connection with this subject, we may mention that there are some forms of blight which have a remedy inherent in them, or in natural association with them, and especially that form of it which is caused by *aphids*. Some weeks ago, we noticed that the blighted end of a grapevine was covered with *aphis vitis* in various stages of development, and also with a number of, what seemed to the naked eye, a small globular *fungus*.

A microscopic examination, however, revealed that these were also aphids, but with the abdominal portion of their bodies much enlarged, and changed in color. We cut off the end of the blighted vine, and placed it under a glass cup. In twenty-four hours thereafter, out of about thirty of these insects about twenty had assumed the bloated and discolored form, and from these within forty-eight hours thereafter, emerged as many little *Chalcis flies*—a parasite which preys upon the aphids. In addition to this, and various artificial remedies which may be applied to this form of blight, there are a number of other insects which prey upon aphids; and if it were not for this, their increase would be much facilitated and their presence intolerable.

MEETING OF LANCASTER COUNTY AGRICULTURAL AND HORTI- CULTURAL SOCIETY.

The regular monthly meeting of the Society was held September 2d, 1872, at the Court House, and the minutes of the last meeting were read and approved.

The question of holding a Fruit Exhibition was immediately taken up, and, after considerable discussion, was fixed to be held in Fulton Hall on Thursday, September 13th, 1872.

The following were appointed by the chair as managers to make arrangements for the holding of the said exhibition, viz.: William McComsey, J. B. Garber, Dr. E. Hertz, H. K. Stoner, Levi S. Reist, Samuel Hillman, C. Fox, Casper Hiller, Calvin Cooper, Johnson Miller, S. S. Rathvon, Jacob Stouffer, J. B. Ke-

vinski, Charles E. Long, M. D. Kendig, S. P. Eby, and Alexander Harris.

The following committee was then appointed to superintend the floral department, viz.: Mrs. J. B. Livingston, Mrs. Krampf, Mrs. Charles Rengier, Mrs. Charles Long, and Mrs. J. H. Pearsol.

Price of admittance was fixed at fifteen cents.

Dr. Elam Hertz, of Ephrata, now proceeded to read an essay on "Household Science."

A vote of thanks was tendered the essayist for his production.

On motion, David Evans was elected a member of the Society.

Society, on motion, adjourned.

HOW SHALL I DISTINGUISH?—I purchased eggs from what was reported pure-bred poultry, light Brahma. The chickens from the eggs are now about ten weeks old. I would like to know how they ought to look, also how to tell the cockerels from the pullets, whether by the comb or growth of tail-feathers. Three or four of the chickens are nearly all white, and have tail-feathers three inches or more long, the birds being rather long shaped; the others are broad, deep looking chickens, very fluffy, scarcely any tail. The query to me is, are they all cockerels? I hope not. Will some of your poultry fancying readers aid me.

Lexington, Ill.

BRAHMA.

The above extract we copy from the *Prairie Farmer*, and, by the aid of a friend who is well posted, we append what we deem a satisfactory reply. Hens and cockerels at that age bear the same relative appearance. All pure light Brahmas at this age are a beautiful light color, a small speck of black on the wing and tail, or, not attempting to be witty, where the tail will be. The Brahma is a *close set* bird. The cock should have no sickle feathers, only a short, upright tail, with four or five dark feathers when fully fledged, and finely penciled down the hackle. At ten weeks you can hardly tell the cockerels from pullets. The comb is the safest guide. The "long-shaped birds," with tail-feathers "three inches or more long;" are very likely *not* Brahmas. All the Asiatics are short and broad.

ALL the first-class agricultural journals in the country give the Blanchard Churn as one of their premiums for a certain number of subscribers. This is a pretty good increment of the churn, as they are in a position to know which is *the best*.

MISCELLANEOUS.

RANDOM SKETCHES AND FARM ITEMS.

BY H. M. ENGLE

THE short wheat crop just harvested has not, thus far, brought the high prices which were anticipated by many farmers in this section, which indicates that the crop, in the aggregate, is not much below the average. Proper transportation facilities in a country are evidently the levelers of prices of its products. Before the era of railroads, a wheat crop as short as the present one in this section would have caused an advance in prices almost beyond the reach of the laboring classes. It is evidently conclusive that in a country like ours a thorough system for the transportation of its products is second only to the products themselves. There is still in this nineteenth century quite a large number who occasionally clamor for the good old times when the products of the farm were moved on wagons.

In those days prices of everything were much more fluctuating than with the present system of moving our products. Then speculations were more reliable; now they recoil upon the operator's own head, which is caused by rapid transportation. The more uniform and steady the prices of all the products of a country are maintained, the better for its citizens. We should, therefore, hail with pleasure the building of as many railroads as can be conducted in a healthy condition.

The flattering prospects of the apple crop in the earlier part of the season will not be realized in this section. The premature dropping and decaying of much of the crop up to this period has already reduced it far below its former estimate. The cause or causes of this drawback I am not prepared to give. It is, however, quite plausible that the extreme and continuous heat has had a serious effect on the crop. Good keeping winter apples will not be over-abundant; in fact, it is doubtful whether Eastern Pennsylvania will have a supply. It would be wise policy to turn the stock on hand to the best account for future use, by drying or otherwise—such as cannot be kept fresh for winter use—as it

is not likely that a full crop next year will follow such an extraordinary one this season.

The light crop of hay this season will, no doubt, cause many farmers to pasture close and late this fall. Nothing is more deleterious to the coming hay crop than such a course, and those who practice it will pay pretty dear "for the whistle." Should there be plenty of snow the coming winter, the grass thus pastured would not suffer so seriously as with an open winter; but it is always safest to allow a sufficient body on the surface for self-protection. With such a heavy crop of corn and fodder, properly utilized, stock should appear in good condition next spring, notwithstanding the short crop of hay.

FARMING A DULL BUSINESS.

TALKING with a very bright and ambitious young woman, a farmer's daughter, where we stopped over night, she said farming was a dull sort of life. "Yes," said a young man of twenty-two years, "there is no incentive to work; it is all humdrum routine, and hard work—no relaxation of effort, and nothing to stimulate the mind."

"What nonsense," we replied. There is everything for a stimulus. Each farm is a world in itself, about which those who have lived upon it know little or nothing comparatively. Suppose, for example, we were to ask you how many kinds of grasses—*real grasses*—grow on your farm—could you tell us, with their correct names, habits and history? Suppose we ask you how many species of plants are indigenous on your farm, and the names of these plants, time of flowering, color of flowers, soil and locality on which they grow—could you tell us? Suppose we were to ask you how many species of birds visit your farm every year, the time of their arrival and departure, their habits while with you, their names and their habits while absent from your locality the balance of the year—could you tell us? Suppose we ask you how many species of insects are to be found on your farm—their names, history, habits, whether injurious to you or not, upon what trees or plants they live, when and how often they appear, and how long they stay—could you tell us? Suppose we ask you to show us specimens of the grasses and other plants, the birds, insects, etc., which may be

gathered within your boundary fences—could you show them to us? And yet, if you were to undertake to acquire the knowledge we have suggested by these inquiries, you would find your life too short; yet the knowledge you would gain, the interest you would soon take in it, and the knowledge of your own impotency you would acquire, would prove to you that it is not the *farm* that is a dull place, but it is *you* who are dull!—*Moore's Rural New Yorker.*

HOUSE PLANTS—HOW TO BEAUTIFY OUR HOMES IN WINTER.

JAMES VICK, of Rochester, has issued his illustrated catalogue, from which we take the following hints:

"The hyacinth and narcissus, the crocuses and early tulips, are especially adapted to house culture. The Egyptian lily is a favorite for the house, and with a few geraniums, etc., will make a fine collection. All the lilies will grow well in the house, the *longiflorum* being the first to flower, the *auratum* and the *lancifolium* sorts last. The *dicentra*, or Bleeding Heart, is so excellent for winter breeding and keeps so long in flower that it is a great favorite with us. The ivy and Madeira vine are fine climbers and furnish abundance of delicate foliage. Many plants in the garden that have not become exhausted by overflowing may be taken up and potted before hard frosts, and in this way a collection can be secured at a very little cost or labor. The stock, *tropæolum*, *dianthus*, *ageratum*, *cobœo scandens* are desirable for this purpose.

"Few plants can endure the high temperature and dry atmosphere of most of our living rooms. The temperature should not be allowed to go above sixty-five in the day-time, and not above forty in the night. As much air and light as possible should be given, while the leaves should be sprinkled every morning. A spare room, or parlor, or extra bed-room, is better for plants than a living room. A bay window, connected with a warm room, especially if facing the south or east, makes an excellent place for keeping plants in winter. It should have glass doors on the inside, which can be closed a part of the time, especially when sweeping and dusting. The main thing in keeping house plants in health is to secure an even temperature, a moist

atmosphere and freedom from dust. Sprinkle the leaves occasionally, and when it needs water use it freely. If the green fly, or aphid appears, wash with soap-suds frequently, and occasionally with a little tobacco water, or a decoction of quassia chips. If the red spider comes, it shows the plants are in too dry an atmosphere. Burn a little sulphur under the plants, the fumes of which will kill the spider, and afterward keep the stems and leaves well moistened. Occasionally, but not often, worms appear in the pots. This can be avoided in a great measure by careful potting. A little weak lime water is sometimes of benefit in such cases, also five drops of liquid ammonia to a gallon of water, though, perhaps, the better way is to re-pot, removing the earth carefully, so as not to injure the growth of the plant.

"While a good many plants can be obtained from the garden for potting for winter flowers, bulbs must be the main reliance, and are unrivaled for house culture during the winter months. As nearly all can be grown in so many ways—in pots, or baskets of sand and moss, or in vessels of hot water—they are almost an endless source of interest and amusement in every stage of growth. With a little moss from the woods or swamps, a few quarts of sand, some pots, or a shallow box or two, and a few dozen crocuses, early tulips, hyacinths and narcissuses, any one is prepared for a pleasant little winter garden."

GRASSHOPPERS IN DAKOTA.

PERSONS down from Dakota yesterday report that vast swarms of grasshoppers have appeared in the section of country between Vermilion and Yankton, and are committing fearful devastation. One man said he had twenty-five acres of corn, and in a single afternoon it was completely destroyed. The stage driver says the insects were an inch thick in the road, and the wagon-ruts were filled with them. At times they passed in clouds so dense that the sun was obscured. Wheat, oats and barley are safe, but corn, potatoes and everything in the vegetable line in the track of the voracious invaders are destroyed. They appeared to come from the south, and should the wind hold its present course they will pass on into the more sparse-

ly settled portions of the territory, and the damage after all may be trifling compared with what it might be. It is to be hoped that Iowa and the rich country this side of Elk Point in Dakota may be spared, but it would be nothing strange if the grasshoppers which have already appeared were but the vanguard of a still more numerous host to follow. Old settlers distinctly remember the fearful ravages committed by these pests of civilization several years since, and no greater calamity could befall this country than to again be generally overrun by them.

The amount of damage they inflict is hardly credible to one who never witnessed their operations. They devour every green thing in their track, leaving behind nothing but a waste of desolation.—*Sioux City Journal*.

RAG CARPETS.

MAKING rag carpets seems to be quite an important branch of industry among economical farmers' wives and daughters, and a few suggestions in regard to their manufacture may not come amiss. An Ohio lady gives the following, which may be useful to farmers' wives. She says:

Put none but strong rags in, for it does not pay, and the economy in a rag carpet is not in the first cost, but because it will outlast any you can buy. It is not at all necessary to cut or tear the rags off at each end of the piece, but turn the corners, rounding them off neatly, or it will make the carpet rough. When I have finished one piece and commenced another I sew the ends together, and they are all ready to wind up, so they are sewed up as fast as they are cut. I think it is very discouraging to have ten or twenty pounds of rags all in a mass, as they are almost sure to be, to be sewed. The cotton rags I sew and reel into skeins before dyeing; the woolen ones I dye in the piece. I prefer prepared warp, and always try to get some I cannot break.

A very pretty stripe for carpets is made by taking two contrasting or some bright color and white (we have a crimson and white), cutting the rags in pieces five inches long, and sewing the colors alternately. Get the weaver to be a little careful in weaving it and make into clouds or steeples. I like clouds the best. It is very pretty when just woven in as it comes. I have one stripe that I tied the

skeins of white rags with new unbleached factory for two or three inches, with intervals of six or seven inches; then dye it dark blue.

WHAT IS THE LAW?

WE have frequent inquiries as to the law governing the sale and warranty of animals, and as many suits at law and much ill-feeling is occasioned by mistakes in regard to warranties, we have taken some pains to ascertain what in law constitutes a warranty, and also what constitutes a "vice" or "unsoundness."

It is often considered a pretty smart thing to sell an unsound animal for sound, and there is a common opinion that unless the seller gives a written statement that the animal is sound, or distinctly says "I warrant the animal sound," he is not held by the law responsible for unsoundness. On the contrary, we find it always held by judges that the seller is responsible for any statements made before the purchase which were in the nature of an inducement to the purchase. In a case where the seller simply said "The horse is all right," it was held to constitute a warranty. There are many cases of this kind on record, and in every case, so far as we can find, it has been held "that any affirmation by the seller as to the soundness of the animal made as an inducement to the sale constitutes a warranty."

It is therefore, besides being a despicable meanness, not safe policy to misrepresent the quality of an animal you wish to sell.

But what constitutes "unsoundness?" There are upward of fifty faults, vices and unsoundnesses which have been legally decided to be a breach of warranty. It is useless to attempt to give a list of these, but in general terms any "disease," "injury" or fault of temper or training which lessens the value or afterward interferes with the usefulness of the animal, is an "unsoundness."

It will be seen from the above that but few horses can be warranted as sound, and the better way is to state frankly just what unsoundness your horse does possess, and how far in your opinion it interferes with his usefulness.

The term "a horse trade" has become a by-word simply because the common law of commercial honor has not been regarded in this respect

A CUP OF COFFEE.

A WRITER in *Scribner* for October says: It has been truthfully said that in these enlightened days, and in the lands most blessed by the influence of civilization, there are thousands upon thousands of persons born into the world who live long lives and then go down into their graves without ever having tasted a good cup of coffee. There are many reasons for this, and the principal one, of course, must be that so few persons know how to make good coffee. And yet there have been thousands of recipes and directions published which teach us how to make good coffee by boiling it; by not boiling it; by confining the essence and aroma; by making it in an open vessel; by steeping it; by not steeping it; by clearing it; by not clearing it; by grinding it fine; by grinding it coarse, and by many other methods opposed to each other and to all of these. Now we do not intend to try to tell anybody how to make good coffee, but we just wish to say a word about the treatment of the coffee after it is made. And on this treatment depends its excellence, brew it as you may. The rule is simple; *never decant it*. Whatever else you do about it, bring it to the table in the vessel in which it was made. A handsome urn or gorgeous coffee-pot is the grave of good coffee. Of course it is considered more desirable to have the pot look well than to have the coffee taste well, we have nothing more to say. But when hot coffee is emptied from one vessel into another, the kitchen ceiling generally receives that essence-laden vapor which should have found its way into the cups on the breakfast table. And one word about the cups. When the coffee enters them it should find the milk or cream already there. By observing these rules, ordinary coffee made in almost any way, is often very palatable indeed.

HOUSE PLANTS.

To decide upon the proper amount of water necessary to the health of house plants requires consideration. Some species require more water than others, and plants in large pots will need it less frequently than those in small ones. The temperature of the room has also a powerful effect upon the evaporation of

moisture. If very warm the plants will require more than if cool. There are two very essential things relating to house culture of plants which should not be overlooked.

First: never apply cold water from a cistern or well, but let it be somewhere near the temperature of the air in which the plants are grown. Very cold water is sure to check the growth of plants; second: when the plants are watered give the soil in the pots a good soaking, and then omit watering them again until the soil shows that it is needed. A little at a time, and very often, is too generally the practice with the novice. If house plants are infested with the green fly, place them in a deep box, and then put a few live coals into an earthen or metal dish, and throw a handful of fine-cut tobacco upon them. The box should then be covered up tightly, in order to confine the smoke about the plants. Allow the plants to remain in the box two or three hours; then take them out, and syringe the limbs and stems with clear, tepid water. Repeat this operation as often as the green fly appears, if you desire healthy plants.

THE FARMERS' ALPHABET.

Ask no man for credit.
Bring your children up to love work.
Cheap seed is often the dearest.
Don't sell your crop till you have made it.
Early to bed and early to rise.
Full corn cribs make fat horses.
Graft all your plants from the Indus-tree.
Hang your gates to stand shut.
In everything give thanks.
Jars of jelly, but not family jars.
Keep no stock but what you can keep fat.
Limit your per diem drinks to 0.
Manure your head with brains.
Never put off till to-morrow what should be done to-day.
Owners are the best overseers.
Plow well, plow deep.
Quit chewing and smoking.
Raise your own bread and meat.
Subscribe for a good agricultural paper.
Try.
Under the bar-room door is a grave.
Venture, but not everything.
Wind and weather you cannot order, but you may profit by them.

'Xcellent manure—Sweat.

You don't know everything.

Zeal in a good cause, and this is a good one, to owe no man anything.

THE IMPORTANCE OF MULCHING.—A sagacious fruit grower, near New Brunswick, N. J., mulches his place heavily, and never removes it from one year's end to the other. His soil is always cool and mellow, and his trees and vines never suffer from heat; his fruit is large, fair and delicious, and his produce is extraordinary in quantity. For all newly planted trees in the spring of the year, mulching is the only safe guarantee of their success. Without mulching many will fail; with it, not one should be lost. The practice is also a saving of labor, and if the mulch is applied two or three inches deep it will keep down all weeds. Mulching can also be used to retard the ripening of fruit from three to ten days. Upon light sandy soil, currants cannot be grown without it. Pears dropping from the trees are safe from bruises. Tomatoes well mulched will double their produce. We scarcely know of a single objection to mulching, and in our experience it has proved to be one of the most economical and efficient aids to fruit culture ever brought to the notice of the public. Try it, farmers, all of you, and see what the result will be.—*The Horticulturist*.

SAWDUST AS MANURE.—It is of very little value as a direct fertilizer, and none till it has rotted, when it is similar to vegetable mold. Worked through heavy soil, it would tend to render it lighter for a time. It would doubtless be most useful applied to grass land, a coating half an inch thick or an inch, on exposed places, serving as a mulching, protecting the roots mechanically, and adding to the moisture of the soil. Sawdust might be used as an absorbent in stables and cattle yards, having an advantage over straw in giving shorter manure, but hardly as good as straw in rotting down freely.

GAPES IN CHICKENS.—A writer in *Poultry Bulletin* says he puts a small quantity of carbolic soap in solution under the wings and on the breast of the hen as soon as she comes off with her brood, repeats the application once a week, and thus prevents gapes, which disease, he claims, is caused by the larger species of the louse, which lays its young in the chicken's mouth.

CLOVER FOR HOGS.—An Ohio hog-raiser advocates the system of pasturing on clover during the summer. He presents, as the advantage of his plan, the statement that an acre of ground in clover will pasture five hogs four months, and that it will take the corn from half an acre to feed them the same time. The cultivation of the corn he counts equal to the rest of the other half acre. He further claims that hogs pastured on clover are in far better condition than if fed on corn, as they are better framed, healthier, and eat better, and also states that the land is enriched by the clover pasturing.

SOUR SUBJECT.—Edwin S. Nelson, of Maine, is spoken of by the *Oxford Register* as "one of the best farmers." His specialty is growing apples for vinegar. He never removes any of the grass that grows in his orchards, but mows it and leaves it on the ground to decay for food for the trees. When he has young trees to set, he takes his cart and goes into the wood lot and gathers a quantity of rotten wood and decaying leaves, sufficient to put a bushel or more beneath each tree, mixing it with loam. He keeps cider apples in perfect condition from fall till midsummer following, "simply by freezing them and then putting them into a bin and covering them with hay." To cleanse oil casks he fills them with new cider, keeps them filled, and all impurities are worked out with the pomace at the open bung.

BOOK AND SPECIAL NOTICE DEPARTMENT.

"THE PATENT RIGHT GAZETTE."—A monthly illustrated journal of industrial arts, especially devoted to the sale description, and illustration of patents, and to the latest progress in engineering, manufacturing, building, and a choice selection of entertaining literature. Price \$1.00 a year. Published by the United States Patent Right Association, 94 Chambers street, New York, solicitors of patents, under guarantee, for the United States and all foreign countries. Address P. O. box 4544, New York. HENRY GERNER, Publisher. This is a royal quarto of twenty-four pages, including the beautifully illustrated covers, printed on fine paper and in clear type, and contains a great variety of useful and reliable information within the sphere of its specialties, as well as other interesting literary matter. The September number contains the second part of "Ma-na-hatt-ana; or, Sketches of New York in 1872," with fine illustrations of prominent points of beauty in Central Park. On the whole, this journal will compare favorably with the best on the sub-

ject of patents, published in this or any other country, and, we think, ought to be in the hands of every practical patentee of mechanical and other inventions.

