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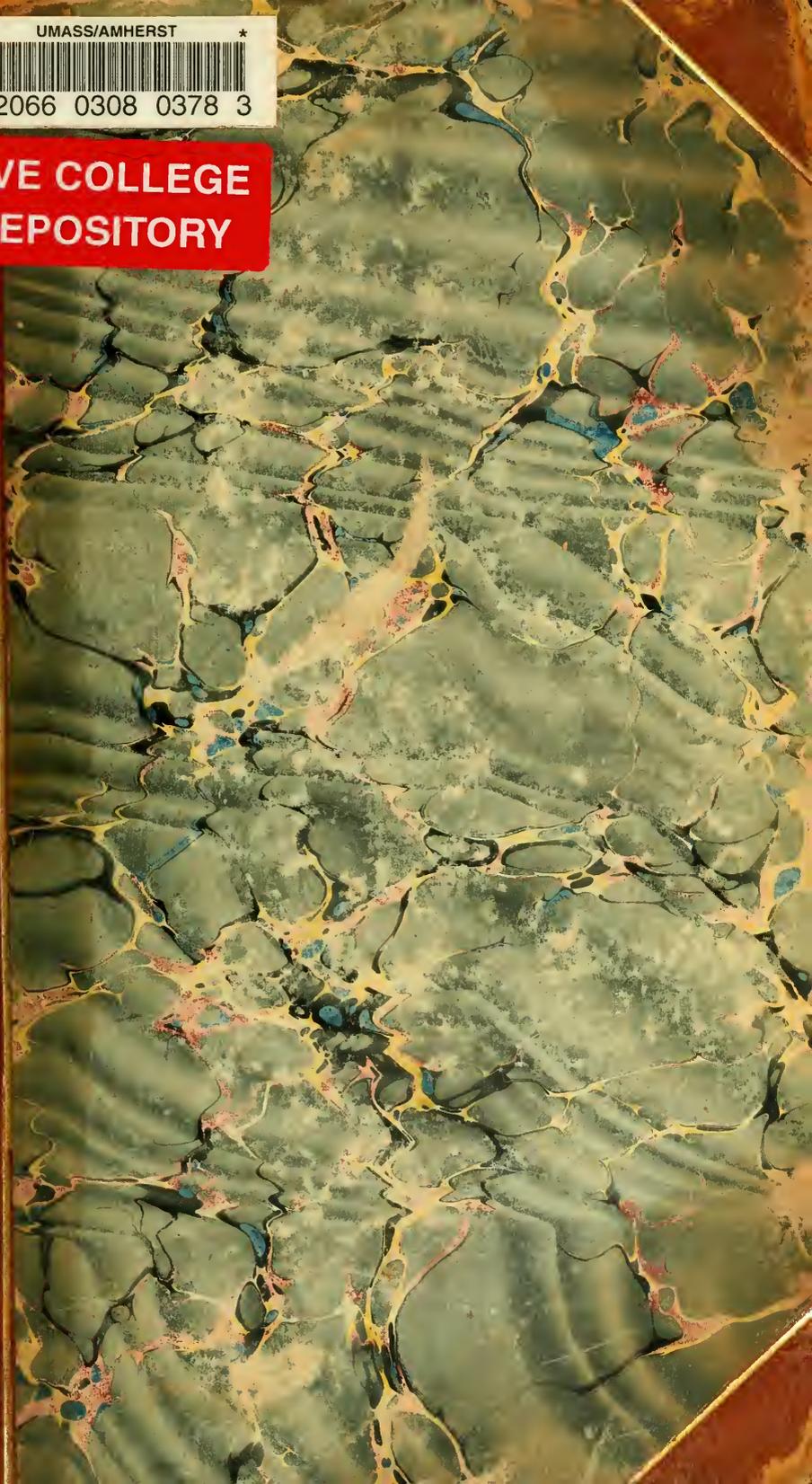
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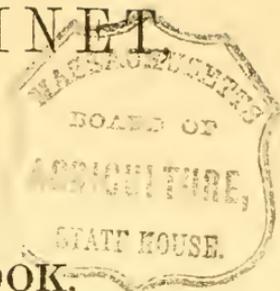






THE

FARMERS' CABINET



AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND

RURAL AND DOMESTIC AFFAIRS.

~~~~~  
BY JOSIAH TATUM.  
~~~~~

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—1844—1845.

PHILADELPHIA:
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ILLUSTRATIONS.

	PAGE
1. Herr's Native Steer,	25
2. The Alpaca,	184
3. Berkshire Hog,	218
4. Prouty & Mears' Plough,	243
5. Illustrations in Electricity,	247
6. Southdown Buck,	281
7. Diagram of Tool Chest,	313