"THE IOWA HOMESTEAD, AND WESTERN FARM JOURNAL," a plain folio of eight pages, published weekly, by the "Homestead Company," in Des Moines, Iowa, at \$2.00 a year, contains a great deal of matter of special interest to those who are looking westward as a final point of emigration.

THE SOUTH—Devoted to the material interests of the Southern States. This is an illustrated folio of eight pages, and, as its title implies, is thoroughly Southern in all its details. As an advertising medium, and a dispenser of valuable information relating to the Southern States, it is a valuable guide to those who may contemplate locating in that delightful portion of the North American continent. New York. \$2.00 a year. Weekly.

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THE YOUNG FOLKS RURAL is a novelty among publications for young people entirely different from any other in style and character. Cash prizes are given for best "compositions." Write for a specimen number and particulars, which will be sent free. Terms, \$1.50 per year—\$1.00 in clubs of four and more, and every subscriber receives a pair of beautiful chromos as a gift. Splendid premiums to those who form clubs. Address H. N. F. LEWIS, Publisher, Chicago.

WHAT A "SCHOOL MA'AM" SAYS.—"I am a teacher, and take the paper for the benefit and amusement of my pupils. Eyes are brighter, and lessons better learned when the *Young Folks Rural* makes its appearance, so I may find time to read it aloud to them, as is my usual custom. My last subscription is not yet out, but noticing your splendid offer of the chromos to subscribers, thought I would write at once. * * * —*Florence G. Balch, Van Buren Co., Mich.*

A sample copy of the above beautiful monthly will be sent free on request. Address H. N. F. LEWIS, Publisher, Chicago.

This is a beautifully illustrated royal quarto of 16 pages, and 64 columns, with clear type and on fine white paper. Contents admirable. We offer the *FARMER* and the *Rural* at \$2.25 a year, including a pair of beautiful chromos. Now is the time to subscribe for 1873.

"THE NORTH AMERICAN BEE JOURNAL," a neat little monthly periodical—octavo—devoted to Bee Culture. Published by MOON & KING, Indianapolis, Ind., at \$2.00 a year, for single subscriptions, and valuable premiums to clubs. The entire contents seem to be of a practical character, and are the results of a wide and varied range of experience.

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THE LADY'S FRIEND FOR OCTOBER.—An uncommonly beautiful and spirited engraving "The Wishing Well," leads off the at ractions of this number. The second engraving, "On the Summit of the Jungfrau," pictures a lofty distinction attained by a trio of tourists. The fashion illustrations are as elegant as the ladies could desire. The music is the "Honeymoon Schottische" And the stories are certainly unequalled. "Una and her Lions," and "Within the Maze," are splendid serials; and "An Everyday Heroine, concluded by Miss Douglas, is one of her best. The capital story, "Only a Wish," is also concluded. The work-table and pattern department and the editorials are also well attended to. Price \$2.00 a year. Four copies, \$6.00. Eight copies (and one gratis) \$12.00. A large and beautiful steel engraving also is sent to the getter-up of every club. "The Lady's Friend" (\$2.00) and "The Saturday Evening Post" (3.00) for \$4.50. Published by Deacon & Peterson, Philadelphia. *Single copies for sale by all newsdealers, and by the publishers. Price 20 cents.*

PHILADELPHIA CATTLE MARKET.

MONDAY, Sept. 30, 5 P. M.

The cattle market was rather dull this week, but prices were unchanged. About 3,800 head arrived and sold at 7½¢ to 7¾¢ for extra Pennsylvania and Western steers; 6½¢ for fair to good do., and 4½¢ to 5¢, per pound, gross, for common, as to quality.

Cows and calves were in better demand at higher figures. Sales of springers at \$35a50, and fresh cows at \$40 to 60. Receipts, 212 head.

Good sheep were fair request, but inferior grades were neglected. Sales of choice at 6½¢, and fair to good at 5½¢ to 6¢. Hogs have advanced, and sell at \$3a12½¢ per 100 lbs. nett, for corn-fed. Receipts, 4,100 head.

NEW YORK PRODUCE MARKET.

MONDAY, Sept. 30, 5 P. M.

FLOUR, ETC.—Flour is heavy, and common grades are in the buyer's favor. Included in the sales are inferior grades of extra at a trifle under inside quotations. Sales of 10,000 bbls. at \$6.15a6.60 for superfine Western and State; \$7.20a7.50 for common to good extra Western and State; \$7.55a8.40 for good to choice do.; \$8.40a9.75 for common to choice white wheat Western extra; \$7.35a10 for common to good extra Ohio, and \$7.65a11.25 for common to choice extra St. Louis, the market closing heavy.

Southern flour is in moderate request and without decided change in price. Sales of 950 bbls at \$7.70a10 for common to fair extra, and \$10.05a12.50 for good to choice do.

Rye flour is a shade easier and less active. Sales of 230 bbls. at \$4.35a5.30. Cornmeal is more active. Sales of 9 bbls. Brandywine at \$4.85a5.90.

GRAIN.—Spring wheat opened at 1a2c better, with a fair export demand, closing quiet with the advance partly lost. We quote at \$1.50a1.57 for No. 2 spring, in store; \$1.58a1.63 for No. 1 do.; \$1.63a1.73 for winter red Western; \$1.75a1.85 for amber Western, and \$1.70a2.02 for white do. The sales are 13,000 bushels at \$1.45a1.47 for No. 3 Chicago spring; \$1.52a1.54 for No. 2 Chicago; \$1.56a1.57 for No. 2 Milwaukee; \$1.66 for No. 2 do.; \$1.62a1.70 for winter red Western, and \$1.75 for new amber Michigan.

Barley is in moderate request and steady. Sales of 50,000 bushels of prime Western at \$1.07½, an extreme. Corn opened ½¢ better, with a fair export and home trade demand, and closed quiet with the advance lost. Sales of 185,000 bushels at 6¼¢a6½¢ for steamer Western mixed; 6½¢a6¾¢ for sail do., closing at 6½¢; 58a60c. for kiln-dried do. and in store; also, sales of 50,000 bushels Western mixed, seller all October, at 66½¢; 50,000 do. for November, at 68c. Receipts of oats, 58,250 bushels. Oats quiet, without decided change in price. Sales 48,000 bushels, at 45a46c. for old Western in store and afloat; 40a43½¢ for new mixed; 43a47c for new white; 35a39c. for black Western; 35c for black State.

Hay is steady at \$1a1.05 for shipping, and \$1.20a1.55 for retail lots.

PROVISIONS.—Pork is firm. The sales are 1,750 bbls. at \$14.10a14.20 for mess; \$11a11.50 for prime, and \$13a13.50 for prime mess. B. F. is quiet. Sales of 60 bbls. at \$4a5 for u. a. mess, and \$7a10 for extra do. Beef hams are dull at \$2a30. Tierce beef is quiet. Sales of 50 tcs. at \$13a16 for prime mess, and \$17a19 for India do.

Cut meats are active and firm. Sales of 370 pkgs. at 9¾¢a 14c. for ham, and 7c. for shoulders. Middles are dull. Sales of 100 boxes of long clear at 8¾¢; 700 long and short clear for January at 7¾¢; 150 long and short clear for February at 7½¢. Lard is dull and heavy. Sales of 400 tcs. at 8½¢-8¾¢ for new No. 1 to prime steam; 8½¢ for old do., and 9½¢ for kettle-rendered. Butter is dull at 10a16c. for Western, and 24a28c. for State. Cheese is quiet at 11a 14c. for common to prime.

CHICAGO MARKETS.

CHICAGO, Sept. 30.

Flour steady; fair to good extras \$5.25a6.50; Minnesota \$7a7.50a8.00. Wheat irregular, closing easier at \$1.19. Corn steady at 36c; fresh 35¾a36c. Oats firm at 23½¢ cash. Rye steady; salable 55c. Barley lower and closing quiet; 6½c cash. Pork quiet at \$15.00 spot; nominally \$12.75. Lard inactive and nominal; winter 8¾¢; summer 8½a8¾¢. Loose meats firm; shoulders generally held at 7c; short ribs 10½a10¾¢; sugar-cured hams quiet and unchanged.

NEW YORK CATTLE MARKET.

MONDAY, Sept. 30, 1872.

The market for Beef Cattle is dull, heavy and lower, at 7a13 cts. Receipts, 9721 head.

Cows and Calves have ruled dull and nominal at \$23a70. Receipts, 70 head.

Veal Calves are firmer, 5a6c. for fed calves, 3a3½¢ for grassers, and 7a10c. for milk calves.

Sheep and Lambs are dull and heavy at 4¼a6¼ cents for sheep, and 5¼a8½ cents for lambs. Receipts, 35,061 head.

Swine.—The market is dull at 5a5½¢, for live hogs, and 6¼a7c. for dressed do. Receipts, 44,961 head.

PHILADELPHIA MARKETS.

PHILADELPHIA, Sept. 30, 1872.

SEEDS.—There is no movement in Cloverseed, and new crop is offered to arrive at 10c., but buyers refuse to pay this figure; old is selling in a retail way at 10.10½¢. Timothy is held at \$3.75a3.80 for new. Flaxseed is much wanted, and, if here, would command \$2 and upward.

FLOUR AND MEAL.—The quiet state of the Flour market noted last week still continues. There is no shipping demand, but the home trade are purchasing to a fair extent, and prices are well maintained. The stocks are very moderate for this season of the year, and the supply of fresh ground Minnesota is nearly exhausted; choice brands of the latter are in demand and bring high prices; sales of 300 bbls. spring wheat, superfine, at \$4.25; 200 bbls. Ohio do. at \$5; 150 bbls. Western extra at \$6; 100 bbls. Iowa extra family at \$8; some Wisconsin do. do. at \$8; 100 bbls. Minnesota do. do. at \$9.25; 300 bbls. Ohio do. do. at \$8.12½a8.62½; 200 bbls. Southern Illinois do. do., low grade, at \$7.75, and 100 bbls. Western do. do., fancy, at \$10.

Rye Flour is firmer, and sells at \$4.25a4.50.

Corn Meal is inactive, and no sales of either Pennsylvania or Brandywine have been reported.

GRAIN.—The arrivals of wheat are light, but the demand has fallen off. Prices, however, are weak, and favor buyers; sales of 1,200 bus. good Western red at \$1.75a1.76; 400 bus. fancy do. do. at \$1.80; Delaware do. at \$1.82; 400 bus. Indiana amber at \$1.80, and white at \$1.90a2.

Rye is held at 75a76c. but without sales to any extent. The demand is only for small lots for local use.

Corn is held with firmness, and there is a fair demand at Saturday's quotations; sales of 1,200 bus. Pennsylvania and Western yellow at 70c., and 3,800 bus. Western mixed at 68a68½ and 69c.; we quote white at 61a65c.

Oats are in limited request, but holders still maintain former quotations. The quality of the new crop now coming forward is very inferior, and old white oats are scarce, and command relatively high prices. The stock here is large, and in New York it exceeds 2,000,000 bus.; sales of 2,100 bus. Western white at 42a43½¢, and 3,400 bus. black and white mixed at 38a41½¢; old white is held at 49a50c.

Barley is offering more freely, but the quality of that now being received is very variable. Choice grades command satisfactory prices; we quote Western at \$1a1.10.

Barley Malt is in limited supply, and ranges from \$1 to \$1.35, according to quality.

PROVISIONS.—In provisions we note a firm feeling, and the stock of all descriptions of the hog product is now reduced to a very low figure.

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

NOVEMBER, 1872.

No. 11.

ESSAY.

[The following paper, although originally written for a different locality, and addressed to a different people, yet contains some thoughts which have a general application to civilized society, wherever it may exist in the world, and especially to that class of society which embraces the farming and business community. We, therefore, do not hesitate to present it to our readers, as containing truths which will bear repeating a thousand times, or ten thousand times, if so often may be necessary to make a *practical* impression of the truth upon a single mind. An intelligent and thrifty farmer planted on his broad and well-tilled acres, with his hardy sons and daughters around him, is *somebody*; and, as a general thing, should no more think of transplanting himself and family in the soil of a large town or city, where he soon may become *nobody*, than he should of leaving *Elysium*, and locating in the *infernal regions*. And yet, how many farmers are like fishes bobbing around a trap, trying to get in through the meshes, to be in company with a few pampered gudgeons inside, who would fain be out again, if they only knew some avenue of safe escape. True, there must be artisans as well as farmers, and towns as well as country, in order to equalize consumption and production; but, all other things being the same, we would rather enjoy the enviable independence of an American farmer, than any other situation in Christendom.—Ed.]

RURAL LIFE AND RURAL HOMES.

THE love of the country and a country life is inherent in human nature. However much the merchant, the manufacturer and the

other business men of our great cities are absorbed in the pursuit of wealth; however eagerly they seek the all-powerful dollar, as the one thing indispensable to comfort; however absorbed in the pleasures and vanities of life; however grasping and avaricious they may be in everyday matters, there is one place that all either remember or look forward to, when the battle with fortune is won, and that is, the quiet home where they were born, or the pleasant home they will one day make—a home with its cool grove, emerald lawn, shadowy trees and beautiful flowers, where life may pass peacefully away in the calm enjoyment of nature, and in the gifts of its fresh ripe fruits.

How many live to see its realization? Alas! very few. The farmer reared upon the old homestead, grown up with flocks and herds, who may commune each day with every beautiful thing, God-given and strewn over the landscape in such lavish profusion; he may appreciate these as they are worth, but how many do? At least, not until time has worn furrows in the cheek, and the eye is dimmed with age.

Who among the masses of our farmers have done their whole duty upon these prairies, from which they have carved homes? Who among the millions occupying these homes have rendered them as beautiful as they might? The few are the exception; neglect is with the many. And this in a country unsurpassed in the fertility of its virgin soil, in the gentle undulations of its broad swells of verdure, rich in everything that nature can give except trees. Here and there we see isolated attempts at rural adornment, but to the educated eye, farmers' homes, as a rule, are bleak and cheerless in all that pertains to the æsthe-

tics—the beautiful in home adornment. It is not because they do not appreciate the difference between a home, however humble, embowered in trees, with its green lawn, its tasteful beds of flowers, and winding paths, or drives, leading to the house and the various buildings of the farm; but there is an idea that this costs largely in money, and that it can neither be accomplished nor kept in repair, except under the eye of an artist especially educated in the work.

This is all wrong. We have too long taken our lessons from the artificial work of artists in and near our great cities, whose only aim might seem to be to spend as much money for their employer as possible. All this is well enough in its place, on the grounds of the wealthy who can afford to pay for it, but the farm home and the farm grounds need different treatment. Here we must take our lessons from nature. On the broad prairies we lack trees. Let us then plant trees, at least about our homes, and then take advantage of the situation to carry a gentle curving drive about a knoll, if need be, or by a bold sweep reach the house over a gentle undulating surface; asking ourselves at each step what the effect will be when finished.

The taste for ornamentation being exercised, ideas will grow as you proceed, and in the end you will be surprised to find that simple landscape adornment is not the abstruse science you thought it. Your children will no longer seek the allurements of the village, or the city, for with the beautiful creations that you and themselves are rearing, in just such degree will they come to love home and its surroundings; in just such degree will come a longing for higher art and for study. Study will induce thought, and thought is the legitimate province of man; for he or she who thinks carefully and earnestly and consecutively, is seldom at loss for the means of true enjoyment. And that farmers nowadays are becoming more and more a thinking class, is due to the schools that are scattered broadcast over the land, and to the added fact that there is no better place for thought than on the quiet farm.

There are few farmers, indeed, who, becoming rich, seek the city to enjoy their wealth—to become swallowed up in the multitudes about them, living at No. 1 or 1,000 on some dusty street, living an aimless life, unknown

perhaps, to their next neighbor. Such few are like the gentry of England in King James' time, who, seeking London, were told by the King that they were like "ships at sea that show as nothing."

It is related of Webster as being one of the proudest days of his life when, at an agricultural after-dinner speech in England, where the nobility, gentry and yeomanry meet on an equal footing, he was pointed out by a bluff, hearty old graver as that "honest black-faced farmer, who could beat them all at farm-talk."

Railways have now rendered it possible for many citizens to combine the business of city life with the quiet of country homes, and their families are growing up purer and better and nobler for it. We all love better to think of Washington at Mount Vernon, Jefferson at Monticello, Jackson at Hermitage, Clay at Ashland, Webster at Marshfield, or Irving at Sunnyside, in the simplicity and quiet of their country homes, than as warriors, statesmen, or engaged in literary labor. It is because we love them as loving labor, not disdaining with honest sweat and toil to gather in the richest and best gifts from God to man.

The love of country life is inherent in man, is a natural growth, and is not dying out, as is sometimes stated. Therein all realize the dreams of their young lives—that living they might rest quietly and apart from the din and turmoil of the great city, rejoicing with the springtime, listening to the song birds in the green branches, planting the seeds of the harvest grains, the vegetables of the garden, or the tender flowers, tending their flocks evening and morning, or sojourning with them in the green pasture, beneath the shade of some umbrageous tree, thinking of the great All-Giver, and the infinite creatures of His power; embrowning themselves in the toil of the harvest, garnering golden sheaves of fragrant hay, rejoicing in the latter showers, ripening the great fields of golden and pearly corn; and when winter locks hill-side and valley and stream in its cold embrace, enjoying quietly the bounty that they have helped to provide.

Living thus, they can rejoice with the springtime, be glad in the summer sun, reap the yellow sheaves of harvest, enjoy the ripe fruits of autumn, and rest when the winter

shall scatter the forests with its dead leaves. Dying, they know that the springtime will surely come; and if the spring come again, resurrecting insect and plant and flower—is it not a type of that after life which we all hope sometime to realize?—*Western Rural*.

AGRICULTURE.

HOW TO HAVE A NEAT FARM.

TO those who are desirous of giving a more order'y appearance to their premises, but who don't quite know what to take hold of first, the *Hearth and Home* offers some helpful hints: Take a yoke of cattle or a span of horses, and put them to a wagon or cart. Fasten a stone-boat behind. On the stone-boat put a crowbar, a pick, a hoe, a spade, an ax, a saw, a brush hook or scythe, a hammer, nails, spikes, a few bolts of different sizes, a monkey-wrench, and such other tools as you may be likely to want, and drive along the side of every fence on the farm. If you come across a piece of board or a broken rail throw it into the wagon. If you find a plow-point, cultivator tooth, a broken reaper-guard, a horse-shoe, an oil-can, or an old hoe, put it into the stone-boat and bring it home. Stones may be thrown on and drawn to some convenient place. If you come across any weeds, mow them down; if any brambles or bushes, cut them with the brush-hook or ax. If a board is loose on the fence, put a nail in it. If a gate sags, straighten it up. If there are any bolts in the gate, see that the nuts are tight. Take a man or a boy, or both, along with you. You will find plenty of work. If there is a plank bridge across a stream, see that the sleepers are not rotten. The hot sun has probably warped the planks, and they will need another spike or two. If there are any sticks or weeds in a ditch remove them, and throw out any dirt that may have been trodden in from the sides by the cattle or hogs. In this way go over the whole farm. Then attend to the barn-yards. Pick up anything that may be lying around, and put it in its proper place. Boards that are of any use should be placed in a pile by themselves under cover. Those that are useless should be sawn, and split up into kindling, to be piled by itself in the wood-shed. If there are any loose stones in the yards,

draw them off. Scrape up all the scattered manure or dirt, and place it in a compact heap where it will ferment, or draw it at once on to grass land and spread it. Go into the garden and see if there is any rubbish there that should be removed, or any sticks or pieces of board or tools to pick up. Possibly you will find some old barrel staves or hoops about. Make kindling of them. If there is any old iron about the premises, it is a good time to dispose of it. It is worth one and a half cents per pound. Old implements, machines, tools, etc., that are worn out and of no further use, had better be knocked to pieces and the iron sold. If there are any parts that may be useful in repairing, they should be preserved by themselves. This is true of wood-work as well as of the castings. Almost everything, sooner or later, comes in useful on a farm. But unless you have abundance of room, it does not pay to lumber up the premises with useless implements and machines. Have all your bags mended; mark them and hang them up. Mark all the forks, rakes, hoes, spades, shovels, corn cutters, etc. Rub them over with petroleum, and put them in their proper places. All harvest tools and machines should be painted with petroleum and stowed away. If you are short of room, much space may be saved by taking the wheels off the steel-toothed rake, and the poles and cutter-bars off the mower and reaper. Any one who has not tried it will be astonished how many implements and machines may be stowed away in a small space. This will do for a beginning. Then when any implement is done with for the season, rub it over with petroleum and stow it away. When once things are in order, it is a comparatively easy matter to keep them in order; but still it is a daily work. It is, however, work that pays over and over again.

ANOTHER CORNER ON CORN.

"THERE can be seen at the office of the Atchison, Topeka & Santa Fe R. R. in this city, several stalks of corn which were grown in the Arkansas valley, on the line of that road, which were twelve feet high when they were plucked, which was sixty days from the time the seeds were planted. It was 'sod corn,' and had no cultivation. Pret-

ty good for the 'virgin of soil.'"—*Boston Journal*.

"This is probably a 'big thing' for Kansas, but would be no uncommon sight in Southern Iowa and South-eastern Nebraska. There are to be seen at the Burlington & Mo. R. R. Land Office, in this city, stalks of Iowa corn fifteen feet in height, and Nebraska 'sod corn,' plucked on the 20th day of August, containing twenty-two rows and upward of 1,250 well-developed kernels to the ear; also a castor-bean stalk, the product from one bean, this season's growth in Nebraska, which measures fourteen feet high and ten inches in circumference, a perfect tree. Beside these we might mention sweet potatoes weighing three to five and a half pounds each; radishes six to nine and a half pounds each; an Iowa pumpkin, which 'had no cultivation,' weighing 160 pounds; beets which can't be beat, and numerous other small things to match, indicative of a moderately (!) rich soil in these parts.

"Come on, Kansas, you have done well and should certainly be encouraged, but remember this is a free country, and the whole of it is open to show what parts present the most substantial attractions.

"What we have said has been with studied moderation, as we would in no wise injure your 'pheelinks,'—but any day when you want to stand up for a square, good-natured fight, we will bring out some of our 'big guns' instead of throwing small shots at you in this way."

[We clip the above from the *Burlington (Iowa) Hawk-eye*, which was sent to us, and marked by some unknown friend. It may show what is transpiring in the agricultural world, outside of Lancaster county. If any of our farmer readers can beat it—and we have no doubt they can—we should like to hear from them, if for no other purpose, merely to take the starch out of that Western "corner on corn," although we are aware that these occasional "big things" are not always the evidences of the best productive thrift of a county, a district, or a State in general. We were informed by an intelligent and reliable authority, that at the late Horticultural Exhibition held at Marietta, a basket containing a peck of peaches were on exhibition, the least of which weighed eleven ounces, and the largest thirteen ounces. Having in our

mind's eye the eight-ounce peaches exhibited at Fulton Hall on the 12th of September last, we are compelled to regard these as "some" peaches, and therefore "pit them" against the *corner on corn*.—EDS]

APPLYING CORN CULTURE TO WHEAT.

IF it is a benefit to cultivate corn between the rows, why is it not an advantage to give wheat the same treatment, and for that matter, all or most of the grains? Winter wheat has the fall and spring, as well as the summer in part, to favor the growth of weeds and grass, and we find these abundantly interspersed among the wheat. To sow a crop of corn broadcast for feed is found to be of advantage; to sow in drills and cultivate is found to be still better. It pays more than the extra labor. What used to be sown broadcast and do well, it is now found that it will do better in drills. Thus it follows corn. Why will it not still further be benefited like corn if worked between the drills, using the cultivator, and even the hoe, if necessary? The truth is we have not yet arrived at that point of advantage. England has so far as the decision in favor of it is concerned. Mecbi and others have tested this matter, and experiments in a small way practiced here have pointed the same way. Now, since drilling is getting to be established let us introduce and prosecute, or at least test, cultivating between the rows. Grass and weeds by this means are kept out; the ground is moister and becomes the more fertile by it; the crops are strengthened and kept clean (the last quite a consideration) and the land will have no occasion to be self-sown with for seed, as is usual in grain and grass crops and neglected corn fields.

Have we too much to do, too much land to cultivate, and too little help to do it with, to be able to engage in this? But if it is a benefit, why neglect this to attend to other things no more beneficial, and not perhaps so much as this? Why cultivate our corn and neglect our wheat, when the latter requires it equally, and it may be more? I am sorry to have it to say that I have tested this no more than in a general way in the garden, and then not so carefully as I might. But the thing seems as if there were more profit in treating wheat in

this way than corn. Who will give it a fair test? Who will lead off and confirm what the English experimenters have introduced so successfully, getting the benefit at the same time and at once? If harrowing the field with a smoothing-harrow ere the grain is too large and where there are weeds and grass starting up, is a benefit, why not work the ground between the rows and leaving the grain uninjured?

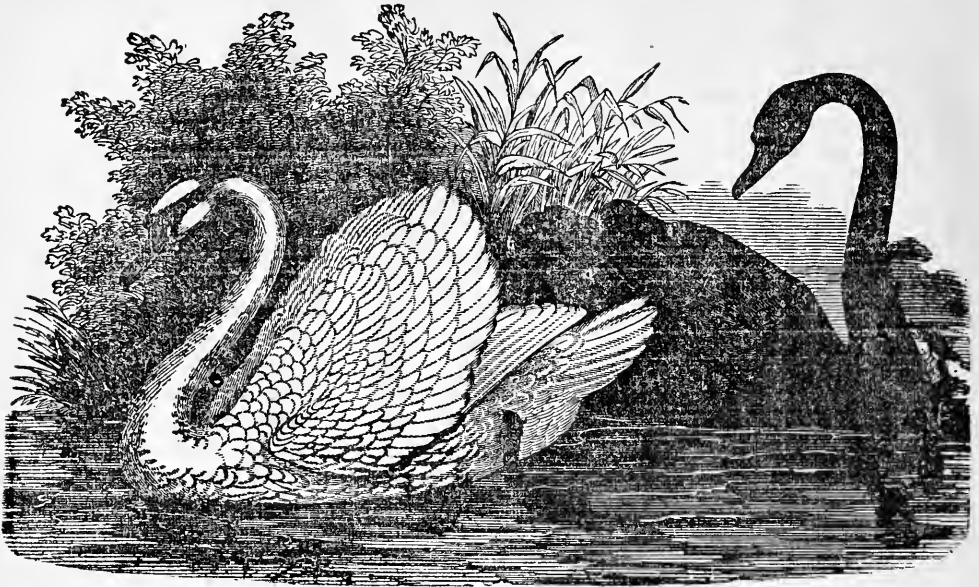
There is a great advantage in cultivation. We find it so among trees, shrubs, vines, hoed crops, and why should it not also apply to grain, especially that careful, kingly cereal, wheat? And it needs it, as the wheat crop is degenerating among us. It is an important crop in rotation, and should be made the most of. If it is worth fallowing the soil for it, and giving it the precedence of good land, why not further improve by what is such an advantage to it, cultivation? Especially such crops as are poor or much winter killed need this aid, or weeds and grass will overpower them. Let us come to the relief of this fine cereal, and make it something like what it is made in England.—*Country Gentleman.*

DANGER OF SOWING WINTER WHEAT TOO EARLY.

VERY few farmers ever make the mistake of sowing their winter wheat too early in autumn. Yet there is such a thing as seeding too early as well as too late. The danger incident to seeding too early is smothering the wheat beneath a heavy fall of snow in the winter, or injury by the Hessian fly: "The young wheat withers and turns yellow in October and November, and when the warm days of spring come the larva is rapidly stimulated to maturity. This will be about one week after the red or swamp maple (*acerubra*) first begins to bloom." The insect remains in this condition about ten or twelve days, and then goes out the winged fly, ready to lay its eggs for another generation. So it will happen that if this fly once gets possession in the fall of a field of wheat, that one generation, reared at the root of the plant in the fall, produces another that occupies the lower joints of the stalks the next season. Spring wheat can rear but one brood of these insects; they consequently resort to it but little, if at all. Nor can the Hessian

fly sustain itself except in districts where winter wheat is cultivated in which to nestle during the autumn and winter."

THE *Live Stock Journal* of Buffalo declares that, to the end that it may be carried on efficiently in all its branches, agriculture needs 500,000 more laborers. Our population is increasing with great rapidity; our manufacturing industry spreading in all the States. This population must be fed, and if cheaply, we must have more and cheaper labor. The Americans surpass all other people in the adaptation of machinery to the performance of farm work, but even this machinery will not run without human help, and our mining, manufacturing, railroad building and running, employ to the full all our available labor. All these branches of industry pay such prices for labor as would ruin the farmer in ten years unless he also can fix the price of his products. Another effect of this fierce competition for labor is to compel the farmer to accept such as has failed to command full wages at anything else. It is clear that we must look to the Mongolians. They wait for a sign of welcome. Shall we allow the narrow jealousy of our present laborers for hire, who cannot do the labor themselves, to prevent us from reaping the advantage of this proffered assistance? The Chinese are at home as earth-workers; they possess excellent traits as stock raisers. There is a patience and a gentleness about their character adapting them to the care of animals. It is said of them, in California, that no mule is balky in the hands of a Chinaman. His good disposition is too much even for the "cussedness" of a mule. They would fall readily into our system of dairying at the East, and cattle and sheep raising at the West. Their introduction into agriculture would excite less opposition than in any other branch of industry. The Chinese are clannish, and are more contented if a number of them work together or so near that they can visit each other often. This would be done easily by employing them in neighborhoods, and one interpreter and financial agent could look after them all. The Chinese would be steady laborers, year after year, and would furnish such help as the farmer could rely upon. He might then lay out his work and know how he was to accomplish it. For these reasons the *Journal* concludes that farmers would do well to make provision for labor from this source for the next season. This would necessitate the formation in each locality of a co-operative labor association.



WHITE SWAN, (Cygnus Americanus.) BLACK SWAN, (Cygnus Atratus.)

WHITE SWAN, (CYGNUS AMERICANUS.)
BLACK SWAN, (CYGNUS ATRATUS.)

"Behold! the mantling spirit of reserve.

Fashion: his neck into a goodly curve,
An arch thrown back between luxuriant wings
Of whitest garniture, like fir-tree boughs,
To which, on some unruffled morning, clings
A dusky weight of win'er's purest snow."

AMONG all the swimming-birds known to natural history, for grace and elegance the swan is pre-eminent; and a swan-like neck and motions have long been regarded as the highest and most perfect figures of female loveliness and beauty.

"She was like the swan that swims the ocean,
Always in motion with her wing,
Her snowy white breast would be a portion
For any Lord or Irish King!"—

among the old Irish balladists, typically expressed all that was admirable in the form and movements of womankind.

The American swan, has a wide geographical range, and sometimes appears plentifully, even in the waters of Lancaster county, especially in the Susquehanna river, along its southern border. We have seen them in hundreds, floating gracefully on that inland water, and specimens have been shot from

the old Columbia bridge, and elsewhere within the limits of the county.

Swans are not difficult to domesticate, and most of the city parks which have suitable bodies of water within them, are supplied with these graceful birds, as necessary ornaments. In "Merry old England," from a very remote period in her history, swans were domesticated in flocks of fifties or more, along the Thames and other streams. So completely were they localized there, that special laws were enacted for their protection, and there was even a special court, called "*The King's Majesties Justices of Sessions of Swans.*" For ages the corporation of London city was in the habit of visiting the swaneries along the Thames, for the purpose of marking them. This was called "swan-upping," which word was subsequently corrupted into "swan-hopping." In the same way the tavern sign of the "*two neck'd swan*," which is common in England, is a corruption of "*two nick'd*," because two nicks was one of the marks made in upping. Swans, among water fowl, exhibit the most perfect illustrations of monogamy, and they manifest much affection for each other and for their off-spring. The male is very attentive to the female, and assists her in making her nest. The female lays from

six to seven dull greenish white eggs, during the laying season, which are about four inches in length, and over two inches in breadth. In England swans are fed on barley and fattened for the table, but in our country they are not specially valued for this use; but, should any of our readers be fortunate enough to obtain a good fat one, we will here transcribe the mode of roasting it.

"Take three pounds of beef, beat fine in a mortar;
Put it into the swan—that is, when you're caught here;
Some pepper, salt, mace, some nutmeg, an onion;
Will heighten the flavor in gormand's opinion
Then tie it up tight with a small piece of tape;
That the gravy and other things may not escape.
A meal paste, rather stiff, should be laid on the breast;
And some whited brown paper should cover the rest.
Fifteen minutes, at least, ere the swan you take down;
Pull the paste off the bird, that the breast may get brown
To a gravy of beef, good and strong I opine,
You'll be right if you add half a pint of good wine.
Pour this through the swan, yes, quite through the bell;
Then serve the whole up with some hot currant jelly."

N. B.—The swan must not be skinned.

HORTICULTURE.

A VISIT TO CINNAMINSON, N. J.

CINNAMINSON township is in Burlington county, on the Mount Holly road, ten or twelve miles east of Philadelphia, and is noted for fruit farms, like the county of Burlington generally. No stock is allowed to run at large in this county. The fruit-growers and farmers generally are just now beginning to dispense with fences. At Vineland, the town and vicinity dispensed with fences from the very beginning. It would be quite a novelty to Lancaster county farmers, to see the grounds cultivated up to the edges of the public roads. These thoroughfares are generally very level; the fruit farms range from one to two and three hundred acres, and the chief products are strawberries, raspberries, blackberries, cranberries, sweet potatoes and peaches. The premium crop of strawberries of Burlington county was at the rate of two hundred and sixty-three bushels to the acre, yielding a profit of \$1,000 per acre; but one-third would be nearer the average crop. For the past ten years they have averaged about 2,500 quarts of strawberries per acre, and the average price per quart in market, has been about twelve cents. Mr. William Parry raised last year from ten acres \$5,000 worth of strawber-

ries. He had twenty acres in strawberries, thirty in blackberries, thirty in raspberries and proportionately as much in other fruits. Of strawberries, "Wilson's Albany Seedling" is regarded as the most prolific and profitable for market purposes. "Herstine's," is now looked upon as the best raspberry. At the head of the list of blackberries under cultivation is "Wilson's Early;" ripening early after the raspberries, and before the peaches are in market. When fruit is scarce it commands the highest price. The berries from two acres have been sold on the farm for fifty cents a quart. An extensive fruit grower in West Jersey has seventy-five acres of these blackberries in bearing condition, and received \$20,000 for the fruit of one season, realizing a profit of \$14,000 after deducting all expenses, accomplishing all this in the space of three weeks. The Dorchester and Kittatany are considered the next best. Land within ten or twenty miles of Philadelphia has risen rapidly in price during the last ten years, on account of the demand for all kinds of fruit. Fertilizers are obtained comparatively cheap near Philadelphia. They use much marl, bonedust, guano and a variety of compounds, in improving worn-out lands. They are even beginning to cultivate chestnuts in New Jersey and Delaware. Mr. Dupont, near Wilmington, has in cultivation a large variety of chestnuts. He sold from ten acres \$500 worth of these nuts in one season. Mr. William Parry had planted on the 14th of October one bushel of these nuts for propagation. They sell in market at thirty-seven and fifty cents a quart. I purchased a pint of these chestnuts, for twenty-five cents, and twenty-nine of them filled a pint measure. I have planted them and also a pint of our ordinary Lancaster county chestnuts, picked up under different trees, and it took one hundred and twenty-five to fill the pint measure. These large chestnuts are just as sweet, as delicious, and as finely flavored as our own. The price of the common chestnut is from ten to twenty cents per quart. From this we may be able to judge the relative value of these the most popular nuts indigenous to or cultivated on our local soil.

L. S. REIST.

[It seems to us that the above interesting and important facts ought to afford sufficient encouragement to some of our fruit-growers,

to go into a more extensive cultivation of "small fruits," and also the introduced and improved varieties of chestnuts. In regard to the Albany Seedling strawberry, we heard an experienced grower once declare that he could raise as many bushels of these berries on the same quantity of ground, as any other man could raise potatoes.—Ed.]

RAPID GROWTH OF TIMBER IN KANSAS.

IT is astonishing to see how rapidly the timber grows on the prairies. There are large tracts of land in this county, and particularly near the Missouri river that was clear open prairie before, when we came here twelve years ago, that now has a thick growth of young timber. Black-oak, hickory and white-oak, seem to grow up spontaneously where the fire is kept out of the prairie grass, and the rapid growth soon makes it valuable for fire-wood and fencing. In eight or ten years more, large quantities of this timber will be large enough for railroad ties, and the ground is so thickly covered that it is almost impossible to cut prairie hay anywhere in the eastern part of this county. People have been commended for planting a tree, but it seems not to be necessary here, and all that is to be required is to prevent the prairie from burning over and destroying the young sprouts; and if the trees are trimmed up and the undergrowth kept out, a farmer having from twenty to fifty acres will, in ten years, have all the timber he will want for his own use. There is an important duty devolving upon all the owners of the soil to protect this untimely growth of timber, and when the next generation takes our places they will have a plentiful supply. Let all protect a tree, if they don't plant one.—*Wathena (Kan.) Reporter.*

THE WORK OF THE LEAF.

WHAT does it do? It pumps water from the ground through the thousands of tubes in the stem of the tree, and sends it to the atmosphere in the form of unseen mist, to be condensed and fall in showers, the very water that, were it not for the leaf, would sink in the earth and find its way, perchance,

through the subterranean channels into the sea. And thus it is that we see it works to give us the "early and the latter rain." It works to send the rills and streams, like lines of silver, down the mountain and across the plain. It works to pour down the larger brooks which turn the wheels that energize the machinery which gives employment to many millions, commerce stimulated, wealth accumulated and intelligence disseminated through the agency of this wealth. The leaf does it all. It has been demonstrated that every square inch of leaf lifts 3,500 of an ounce every twenty-four hours. Now, a large forest tree has about five acres of foliage, or 6,272,640 square inches. This being multiplied by 3,500 (the amount pumped by every inch) gives us the result—2,252 ounces, or 1,176 pints, or 294 quarts, or eight barrels. The trees on an acre give eight hundred barrels in twenty-four hours. An acre of grass, or clover, or grain, would yield about the same result. The leaf, is a worker, too, in another field of labor, where we seldom look—where it works for the good of man in a most wonderful manner. It carries immense quantities of electricity from the earth to the clouds, and from the clouds to the earth. Rather dangerous business transporting lightning; but it is particularly fitted for this work. Did you ever see a leaf entire as to its edges? It is always pointed, and these points, whether they be large or small, are just fitted to handle this dangerous agent. These tiny fingers seize upon and carry it away with ease and wonderful dispatch. There must be no delay; it is "time freight." True, sometimes it gathers up more than the trunk can carry, and in the attempt to crowd and pack the baggage the trunk gets terribly shattered, and we say that lightning struck the tree. But it had been struck a thousand times before. This time it was over-worked.

THE COCOA-NUT.

TO enumerate all the services which the cocoa-nut tree, and its fruit, render to man, in the East, would be almost a hopeless task. The kernel is not eaten as we eat it, as fruit, but is prepared in a variety of ways for curries and other dishes; the milky juice is relished as a pleasant beverage, the oil is used in making stearine candles and marine soap,

and, in the tropical countries, lamp-oil, ointment, and an aid to cookery; the resin from the trunk, mixed with the oil from the nut, and melted, forms a substance used for filling up the seams of ships and boats, covering the corks of bottles, and repelling the attacks of the white ant; the root possesses narcotic properties, and is sometimes chewed like the areca-nut. The terminal bud is esteemed a delicacy although not easily obtainable without cutting down the tree.

The sap, or toddy, is a beverage, and is also fermented to produce palm-wine and arrack-spirit. The dried leaves are used for thatch, and for making screens, mats, baskets, and a kind of plait; while the mid-rib of the leaf serves the natives as an oar. The wood of the lower part of the stem is very hard, takes a beautiful polish, and is known to our turners and ornamental joiners as porcupine wood; the fibrous center of the older stems is worked like coir into cordage and similar articles. The husk of the ripe nut, when cut across, is used for polishing furniture and scrubbing floors. Within the nut is occasionally found a small stony substance of a bluish-white color, worn by the Chinese as a kind of amulet or charm. In short, the cocoanut tree is one of the most useful products of the tropical regions.

WINTERING ROOTS.

"SUBSCRIBER'S" question, as to the best mode of wintering roots, cannot be better answered than by the following extract from "What We Know About Turnips," published by David Landreth & Son:

"The main winter and spring stock of bulbs we preserve in pits—not mounds, as made in some localities—narrow pits, after this fashion: Select a suitable spot, near the stables if practicable, but surely where the drainage is good and—indispensable prerequisite; dig a trench sixteen inches wide, and as many or more inches in depth, the length as convenient as necessary. In this place the topped bulbs, and cover with the earth dug out of the trench, using a little more in addition as winter approaches. If cold may be expected in severity, place over all along stable manure, or anything which will impede the entry of frost, without creating warmth. Thus

we have found roots of any and all descriptions—ruta bagas, common turnips, carrots, beets, parsnips—to keep well. They are accessible at all times, and when needed may be removed in larger or smaller quantity as desired. Altogether, it is better than mounds, which, being elevated, are exposed to frost, and require care in construction. In the pits described, we annually keep beets and carrots far into the spring, indeed have fed our working oxen with beets, to their great delight, up to July 1st."

Our limited experience in the winter care of roots has been with a regular root-cellar under the bridgeway into the barn, and hence, we know little or nothing about burying them, but have confidence in the above, and would not hesitate to put it in practice if occasion required it.