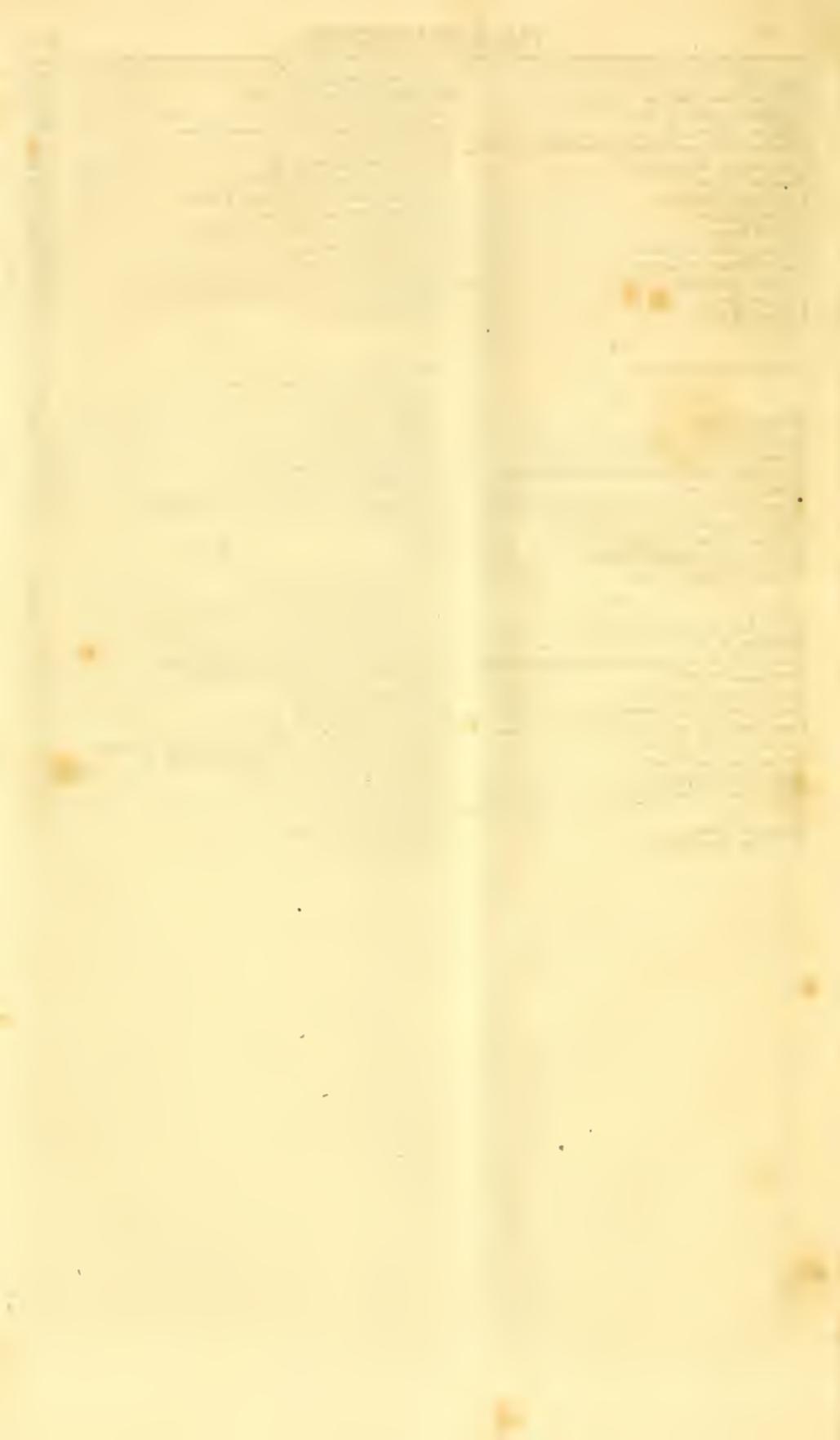


TABLE OF CONTENTS.

	PAGE		
A.			
Agricultural Society Meeting, Philadelphia, 34,	66	Botany, study of by females,	331
Atmospheric Rail-way,	35	Butter, Russian Mode of making	372
Alpaca,	54, 184	Bommer's Method	380
Agriculture and its improvements,	82	C.	
Address, Dr. Beekman's,	84	Colours, variety of,	20
Apple Trees, age of—do natural trees outlive grafted?	107	Cotton,	21
Address, Bancroft's, N. Y. State Fair,	116	Cheap paint,	24
Agricultural Society, N. Y. State,	117	Clotted Cream,	26
Agricultural Society, Philadelphia, Minutes of,	119	Cow, form and constitution of,	29
Address, Dr. Darlington's, Philadelphia Ag. Society,	124	Conversion of Wood into Iron,	45
Address, S. D. Ingham's, Bucks County Ag. Society,	144	Cisterns, best method of constructing,	50
Address, C. N. Bement's, Housatonic Ag. Society,	147	Coffee, culture of,	63
Address, J. S. Skinner's, New Castle Ag. Society,	149, 173	Cattle, keeping them warm,	111
Autumn, by L. H. Sigourney,	151	Coffee, receipt for making,	123
Asparagus, Culture of,	180	Calf, extraordinary,	151
Artichoke,	181	Corn Crop,	161
Agricultural Imports in England,	208	Corn-stalk sugar, experiments,	186
Alpaca Wool,	211	Capons,	219
Animal Heat,	227, 253	Crops, Report, Philadelphia Ag. Society,	244
Acquired Knowledge among Farmers,	257	Cattle epidemic,	277
Agriculture, &c, of the Cherokees,	267	Crops, tabular estimate of, 1841,	278
American Ag. Association of New York,	275	Cranberries, raising,	285
American Provisions,	286	Cranberry, cultivation of,	290
Agricultural Society, Royal, of England,	288	Cutting grass,	291
Agriculture, elevation of,	330	Cucumbers, raising early,	293
Agricultural Society, Philadelphia, Minutes of,—do. Report of Committee on Farms,	336	Celery, Cultivation of,	299
Agricultural Society, Premiums on Farms, offered by,	337	Cranberries,	302
Agricultural Exhibition, Philadelphia	377	Currants, grafting,	305
B.			
Bees,	17, 346, 374	Colman's Agricultural Tour,	329
Bees, Fighting,	63	Corn, ploughing for, in September	370
Blue Wash for Walls,	35	Cows, rare ones in the West	377
Book Farming,	52	D.	
Birds, opposite opinions,	65	Dairy contrivances,	22
Butter, Philadelphia,	90	Deep ploughing,	37
Butter,	164, 219, 322, 347	Dairying,	56
Butter, difficulty in churning,	209	Drummond Light,	93
Berkshire Hog,	218	Dog Show,	141
Barley,	220	Draining, Irrigation and Warping,	148
Bones, Whip-handles, &c.	224	Dogs and Cats,	221
Bees swarming,	228	Dogs, uselessness of,	256
Butter, difficulty in churning obviated,	233	Durham Steers, I. W. Roberts',	260
Bread, receipt for making,	293	Draining, &c.	323
Butter, to make good,	297	Dream—yet not a Dream,	332
Butter, to sweeten,	318	Diseases of Cattle, premium on,	344
E.			
		Eben Elshender, the Moor Farmer,	46
		Electricity,	80
		Eggs, pickled,	151
		Experiments in Farming,	269
		Electricity in Agriculture,	298
		Eggs, double yolked, hatching,	309
		Engrafting,	318
		Early rising,	343

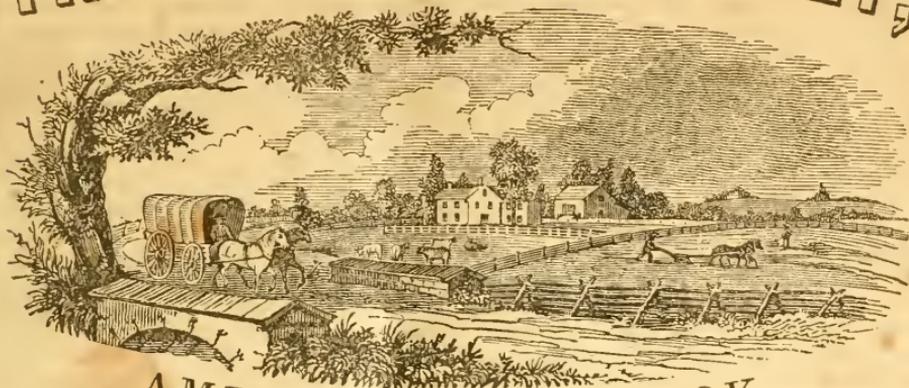
Economy,	348	Industry needed	350
Electricity in aid of Agriculture,	353	Indian Corn, accidents to	368
F.		Indian Corn	371
Fruit in Cincinnati	36	Insect life, romance of	372
Farmers' Club, N. Y., meeting of	55	L.	
Fruit trees, management of	81	Loudon, J. C., death of	13
Fruit, Statistics of	111	Lightning, protection from	61
Fruits, Aboriginal	183	Lightning Rods	97
Food for different latitudes	210	Landlord and Tenant	142
Fruit trees, planting on declivities	221	Lovers of Flowers, hints to	152
Farm cultivated by Insane	236	Labour	153
Fruit, cultivation of	241	Lice on Cattle, to destroy	185
Fact for the curious	292	Lettuce, cultivation of	225
Fruit Trees	311	Letter from T. le Couteur	245
Farmers' Club, New Castle Co.	352	Lightning Rods	247, 354
Frost, the late	375	Larne School in Ireland	324
G.		M.	
Guano Island, discovery of	9	Mending a tree	88
Galvanic Experiments on Vegetation	11	Marl, underlying Charleston	98
Grain Fork, New	16	Madder.—Mustard a profitable crop	99
Guano and Turnips	24	Milk	110
Gas Tar	26	Manufacturing establishments in Philadelphia and vicinity	120
Great Britain, Statistics of	67	Massachusetts Premium Farm	139
Gowen's, James, Cattle	68	Manure, the principal thing in Farming	159
Guano	81, 275, 287	Milk in Cows, continuance of	163
Guano, Dr. Gardner's History of	85	Meat, to preserve it fresh	181
Guano as a Manure,	94, 96	Manures, B. Hallowell's Experiments	234
Guano, experiments with	100	Milk Adulterated	258
Geology of Soils	122, 137	Milk, rich	278
Gypsum as Manure	164	Manure	301
Grub, or Grass worm, in Salem Co., N. J.	190	Manures, Waste	304
Guano, artificial	221	Milking Cows	305
Gas liquor, Experiments with	241	Manure, importance of	306
Greatest amount of produce from a given surface	270	Malay Apple	311
Gypsum for Stables	301	Manures, saving	312
Grape, Olive, &c., culture of	308	Mowing easily.	341
Grape vines, destruction of	311	N.	
Gowen James, Report of his farm	338	Native Steer, B. B. Herr's	25
Grapes, seedling	344	New York Agricultural Institute	30
Grape, culture of	349	New Castle Ag. Society Premiums	31
Green House, a simple	369	New York State Fair	73
H.		O.	
Harvest Song	16	Old Virginia	44
Heifers, raising	25	Otter in India	113
Horses, checking	110	Oleander, change of colour	198
Horses, Galis on	141	Ornamental Shrubs and Flowers	210
Hints to young men	142	Orchards	223
Hoven Gattle	163	Oats, 80 bushels to the acre	277
Hens, management of	175	Olive, Grape, &c., culture of	308
Hens, German and Brazilian	178	Order—Carefulness	313
Horses, curing obstinate	211	P.	
Hemp	211, 217	Potatoe failure, prevention of	21
Hops, duty on	215	Pennsylvania Horticultural Exhibition	23
Horticulture, progress in Indiana	237	Pear Trees, blight in	28
Hens, fecundity of	272	Pigs sucking a Cow	36
Horse, can he reason?	282	Pressing Hay.—Plank Fences	51
Hay, making	291	Peach, cultivation of	77
Horses, large chests	301	Productive Farms	87
Horticulture	347	Potatoes, disease of,	95, 155, 179, 212
Hessian Fly	364	Potatoes, gathering	100
Horses, feed for	377	Premiums for best managed Farms	108
I.		Potatoes, improvement of quality	113
Indian Corn, Report on	89	Ploughing Match, St. Georges'	133
Indian Summer	100	Potatoes, raising	152
Insects injurious to domestic animals	114	Provisions, American in England	177
Island of Ichaboe—Guano	205	Pigs, warm bed for	185
Improvement under difficulties	266	Pear Trees, blight in	191
Inland Navigation in the West	317	Ploughs, Cast-steel	219
Indian Corn, culture of	319	Plant beautiful experiment with	219
Jump up Girls	322	Poudrette, advantages of	222

Poor, the	223	Seed, preparation of	265
Ploughs, American, in England	226	Steaming of Cattle, &c.	268
Plough, Prouty's in Ohio	243	Southdown Buck	281
Potatoes, Wheat, &c.	284	Sulphate of Ammonia—its uses	284
Premiums of Agricultural Society	287	Soiling Cattle	286
Pork raisers, important to	301	Soil, to improve the	302
Ploughs, Subsoil	301	Safety Girdle, improved	309
Pepper and Mustard	303	Strawberries, Male and Female	310
Poultry houses	307	Silk Culture in Ohio	312
Potatoe Sugar	311	Sugar Cane in West Georgia	318
Potatoes, new varieties	325	Soap-suds, compost	322
Peach Trees, preservation of	341	Soiling System	335
Potatoe, disease of	346, 373	Sheep, destruction of by Dogs	351
Potatoe Rot	361	Short-horns, E. P. Prentice's Sale	374
Parks of London	369	Song of the Soil	376
Q.		T.	
Quince, cultivation of	182	Tulips	27
R.		Turning in Green Crops	54
Raising Water	59	Toads, usefulness of	62
Ripe Fruit and Dysentery	77	The Toad	90
Reports of Philadelphia Ag. Society, ...	128, 195	Time is Money	207
Report on Crops, New Castle Ag. Society ...	156	Transportation, facilities for	220
Rotation of Crops	158	Turkies, how to raise	240
Report, Pennsylvania Horticultural Society	182	Thunder Storms, safety in	323
Raven, ingenious	260	Tobacco, culture of, in Connecticut	342
Reading Room, a humble	308	Tulip	369
Russian Economical Society	445	U. V. W.	
Rhubarb Plant	347	Vegetable Physiology	15
S.		Wheat Sowing	49
Seeds, Manuring and Steeping	18, 41, 58	Water, to make it cold for Summer	56
Sulphate of Ammonia, &c.	22	Waste Manures	57
Sheep, when, where, and how to get a drove	75	Wheat turning into <i>Cheat</i> or <i>Bromus</i>	78
Sheep-nose worms	82, 201	Wheat, Rust, Blight and Mildew of	87
Shell-fish as a manure	88	Wheat, Broadcast and Drilled	105
South Carolina, improvements in	123	Wheat, Alabama	119
Shoe-blackening, receipt to make	160	Wheat, Drilling	143
Shepherd Dog, Sotham's	176	Woodlands, take care of	153
Stock, keep your best	177	Wheat, raising.—Woollen Goods, to wash	162
Shoes, pointed-toed	207	Wheat, Harmon's varieties in N. Y.	169
Sulphuric Acid as a Manure	208	Wheat, Mediterranean	185, 202
Silk	216, 316	Wheat, heavy yield of	216
Shepherd's Dog	252	Wheat, Seed	242
Scientific Agriculture	255	Useful Directions	277
		Wheat Crop	375