When the cellar will not accommodate all the roots it can be filled, and the remainder buried as above described. During the winter, when the cellar is emptied, a whole pit may be removed into the cellar, thus making one opening suffice each pit.—*Phila. Age.*

LATERAL OR BARK GRAFT.—Take a sharp budding or two-edged knife; insert it between the bark and the fiber (or wood); cut your graft slanting on both sides; insert it as far as the slant goes; cover the wound with a little grafting wax, and you make limbs start all over the body of your tree; but it is necessary to reduce or trim the upper limbs so as to make the sap take hold of your grafts. Grafts should never have more than five nor less than three buds exposed in all cases of grafting. For the terminal, rather stout scions are the best. The grafts taken from the top of a tree are much preferable to those taken from side limbs. The graft should be less advanced than the stock. The latter part of February till middle of March is the best time for grafting—too late, the tree bleeds; too soon, the sap is not starting, and the cohesion, or *soldering*, of graft and stock, is delayed or retarded too long.—*Farmer and Gardener.*

FRUITS AND BERRIES—Fruits and berries at this season of the year are not only precious luxuries, but great promoters of health. They act upon the liver, promoting that secretion naturally which many are in the habit

of obtaining only by the means of artificial medicines. They thus avert many a disease resulting from a torpid condition of the liver. Another way in which they act beneficially is the mechanical effect their little seeds produce in passing through the bowels, very much the same as the watering of an irritated eye-ball when any hard substance touches that delicate organ, and this water, by dissolving the hardened contents of constipated bowels, keeps them in a healthier state than any pill or purgative invented by the apothecary. There can be no doubt that in the summer and fall seasons people who live mainly on fruits and berries and coarse bread can almost insure exemption from sickness, while those who eat heartily of solid meats and vegetables two or three times a day are liable to all the diseases that flesh is heir to

TABLE SHOWING THE QUANTITY OF SEED REQUIRED TO THE ACRE.

Designation.	Quantity of seed.
Wheat.....	$1\frac{1}{2}$ to 2 bushels.
Barley.....	$1\frac{1}{2}$ to $2\frac{1}{2}$ "
Oats.....	2 to 4 "
Rye.....	1 to 2 "
Buck wheat.....	$\frac{3}{4}$ to $1\frac{1}{2}$ "
Millet.....	1 to $1\frac{1}{2}$ "
Corp.....	$\frac{1}{4}$ to 1 "
Beans.....	2 to 2 "
Peas.....	$2\frac{1}{2}$ to $3\frac{1}{2}$ "
Hemp.....	1 to $1\frac{1}{2}$ "
Flax.....	$\frac{1}{2}$ to 2 "
Rice.....	2 to $2\frac{1}{2}$ "
Broom Corn.....	1 to $1\frac{1}{2}$ "
Potatoes.....	5 to 10 "
Timothy.....	12 to 24 qts.
Mustard.....	8 to 20 "
Herd Grass.....	12 to 16 "
Flat Turnip.....	2 to 3 lbs.
Red Clover.....	10 to 16 "
White Clover.....	3 to 4 "
Blue Grass.....	10 to 15 "
Orchard Grass.....	20 to 30 "
Carrots.....	4 to 5 "
Parsnips.....	6 to 8 "

TABLE SHOWING THE NUMBER OF SEEDS IN ONE POUND, AND WEIGHT PER BUSHEL.

NAME.	No. of Seeds per lb.	No. lbs per bush.
Wheat.....	10,500	58 to 64
Barley.....	15,403	43 to 56
Oats.....	21,000	38 to 42
Rye.....	23,000	56 to 60
Vetches.....	8,300	60 to 63
Lentils.....	8,200	58 to 60
Beans.....	600 to 1,300	60 to 75
Peas.....	1800 to 2,000	60 to 65
Flax Seed.....	108,000	50 to 60
Turnip Seed.....	155,000	50 to 53
Rape Seed.....	118,000	50 to 56
Mustard (white).....	75,000	57
Cabbage Seed.....	124,000	52
Mangel-wurzel.....	24,600	20 to 24
Parsnip Seed.....	97,000	14
Carrot Seed.....	257,000	9
Lucern Seed.....	215,000	58 to 60
Clover (red).....	249,600	60 to 63
" (white).....	686,400	59 to 62
Rye-Grass (perennial).....	334,000	20 to 28
" (I a ian).....	272,000	13 to 18
Sweet vernal grass.....	923,000	8

BEE CULTURE.

THE BEE AND BEE-KEEPING.—NO. 4.

BY ULRICH STRICKLER.

BREEDING.

AS stated in a previous number, the queen is mother of the entire family. In good strong colonies, she begins to deposit eggs about Christmas or New Year. Weak colonies do not begin to rear brood for a month or two later, depending on the strength of the colony and amount of stores on hand. In weak colonies she, at first, deposits but a few eggs; sometimes not more than a space of an inch or or two in diameter, on but one comb, about the center of the cluster of bees, where the most heat is generated. A certain degree of heat is necessary for the perfection of the brood; in small clusters, there is but a small space near the center where sufficient heat is generated for the purpose of breeding, this space she fills with eggs, and no more. If there is sufficient heat in the hive, either generated by the bees, or produced by warm weather, she will fill the adjoining combs, one on each side, corresponding to the first, but not quite as large. She will then enlarge the circle on the first comb, then on the adjoining ones, continuing to spread as fast as the amount of heat permits, until all the combs are filled to the edge with brood. But long before she reaches the outer edge of the combs, the first eggs deposited are matured, when she immediately fills the space again. If scarce of honey, they will breed very cautiously until they receive a supply.

In strong colonies there is always a large space, where there is sufficient heat for breeding. In January this space will be found filled with brood, and by the time fruit blossoms, these hives are filled with young bees to work thereon. Such colonies cannot fail to do well. But colonies that were weak, have reared but few young bees in time to work on the fruit blossoms, which, in this section, gives bees their first start, and upon which greatly depends whether there will be early swarms or not. Hence all will see the advantage in having strong stocks to winter, which breed early, and consequently can take advantage of the early supplies. This is the reason that early young swarms frequently fill their hives before weak ones of the previous summer.

These weak colonies can spare but few bees for gathering stores before quite warm weather, they being needed in the hive to keep up sufficient heat for breeding.

During the breeding season, a circle of cells, an inch or two wide, containing bee bread, surrounds the sheets of comb containing brood. Breeding continues in strong colonies until November, but in weak ones ceases a month earlier.

HINTS FOR NOVEMBER.

Bees that have received seasonable attention, require little care this month. Anything neglected in October should be attended to now. Stocks that have not sufficient honey to winter on, may still be fed during warm days. Such as can not be wintered for want of sufficient bees to keep one another warm during cold weather, had better be taken up even now, than allowed to freeze before spring.

Surplus boxes not filled should be set away in a dry place for next year's use. If any contain empty combs, preserve them carefully, as the bees will begin storing in them a week earlier than in empty boxes. When the combs contain a small quantity of unsealed honey, the box should be given to a stock that is short in stores for the bees to empty, as honey not sealed would sour before spring.

If, from timidity, any one has been deterred from making a thorough examination of his stocks, he should do it the first cold day. They then seem to be much more chilled than during much colder weather, after they have become accustomed to it. The entrance to all hives should now be contracted to a space, admitting but one or two bees at a time, which will exclude mice and robbers.

FEEDING BEES.

LAST winter and spring was a remarkably fatal times for bees. Of those that did come through alive, many were very weak, with solid or mouldy combs. As a consequence, this been a rather poor year for honey, and there are probably many hives which will need feeding to winter through. This will be especially the case amongst those who practice artificial swarming, and have tried to fill up all the old hives in which swarms died out, with new ones, and amongst

those who with natural swarming, have tried to save all their second swarms.

If you have not already done so, lose no time in finding out something about the condition of your hives, and if any of them need feeding, do not delay attending to it any longer. Those that are very weak in bees had better be left to be united with others, although some good bee keepers prefer keeping their weak swarms. It may do for those of much experience, but for others, weak swarms are only a nuisance.

Some think honey the best feed, others prefer a syrup made of best coffee sugar, using about a quart of water, to five pounds sugar, being careful not to burn in dissolving. Each swarm to be wintered out of doors should have about twenty-five pounds of honey, and a hive buried or wintered in cellar should have fifteen or twenty. There are various ways of feeding, but in all cases see that no honey is left through the day-time where bees of other hives can get at it, or you will induce robbing. If the nights are warm you may feed directly at the entrance of hive, by filling a tumbler with honey or syrup, putting a saucer upside down on the tumbler, then quickly inverting both. Place it at the entrance, and tap on the hive enough to set the bees at work at it. Be sure that there is no more than they will finish before morning. Some bees will at first drown, but before morning will be all licked off by the other bees, and be as lively as ever. Here is another good plan, and one which may be used day or night, providing there is no close-fitting cover on the hive that will not allow bees from other hives to enter. Take a common tin fruit can, new or old, punch holes through the cover, for which purpose a small nail or jack knife will answer; put the syrup or honey in the can, put on the cover, invert quickly and place on the hive in such a way that the bees can get to it, but no bees from any other hive.

Those that have frame hives, can do better to take frames of honey from those that can spare them, and give to the needy.

WATER IN MILK.—Milk upon a fair average contains eighty-eight per cent. of water, and consequently the farmer who carries to market one hundred gallons of honest milk has on his wagon eighty-eight gallons of honest water, which he honestly sells to his

customers at fair rates per gallon. It seems hardly necessary to carry the attenuation further by resorting to the pump for more water. There is a popular impression that the water naturally existing in milk, vegetables, fruits and grasses differs in some way from that drawn from our wells and springs, but it is essentially the same. The water obtained from the sources named is pure.

BOTANY.

BOTANICAL GOSSIP.

BY J. STAUFFER.

“**B**OTANICAL gossip” would seem to imply botanical nonsense, for a gossip usually is an idle fellow, who delights to rob others of precious time, in retailing small talk; it’s a rather dubious title, I admit, but the word in the old Saxon language stood also for a “sponsor,” or godfather. I have made botany a kind of a “hobby,” and feel responsible for any default.

The only trouble lays in selecting out of so vast a field, that which may be edifying, or worth the time to read. We all know that there is no end to the various kinds and sorts of apples, pears, peaches, grapes, etc., and that the thousands of names are so perplexing, and the fruits themselves and habits of growth so interchangeably mixed up as to put all science or attempt to classification at defiance. Some poet, years ago, said—

“Fat olives of *sundry* sorts appear,
Of *sundry* strapes their unctuous berries bear.”

What would he say of the *sundry* apples, pears, etc., that swell our catalogues; but many sorts known years ago are lost sight of and compounded with later sorts and different names. The question arises, how are these changes and modifications brought about? If we consider that each bud is, in one sense, a distinct organization with certain functions which tend to unfold and develop in a certain direction, and, under the same conditions, will uniformly reproduce itself, true to the original type.

Bud-variation may take place naturally—nay, it does, and often develops a superior fruit to that of the normal kind; hence, by grafting, budding or cuttings, certain sorts can be

perpetuated which are a decided improvement on those the tree bore before.

The sap may change, or be changed, from a crude to a finer state, by certain treatment and conditions of the soil, favorable situation to receive the full benefit of light. Of the great moving sources in vegetable growth, light may be termed a propeller.

This can be seen in trees growing in woods. It has been observed that there is an irregularity often in the rings of growth, more developed toward one side. This was thought to be the south side of the tree. It has been proved, however, that it may be the north side of the tree, the east or the west, provided that side is on the *outside* of the woods, or, on its border, where the side receives the greater amount of light, which is found to determine this inequality of the development.

Plants feed upon carbon, and assimilate various elements, when in a proper condition to be absorbed, vivified and moved by the solar forces, or life principle, in the light which gives motion to the sap, and produces growth. Changes in those elementary principles, changes of locality, climate, excess or too little moisture, all exert a certain influence. Nature being prolific in resources, and wisely adapted to accommodate itself to contingencies, may hence improve or deteriorate, according to the obstacles to overcome, or the assistance rendered. Hence, we meet with sorts, abnormal conditions, resulting in varieties, often to such a degree as to make it impossible to trace it to its original type.

This diversity has led some men to assume that all (man not excepted), plants and creatures, are evolved from a monad, and H. C. Chapman, M. D., in his late work on the “*Evolution of Life*,” attempts to demonstrate it by what he terms analogies, and shows one class and order trenching upon that of another, by regular stages, to prove evolution.

These links of analogy may verily be found, but I can, with as much propriety and perhaps greater truth, affirm that all the sorts, two thousand if you please, of apples, are but modifications of the apple-tree in Paradise—and through neglect have degenerated into the sorry little crab. These, again, by proper culture and attention, may have been reclaimed, and brought to perfection through the cunning of budding and grafting. Well, may we not say the same thing of Father

Adam, and some of his degenerate children making brutes of themselves, and to lead, link by link, to the monkey through various changes, and those, again, branching and mixing with original created models, forming side-issues.

But scientists laugh such talk to scorn, because they find no trace of man among the older fossils, nor monkey either. If God saw fit to create one class of beings to fit them for the then existing conditions of this earth, and in due time created man in his own image, with a mind to progress and improve and become, as the florist and horticulturist is, in a certain sense, *assistant creators*, by improving the *talent* assigned them ten-fold, what then? This may be *gossip*; I do not claim it to be *gospel*, nor the teachings of Darwin, Chapman, etc.

The other day I stepped into my neighbor's hot-house, as I often do—Mr. George O. Hensel, of East Orange street, in the city of Lancaster. I am purposely so definite, out of gratitude for the opportunity it affords me to see and study many rare and beautiful plants, and because I am astonished to witness his wonderful success in the propagation of rare and delicate species, many of which are hard to manage by old and experienced gardeners. Mr. Hensel seems to have a natural instinct, as he does not profess to be scienced. I have to confess that my science is foolishness compared with his practice. The variety of plants with ornamental leaves—the hybrids and cross-breeds of begonias, the highly ornamental and diversified leaves of the *colias*, *gesnerias*, *cissus*, *caladiums*, so wonderfully spotted, toned, edged and beautifully variegated, that the normal green of the leaves is changed to the brilliant colors of the coroll—the great variety brought together in so small a space, aroused in me the deepest thought, alas! how inadequate is all the science of vegetable physiology to explain *how* these changes are brought about, in the laboratory of nature. We see them—they arise, often, to the surprise of the gardener himself. With all his craft in the use of stimulants, charcoal and brick dust, plants occasionally “go back on them.” They over-heat or over-feed, or somehow over-do things, once in a while; but, experience is the best school and my friend Hensel is a very apt scholar; and while I may have more of the theory, he

is practical, and succeeds where I would utterly fail. I say this, because my modest friend does not claim to be scientific. This may imply that I do. Science, fails to teach us the *how*, notwithstanding a learned Professor concludes an article in vindication of the evolutionists, by saying, “They not only believe with the author criticised, that God made all things, but they (the evolutionists) *attempt* to show in the field of biology, *how* He did it.” Truly, many things are *attempted*, but they do not show the *how*, truly, any better than Moses did, after all. There is a certain limit where physical science stops and speculation commences. And I claim the right to speculate as well as they.

I believe that I have sufficient evidence in myself to *believe* that there is a divine aura, or call it what you please, emanating from the source of all light and life, which can, by a kind of induction, guide, govern and direct us, and thereby elevate our mental powers from the sensual or physical to that of the spiritual plane, and that there exists a means from God, through Christ, to man, that enables us to discern spiritual things. A rock of stumbling and offense, to the purely scientific investigator, and which confirms the truth—that “we must be born again”—our learned Nicodemus may question, *How?* And while he assumes to tell us *how* we came to be *men*, it were well that they push their enquiries further, and learn *how* to become *angels*. This mixing theology with botany, I, as a “gossip,” claim the right to do.

Some learned and some unlearned men, say, I am hallucinated. Grant it. This hallucination is a source of profound joy and comfort to me, and makes me an humble, hopeful, happy and contented being, with such love and charity that I can fervently pray for those who sneer that they might be equally happy, or even more so.

◆
YEAST FROM GRAPE LEAVES.—We do not know the origin of the following. We find it in an exchange uncredited, but it may be of practical use to some: Last summer I discovered that grape leaves made a yeast in some respects superior to hops, as the bread rises sooner and has not the peculiar taste which many object to in that made from the hops. Use eight or ten leaves for a quart of yeast; boil them about ten minutes and pour

the hot liquor on the flour, the quantity of the latter being determined by whether you want the yeast thick or thin. Use hop yeast for raising it to begin with, and afterward that made of the grape leaves. Dried leaves are equally as good as fresh. Sometimes the yeast has a dark film over its surface when rising, but this entirely disappears when stirred.

ENTOMOLOGY.

THE BATTLE OF THE ANTS—A MISSOURI SCHOOL-MASTER'S ACCOUNT OF THE CONTEST.

A COUNTRY correspondent of the St. Louis *Republican* writes:

I am a pedagogue in the rural districts of Newton county, Missouri, and my school-house has been infested for several months by a species of a large black ant, much to the annoyance of the little bare-footed scholars, and there seemed to be no way of getting rid of the pest. But what was my astonishment a few mornings since on coming into my school-house, to find the floor literally strewn with dead and dying ants, and upon a closer examination to find that a desperate battle was then raging among them, more sanguinary and fatal than any I ever witnessed (and I saw many a hard-fought battle during the late unpleasantness), or read in the annals of history.

A much larger number were lying dead than were left engaged, and I thereby concluded the battle had raged all night. Most of the combatants engaged were grappled in a deadly embrace, while others but recently commenced were standing erect on their hind legs and sparring for the advantage with all the science of the most experienced swordsmen or pugilists. The most fatal point of attack, and the one for which it seemed all contended, was the ligament which joined the main body with the head. The vital member once seized by the powerful nippers, death succeeded without a struggle, and the victor was ready and eager for another engagement.

No undue advantage was taken by either party; and no two would endeavor to overpower a single one; nor was there any flinching or wavering in a single instance, for whenever two belligerents met it was certain death to one or both parties. Never, perhaps, were

two armies more equally matched in numbers, strength and valor; and consequently at the close of the battle, which lasted two nights and a day, as new recruits continued to arrive at every moment, there were but few left, and probably none of the vanquished army, thus rivaling the valor of the heroes of the Alamo and the Spartan band of Leonidas.

Observing the appearance of the contestants closely, I could see but a slight difference in them, one set being perfectly black, with a large head, while the other was nearer brown, with a smaller head, though both about equally matched in size and strength. Dismembered legs were numerous, and many an unfortunate though valiant hero, being entirely deprived of his supporters, was thus left, *hors de combat*, to die on the field. The next morning I swept up the dead and dying of both armies (for I would not disturb them while engaged), amounting to thousands.

SENEX writes to know what causes the defect in his Concord grapes this season. Some bunches have scarcely a sound grape upon them. He claims that the defective grapes have bursted open, and he asks whether the injury is not caused "by bees stinging them?"

We referred his inquiry to Professor S. S. Rathvon, of Lancaster, who has kindly furnished us with the following reply, from which it would appear that it is not impossible that the damage may be due to the cause to which he alludes. Not having been furnished with a specimen of the grapes alluded to, Mr. Rathvon can only answer the question in a general way, but coming from him, it can be accepted as correct:

"In regard to the question, 'Do bees sting grapes, and cause the injury so common this season?' I have only to answer, that I do not think it at all improbable, although I cannot say that I have ever witnessed the act. It is well known to the commonest observer, that hymenopterous insects generally are exceedingly fond of saccharine matter, particularly bees, hornets, wasps, yellow-jackets and ants, and they are often found in abundance about cider and wine-presses, sugar and molasses hogsheads, and on the ripest and sweetest apples, pears, peaches and grapes, lying on the ground in orchards, particularly on those which have been bruised, or broken by falling.

"But they do not wantonly sting fruit; indeed they do not sting at all, in the sense

usually understood as stinging, when applied to bees. If fruit has a wound, they will avail themselves of the facility it affords to reach the sweet pulp, but should this not be the case, there is no necessity for them to use a 'sting,' for they have a sharp pair of mandibles, which they use for this purpose, as well as other similar uses. Any one who has noticed how quickly, and how smoothly the 'Leaf-cutting bees' will cut pieces out of rose-leaves, must be convinced of their ability in these 'sharp' practices; they belong to the same family that the 'honey-bees' do, and are allied to them in physical organization.

"But suppose it is established beyond a peradventure that bees do cut the skin of grapes and extract the sweet juice therefrom. What of it? If there were an abundance of honey-yielding flowers, they would doubtless sort to them, but these failing, they are forced to resort to other sources for their supply. And then, again, are they not engaged in the noble work of storing up honey for our future use.

"If they have no right to extract the nectar from our apples, pears, peaches, grapes, etc., what right have we to rob them of their treasures? At the very worst, it is but the collection of the mellifluous fluid, and condensing it into a more useful and more merchantable form. The bees 'we have always with us,' the grapes only for a short season; therefore the damages to fruit by bees must necessarily be temporary. When I see the beautiful boxes of honey, and especially that put up in those tempting little glass jars, I cannot but feel grateful to the 'busy bees.'"