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EDITOR AND PROPRIETOR,

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Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Curious discovery of a Guano Island.

To THE EDITOR,—I send you from Liford's Baltimore Commercial Gazette, into which it was copied from Bell's London Messenger, a curious account of the discovery of a *Guano island*, on the coast of Africa.

From the little that I have heard, and that little especially from Commodore T. Ap. Catesby Jones, the *African* is not esteemed so strong a fertilizer, as the *Peruvian Guano*. Commodore Jones brought home, for gratuitous distribution, a small quantity of the latter, and gave me, with a portion of it, a brief memoir on its nature and uses, which shall be published. The Commodore took some to his estate near here, in Fairfax county, Virginia, and took occasion privately, to spread a little of it on some rows of his neighbour's corn. The good farmer soon had his attention attracted by the deeper green colour and more vigor-

ous growth of these rows, and was much "struck up," as Jack Downing said, at this unaccountable difference. This is strange doings, said he, it is marvellous enough. At last the Commodore, after enjoying the joke, unravelled the mystery, as many other mysteries might be, if *one had the key!*

I. S. S.

Washington, D. C., July 8th, 1844.

WE are indebted to the *Glasgow Herald*, for the following interesting account of the discovery of this valuable manure on the coast of Africa. The narrative presents a striking illustration of the enterprise of the British merchant, and which, in this, as in numberless other instances, will doubtless result in a great national benefit.

According to the observations of Captain Farr, of the *Ann*, of Bristol, who had the honour of bringing last year, the first cargo of African guano to Great Britain, the island of Iehaboe—in which the quality is of a superior kind—is situated in 26° 19' of south latitude, and 14° 50' of east longitude, four days' sail north of the Cape of Good Hope, and 14° south of the Portuguese settlement of Benguela. It is a small rocky islet, about two and a half miles from the mainland of Africa, on which, at a distance of half a dozen miles, is a native settlement, and from the inhabitants giving the name of Iehaboe to the island, it has been retained by the same title in our own language. The manner in which the guano treasures on

this coast were opened up to the enterprise of British merchants, is both curious and interesting, and the following recital of it is, we believe, the correct one. An American trader having observed the interest which the importation of Peruvian guano was creating in Britain, was reminded of the circumstance that he had seen large deposits of a similar substance on the coast of Africa, and he published a short narrative of his observations in an American journal. This account fell under the notice of an English captain, who transmitted it to his relatives in Liverpool, and by them an expedition of, we believe, five ships, was fitted out in the close of 1842, for the purpose of being loaded with the African guano for the British market. The instructions, however, which were given to the masters must have been of an imperfect kind, for four of them returned without having succeeded in the object of their search, and the fifth, viz: the *Ann*, was nearly in the same position, when accident revealed the *El Dorado*, which was destined to exert such a potent influence in fertilizing our soil. Captain Farr happened to be at Cape Town, and one morning stepped into a coffee-room for breakfast, and while partaking of his repast, entered into conversation with the master of an American whaler, to whom he explained the regret he felt at being likely to return to England, without being able to fulfil the object of his mission. The American stated that he had been on shore on some islands of the exact description which the other was in quest of; and gave Captain Farr such information as enabled him to find out the island of Ichaboe, and take the first cargo from a deposit which may have been in the course of accumulation from the earliest ages in the world's history. With this cargo he sailed for England, and having put in at a port on the coast of Ireland, in July, 1843, he there found instructions awaiting him, which directed him to proceed to Dumfries, and unload: and he accordingly proceeded to Carsethorn, on the Solway, where the *Ann* was discharged, and the guano carried to Liverpool in lighters. Notwithstanding the secrecy with which these proceedings were managed, some hints respecting them reached the ears of the firm of Alexander & John Downie, of this city, who despatched their manager, Mr. Moncrieff, with the view of obtaining such information as would open the African guano stores more generally to British industry. A negotiation was accordingly begun at Dumfries, and terminated at Bristol, the result of which was that Captain Farr agreed to proceed again to Ichaboe, and at the same

time point out the way to a fleet which was despatched by Messrs. Downie, with sealed instructions, in the autumn of last year. Already several of these ships have arrived in Scotland, while one of them has discharged a cargo in the West Indies, and the matter being no longer a secret, a number of vessels were, at the date of the last advices, loading at Ichaboe for various ports in Great Britain. Guano is also obtained at Angra Pequena, 40 miles south of Ichaboe, but it is not by any means, held in such high favour as the product of the latter. At the time of Captain Farr's first visit, the island was covered with penguins, gannets, &c., but principally the former, in numbers which altogether defied calculation. They seemed to have no acquaintance with, nor fear of man, and in fact, offered a resistance to his encroachment on a domain which had been peculiarly their own for thousands of years. Since the crews of so many ships, however, were located at the island, the birds have almost entirely deserted their former territory, and retired to fulfil the purposes of their nature to more remote and inaccessible shores. The specimens of the penguin from Ichaboe, which we have seen, are about two feet in height, and as a great portion of their time is spent in the sea, they are furnished with small flaps or paddles, instead of wings, which enable them to progress through the water with great velocity, though they are unable to fly. The female lays and sits upon one egg at a time, and a hole scratched in the deposit subserves all the purposes of a nest. In this way a succession of incubations go on for several months in the year, the young bird making its way to the sea as soon as it is able. It is the opinion of the seamen, that vast numbers of them never reach their destined homes in the waters, but are crushed to death in their progress to it, by the dense battalions of birds which have almost to maintain a struggle for bare standing room; and in this way the guano heaps are increased, as well by the bodies of the birds as by their droppings. The bodies of seals are also found on the surface of the guano deposits, which leads to the belief that they may occasionally have taken shelter there from a storm or hurricane, and having been overpowered by the potency of the ammoniacal vapor, have been unable to return to the water, and died where they lay. The guano which is brought to this country, is found under a loose covering of decayed birds, recent dung, &c., and is so firmly imbedded, that it requires to be dug out by the laborious operations of the pick-axe. When thus disengaged it is put into bags, and