--S. S. Rathv n.--Philadelphia Age.

HOW TO GET PLENTY OF FRESH EGGS.—

Mr. E. Dwight, of Hudson, Michigan, has discovered the secret, and makes it public through the *Germantown Telegraph*. He says: I fed my hens plenty of corn and got but few eggs. I reasoned upon the matter, and happened to think that the constituent part of milk and the white of eggs were much alike. Now, it has long been known to milkmen that wheat middlings and bran are about the best of any feed to make a cow give milk; why not, then, the best to make hens lay eggs? I tried it, and since then have had no trouble. My mode of preparing the feed is to mix about five parts of bran with one of middlings. In the morning I wet up with water about four quarts of the mixture in a large tin pan, tak-

ing pains to have it rather dry, though all damp. This I set in a warm, sunny spot, south of their shed, and they walk up, take a few dips, don't seem to fancy it like corn, and start off on a hunt for something better, but always coming round in a short time for a few more dips from the dish of bran.

There is but little time during the whole day but what one or more are standing by the pan and helping themselves. I am careful to mix for them just as much as they will consume during the day. At night, just before they repair to the roost, I usually throw them a pint of shelled corn, well scattered, so that each one can get a few kernels. If your hens don't incline to eat this at first, sprinkle a little Indian meal on it. I would like all who complain of not getting eggs to try my plan, and I think they will never be sorry.

CONSUMPTION OF HAY.

The hay consumed by different animals does not vary greatly from three pounds daily for each hundred pounds' weight of the animals. The following table is the result of various experiments by different persons, and will be useful for farmers who wish to determine by calculation beforehand, how their hay will hold out for the winter: 500 cubic feet of timothy hay, in a full bay, being about one ton:

Working Horses,	3.08 pounds
Working Oxen,	2.40 "
Milk Cows, (Bosvingault's)	2.25 "
Milk Cows, (Lincoln's)	2.40 "
Young Growing Cattle,	3.08 "
Steers,	2.84 "
Dry Cows,	2.42 "
Pigs, (estimated)	3.00 "
Sheep,	3.00 "

From pamphlet issued by *Ward's Fertilizer Company*. A. H. Ward Agent, 149 Milk Street Boston. Important to farmers, and gardeners. Send for pamphlet.

THE testimony of all the agricultural books, of all the scientific agriculturists, is, all of it, in favor of deep plowing and deep cultivation. To plow deep is to renew the soil by bringing up to the light of the sun and benefit of the air the riches which lie below. It is to afford to the growing plant more plant-food and facilitate access to it. It is to prove drainage when the soil is wet, and moisture when it is dry.

The Lancaster Farmer.

LANCASTER, NOVEMBER, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

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THE LANCASTER FARMER.

THERE is not a journal of any kind, published in Lancaster county, that has the reputation abroad that the FARMER has. Every week we receive new acquisitions to our exchange list, from the best, most popular, and oldest established agricultural, horticultural and miscellaneous journals of the country, all desirous of exchanging with us. Why have we not a greater reputation at home? Why will not our local residents assist us, by their subscriptions and contributions, in making the LANCASTER FARMER what we earnestly desire it should be—a live journal, and a worthy representative of the *farming interests* of Lancaster county? Practically without pay or patronage, we have devoted the past four years in attempting to build up a representative journal in Lancaster county, in the hope of stimulating sufficient local pride among our farmers to make it a literary and pecuniary success, but we have not yet realized our early anticipations. But, like in olden times, “a prophet hath not honor in his own country, and among his own kin,” and the question seems still to be asked, “*Can any good thing come out of Nazareth?*”

AGRICULTURAL FAIRS.

AS a general thing, throughout our entire country, agricultural, horticultural and mechanical exhibitions, the present season, are reported as having been successful; and this relates to county, as well as State fairs.

At this writing, we have before us a copy of the *Sacramento Weekly Union*, a large double-folio newspaper, of eight closely printed pages, and seven columns to the page; and, accompanying the present number, is also a supplement of four pages, and in all these eighty-four columns, there are only three columns of advertisements; all the rest of the paper is devoted to the current foreign and domestic news, but largely the local news of California. Much of this number is devoted to matters relating to the State Fair, held at Sacramento in September last, and which was continued *ten days*. On the whole, the event was regarded as a *success*, and although in some departments it was behind former fairs, yet in others it excelled any previously held in the State. The proceeds, from all sources, were \$24,352.50 of which the *Park* yielded \$15,388.50; so that it will be seen, that *horse-racing* constituted a prominent feature of the exhibition; but, in an editorial on the subject, the paper states that “The fair as an exhibition of the mechanical arts and agricultural progress of the State, gives general satisfaction. This year, for the first time, the horse and the race, did not attract overwhelming attention. The cattle show occupied the foremost place, and it fairly won that place through distinguished merit.” It appears that the railroads threw obstructions in the way of the fair, by refusing to grant *commutation tickets*, or the proceeds would have been much greater; at which the farmers have become very indignant.

But we need not go so far from home, to find examples of successful fairs. Our State fair at Erie the present year was such, as well as the county fairs of York, Berks, Bucks, Chester, Montgomery, and the Horticultural Exhibition at Philadelphia. Lancaster county alone, of all we have heard, seems to have been laggard. This is rather humiliating, when we think of the vast agricultural and mechanical resources of our great county, and we naturally inquire, Why is this so? What is the cause?

Many, no doubt, will say, that it is owing to the *Horse-racing*, or “Trials of Speed,” which form so chief a feature on these occasions. We are by no means the friend or advocate of horse-racing, but at the same time we do not consider that this argument is a satisfactory answer to the whole question. It

The Lancaster Farmer.

DEVOTED TO

Agriculture, Horticulture, Domestic Economy and Miscellany.

EDITED BY S. S. RATHVON AND ALEXANDER HARRIS.

"The Farmer is the founder of civilization."—WEBSTER.

Vol. IV.

DECEMBER, 1872.

No. 12.

[We believe we cannot do better in the closing number of our present volume, than inserting the following, and wishing God-speed to an enterprise that ought to, and doubtless does, occupy the hearts of the people of our county, as well as the State and the nation.]

AN ADDRESS BY THE UNITED STATES CENTENNIAL COMMISSION.

To the people of the United States:

The Congress of the United States has enacted that the completion of the One Hundredth Year of American Independence shall be celebrated by an International Exhibition of the arts, manufactures and products of the soil and mine, to be held at Philadelphia in 1876, and has appointed a Commission, consisting of representatives from each State and Territory, to conduct the celebration.

Originating under the auspices of the National Legislature, controlled by a National Commission, and designed as it is to "commemorate the first century of our existence by an exhibition of the natural resources of the country and their development, and of our progress in those arts which benefit mankind, in comparison with those of older nations," it is to the people at large that the Commission look for the aid which is necessary to make the Centennial Celebration the grandest anniversary the world has ever seen.

That the completion of the first century of our existence should be marked by some imposing demonstration is, we believe, the patriotic wish of the people of the whole country. The Congress of the United States has wisely decided that the birth-day of the great Republic can be most fittingly celebrated by the universal collection and display of all the trophies of its pro-

gress. It is designed to bring together, within a building covering fifty acres, not only the varied productions of our mines and of the soil, but types of all the intellectual triumphs of our citizens, specimens of everything that America can furnish, whether from the brains or the hands of her children, and thus make evident to the world the advancement of which a self-governed people is capable.

In this "celebration" all nations will be invited to participate; its character being international. Europe will display her arts and manufactures, India her curious fabrics, while newly opened China and Japan will lay bare the treasures which for centuries their ingenious people have been perfecting. Each land will compete in generous rivalry for the palm of superior excellence.

To this grand gathering every zone will contribute its fruits and cereals. No mineral shall be wanting; for what the East lacks the West will supply. Under one roof will the South display in rich luxuriance her growing cotton, and the North, in miniature, the ceaseless machinery of her mills converting that cotton into cloth. Each section of the globe will send its best offerings to this exhibition, and each State of the Union, as a member of one united body politic, will show to her sister States and to the world how much she can add to the greatness of the nation of which she is a harmonious part.

To make the Centennial Celebration such a success as the patriotism and the pride of every American demands will require the co-operation of the people of the whole country. The United States Centennial Commission has received no Government aid, such as England extended to her World's Fair, and France to her Universal Exposition, yet the labor and responsibility im-

posed upon the Commission is as great as in either of those undertakings. It is estimated that ten millions of dollars will be required, and this sum Congress has provided shall be raised by stock subscription, and that the people shall have the opportunity of subscribing in proportion to the population of their respective States and Territories.

The Commission looks to the unfailing patriotism of the people of every section to see that each contributes its share to the expenses, and receives its share of the benefits of an enterprise in which all are so deeply interested. It would further earnestly urge the formation in each State and Territory of a centennial organization, which shall in time see that county associations are formed, so that when the nations are gathered together in 1876 each Commonwealth can view with pride the contributions she has made to the national glory.

Confidently relying on the zeal and patriotism ever displayed by our people in every national undertaking, we pledge and prophesy that the Centennial Celebration will worthily show how greatness, wealth and intelligence can be fostered by such institutions as those which have for one hundred years blessed the people of the United States.

JOSEPH R. HAWLEY, President.
LEWIS WALN SMITH, Temporary Secretary.

AGRICULTURE.

AGRICULTURAL COLLEGE OF PENNSYLVANIA.

THE following is from a report made to the York County Agricultural Society, by delegates from that society, who attended the annual meeting of delegates to elect trustees of the college, held on the 4th of September last. We publish it, not because we endorse or are able to corroborate the sentiments it utters; but because coming from a respectable authority, and referring to a matter involving the agricultural reputation of the State, as well as the general interests of the farmers and tax-payers, the public ought to know in what manner and to what end their institutions are being conducted. A similar report had also been made by the delegates from Berks county. Of course we personally know nothing about the matter, but if, upon investigation, it should transpire that the general demoralization which has so widely prevailed in our State for the past ten years, should also have crept

into the management of this college, we shall not be at all surprised.

* * * * *

"Our attention was first directed to the building itself. This we found altogether unlike any other college structure we ever saw or dreamed of seeing, in a country place. Imagine a building six mortal stories in height—for what is called a basement is to all intents a story—in a place where land is, or ought to be, dog cheap, and area, consequently, of no account. Why, in the name of everything architectural, build so directly to the skies, when it had been so much more advantageous, and there was plenty of room to spread? Think of it, six stories to get to the attic, and land at \$20 per acre! But, the building is not only too high, it is very badly built besides. Wide cracks are seen all over its front, and the internal arrangements gave us the idea of one of the most unhappily constructed edifices for scholastic purposes we had ever laid our eyes upon.

"One apartment seemed unusually well kept—we saw it through the windows—the armory. We should say, there were twenty-five or thirty stand of arms there, with belts, bits, and all external necessities for the accoutrement of so many soldiers. We did not at the moment see what this had to do with the tilling of the soil, but we learned afterward. Passing outward to the rear of the building, we were fairly shocked at what was presented to our view. All kinds of improper matter, disgusting to look at, were collected there. How those having charge could permit, in view of their own comfort, such a nuisance, beneath their very noses, we cannot understand. What we saw plainly exposed, induced us to inspect the out-of-door closets (the inside ones we did not see), and those were, to express ourselves mildly, abominable. Hardly one was fit for a civilized being to enter. Either the seats were filthy, or the walls were so; and particularly as there are girls to see to them, we would beg the authorities to thoroughly cleanse, and double-coat them with whitewash, or better still, black paint.

"What amazed us at our approach to the college, namely, the absence of any proper cultivation of the soil, still more excited our wonder, when we saw, right beneath the windows of its main rooms, bleaker commons, and more uncouth grounds than we ever looked upon before on any farm pretending to be cultivated at all. Weeds everywhere, piles of rubbish everywhere: anything but neatness, anything but taste. We peeped into

the stables, but found them unfit to enter—they were Augean in their filth. And in many respects a stigma on a respectable York or Berks county farm. The harness suspended on the pins, evidenced utter want of care and tidiness, both in its own appearance, and in the manner it was kept. We would not wish *our* boys to learn such slovenly habits in the stable or barn. The road to these stables, too, sadly needs repair, for we observed deep ruts in it which a few stones would easily mend.

“Considerably to the right, viewing from the college, is to be seen the home Experimental Farm. At a distance, it looks neat, and has a handsome barn, but how it is in reality, we cannot report, for before we could manage to get a nearer view, the summons to dinner reached our ears. We filed in regular procession into the refectory, and took the places assigned us. The fare was good, plain and substantial. * * * * *

“Passing up a narrow stairway, ill-lighted all the way, but, in one place, utter darkness—thanks to the illustrious architect—we groped and scrambled our way to the chapel—a mean, low-ceilinged room, capable of holding perhaps two hundred people, and either through carelessness on the occasion not ventilated or incapable of being so.

“Dr. Calder called the convention to order, and Mr. McAllister, a leading lawyer of Bellefonte, one of the Board of Trustees, stated the object of the meeting, viz.: To elect trustees to fill vacant places; to hear the report of the President; and to receive any suggestions from, or answer any questions asked by delegates. The regular minutes of the convention we do not propose giving in detail, as we have been promised a full report by Dr. Calder, and hope with this to be able to present it.

“Suffice it then to say, that the convention was organized by electing Dr. Roland, of York, President, and Prof. J. A. Stewart, of our delegation, Secretary, with one assistant. Nominations were then made for three trustees for three years, and one for one year, to fill an unexpired term. Among the regular nominations made was that of Isaac Eckert, Esq., of Berks, by Lew. Wanner, Esq., of our delegation. Colonel Frank Jordan, of Dauphin, was elected unanimously to fill the unexpired term of Hon. A. Boyd Hamilton, of Harrisburg, and our worthy President, Mr. Eckert, got six votes out of about forty for a full term. Many thought that the vacancies had been filled up without the aid of us delegates, by those who understood the ‘ways’ of things; but upon this

point we have nothing to say, only that it did seem odd that an unrepresented county, Indiana, should receive a trustee apparently without solicitation, as there was no one from there to ask for it. The reason assigned, we believe, was that Indiana had an Experimental Farm.

“The board having been filled, doubtless to the entire satisfaction of those chiefly interested, some one, Mr. McAllister we think, called upon Dr. Calder for a statement of the affairs of the college. The doctor performed this duty in a very pleasant way—for he is a good and humorous speaker—detailing to us many facts concerning the former and present condition of the college—its agricultural pursuits, experiments and results; its academic course; and its financial status.

On the financial condition we could not follow the gentlemen so well. He said a great deal about the institution being loaded down with debt, that there was one sum of \$84,000, and there were two others aggregating \$40,000 more, and that he felt like going personally to the next legislature to ask for a subsidy to wipe all this out. He knew such a just claim could not be refused, and that then they could get along swimmingly; with just a little donation of \$2,000 or so to each of the Experimental Farms, and that thus the Agricultural College would become a great blessing, to this State in particular, and to the country in general. Such, we believe, was the substance of the learned President’s address. We do not think we have in any particular exaggerated it; but we must confess we could not comprehend many of its parts.

“On the financial statement the Doctor quite fogged us. We could not, for our lives, understand how an institution receiving \$30,000, the interest of half a million, yearly from the State, and a like subsidy from the General Government (upon the easy terms of making provisions for teaching the students, females we suppose, included, the manual of arms and military tactics), besides \$200 a year from each pupil, and the product of four hundred acres of land, without the experimental farms, could be so involved. And even if it were from old mismanagement and mistakes, why it might not ere this, from its certainly superabundant means, have created a sinking fund, which would in a very few years liquidate the whole debt. * * * * *

“And here we beg to remark, that how far the experiment of mingling the two sexes in a common school or college may prove a success, remains yet to be seen. For our part, we are ready to condemn

the system in advance, but if it shall be persisted in, and regularly adopted, then we respectfully submit, that ladies as well as gentlemen shall be appointed delegates to the State institution, and let the mothers of the land, as well as the fathers, be made the proper judges as to whether the Agricultural College of Pennsylvania is a fit institution for the education of their sons and daughters.

"There being no further business of importance to transact, and after the usual resolutions on such occasions, we made our adieus, and reached Bellefonte about 5 o'clock, P. M. After tea an informal meeting of the delegates took place in the parlor of the Bush House, and at that meeting there was a general expression of opinion, that there were many wrongs about the college that ought to be righted, and that the very strictest investigation into its affairs could do no harm, and might result in great good. We, therefore, respectfully present the following for consideration:

"*First.*—For what legitimate purpose should an Agricultural College be established and maintained by the State?

"*Second.*—Does this school that we have visited, in any particular, come up to this idea? We thought long upon this subject. Our minds led us constantly to condemn, in unsparing terms, everything we saw, and everything we learned; but our natural good-nature prevented any demonstrative method of expression. We desired to take a purely philosophical view of matters.

"On the first question we had very decided opinions. An agricultural school with its four hundred appendant acres, should be a very model of neatness, economy and taste. Everything appertaining to its grounds ought to present the finest results of a scientific culture of the soil, and all those pleasing concomitants which so captivate the eye. There should be no filth anywhere about, and even a weed ought not to be tolerated. It should, in short, be throughout its length and breadth a beautiful garden—sightly, humanizing and captivating—such as all would like to see, admire and imitate. The building in all its arrangements, outside and in, ought to present to every beholder a shining and unpolluted appearance—it ought to have all those arrangements which better humanity, because they ever suggest purity—and of these, not the least, is an unfailing supply of water for personal purification. The teaching ought to be of an eminently practical character, such as *farmers* ought to have—namely: enough to develop the mind sufficiently, to make the intelligent man, and an abundant ex-

perience to make the practical agriculturist, who can disseminate his knowledge to the advantage of the community where he lives. Experiments in soils, crops; manures and successions, should be the aim of the experimental farms, and the people, the supporters of the whole, should have the benefit. We might enlarge greatly on this topic, but we find our paper already getting voluminous.

"On the second question, Does the school we have visited in any particular come up to this idea? We answer emphatically, No. It has not one single element of an agricultural school about it. Its lands are naturally bad, and neither art, labor, nor science have lent them any aid. Its domestic arrangements may be good, for we saw nothing to the contrary, but the immediate surroundings were decidedly objectionable, and its female addition is a terrible mistake. We know nothing of its academic course, except what a little pamphlet put into our hands indicates, and it, we say positively, is not, except in its preparatory part, fit for females at all, and we much question its propriety for the education of the yeomanry of Pennsylvania. The little amusement of military drill is good if it is not allowed to degenerate into a love for 'fuss and feathers.'

"We are sorry to say anything unkind, even in seeming, with regard to this school, but truth, candor, and duty, forbid us to say less than we have. We would, however, exclude to a great extent, the present President, Mr. Calder, from our strictures, as he has scarcely been long enough in command to make himself properly felt, but as to the trustees of this ill-fated, abortive institution, we know of no language sufficient wherewith to condemn them.

"We would, therefore, gentlemen, suggest to you the propriety of calling upon our Senator, the Hon. William McSherry, and our Representatives, G. W. Heiges and D. M. Loucks, Esqs., to urge in the next legislature the institution of a searching inquiry into the affairs and conduct of this college since its establishment—and that in making such investigation, experts in business, known educators, and especially men whose eyes cannot be blinded with strong colors, nor their ears stuffed with fustian, be employed to make the same. We are satisfied that however much this attempted college may have advantaged private interest, nothing yet has accrued to the common weal.

"We have the honor to be, gentlemen, your obedient servants,

"W. S. ROLAND,

"D. A. RUFF."

"YORK, PA., Oct. 30, 1872.

"DR. WM. S. ROLAND,—I fully agree with your report, having visited the College and Farm a few months prior to the meeting of the Delegates, and found the condition of things as stated in your report.

"A. HIESTAND GLATZ,

Delegate from York Co. Agricultural Society."

LIGHT GRAY BRAHMAS.



LIGHT GRAY BRAHMAS.

OUR illustration exhibits one of the many varieties of the "Light Brahma Fowls," one of the most popular, perhaps, in this country, and which is itself, only a variety of what was originally introduced as the "Gray Shanghai"—and it is astonishing what an almost endless list of varieties there are; and every year new ones are being developed. The name of "Brahma Pootra" was at one time proposed, and to some extent, used for this variety, but that name has become almost obsolete.

There are Dark Brahmas, Buff Brahmas, Gray Brahmas, and Light Brahmas, and of course, many intermediate varieties. Experts in chicken culture can distinguish the eggs of these varieties as soon as they see them, although the distinctions might not be sufficiently striking to elicit the recognition of an inexperienced amateur. These fowls have all had their origin in Asia, and the first stock was imported from *Shanghai*, in China. They are good layers, although their eggs are not so large in proportion to the size of the fowl, as one might be led to suppose they should be. The different varieties have also their different "fan-

ciers," and like cooking stoves, or sewing machines, each one regards the particular kind to which he has been accustomed, the best. These fowls under the name of "Chittagongs" are supposed to have been introduced into New York in 1850, but Mr. Burnham, the author of a new "Poultry Book," alleges that he had them in Philadelphia as early as 1849. It is not a little singular, that, possessing the reputation which these fowls have for the last twenty years, they should not be more widely diffused through our country. With a carcass nearly as large as an ordinary turkey, with excellent laying qualities, and with fewer adverse contingencies—and therefore greater certainty in the development of the adult state—they should be more common than they are. They would make no mean substitute to grace the festive board on a "Thanksgiving" or a "Merry Christmas day."

ENTOMOLOGY.

BETTER.

NATURALISTS tell us that there are not less than one hundred thousand varieties of those curious insects known by the name of beetles, and that their habits have always been studied with great interest and care. The ancients knew them under the name of scarabæi; and almost all varieties offer to the eye the bright colors and beautiful metallic effects which have ever attracted the attention of men. We are all familiar with the golden beetle, one of the most charming of its species, and called by many the king of the beetles. It is of a golden green, with white spots; when it flies in the sun, scarcely raising the elytra, its whole body sparkles like polished metal. During the summer months it lives in gardens, always choosing the most brilliantly-colored flowers on which to rest, it penetrates to the heart of the roses and peonies, or settles on the petals of the honeysuckle, which it eats, sucking the honeyed liquid. It is perfectly inoffensive, does no harm to vegetation, and has not the unpleasant smell which belongs to many of the tribe. The females lay their eggs at the foot of trees among decayed wood, or even in the nests of ants. Here the young larvæ find their nourishment in woody morsels for three years, and then construct their cocoons, from which, in due time, the beetle emerges. One beautiful kind, found in the Phil-

ippine Islands, is so much admired by the ladies that they are kept as pets in small bamboo cages. The Brazilian species are of an immense size, and may be seen resting under the leaves of the maize plantations, or flying around the tops of the tallest trees. These, again, are surpassed in size, by the Goliath, which is peculiar to tropical Africa. Collectors have been so anxious for specimens and found them so difficult to obtain, that as much as fifty pounds has been given for one of these insects, which are the common food of the natives, when roasted. Totally different in habit and appearance to the golden beetle, is the sacred beetle of the Egyptians. On account of its singular instincts it has ever been treated with the greatest veneration by the dwellers on the banks of the Nile. They were an agricultural people, and valued these great black insects for their habit of clearing away noxious substances. An oily substance, which they secrete, keeps their skins bright and and glossy, so that none of the dirty matter among which they live can adhere to them. The fore-feet are armed with spines, whilst the hind ones are much longer, and suited for the work they have to perform. On the continent many varieties of the beetle are seriously dreaded on account of their destruction of vegetable life. The common cockchafer may be regarded as a type of the whole. It generally appears in prodigious numbers, multiplying with terrible rapidity. Its life commences in April and ends in June; and during all this time it is preying on the leaves of various trees—the maple, poplar, birch, beech and oak. But it shows a marked preference for the elm, so that in France the peasants call the flowering and fruit buds cockchafer's bread. It is not uncommon to see whole forests on the Continent entirely bare of leaves in the spring months, having been eaten up by these insects. — *Reynolds' Newspaper.*

[The larva of the common cockchafer (the white grub) has been exceedingly destructive to the roots of vegetation, both in England and on the Continent of Europe; and representative species also in this country, have been at times much complained of. Many beetles are carnivorous in their habits, but a very large number are strictly vegetarians, and these are more or less destructive to fruits, foliage, flowers and roots. Belonging to the latter class are the different kinds of Grape beetles, Potato beetles, Wood beetles, Meal beetles, and a thousand other kinds, including the famous *Curculio*, many of which are only injurious in their larva states.]

THE SOUTHERN CABBAGE BUTTERFLY (PIERIS PROTODICE.)

ON the 11th of November, we received from Mr. H. M. Engle, a number of caterpillars, which he found in great numbers, still actively engaged in feeding on the tops of the *ruta бага*. We confined them in a box, and having no *ruta бага* at hand, we gave them cabbage, and upon this they fed until from the 15th to the 20th of the same month, when they all had been transformed to *chrysalids*.

Although the habits of this caterpillar are very similar to the habits of the "green cabbage worm," and, although they are often found in company with the latter, yet they differ from them very materially in their color and general markings, both in the *larva* and *imago* states. When fully grown, these caterpillars are about one inch in length, of a bluish color, but so thickly dotted with black that they present a dark-gray appearance. The head is black, and there are two dorsal and two lateral yellow stripes extending from the head to the end of the body. Each of the little black dots is on the apex of a small tubercle, from each of which issues from one to three short white hairs. The *chrysalids* are about half an inch in length, and are different shades of gray in color. In the box they are fastened horizontally, for the most part along the sides; two or three of these are fastened vertically. They are still (Nov. 21.) in this form, and may continue so until next spring; but possibly they may change to butterflies during the winter, if kept in a warm place. The butterfly is a little larger than that of the "green cabbage worm," but it has the same form. It is, however, very different in the distribution of its colors. It has not the black spots, and is darkly clouded with black and gray. Some specimens of the same caterpillar which we attempted to breed during last summer, were all infested with a small parasite, which destroyed them. This does not appear to be the case with those we have now under observation. We have no better remedy than those we suggested in our August number, commencing on page 153 to which the reader is referred.

A DESTROYING ANT.

A WRITER in the New Orleans *Picayune* recommends the introduction of a kind of ant from Central America to destroy the cotton and boll worm in the Southern States. He says:

"During a long residence in Central America I have noticed the habits of a very diminutive ant called the terrier ant. No insect will approach its habitation. It is perfectly harmless to vegetation, and will not permit any insect or even animal to encroach upon its premises under penalty of death. They do not build nests like other ants, but live anywhere where there is not a dense tropical shade. The writer is perfectly convinced that if they can be imported into the cotton regions of the United States, and will stand the climate, the cotton and even the boll worm will become a thing of the past. From many experiments in the destruction of insect life, the writer forms his opinion, which can be corroborated by friends in Central America, should any one interested in the cotton plant choose to write. The first occasion that the writer had to test the destructive attacks of the terrier ant on insect life was when stung by a stinging scorpion contained in the sleeve of his coat—an insect very tenacious of life, yet in less than three minutes after it was given to the ants it was dead. A centipede, covered with a hard armor, suffered the same fate in four minutes and a few seconds. A tarantula died in less than two minutes. A snake, nine feet long, in fifteen minutes. There are other experiments made by the writer which he could give, but deems unnecessary. The natives in Central America transport the ants from place to place by putting a little sugar in a bottle or calabash (gourd), and when full transport them safely."

[The scorpion is not an insect, but an *arachnid* (Spider class) still, if the ants above alluded to can destroy it, the test is a good one. We doubt, however, whether Central American insects, could be acclimated in the United States.]

HORTICULTURE.

ENGLISH RULES FOR PRESERVING FRUIT.

THE London *Garden* gives the following as the rules of the Royal Horticultural Society for the preservation of choice fruit:

1. As the flavor of fruit is so easily affected by heterogeneous odors, it is highly desirable that apple and pear rooms should be distinct.
2. The walls and the floor should be annually washed with a solution of quick-lime.
3. The room should be perfectly dry, with a uniform temperature as practicable, and be well

ventilated; but there should not be a thorough draft.

4. Use the utmost care in gathering fruit, handling as little as possible.

5. For present use, fruit should be well ripened but if for long keeping it is better, especially with pears, that it should not have arrived at complete maturity. This point, however, requires considerable judgment.

6. No imperfect fruit should be stored with that which is sound, and all more or less decayed specimens should be immediately removed.

7. If placed on shelves the fruit should not lie more than two days, and no straw should be used.

8. Where especially clear and beautiful specimens are wanted they may be packed carefully in dry bran, or in layers of perfectly dry cotton wool, either in closed boxes or in large garden pots. Scentless sawdust will answer the same purpose, but pine sawdust is apt to communicate an unpleasant taste.

9. With care, early apples may be kept until Christmas; while many kinds may be preserved in perfection to a second year.

The rules given by American fruit-growers agree very well with the above, but make especial mention that fruit rooms for ripening should be nearly dark, and the temperature low. Light and heat hasten maturity, and next, of course, decomposition.

KEEPING APPLES IN PLASTER.

I HAVE, says a writer, been experimenting the past few years with apples, and find those packed in plaster keep much longer than any other way I have tried. I use flour barrels, and find them preferable to apple barrels, as they are made tighter. I first cover the bottom of the barrel with plaster, then a layer of apples, then cover with plaster, and so on till the barrel is full; then put the head in and drive the hoops tight. The plaster being of a cold nature, keeps the fruit at an even temperature, and being fine and dry, packs so close as to keep the apples air-tight. I had Northern Spy and Swaar almost as fresh in May as when they were picked, and found no decayed ones, and think they would have kept till early apples were ripe, had we not used them. Shall put up several barrels for next spring and summer use, as I am satisfied that our best varieties, such as Steel's Red Winter, Wagner, and

Seek-no-further will keep several months longer than putting them up without plaster, will retain their flavor much better besides.

GIVE US MORE FRUIT TREES.

THERE can be no apology for owners of landed estates failing to put out fruit trees and vines and shrubbery. Every fruit tree planted adds twenty times its cost, if not more, to the value of the farm; if in any event the owner or his heirs have reason to sell the same this truth will then be fully realized. Everybody is fond of fruit, and the man of family who neglects to provide it for his household is not doing his whole duty to them. Any observant or intelligent man contemplating settling on an estate, will make it one of the first considerations with him before purchasing whether or not it has on it an orchard of fruit; he has no notion of waiting several years for so healthful and toothsome an addition to his home comforts, and doubtless many a sale has been defeated by the lack of this luxury, or rather of this necessary portion of food. Besides these home considerations, fruit is now becoming in many quarters the largest source of profit to the owners of plantations, and if the finer qualities are produced and attention is paid to the proper varieties and the times and seasons for their ripening and gathering, there can be no more profitable crop raised than fruit.

MECHANISM OF AN EGG.—Every living creature is the product of an egg. Some are hatched within the maternal body, and developed into their predestined proportions after birth, which is the beginning of existence with mammalia generally. Eggs of fishes are ordinarily incubated by solar warmth. Birds furnish heat necessary to quicken the germ into life from their own bodies, with a few exceptions.

Whether a rhinoceros, a hippopotamus, a giraffe, an elephant or a flea, their beginning is an egg. The germ of the future being is fed on the fluids by which it is surrounded. Out of the albumen or the white of a common pullet's egg, for example, are built up a skeleton; a nervous system, a heart, lungs, brain, blood vessels, every muscle, and the elements of each individual feather, while the yolk is a magazine of food on which the chick is to be nourished a short time after it leaves the shell. To do that, it is taken into the body of the bird in the course of incubation. Its enveloping membrane is elongated into a tube communicating with the stomach, through which the nutriment is conducted to where it can be used. When that supply is exhausted, then the mother commences a regular system of nursing and feeding till grown and matured for providing for itself.

EPIZOOTIC.

D OUBTLESS the most marked event in the history of the equine race, is the disease and mortality, which has occurred among the horses of many of the States, the present season. A wise, moral philosophy inculcates, that no evil can possibly occur in this world, that might not—under other circumstances—have culminated in something worse. When we reflect, that had there been no steam motive power on our railroads, how infinitely worse our condition might have been than it is now, in respect to transportation and travel. How much further back than the first advent of steam travel on railroads, the absence of the noble horse, is capable of pushing us in the world of progress. No such events in the mail service of the country, as carrying the mails through a densely populated district, on the backs of men, was known to the ante-railroad period; and yet it was a common occurrence the present season. Happily the number of the deaths among horses, in proportion to the whole number that were attacked, was not as great as was anticipated; and, already there appears to be an abatement of the disease, and many of the animals are slowly recovering.

A New York paper, to show the extent of the epidemic among horses there, gives the following figures:

	<i>No. of Horses Employed.</i>	<i>No. of Horses Sick.</i>
Car and Stage Lines, -	15,000	12,038
Express Companies, - -	516	496
Draymen, - - -	8,000	6,000
Livery and Sale Stables, -	3,000	2,050
In Brooklyn, - - -	12,000	6,000
In Jersey City, - - -	2,000	600
Elsewhere, - - -	2,000	600
Total, - - -	42,516	27,684

THE HORSE DISTEMPER.

IN the annual report of the U. S. Commissioner of Agriculture there is an interesting and valuable article on the epizootic apthæ, which broke out in this country in 1870. It says that though no unbroken chain of evidence concerning the source of that outbreak is forthcoming, no one acquainted with the nature of the disease can for a moment doubt that it was imported from Europe. Though certainly prevailing in central Europe for nearly two centuries, it reached Great

Britain only in 1839, Denmark in 1841, and America in 1870. No atmospheric or climate changes would account for such results. Diseases like influenza, which appear to be due to such vicissitudes, sweep over simultaneously, or nearly so, our continents and islands, and even ships in mid-ocean; whereas this is circumscribed for centuries by a narrow sea or a well-guarded neck of land, and crosses only when the victims are allowed to pass. Moreover in each of these cases a definite importation can be traced. Cattle shipped from an English port in August showed signs of the disease when two days at sea, passed through it on the ocean, and landed apparently well, but conveyed it to the stock among which they were placed on their arrival in Canada. Whether it spread from this point, or whether there was another importation there is no evidence to show. Its existence was reported at Oriskany, Oneida county, in September, about the time of the State Agricultural show at Utica, supposed to have been brought by Canadian cattle, but subsequent inquiry has failed to afford anything more than report for this alleged origin. At different times from the 15th of November to the 7th of December it was brought into Dutchess county by five separate droves from Albany, which had been carried east on the New York Central Railroad. It prevailed extensively, and caused great losses at Amenia, Pawling, South Dover, Dover Plains, and La Grange. From Dutchess county it was conveyed into Connecticut, and spread widely in New Milford, Kent, and Sherman. It was also conveyed to the valley of the Connecticut River, and spread in the towns of Hadley, Hatfield, Northampton, and East Hampton. The disease was also conveyed to Brighton, Mass., and spread extensively around Boston, at Concord, Ipswich, Newburyport, Acton, etc., reaching some points in New Hampshire.

* * * * *

The only cause of itself capable of inducing the disease is contagion or contact of a sound animal with the virus discharged from the sores of an apthous patient. Many accessory causes may be named, such as a wet, muddy season, which insures the contact of the virus deposited on the soil with the skin about the tops of the hoofs; the accumulation of cattle in large fairs or markets; travel of stock by rail or road, and the like. Yet these are but means for the diffusion of the poison, while no one of them, nor all taken together can call the disease into existence where the poison is not already present. Though

prevalent in Europe during or after almost every great war since 1695, it did not reach Great Britain until 1839, when it was brought by Dutch cattle imported into London. * * * In 1841 it was first reported in Denmark. * * * The list of real causes is narrowed down to the simple contact of the virus with a healthy animal. It is often carried on the clothes, boots and hands of men, on the fibers of hay or straw; preserved on the walls, floors, mangers, and other fittings of buildings: on stable utensils; in yards, parks, roads and railroad cars; on drinking troughs; or it may be carried on the legs or bodies of dogs, chickens, rats, and other animals which themselves escape the infection. In short, any solid body may retain and be bearer of this contagion.

* * * * *

Its transmission to man has been noticed during almost every great outbreak since that of 1695. It has been reported, among others, by Valentine, Nadberny, Xeirtsky, Kolb, Hesturg, Rayer, Bosquet, Loude, Seigny, Dundressy, Hubner, Holmes, Balfour, Karkeek and Watson. Cases of the disease in man were seen in Albany and at South Dover, Dutchess county, N. Y., during the outbreak of 1870. It shows itself in man by slight feverishness, and the formation on the tongue and inside the lips and cheeks, and sometimes on the head, of small blisters, rarely amounting to the bulk of a lentil. In children and young animals feeding exclusively on milk, diarrhoea and fatal inflammation of the stomach and bowels occasionally supervene. On chickens it has been frequently noticed—among others by Hennicke, Lagar, Lamberleechi, Dickens and Youatt. Chickens were attacked in December, 1870, on the farm of Mr. Figbme, La Grange, Dutchess county. Drinking the castaway milk is probably the common cause. Dogs and cats have been noticed by Lagar, Younghusband and others, to suffer from drinking the milk.

MAY BE WORTH PRESERVING.—*The Medical Home* has the following receipts, which may be of value:

A tea made of chestnut leaves, and drank in the place of water, will cure the most obstinate case of dropsy in a few days.

A tea made of ripe or dried whortleberries, and drank in the place of water, is a sure and speedy cure for a scrofulous difficulty, however bad.

A tea made of peach leaves is a sure cure for a kidney difficulty.

A plaster made of fresh slacked lime and fresh tar is a cure for a cancer, which with its roots, will soon come out.

DOMESTIC.

HINTS TO HOUSEKEEPERS.

AS a general rule it is most economical to buy the best articles. The price is, of course, always a little higher, but a good article always spends best. It is a sacrifice of money to buy poor flour, meat, sugar, molasses, cheese, butter, lard, etc., to say nothing of the injurious effect on the health.

Butter that is made in September and October is the best for winter use.

Lard should be hard and white; and that which is taken from a hog over a year old is the best.

Rich cheese feels soft under the pressure of the finger. That which is very strong is neither good nor healthy. To keep one that is cut, tie it up in a bag that will not admit flies, and hang it in a cool dry place. If mould appears on it, wipe it off with a dry cloth.

The best rice is large and has a clear, fresh look. Old rice has sometimes little black insects inside the kernel. The small white sago called pearl sago is the best. The large brown kind has an earthy taste. These articles and ground rice, tapioca, etc., should be kept covered.

To select nutmegs, prick them with a pin. If they are good, the oil will instantly spread around the puncture.

Keep coffee by itself, as its odor affects other articles.

Keep tea in a close can or canister.

Oranges and lemons keep best wrapped close in soft paper and laid in a drawer.

When a cask of molasses is bought, draw off a few quarts, else the fermentation produced by moving it will burst the cask.

Bread and cake should be kept in a tin box or stone jar.

Soft soap should be kept in a dry place in the cellar, and should not be used till three months old.

Bar soap should be cut in pieces of convenient size, and left where it will become dry. It is as well to keep it for several weeks before using, it goes fast when it is new.

Cranberries will keep all winter in a firkin of water in a cellar.

Salt codfish should be kept in a dry place where the odor of it will not affect the air of the house. Fish-skin, for cleaning coffee, should be washed, dried, cut small, and put in a paper bag.

PRESERVING POSTS FROM DECAY.

WE see it stated in some of our exchanges that if posts have the parts set in the ground dipped in linseed oil, and then well dusted with powdered charcoal, they will last "forever," whatever this phrase may mean. But we think that simply charring the end would answer the same purpose, and be very much cheaper. A fire for the purpose of preparing the posts can be readily made of brushwood or other waste material; and at the same time bean-poles, or other stakes required to be used in the ground, could have a charcoal dressing also. Charcoal is almost indestructible; and we have seen even small stakes, that would have perhaps rotted away in two years, be quite fresh and sound at the end of a dozen.

Much of the endurance may also be communicated to wood by gas tar; but this is only preservative when used under ground or somewhere away from the hot sun. Its black color absorbs the heat when thus fully exposed, and it is found that wood under such circumstances soon dries up and actually crumbles away.

FEEDING SWINE AND EATING PORK.

THE raising of swine, is, and always has been, an important branch of husbandry in the United States, but less profitable here in the East, than it is in any part of the West; it should therefore be engaged in very deliberately.

Much could be said in regard to raising hogs, such, for instance, as the breed and the particular kinds, which is, however, not my present purpose; with the exception perhaps, of advising those persons who intend to make pork-raising their business, to raise the *best* kinds, such as the "Chester Whites," etc., and to always select the finest pigs from a litter for breeders, and to feed them very carefully with proper food, and also to cross them invariably with other good stock, when they will have what they want. *Per contra*, let them sell for several years in succession the best pigs—the pick of their litters; keep the cullings for breeders; pay no attention to crossing them, and and let them take care of themselves, and they will be pretty certain to have what they don't want.

But, what of it? Suppose we *do* find ourselves masters of raising the best kind of pork, and to the best advantage; it seems questionable whether

excessively large hogs are so profitable as those of a medium size. Will *two* hogs that weigh twelve hundred pounds, be more profitable, in all respects, than *four* that attain the same aggregate weight? As it will take from ten to fifteen bushels of corn to make one hundred pounds of pork, which would bring the pork to about ten cents a pound, while it can be bought in market, at present, for five or six, can it be regarded a "great speculation," where land is worth from one to two hundred dollars an acre, and corn from fifty to sixty cents a bushel?