transferred by a sort of rope-ladder from the island to a boat, which lies at the outer edge of the surf, and from thence it is daily emptied into the hold of the vessel, which is anchored at a short distance. Ten men will lift about fifteen tons per day, but the operation is a very laborious one, and the sun is so powerful that few of the crews escape without having their faces and hands blistered, so that the outer skin is peeled off. When Captain Farr left Ichaboc, he estimated the guano deposit on that island alone, to extend one thousand feet in length, by five hundred in breadth, with an average depth of thirty-five feet, containing, perhaps, from seven hundred thousand to eight hundred thousand tons. It is evident, therefore, that this supply will soon be exhausted in fertilizing the soil of Great Britain and her dependencies, but it is to be hoped that vast stores of it yet exist, which have hitherto never been disturbed by man. On this subject we quote the following statement from the *South African Commercial Advertiser*, published at Cape Town, in January last:—

“On the rocky headlands, or on the rocky and unmolested islands on the west coast, both within and beyond the boundary of this colony, where the sea-fowl from a vast expanse of open ocean come to breed, enormous masses of this manure have recently been discovered; and it seems probable that all the way up the coast into the Gulf of Guinea, and beyond it, similar treasures await the agriculture of the world, by which means the sea will render back to the land much more matter fitted to form organized, that is, vegetable and animal substances, than the rivers carry down into their depths, or the fleets of the nations deposit in their course over its surface.”—*Bell's Messenger*.

For the Farmers' Cabinet.

Galvanic Experiments on Vegetation.

By WM. ROSS.

TO THE EDITOR,—I have been exceedingly interested in the following paper, which I lately came across in the *New York Farmer and Mechanic*, and cannot help believing it will be well worth its room in the Cabinet. Truly may we ask what are we coming to, and what will be the next achievement in practical science? One day we are astonished by the transmission of messages over a track of fifty or a hundred, or a thousand miles, in the twinkling of an eye, and answers to them returned with the same rapidity—and the next we are gravely assured that the seeds may be

sown, and the crop grown for a salad while we are discussing other parts of a dinner!

At a meeting of the *New York Farmer's Club*, on the 2nd ult., it was stated that the wheat in Dutchess county was sadly injured by “a little yellow worm in the head of the wheat,” which destroys the grain. It was also reported at the Club, that a field near Astoria, “was injured by a fly—not the Hessian—a small one, scarcely discernible, lodged in the capsule of the wheat, and a little yellow worm, the product of the fly.” The crop had been treated with a dressing of poudrette, and had consequently “grown with so much vigor, as in good measure to escape from damage.” It is said further, that a disease similar to that which is threatening to destroy the buttonwood tree, not only in this country, but also on the continent of Europe, and in the Azores, has in some places attacked the white oak, and a suggestion is thrown out, that it may be with the sycamore, as it has been with other trees: it may have seen its day—its race may be about to run out.

The electrical experiments detailed below, in hastening vegetation, are certainly very curious. Y. Z.

SIR,—At your request, I send a concise account of the few experiments I have made on the application of electricity to vegetables. They have been but few in number, although at present they may be more interesting, from the fact that very recent discoveries have rendered the use of this subtle, mysterious agent, more or less advantageous in many of the arts.

My attention was first called to the subject, by reading in some periodical—I believe one of the earlier volumes of the *Gardener's Magazine*—of an experiment said to have been performed at a dinner given by the Marquis of Anglesea, of the following nature: The statement was to the effect, that the seeds of cress—*lapidium sativum*—were sown in a glass vessel at the time the guests sat down to dinner, and that the crop from these seeds was served to them in the salad! The seed was sown in a soil formed of clean sand, mixed with some black oxide of manganese and table salt: the whole was moistened with dilute sulphuric acid, and electricity applied. The manner in which this agent was generated, or used, was not stated; but even without it, we all know that cress seed so treated, will germinate in about three hours, though the seed leaves will not be fully developed in less than five hours after sowing. Cress, when used as salad, is always taken in the seed leaf; and unless we believe that the dinner was pro-

longed on purpose, the application of electricity must have accelerated the growth in a very rapid manner.

Many observing farmers will, no doubt, have noticed that vegetation proceeds more rapidly after a thunder storm than after one which shows no electrical phenomena; and we find, on examining the various formation of the parts of plants, that they are well adapted for the passage of electricity through them, either from the earth or the atmosphere. Witness the points and serratings, as well as the hairs and down on the leaves, all good conductors, and calculated for affording it a silent and easy passage. That this is the case, any one may satisfy himself by a very simple experiment. Charge a leyden jar either by mechanical or chemical electricity—for both are the same, though excited in a different manner—then stick a wire in the ground near a plant, having the upper end pointed; hold the knob of the jar near, but not to touch, the edge of one of the upper leaves, and let the outer coat of the jar be within an inch of the upper point of the wire in the ground. In a few seconds the whole of the charge of the jar will be silently drawn off through the plant, and the outside coating will have received its compensation through the pointed wire from the ground, the equilibrium of the jar being restored without a spark or any other perceptible effort. Were the knob of the jar to touch the leaf, and the outer coating brought within what electricians call the “striking distance,” a spark would pass, which, were the plant of a very juicy nature, as the cucurbita tribe, the shock would burst the vesicles, and the plant would die. A ligneous plant, however, will bear very strong shocks, apparently with impunity; yet, a repetition would, sooner or later, rupture its vessels also.

My first experiment was on some melon plants, in 1842. Only a few plants escaped the fly: through them I passed a shock from a jar containing a coated surface of fifty inches—in short, a pint jar—and the result was, they were all killed the same day. On the afternoon of the same day, I planted some cucumbers, mixed some salt and manganese in the hill, which was moistened with very dilute sulphuric acid, and a shock passed through each hill. On the following afternoon, three out of the four hills, were up, and on the next morning the whole were up, with most of the seed leaves spread open: by the eleventh day, the plants had two rough leaves, and as the day was very warm and dry, I soaked the hills with water very slightly acidulated with sulphuric acid, about one quarter of an ounce to a gallon.

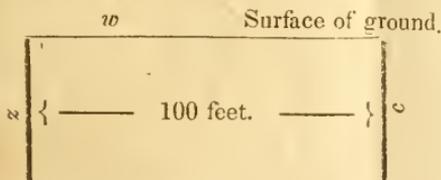
I then gave some plants in *each* hill a shock, leaving only two in each, and to these I gave a silent charge. Those which received the shock all died, while the others continued as thrifty as before, till the 24th day, when I moistened the hills with pure water, as they were then beginning to open their blossoms, passed a silent charge through two hills, and left the others. The first few blossoms were all males; no fruit blossoms appeared, or rather opened, until the 28th day, when the four hills were moistened with acidulated water, and a silent shock passed through one hill only, the others having none. I was at this time from home a few days, and on my return I found two cucumbers on the hill which received the last charge, about five inches long and one and a half in diameter, which were cut and eaten. This was on the 37th day after planting, and the flavour could not be said to be any thing different from that of the same variety—white spine—grown in the usual manner. I found that, during my absence, my boys had taken the other hills under *their* charge, and in the course of their quick and energetic treatment, they were all killed before I returned. I may remark, that the cucumbers did not run much to vine, no runner having extended so far as two and a half feet, which is rather a strong contrast to the result of the same treatment of pumpkins in the following season. I planted five seeds of a new variety of pumpkins among some potatoes in 1843, giving them precisely the same treatment as the cucumbers had the year before, but only gave them two charges—one at sowing, and one when they had two rough leaves: they were then left to themselves, when I have reason to believe one of the plants died, leaving only four, which, from their luxuriant growth, entirely covered the square in the garden, 57 feet long and 30 feet wide, in which they were planted: besides, every day or two, some runners crossing the walks had to be cut off. With all this luxuriance, *not a blossom was seen on them the whole season*; and I may also remark, that under their shelter the grubs had destroyed the potatoes, which were not worth digging, as nothing but thin shells of the outside were left.

I also last season, 1843, made some experiments with dahlias; but before the silent charge would pass freely through them, it was found necessary to water the plant all over, if the day had been very dry and hot. I will mention one in particular. On the 10th of September, I took off a cutting about a foot long, planted and shaded it till it struck; on the evening of the 15th it

received a silent charge, and on the 23rd was nearly three feet high. On that evening it received another charge, and was, on the first of October, almost six feet high, when it received another charge. Its growth was now rapid, owing, perhaps, to several thunder showers between that and the last week of the fair of the American Institute, when it was taken to Niblo's. Its height, including the root which was dug with it, was 11 feet 8 inches, while its diameter at the ground was under five-eighths of an inch. There were then two blossoms upon it, with several blossom buds: the blossoms were small, not quite two-thirds the size of those on the plant from which it was taken.

As I have explained at length these several experiments, and also the mode of giving the shock, I shall now only mention one other experiment of last year on the egg plant—*solanum melongena*. On the evening of the 3rd of June, I sowed some seeds of egg plant in a glass cup, with the same mixture as used before in the cucumber hills, and passed two smart shocks through it. In the morning most of the seeds had germinated, and were, in the afternoon, put in the open ground. During their growth, they received three charges, and the fruit was presented at the late fair. As to their size, they were not the *largest* there, but they were larger than any I saw in my own neighbourhood, and also larger than any I had ever before raised from plants forwarded in a hot-bed with much trouble and care in the spring.

This season my only experiment, as yet, has been with potatoes, and the electricity used is generated by different means from the others, which, until the discovery of Mr. Bain, was not adapted for the practical farmer. Now it is at once the most *economical, efficient, and simple to apply*, as may be seen by the following experiment: I had potatoes planted on the 6th of May, and as a first experiment with Mr. Bain's discovery, I procured a sheet of sheathing copper, which is about 5 feet long and 14 inches wide, and cut a piece of sheet zinc the same size as the sheet of copper.



c, in the above diagram, represents the sheet of copper buried in the ground at one end of

the rows, and z the sheet of zinc buried at the other end of the rows, and w is a copper wire, which is attached to both the copper and zinc. The result of this arrangement is, that the two metals form a galvanic battery, being in metallic connexion by means of the wire w, and the moisture of the soil completing the galvanic circuit, which last is necessary, before any chemical action takes place. The potatoes were planted in drills, but as the copper was only five feet long, only three rows could be influenced by it. The potatoes were only once hoed, and from circumstances never earthed up. On the 15th of June, some potatoes were taken by the fingers from these rows, varying from one inch to one and a quarter in diameter; and those exhibited at the N. Y. Farmers' Club, July 2nd, were about two and a half inches in diameter, and were dug from the same three rows. Some of the adjoining rows were tried, but few of them had potatoes larger than marrowfat peas—certainly none larger than a boy's marble.

These experiments can only be taken as isolated facts: no more general conclusion can be drawn from them than that electricity accelerates the growth of plants. This has been observed by many of atmospherical electricity—but it has yet to be determined how, artificially excited, electricity can be made as available to the farmer as it now is to the electro-metallurgist, in reducing metals from their ores, or in gilding and plating, or even copying the most delicate engravings.

On a future occasion I may show how a battery may be put in action by the farmer without any other expense than that for the materials; all which, except the zinc, will last for an indefinite period, as there is no action whatever on the copper while a current is passing.—*N. York Farmer and Mechanic.*

Death of J. C. Loudon.

On the 14th of December, 1843, died, at his house at Bayswater, John Claudius Loudon, Esq., who for nearly half a century, has been before the public as a writer of numerous useful and popular works on Gardening, Agriculture, and Architecture.

Mr. Loudon's father was a farmer, residing in the neighbourhood of Edinburgh, where he was very highly respected; but Mr. Loudon was born on April 8th, 1783, at Cambuslang, in Lanarkshire, where his mother's only sister resided, herself the mother of the Rev. Dr. Claudius Buchanan, afterwards celebrated for his philanthropic labours in India. Dr. Buchanan was several years older than Mr. Loudon, but there was a

singular coincidence in many points of their history. The two sisters were, in both cases, left widows at an early age, with large families, which were brought up by the exertions of the eldest sons; and both mothers had the happiness of seeing their eldest sons become celebrated. Mr. Loudon was brought up as a landscape gardener, and began to practice in 1803, when he came to England, with numerous letters of introduction to some of the first landed proprietors in the kingdom. He afterwards took a large farm in Oxfordshire, where he resided in 1809. In the years 1813-14-15, he made the tour of Northern Europe, traversing Sweden, Russia, Poland and Austria; in 1819, he travelled through Italy; and in 1828, through France and Germany.