But why discuss the prices, the advantages, or the necessity of pork-raising at all, when we are admonished that eating too much swine's flesh has been found injurious to the health, and consequently the happiness of the human family? The eating of pork is plainly forbidden in the Bible, and although in accommodation to man's fallen condition it may be allowable, yet, "in the beginning, it was not so." The forbidding of eating the flesh of animals that "cheweth not the cud," and with "open or divided hoofs," can mean no other animal than the swine; and this practice is spoken of in such strong terms as to be called "an abomination," and those who ate it to be "visited" with the consequences, even to the second and third generations. No wonder, when it created all kinds of loathsome diseases, such as fevers, scrofula and leprosy. In more modern times, the eating of pork was less common, perhaps on account of the inroads made upon habit by immigration and other causes.

But latterly, as the progress of improvements are going on, the mode of living is also improved, and pork-eating and pork-raising has become a mighty domestic item. What were regarded as luxuries fifty and a hundred years ago, are now considered necessities of life. People are led to the cultivation of artificial appetites, cookery and cooking have become a science; and yet, it is said, that every new dish invented is adding so much to the bills of human mortality. The kitchen, is said to be the vestibule of the grave—the cook, the purveyor to the undertaker. Will the time ever arrive in the progress of the human family, when man will voluntarily abstain from that which was temporarily permitted, on account of the "hardness of his heart," and as freely place himself under the wholesome rule of that which was commanded?

PETER S. REIST.

OREGON, Nov. 15, 1872.

The Lancaster Farmer.

LANCASTER, DECEMBER, 1872.

S. S. RATHVON AND ALEX. HARRIS, Editors.

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CLOSING REMARKS.

WITH our present number we conclude the fourth volume of the LANCASTER FARMER; and although we cannot claim for its publication, thus far, a pecuniary success, yet it has been so much of a pleasure to us, and we feel such a degree of local pride in it, that we cannot refrain from its continuance, even under circumstances less encouraging than those we have been placed under during the past four years. If we have any single disinterested wish, it is that we might double the number of our present subscribers, only in order that we might be enabled to give them double the amount of reading matter, at the present price—or, if possible, less.

During the year just coming to a close, we have endeavored to keep on in the "even tenor of our way," and our relations with our subscribers, and mankind in general, have been mainly of a peaceful and pleasant character. We may not have realized the expectations of all, but what journal or newspaper does? Of this, however, we are assured, that we have been painfully sensible of many things wherein we lacked, and that our chief pain has arisen from the fact that we were, through limited patronage, unable to supply the deficiency.

The past year has not been remarkable for the success of the farming interests of our county. There have been many "drawbacks" to successful farming in its closing results. True, we had a good crop of fruit, especially apples, peaches and pears. Corn and tobacco were also all that could have been wished for; but the wheat crop came justly under the denomination of *failure*—taken

as a whole—although aggregating the crop of the entire country, it was still an *average*.

In the wake of drought and short crops, came the "horse-disease," realizing the old adage that "troubles never come singly;" but the favorable condition of the season thus far, to the winter-wheat, may put on a more prolific aspect in cereal products next summer. Under any circumstances we have much to be thankful for, and may entertain a reasonable hope that there will be no special suffering among our people.

Before we close these our annual greetings, we would make another appeal to our contributors and subscribers for an increase of their numbers and energies in behalf of the FARMER: we ask nothing for ourselves, but all for our journal—we promise that all the increase of means shall be applied to the "quantity and quality" of our paper. When the old Washingtonian temperance movement first originated, one of the fundamental rules of the organization was, "*every man to bring a man*," and so long as that system continued the societies flourished. Now, if our contributors and subscribers would act on this principle, the FARMER would be on a paying footing before the close of our *fifth volume*. Surely there ought to be a desire among the farmers of Lancaster county to have a home journal published among them—one that advocates their own interests, and reflects their own sentiments. The circulation of the FARMER, through its exchanges alone, has as wide a range as any paper in the county, and therefore its value as a special advertising medium is equal to any other, and far better than some. While we have no special complaint to make, still, under the progressive spirit of the present age, it is but natural that we should desire to be a passenger in the same train.

In conclusion, allow us to congratulate our subscribers—as well as all Americans—on the general peace and prosperity pervading the whole country. The political excitements having happily subsided, the attention of our citizens can now be turned to the development of the resources of the country; in the success of which, they have our entire sympathies and all the moral and intellectual aid that we can at any time command. As, before the appearance of our next number, the annual festal season will be upon us, when a sumptuous time may reasonably be expected, we therefore close our remarks with the usual courtesies of the holiday term, and sincerely wish all our patrons a very "*merry Christmas and a happy New Year*"—in an advanced instalment.

1776. INTERNATIONAL EXHIBITION. 1876.

WE have received a neat uncovered octavo pamphlet, containing the "Minutes of the proceedings of the *Corporators for Pennsylvania* of the centennial Board of Finance," portions of which we will lay before our readers on future occasions. For the present, we can only call the attention of the citizens of Lancaster county to the above named *Exhibition*, which we have no doubt will be the crowning event of the nineteenth century; and we sincerely hope our farmers, mechanics, artists, and manufacturers, will put forth their best efforts in assisting to make it such. It is true, that more than three years are yet before us, and many of us may not live to see it, but then it is none the less our duty to go forward in anticipation of it, all the same as if we were sure of surviving it, for we do not, in any instance, merely live for ourselves, but for posterity; we sow and another may reap, we labor and others may enjoy the fruits of our labor; and thrice worthy is that man, who, when he meets the common adversary of our race, is found with his "harness on." We, as Pennsylvanians, have an additional stimulant to effective action, inasmuch as our noble old commonwealth has been selected as the State within whose borders the great centennial event is to be celebrated. This is surely an unequalled mark of distinction, and one which our citizens doubtless will not be slow in demonstrating it is fairly entitled to, independent of its revolutionary, and other historical prestiges. How infantile and weak we were in 1776; how manly and strong in 1876, let admiring nations see.

MEETING OF THE LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE regular meeting of the Society was held in the Orphans' Court room, Monday, Nov. 4th, Henry M. Engle in the chair. The minutes of the previous meeting were read and approved without dissent.

S. S. Rathvon presented a bill of \$2.30 on balance of fruit exhibition, which was ordered to be paid. Also, bill of Widmyer & Ricksecker for \$3.25 for blackboard, was ordered to be paid.

The secretary read report of M. D. Kendig, of Manor township, on the condition of the crops.

Jacob Stauffer now proceeded to read an essay

on "Breadmaking." A vote of thanks was unanimously tendered the essayist for his able production.

Henry Engle presented to the Society a number of small loaves of unfermented bread, such as he uses in his family.

On motion, Mr. Engle was requested to prepare and read an essay upon his method of making unfermented bread.

Levi S. Reist had cultivated persimmons on exhibition; also, choice apples and pears.

H. K. Stoner had choice pears and grapes, and a fine apple for a name from Isaac Sherk.

Isaac Sherk, of West Earl township, presented "Rush nuts"—*Cyperus esculentus*—belonging to the order Cyperocce. They grow in marshy places, and yield a medium crop. These tubers, when boiled, are by some esteemed equal to chestnuts.

Henry M. Engle presented of the *larva* of the "Southern Cabbage Butterfly." The habits are very similar to the "Green Cabbage Worm," the butterfly a little larger and much clouded.

After testing the fruits on exhibition, Society, on motion, adjourned.

MISCELLANEOUS

LOCUSTS AS FOOD.

LOCUSTS furnish the favorite food of many numerous races of Africa; some nations live exclusively on them, but, it is said, they rarely grow older than forty years, and mostly die a miserable death, produced by fearful diseases. Alfred Cole tells us in his graphic manner how a whole kraal of Caffres once died after having consumed an unusual quantity of locusts. We read, not without wonder, that even in classic Greece this repulsive food was not rejected. The same Athenians that, later, wore golden crickets in their hair as proof that they were natives on their own soil, like the insects themselves, ate the smaller varieties skillfully dressed. But we must remember that antiquity also was not always faithful to the first laws of beauty and humanity. Were not their costliest fishes fattened upon the bodies of slaves, thrown into the ponds for that horrible purpose? In our day the locusts are rarely seen but at long intervals, and permanently only in the Orient. There the Arabs resort to them in years of famine; they dry and grind them to powder, and bake them with flour into cakes or roast them

in butter. Legs and wings are always rejected, the bodies are often preserved in vinegar, and are considered a rare delicacy. In Germany, where, in 1748, they committed incredible ravages, the eggs at least were eaten and highly prized.

Ascending in the scale of animals, we see with lessened surprise that reptiles are eaten with eagerness all over the world, and neither want of beauty nor abundance of venom protects them against omnivorous man. In vain they assume all manners of oddest shapes; in vain they move, creeping, and hopping, and sliding; although they suggest to us, by form and motion, all that is false and unfair, hideous and horrid, even God's curse of the serpent does not shield it, and from the humble frog of the pond to the colossal crocodile of Egypt, they all are but so much food for their master.

[The writer of the above article, in stating that "in our day the locusts are rarely seen, but at long intervals, and permanently only in the Orient," has evidently fallen into the popular blunder of confounding our *seventeen-year locust* with the locusts of Africa that are eaten by the natives. Locusts, allied to the African and Asiatic species, are located all over the known world, where it is warm enough for them to breed, and appear in vast and destructive numbers every year within the limits of the United States, as well as in Europe. Bring a locust from Asia or Africa, and show it to an unscientific American and ask him what it is, and ten to one he would call it a large *grasshopper*, and, according to the common apprehension, such indeed it is. Last season they ate up everything in some parts of Utah, and every year they are more less destructive, from the western plains to the shores of the Pacific. We have seen them very destructive even in Lancaster county. Of course, the species differ in different localities, but everywhere they are the same long-hind-legged grasshoppers. On the other hand, take an American locust, so-called, to Europe, Asia or Africa, and no one there except, perhaps, qualifiedly—would call it a locust. They would know that it could not possibly eat vegetation. The allusion to "God's curse" on any animal seems altogether gratuitous, if not profane. According to our notion, *God* has cursed nothing—but *man* has—and if animals must needs be flayed and eaten, it seems to us that there would be as little harm in eating a reptile, as eating a quadruped, a fish, or a fowl. For our part, we would rather eat *frog* than *crow*.

As to eating locusts, (grasshoppers) it has been a common practice among some of the California Indians from time immemorial.]

THE OLD AND THE NEW.

WHAT is Stewart, or Belmont, or the Marquis of Westminster, to Ptolemy Philadelphus, of Egypt, who amassed a little property of \$350,000,000? And which of our extravagant young ladies, in these boasted times, ever gave her lover as Cleopatra did, a pearl, dissolved in vinegar (or undissolved), worth \$400,000. Then there was Paulina, one of the ton in Rome, who used to wear jewels, when she returned her visits, worth \$800,000. Well, they boast of Mr. Stewart's "marble palace" on Thirty-fourth street and Fifth avenue. We do not suppose this house, which is about the best they have in New York, cost more than half a million of dollars. Cicero, who was a poor man, gave \$150,000 for his house, and Clodius paid \$650,000 for his establishment, while Massala gave \$2,000,000 for the house at Antium. Seneca, who was just a plain philosopher, like Mr. Greeley, was worth \$120,000,000. Why they talk about a man's failing in New York for a million as if it was a big thing. Caesar, before he entered any office—when he was a young gentleman in private life—owed \$14,000,000, and he purchased the friendship of Quassus for \$2,500,000. Mark Antony owed \$1,400,000 on the Ides of March, and he paid it before the Kalends of March. This was nothing; he squandered \$720,000,000 of the public money. Esopus, who was play-actor, paid \$400,000 for a single dish. Calpurnia spent \$400,000 on a supper. Their wines were often kept for two ages, and some of them sold for \$20 an ounce. Dishes were made of gold and silver, set with precious stones. The beds of Helogabutus were of solid silver, his tables and plates were of pure gold, and his mattresses covered with carpets of cloth of gold, were stuffed with down from under the wing of the partridge. It took \$80,000 a year to keep up the dignity of a Roman Senator, and some of them spent \$1,000,000 a year. Cicero and Pompey "dropped in" one day on Lucullus—nobody at home but the family—and that family dinner cost \$4,000. But we talk of population. We boast of London and New York. Rome had a population of between three and four millions. The Wooden theater of Scauro contained 80,000 seats; the Coliseum, built of stone, would set 22,000 more.

AN ENORMOUS CROP OF WHEAT.

THE wheat crop of California this year is more than prodigious—it is alarming. All the crops of that magnificent State are cultivated and harvested on a scale unknown to Eastern farmers; but wheat is sown and reaped with fabulous profusion. The forty-acre and sixty-acre farms, plowed by the tired hands and watched by the shrewd eyes of the New England husbandman, are mere specks of land compared to the extensive tracts farmed by the California ranchmen. Even the huge prairie farms of the Western States this side of the Rocky Mountains would look like "small potatoes" alongside the domains comprising 20,000, 30,000, or 50,000 acres which, as Mr. Harte would say, are "frequent" in California. The wheat-growing region is largely made up of such enormous tracts, only small parts of which are planted with fruits and vegetables. A careful correspondent of the *Alta California*, who has just finished a trip through the region, and who applied at nearly every railroad station for statistics of the crop and of the proportions of it which were ready for or about to be forwarded to market, returns with an astounding exhibit of figures. He found at each station thousands of sacks in store and news of thousands of sacks approaching in wagons. Every storehouse and shed and covered nook was filled with sacks of wheat. In the upper Sacramento and Napa valleys alone were found to be 4,742,000 sacks, or 9,484,000 bushels, or 5,690,000 centals, or about 284,520 tons of wheat. The total yield of wheat in the San Joaquin, Livermore, Sacramento, and Napa valleys, showed 10,745,945 sacks, or 21,491,890 bushels, or 12,895,134 centals, equal to 684,746 tons. And all the valleys, foot-hills, and fertile slopes of the coast range yet to be heard from! The prospect of getting this unprecedented crop to market is poor enough. At a time when Great Britain is yearning for breadstuffs—when the latest crop news from Scotland and the north of England is so exceedingly doleful, the Golden State has an overplus which is liable to rot for lack of transportation facilities. First, there are not a sufficient number of railroad cars to take the wheat to the coast; next, San Francisco, having no railroad depot nearer than across the bay, is embarrassed by trans-shipments. But the most important want of San Francisco and the whole Pacific coast is ocean transportation, and the *Alta California*, though an Administration journal,

declares that Congress, at its next session, should remove all restrictions on ship-building in this country. "California," it says, "will want 600 large ships to carry this year's crop. It is a disgrace to this great nation that we should be dependent on foreign ships to carry our own products." So whatever community is brought into the direct line of commercial experience thinks.

SWEENEY IN HORSES.—Sweeneyed shoulder in horses is not a disease of the shoulder originally, but it is a representative of other diseased parts, through sympathetic action of the limbs, from the feet. A horse suffering severe pain from bone spavin, for months, will exhibit sweeney or shrunken hip, as a result of the morbid action of fore feet affect the shoulders. Canker, contraction, founder, gravel prick from a nail, are affections of the feet only. Some people will say that such a horse is chest-foundered, while the horse apparently perishes in the chest. This is caused by the horse standing with his fore feet stretched out forward. If a man were to remain with his hands stretched out forward, his chest would suffer in the same way. Contraction is not so much a disease as the result of bad management on the part of the smith in shoeing the horse.

STEAMING FOOD FOR STOCK.

IN the winter of 1856 I commenced steaming feed for cows, my first experiment being made with a Mott's furnace. A wooden cover was fitted and wired down, and a lead pipe communicated with a large cask close by, which was hung on pivots so as to discharge into a wheelbarrow when the food was steamed. I filled this cask with cut corn-stalks and sugar-beets. The food being ready, I wheeled my barrow to the barn and entered the alley way between the cows. It was not long after feeding time, and most of them were lying down. Before I had got ten feet they commenced getting up, and in two minutes every animal was on her feet, and every nose stretched out to catch the savory odor. I gave to each one about a peck, as far as it would go. It was as warm as I could bear my hand in, and apparently an utter astonishment to them; they smelled, then tasted, then looked around, but in a few minutes every head was down and busy. It was all eaten up, the mangers licked clean, and unmistakable requests for more came from every side. I could, at that time, find no one who had tried steaming;

my books gave very little information on the subject, and I wished to ascertain how they would eat it. That question was settled at once. The economy of food, the opportunity to save all waste, use all my coarse fodder, and regulate the mixing of food, and the probable increase of milk, were before me at once, and I went into it with considerable enthusiasm. I first bought a small, upright, tubular boiler, made a tank of chestnut plank with three compartments, and set up a horse-power and hay-cutter, cutting two-thirds corn-fodder and one-third straw, until toward spring, when I was obliged to cut some hay. I sliced the roots and mixed with the chaff in proportion of one peck to each cow, the dry cows having turnips, and those in milk carrots and beets. The flavor of the roots permeated the whole mass and made it more savory. I soon found that more water was needed to soften the dry substances and help the steaming, and gradually increased the quantity. My plan of feeding was as follows: Steamed food morning, noon and night, in proportion to the size and appetite, given all they would eat up clean. Cotton-seed meal and wheat or rye bran was given in a warm, thin gruel, twice a day, in proportion to the yield of milk and the condition of the animal. They were let out in the yard to water, morning and afternoon, and remained out a couple of hours, if the weather was fine, otherwise only a few were let out at once and returned to the barn as soon as each animal had a chance to drink. A card was hung up in the steam room with precise directions as to time of feeding, watering, steaming, cleaning, milking, and the amount of extra feed to be given to each animal, and the men held to a strict compliance with it. We steamed every day, about five hours being required to soften the feed thoroughly. In regard to the expense and amount of feed necessary, I found much difficulty in arriving at correct results. My corn-stalks weighed twice as much in November as in March. I had no facilities for weighing my animals, and as some kinds of food go to flesh while others produce milk at the expense of fat, no trial can be accurate that does not take their weight into consideration.

* * * * *

The effect of steamed food is particularly noticeable in increasing and sustaining the flow of milk. Many of my cows (new milch in autumn) would go through the winter with a loss of only three to four quarts from their flush. My Ayrshires did better than others in this respect, one of them going through six months of winter with her

full flush, giving in fact one pint more at the end of six months.

Some estimate the increase of milk or saving of fodder by steaming at fully one-third. It is difficult to estimate the gain, so many circumstances enter into consideration, but when the yield is kept up, influencing the product for the whole year, a much greater amount is actually realized than the trials at the time show.

The first winter of steaming I fed dry hay on the Sabbath, and found that the cows fell off from one to two quarts each at once, not regaining their usual quantity until Wednesday, and, of course, with a strong tendency to lessen their yield for the future. I found it necessary to cut a double portion on Saturday, fill our tanks, and lay the fire so as to heat up on Sunday morning. At any time, when by accident our steam works have stopped for a few days, the same effect has been noticed, more hay has been used, and in case of long stoppage we have found it impossible to regain the lost milk. The milk is better, and butter of richer quality, when steaming, and I find my animals in better condition, less liable to disease, and old cows especially lasting longer and doing better. Their teeth are preserved, a very necessary adjunct to their well being.

I have found order, regularity in feeding, watering, milking, cleaning stables, etc., of the greatest importance. Cows are accurate time-keepers, and they are nervous and easily affected. A new milker, a harsh word or blow, a change of weather, any little thing, will affect the milk. Every dairyman is aware that his milk varies with these causes, yet few take sufficient care to avoid the loss. It is a greater one than many are aware of and in a large dairy is a very serious matter.

FROM GRASS TO WINTER FEED.

The prudent sheep husbandman, as the biting of autumn weakens his pastures, will see to it that his flocks are plentifully, though gradually, supplied with corn or roots, or whatever is to constitute their winter food. No matter how strong the pasture may appear, we would advise that this additional feeding be not delayed beyond the first of November—for snow or cold rain-storms are likely to overtake us any day, rendering strong and warming food necessary—and if the flocks are not at least partially accustomed to it, some animals will over-eat, while others may not get a sufficiency. Any one at all familiar with the handling of sheep need not be told of the bad ef

fects that will result. We have known flocks so injured by a November storm that they could not be restored to their proper thrift during the entire winter following. A good judge of wool will readily detect the fleeces of such stock—as every sudden change in the condition of the sheep produces a “joint” in the fibers, rendering it totally unfit for use in manufacturing such styles of goods as require strength and elasticity in the material composing them.

NO SUMMER.

WHILE every one is speaking of the present season as being remarkable in its characteristics, I have gathered for your readers some reliable facts of the year 1816, known as “the year without a summer.” Few persons now living can recollect it, but it was the coldest ever known through Europe and America. The following is a brief abstract of the weather during each month of the year:

February was not cold; with the exception of a few days in it was mild like its predecessor.

March was cold and boisterous during the first part of it; the remainder was mild. A great freshet on the Ohio and Kentucky rivers caused great loss of property.

April began warm, but grew cold as the month advanced, and ended with snow and ice and a temperature more like winter than spring.