Mr. Loudon's career as an author, began in 1803, when he was only twenty years old, and continued with very little interruption during the space of forty years, being only concluded by his death. The first works he published were the following:—*Observations on Laying out Public Squares*, in 1803, and on *Plantations*, in 1804; a *Treatise on Hot-houses*, in 1805, and on *Country Residences*, in 1806, both quarto; *Hints on the Formation of Gardens*, in 1812; and three works on *Hot-houses*, in 1817 and 1818. In 1822, appeared the first edition of the *Encyclopædia of Gardening*, a work remarkable for the immense mass of useful matter which it contained, and for the then unusual circumstance of a great quantity of wood-cuts being mingled with the text. This book obtained an extraordinary sale, and fully established his fame as an author. Soon after was published an anonymous work, written either partly, or entirely by Mr. Loudon, called the *Greenhouse Companion*; and shortly afterwards, *Observations on Laying-out Farms*, in folio, with his name. In 1824, a second edition of the *Encyclopædia of Gardening*, was published, with very great alterations and improvements; and the following year appeared the first edition of the *Encyclopædia of Agriculture*. In 1826, the *Gardeners' Magazine* was commenced, being the first periodical ever devoted exclusively to horticultural subjects. The *Magazine of Natural History*, also the first of its kind, was begun in 1828. Mr. Loudon was now occupied in the preparation of the *Encyclopædia of Plants*, which was published early in 1829, and was speedily followed by the *Hortus Britannicus*. In 1830, a second and nearly rewritten edition of the *Encyclopædia of Agriculture* was published, and this was followed by an entirely rewritten edition of the *Encyclopædia of Gardening*,

in 1831; and the *Encyclopædia of Cottage, Farm, and Villa Architecture*, the first he published on his own account, in 1832. This last work was one of the most successful, because it was one of the most useful he ever wrote, and it is likely long to continue a standard book on the subjects of which it treats.

Mr. Loudon now began to prepare his great and ruinous work, the *Arboretum Britannicum*,* the anxieties attendant on which were, undoubtedly, the primary cause of that decay of constitution, which terminated in his death. This work was not, however, completed till 1838, and in the mean time he began the *Architectural Magazine*, the first periodical devoted exclusively to architecture. The labour he underwent at this time was almost incredible. He had four periodicals, viz: the *Gardeners' Natural History*, and *Architectural Magazines*, and the *Arboretum Britannicum*, which was published in monthly numbers, going on at the same time; and to produce these at the proper times, he literally worked night and day. Immediately on the conclusion of the *Arboretum Britannicum*, he began the *Suburban Gardener*, which was also published in 1838, as was the *Hortus Lignosus Londinensis*; and in 1839, appeared his edition of *Repton's Landscape Gardening*. In 1840, he accepted the editorship of the *Gardeners' Gazette*, which he retained till November, 1841; and in 1842, he published his *Encyclopædia of Trees and Shrubs*. In the same year he completed his *Suburban Horticulturist*, and finally, in 1843, he published his work on *Cemeteries*, the last separate work he ever wrote. In this list, many minor productions of Mr. Loudon's pen have necessarily been omitted; but it may be mentioned that he contributed to the *Encyclopædia Britannica* and *Brande's Dictionary of Science*; and that he published numerous supplements from time to time, to his various works.

No man, perhaps, has ever written so much under such adverse circumstances, as Mr. Loudon. Many years ago, when he came first to England, in 1803, he had a severe attack of inflammatory rheumatism, which disabled him for two years, and ended in an anchylosed knee and a contracted left arm. In the year 1820, whilst compiling the *Encyclopædia of Gardening*, he had another severe attack of rheumatism; and the following year, being recommended to go to Brighton, to get shampooed in Mahomed's Baths, his right arm was there broken

* This work was published on J. C. Loudon's own account, at an expense of more than £10,000.—Ed.

near the shoulder, and it never properly united. Notwithstanding this, he continued to write with his right hand till 1825, when his arm was broken a second time, and he was then obliged to have it amputated; but not before a general breaking up of the frame had commenced, and the thumb and two fingers of the left hand had been rendered useless. He afterwards suffered frequently from ill health, till his constitution was finally undermined by the anxiety attending on that most costly and laborious of all his works, the *Arboretum Britannicum*, which has unfortunately not yet paid itself. He died at last of disease of the lungs, after suffering severely about three months; and he retained all the clearness and energy of his mind to the last.

His labours as a landscape-gardener, are too numerous to be detailed here; but that which he always considered as the most important, was the laying out of the Arboretum, so nobly presented by Joseph Strutt, Esq., to the town of Derby.

Never, perhaps, did any man possess more energy and determination than Mr. Loudon; whatever he began he pursued with enthusiasm, and carried out, notwithstanding obstacles that would have discouraged any ordinary person. He was a warm friend, and most kind and affectionate in all his relations of son, husband, father and brother; and he never hesitated to sacrifice pecuniary considerations to what he considered his duty. That he was always most anxious to promote the welfare of gardeners, the volumes of this Magazine bear ample witness; and he laboured not only to improve their professional knowledge, and to increase their temporal comforts, but to raise their moral and intellectual character.—*From the Gardeners' Magazine.*

For the Farmers' Cabinet.

Vegetable Physiology.

I HAVE brought together from an article in *Paxton's Magazine of Botany*, a few paragraphs which have been to me particularly interesting, and I would have forwarded the whole, had it not only been, as I apprehend, rather too much extended for the Cabinet, but also too thoroughly scientific in its character for a work, which I suppose is meant to be practical, and common-place in its bearings. There are ten thousand of the commonest things around us, calculated to awaken inquiry, and to convince us, that after all our efforts, we can but tread upon the threshold of nature's grand laboratory of secrets. Yet to the active and inquisi-

tive, it is ever delightful to approach as near as we may, and lift the veil, looking underneath for those "causes of things" which Lord Bacon says, are certainly revealed to none but such as seek assiduously for them. How beautiful is the progress, and how wonderful, from the first germ to the root, and the stem, and the leaf, and the flower and the fruit—we every day witness their developements, and pass them by, as things so common, that we almost forget to inquire into the economy which so easily brings about results, in themselves so abundantly worthy of admiration. But I did not mean to read a lecture of my own, but to give the extracts from Paxton.