May was more remarkable for frowns than smiles. Buds and fruits frozen; ice formed half an inch thick; corn killed, and the fields again replanted until deemed too late.

June was the coldest ever known in this latitude. Frost, ice, and snow were common. Almost every green thing killed. Fruit nearly all destroyed; snow fell to the depth of ten inches in Vermont, several in Maine, three in the interior of New York, and also in Massachusetts. Considerable damage was done at New Orleans in consequence of the rapid rise of the river. The suburbs were covered with water, and the roads were only passable with boats.

July was accompanied by frost and ice. On the 5th ice was formed to the thickness of a common window glass throughout New England, New York, and some parts of Pennsylvania. Indian corn was nearly all destroyed; some favorably situated fields escaped. This was true of some of the hill farms of Massachusetts.

August was more cheerless, if possible, than the summer months already passed. The ice was

formed nearly an inch thick. Indian corn was so frozen that the greater part was cut down and dried for the fodder.

Almost every green thing was destroyed in this country and in Europe. Papers received from England state “that it would be remembered by the present generation that the year 1816 was the year in which there was no summer.” Very little corn ripened in the New England and Middle States. Farmers supplied themselves from the corn produced in 1815 for the seed of the spring of 1817. It sold at from four to five dollars per bushel.

September furnished about two weeks of the mildest weather of the season. Soon after the middle it became very cold and frosty; ice formed a quarter of an inch thick.

October produced more than its share of cold weather; frost and ice in common.

November was cold and blustering. Snow fell so as to make good sleighing.

December was mild and comfortable.

The above is a brief summary of “the cold summer of 1816” as it was called, in order to distinguish it from the cold season. The winter was mild. Frost and ice were common in every month in the year. Very little vegetation matured in the Eastern and Middle States. The sun’s rays seemed to be destitute of heat throughout the summer; all nature was clad in a sable hue, and man exhibited no little anxiety concerning the future of his life.

The average wholesale price of flour during that year in Philadelphia market, was thirteen dollars a barrel. The average price of wheat in England was ninety-three shillings per quarter.

TO CRYSTALLIZE FLOWERS.—Construct some baskets of fancy form with pliable copper wire and wrap them with gauze. Into these, tie to the bottom violets, fernes, geranium leaves, in fact any flowers except full-blown roses, and sink them in a solution of alum, of one pound to a gallon of water, after the solution has cooled. The colors will then be preserved in their original beauty, and the crystallized alum will hold faster than from a hot solution. When you have a light covering of crystals that completely covers the articles, remove the basket carefully, and allow to drip for twelve hours. These baskets make a beautiful parlor ornament, and for a long time preserve the freshness of the flowers.

GRAPES AND THEIR EASY CULTURE.—It is surprising that so many families in the country are willing to live year after year without cultivating a single grapevine about their dwellings. They are compelled to purchase this delicious fruit for the table, or not taste it during the season. There is a common impression that to cultivate grapes perfectly a vast amount of knowledge and tact is required. To many the simple trimming of a vine is a mystery more difficult to comprehend than the hardest problem of Euclid. This is an erroneous view, and ought not to prevail. Any person of common intelligence can learn in an hour how to trim and nourish vines; and, if instruction cannot be obtained from some experienced cultivator, there are books filled with cuts and illustrations which make everything plain. Three vines of as many different varieties, planted in some sunny nook, or by the side of some building, so as to obtain shelter, will, if properly cared for, furnish many a bushel of delicious grapes every year. Select a Concord, a Delaware and an Adirondack; make the ground mellow and rich by the use of a spade and by employing old manure, finely ground bones, and ashes, and set out the plants. In three years the rich clusters will appear, and in four years the product will be abundant. It is well to have vines planted so that the waste liquids from the dwelling can be used in fertilization. If there is any food the vine especially loves, it is the soapy liquids which accumulate on washing days in families. Vines drenched every week with these liquids will flourish astonishingly, and extend themselves so as to cover large buildings, every branch bearing fruit. We say to our readers, plant vines.—*From Science of Health.*

SPRAINS AND BRUISES.—These injuries are sometimes very distressing and their consequences very serious. The dense ligaments and synovial membranes of the joints swell, and sometimes inflame, as the result of local injuries, and the pain is often extreme. But, simple water is all the treatment necessary in any case. It should, however, be of a temperature adapted to the circumstances, the indication being to unload the congested vessels of the injured part as much as possible. If the part is hot and painful apply cold water or cold wet cloths, frequently renewed, until the heat becomes normal. If there is pain or tenderness without increased heat, apply fomentations until the pain is relieved. All the after-dosing required in either case is a wet cloth

covered with a dry one, and worn till all tenderness is gone. This simple treatment will do all that any medication can do, and is better than all the liniments and lotions, plasters and poultices that were ever invented.—*From Science of Health.*

SELECTING POULTRY MEAT.—A young turkey has a smooth leg and a soft bill, and if fresh, the eyes will be bright, and feet moist. Old turkeys have stiff, scaly feet.

Young fowls have a tender skin, smooth legs and the breast bone yields readily to the pressure of the finger. The best are those that have yellow legs. The feet and legs of old fowls look as though they had seen hard service in the world.

Young ducks feel tender under the wings, and the web of the foot is transparent.

The best are thick and hard on the breast.

Young geese have yellow bills, and the feet are yellow and supple. The skin may be easily broken by the head of a pin; the breast is plump and the fat white. An old goose is unfit for the human stomach.

Fowls are most easily picked if scalded, but this renders the skin liable to be torn, and consequently they will not look so nice.—*American Stock Journal.*

PINEAPPLE ICE.—One juicy, ripe pineapple peeled and cut small. Juice and grated peel of one lemon. One pint of sugar. One pint of water, or a little less. Strew the sugar over the pineapple, and let it stand an hour. Mash all up together, and strain out the syrup through a sieve. Add the water, and freeze.

CURRENT AND RASPBERRY ICE.—One quart red currants. One pint raspberries, red or white, one pint of water, one and one-half pints sugar, Squeeze out the juice, mix in the sugar and water and freeze.

STRAWBERRY OR RASPBERRY ICE.—One quart. of berries. Extract the juice and strain. One pint of sugar, dissolved in the juice. One lemon, juice only. One-half pint of water.

SCRATCHES and heel cracks are cured by the following method: Wash the feet clean, then dry thoroughly, and apply carbolic salve at least twice a day. Pursue the same course for saddle and collar galls.

ENGLISH FARMING.

PROF. GEO. H. COOK, State Geologist of New Jersey, after his return from visiting some of the best farms in England, made remarks on English farming before the New York Farmer's Club, as follows :

"Of all the other crops, the great wheat crop surprised me the most. The English farmer justly prides himself on his knowledge of his kingly cereal. Their wheat straw is stiffer than ours, and stands up better; the head is larger, and the color is brighter and clearer. The uniformity of their fields is remarkable; no bare, thin places, no wet places or winter-kills. Some fields that I saw would average thirty, some thirty-six, and others forty bushels to the acre; sixty and sixty-four are often reported. One large field that I saw gave an average of sixty-four, and I heard of an average of sixty-eight bushels to the acre. That wheat I did not see. But I am well satisfied that the yield is from fifty to one hundred per cent. beyond our American average.

Now how is this done? First—the English farmer does not expect good wheat except on good land, well manured. Second—he pulverizes thoroughly and makes the best possible seed-bed for wheat. He plows, cross-plows, then rolls, then harrows with a fine-tooth fertilizer; then he drills the seed, and if the soil is sandy he rolls lightly again. On poor spots he sows a few hundred weight of nitrate of soda; and this special fertilizer brings up the thin places, and makes the crop even from side to side of the field.

J. J. Mechi, on a farm of 170 acres, makes more wheat and vegetable crops according to the size of his farm perhaps than any other farmer. He has grown eight quarters—sixty-four bushels—of wheat to the acre, on a field of seven acres. All his stable manure is kept under cover, and in the spring he cultivates between the rows of wheat and applies 300 pounds of salt and guano to each acre.

WHITE SCOUR IN CALVES.

This disease, says the *Prairie Farmer*, usually occurs in rearing calves taken from their natural food and fed with milk from old cows, or that which has been skimmed. Constipation follows, then an acid secretion which separates the milk into its cheesy parts and the whey. The former is retained in the intestines, and the latter discharged in the form of white, semi-fluid fæces.

Our first effort must be to restore, if possible, the natural secretion of the intestinal canal, and first of all, to remove the offending agent. A gentle oily purge, combined with a sedative, may be first of all given. Linseed oil, one pint; tincture of opium, half an ounce; sweet spirits of nitre one ounce. Mix, and give a wineglassfull twice or three times a day, till the bowels begin to act more naturally. The food, too, must be looked to, and as it is impossible, in many cases, to substitute old, for new milk take away half the quantity of milk, and substitute in its place the same quantity of linseed gruel, which, by acting as a gentle laxative, will prevent the accumulation of the coagulated milk. To restore the natural secretion of the intestines, an anti-acid and carminative may be given. Carbonate of potash, one to two drachms; powdered nutmeg, twenty grains. Mix, and give in a little peppermint water, and repeat daily.

Should the scour become chronic, and a more powerful astringent be required, the following mixture will be found efficacious. It must, however, be borne in mind, that astringents must be used with great caution, as, if given injudiciously, they will aggravate the disease they are given to cure, by retaining the cause of irritation, viz., the caseine, or cheesy part of the milk: Powdered opium, one scruple; powdered chalk, one ounce; tincture of gentian, half an ounce. To be given in a quart of good thick gruel.

◆
To RENEW OLD GRAPE VINES.—The editor of the *Practical Farmer* says:

Having on our premises, planted by former owners, probably twenty years ago, half a dozen old grape vines with large weather-beaten trucks or stems, which made annually but little new wood and yielded but very few poor grapes, two seasons since we cut off branches, and laid the main stems down in the trenches, covering with about a foot of earth. Vigorous and healthy shoots sprang up in great abundance, the weak ones of which were broken off, and leading ones at proper distances trailed to the arbor.

The new growths are clean, healthy and strong, and we look for bushels of fruit from the new bearing wood. We have seen many old vines that would be improved by such treatment.

◆
KEEP the legs of your horses clean, as dirt is productive of disease.

To get horses out of a burning building, harness them as if for their usual work, and they will follow you out as if nothing was the matter.

It is now settled that much is gained by blowing air through milk as soon as it comes from the animal. Common air is good, and if chilled to 40 degrees by contact with ice it is improved. All milk, whether handled in the country or taken to the city, is benefited by this aeration.

BOOK AND SPECIAL NOTICE DEPARTMENT.

LITERARY NOTICES.

THE FARMER AND GARDENER, a neat little quarto of four pages on good paper and handsomely illustrated; issued quarterly by our whilom contributor, Jno. G. Krel-der, Nurseyman and Fruit-grower, from his "office and publishing house, 1½ miles south of the city of Lancaster," at 15 cents per year. Total circulation 7,000.

LIVE STOCK, FARM AND FIRESIDE JOURNAL, for the farm, the turf, the dairy, the poultry yard, the apiary and the family; a large three-column illustrated quarto, of 33 pages, including embellished covers. This is a handsome journal, in clear type and printed on good white paper and moreover, as full of practical matter on the subjects to which it is devoted, "as an egg is full of meat." Haas, Kelley & Co., publishers, No. 27 Park Place, N. Y. and 200 and 202 Main street, Buffalo. \$1 50 a year; single copies 15 cents.

MONTHLY REPORT OF THE DEPARTMENT OF AGRICULTURE for October, 1872, full of interest and useful matters as usual.

ON THE MANAGEMENT OF THE DAIRY, written for the use of dairymen, by C. F. Raddatz, Prof. of German and History, Baltimore City College. Published by the "Sun Book and Job Printing Office," Balto., Md. This is a neat 12 mo. of 45 pages, and contains information on every subject connected with the dairy.

The welcome and refreshing faces of the "National Live Stock Journal," beautifully illustrated, the "Journal of the Farm," ditto, and the "Practical Farmer," ditto, all for November, have been received. We consider these as valuable a trio of monthly quartos as are published in the country.

EVERYBODY'S JOURNAL, enlarged to eight pages, "Build-Association Journal," "Our Church Work," "Industrial Bulletin," and "Woodhull & Claflin's Weekly," for November, at hand.

THE FARM AND FIRESIDE JOURNAL, devoted to the culture of the soil and the culture of the mind. A tinted, three-column quarto of 8 pages, claiming to issue one million of copies, at the low price of 51 cents a year. By the company; office 104 and 106 E. Sixteenth street, New York. Limited as the general reading matter in this journal is, we do not hesitate in saying it is as practical and instructive as any that comes under observation. Each month contains matter having a special relation to that month, and so far as we are able to comprehend and judge, its contents are perfectly reliable. Its low price brings its possession within the ability of every housekeeper.

THE AMERICAN FARMERS' ADVOCATE leads the agricultural press for its enterprise and energy. The *Advocate*,

Publishing Company, Jackson, Tenn., offers it free with any \$2.00 or higher-priced paper or magazine in the United States, and at only fifty cents advance with others. This for a large sixteen-page monthly, filled to overflowing with the most valuable and entertaining matter for the farmer. "Lancaster Farmer" and "Farmers' Advocate" 1 year for \$1 50.

ANNOUNCEMENT.—John E. Potter & Co., Philadelphia, have in press and will shortly publish "Potter's Complete Bible Encyclopedia; a universal dictionary of Biblical, Ecclesiastical and Historical information, from the earliest times to the present day. By Rev. Wm. Blackwood, D.D., LL D., author of "Blackwood's Comprehensive Aids to the Study of the Holy Bible," etc, etc., with valuable contributions by other eminent divines. Comprised in about 2,000 brevier pages, quarto, with nearly 3,000 illustrative engravings.

AGENTS may learn something greatly to their advantage and obtain specimens and full particulars free by addressing "Wood's Literary and Art Agency," Newburgh, New York.

PHILADELPHIA MARKETS.

WEDNESDAY, NOV. 29, 1872.

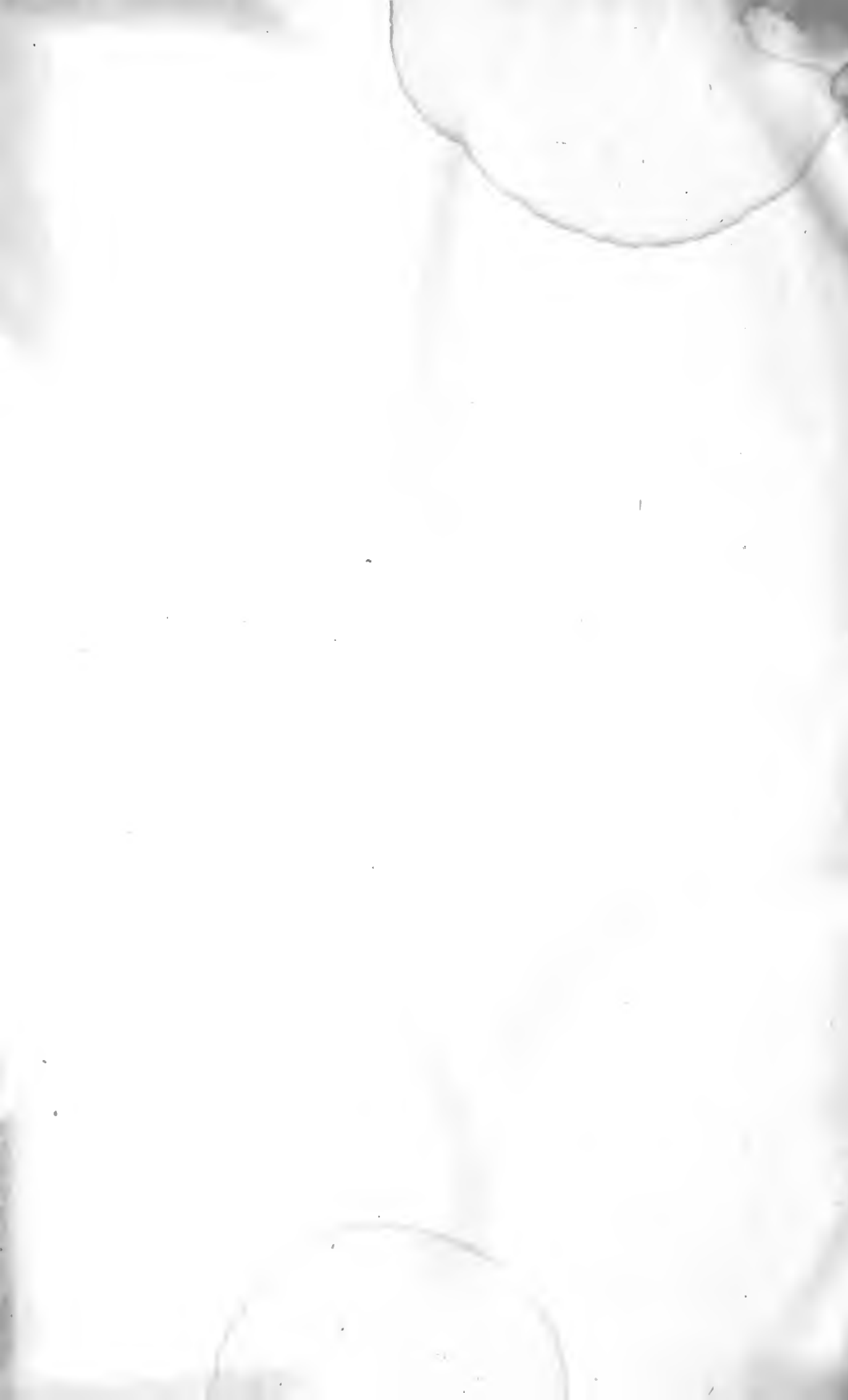
FLOUR.—In Flour there is rather more doing, the home trade buying quite freely, but exporters are not operating to any extent at present quotations. The inquiry is mostly confined to the better grades of spring wheat families, the stock of which has become reduced to a very low figure and is held with great confidence. The medium and low grades are neglected; sales of superfine at \$4.25a5.25; extras at \$5.00a6.50; 100 bbls Wisconsin extra family, good, at \$7.75; 50 bbls Minnesota do. do, fair and good, at \$7.87½a8.25; 200 bbls do. do. do, fancy, at \$8.50; 500 bbls Ohio do. do. good, at \$8.50; 100 bbls do. do. do, fancy, at \$9; 400 bbls Indiana do. do. at \$5.50a8.62½, and some high grades at \$9.25a10.75 as in quality. Rye Flour.—The stock is light, and 100 bbls sold at \$5.50. In Corn Meal nothing doing; we quote Pennsylvania at \$3.25 and Brandy wine at \$3.50.

GRAIN.—There is less activity in Wheat, but prices are well maintained. The offerings of prime, which is the only description wanted, are light, but inferior sorts are neglected, and can only be pushed off at very low figures. Sales of 400 bushels Indiana red at \$1.73; 400 bushels No. 2 spring at \$1.55; 800 bushels Western amber at \$1.82a1.85; a d 40 bushels fancy do. do. at \$1.91. The market is entirely bare of Rye, and it is wanted at an advance of 2a3c. Corn is very quiet, and the receipts and offerings are light; sales of 400 bushels Western yellow at 66c, and 5,000 bushels Western high mixed on secret terms. For Oats the demand has fallen off, but we continue former prices; sales of 700 bushels Western white at 40c, and 6,000 bushels do. mixed at 43a44c. Barley is held firmly and the stock limited; 1,500 bushels good and choice Western sold at 90c a \$1.05; we quote Canada at \$1.18a1.20. New York two rowed at 80a90c, and do four-rowed at 91c a \$1. Barley Malt is in better request, and ranges from \$1.20 to \$1.25 for Western and Canada, with considerable sales at these figures.

CHICAGO MARKETS.

CHICAGO, Nov. 27.—Flour in fair demand and firm. Wheat dull and a shade lower; No. 1 spring, \$1.17a1.18; No. 2 do., \$1.08½ bid, cash, and \$1.08½ for December; No. 2 spring unchanged at 99c; rejected, 86c. Corn dull and drooping; No. 2 mixed, 31½a31¾c cash, and 31½a31¾c for December; rejected, 29½c. Oats steady; No. 2 at 24½a24¾c; rejected, 22½a23c. Rye in good demand; No. 2 at 57c. Barley dull and drooping; No. 2 fall, 61a62½c. Mess Pork dull and lower at \$12.50 cash, and \$12.10 for December. Lard steady at \$7.25a7.50. Meats in moderate demand and prices unchanged, but rather weak. Whisky steady at 38a38½c.

	Receipts.	Shipments.
Flour, barrels.....	6,000	4,000
Wheat, bushels.....	58,000	89,000
Corn, bushels.....	42,000	9,000
Oats, bushels.....	25,000	10,000
Rye, bushels.....	3,000	3,000
Barley, bushels.....	29,000	7,000



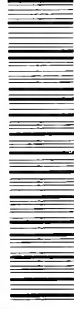








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