"The utmost extent to which our investigations enable us to attain, is very remote from knowledge. Can it then be deemed surprising, that very few professional gardeners are acquainted with the structure of the plants they cultivate? When the time of any person is almost entirely occupied in works of manual labour, how is it possible that he shall be able to bend his mind to severe investigation of a dark and mysterious subject! And such is Vegetable Physiology.

"The root, *radix*, is the organ of nourishment, that by which a plant is attached to the soil, and absorbs the crude sap. It, in general, appears to be the first development of vegetable vitality, since the *radicle* is protruded from a seed into the ground, before the stem ascends. A beautiful example of this is furnished by a fresh fallen acorn being suspended in a hyacinth glass, just above the surface of the water, with which the glass is to be previously three parts filled.

"If cuttings of any free rooting plant, as of the horse-shoe geranium, be inserted in a phial of water, and kept at a heat of 60°, it will be seen that a ring of the substance called *callus*, is gradually formed between the bark and the wood, portions of which become granular, prominent, and acquire length. These protrusions are roots, and with them the cutting becomes a plant; hence we infer that the root is the first vitalised production of vegetable germs, and though a cutting be a portion of secondary development, it is only a mutilation, and nothing better, till some vitalised pre-organised germs be brought into action in the form of roots.

"The reader will perceive by the above attempted definition, how much the mind labours in its endeavour to explain phenomena which are hidden in mystery! what children we are! talking of knowledge, and yet displaying our utter ignorance of causes

and first principles! still we know enough with reverence to admire.

"We know nothing of the *vital principle*—it may be a *fiat*—partaking of the nature of the breath of life;—it may be sentient, conferring on a plant, however low in its degree, some trace of feeling and volition; or it may be electro-magnetic, acting altogether through the instrumentality of attraction and conduction. We lean to this last opinion, because we perceive in every act of nutrition, some phenomena of chemical decomposition; but setting aside these considerations, it is quite certain, and will be self-evident to the philosopher who inquires aright, that every part of a tree or plant, and all its productions, *when deprived of life*, are subject to chemical laws, and can be explained by them, and them alone.

"By the application of proper tests, we discover the elements into which all vegetable matters, organic and inorganic, can be resolved. We learn that by analysis of the insoluble ashes, left after the combustion of plants of all kinds, we may arrive at a tolerably correct knowledge of the proper manure which any individual plant demands for its peculiar aliment.

"The science of manuring, we admit, is in its infancy; yet its dawning has become manifest, researches have commenced, and the mind of man has begun to appreciate the powers with which it is gifted."

It has been remarked that "Literature has its curiosities, and Art its museums of singular antique productions;"—but, let me ask, can the artist, or scholar, find among his treasures an ampler field for the employment of his highest powers, than the farmer who quietly walks forth among the simplest specimens of vegetable life? S. S.

Delaware co., Pa.

A New Grain Fork.

At a farm near Buffalo, we saw a new grain-fork, the best adapted for pitching sheaves of grain, of anything of the kind we ever before noticed.

Its construction is perfectly simple, and it can be made by any skillful blacksmith accustomed to forge pitchforks. It consists of two tines, nine inches long, which are spread two inches at the shank, and two and a half at the ends. The shank has a sudden curve at the end, of about two inches, so as to bring the points of the fork nearly in a line with the direction of the handle and shank. The naked part of the shank is eight inches long, one inch wide, by one-third of an inch thick, and enters the handle, which has a

ferule on the end of five inches, secured to the shank by a strong rivet. The tines and shank are made of the best of German steel, and possess great elasticity, which very much lessens the labour of pitching. The handle may be of any desired length, but should possess as much elasticity as possible. Mr. A. Raynor informed us, he could easily throw a sheaf of wheat over his barn from the load, and that he never pitched so easily with any instrument as this. The sheaf leaves the tines with an elastic spring, and the fork at the same time utters a musical sound, like the tuning fork, when struck by a music master.—*American Agriculturist*.

From the British American Cultivator.

The Farmer's Harvest Song.

Ho! rouse ye lads—the morning breeze
Has swept the mist from the stream,
And afar on the hills the towering trees
Are tipt with the day's first beam;
The stars are gone—the night has sped,
And the lark has hailed the day;
Arouse ye, then, while the morn is red—
Away to the field, away!

To us no music sounds more sweet
Than the sharpening clank of the scythe;
And echoing hills with gladness greet
The song of the reaper blythe.
How pleasant to follow, with rake in hand,
The mower's devious way,
And scatter abroad with lightsome wand,
The green and perfumed hay.

Let the soldier exult in the pomp of war,
The king in his serf-thronged hall;
The free-born farmer is happier far
Than kings, and lords, and all.
His are no fields with carnage red,
And drenched with the blood of the slain;
But hills and vales o'er which is spread
A harvest of waving grain.

The summer sun, o'er valley and plain,
Has shed his genial ray,
'Till smiling acres of golden grain
Await the harvest day;
And into their borders we will not fail
To carry the war to the knife,
And eager, too, are the cradle and flail
To be wielded in bloodless strife.

Then up and away, while the diamond dew
Bespangles the bending corn;
And gayly we labour, the while we woo
The bracing breath of morn,
And under the shade of the beeches green
We'll rest at noon of day;
Hurrah! for the sickle and scythe so keen!
Away to the field—away!

From the Cultivator.

Bees.

I SUPPOSED until lately, that when bees swarmed there was but one queen bee came out with the swarm. But recent experience and observation have convinced me otherwise. I find that not only two or three queens come out, but sometimes as many as five or six leave the hive at the same time.

On the 25th of May, between 11 and 12 o'clock, I had a hive of bees which commenced swarming. They flew some 30 or 40 yards, and began to settle on the limb of a peach tree, about 10 feet from the ground.

Before they had half settled, another hive, standing 10 or 12 feet from the other, commenced swarming; and before these had all come out, another hive standing three or four feet from the one last mentioned, commenced swarming. They all followed in the same train of the first swarm.

I got a hive and began to take down the first that had settled, with a basket that I use as a hiver. The other kept settling in the same place, and as I could make no distinction between swarms, I continued taking down, until I had taken them all down and put them into a large square hive. They remained quiet during the afternoon, but did not all incline to go into the hive; a quart or two remained outside. At night I carried them to the place where I intended they should stand. The next morning before sunrise I made them a visit, and found nearly all in the hive. A little distance from the mouth of the hive I found a dead queen. I raised the hive, and saw another dead queen on the bottom board. I took them both away. About two hours after, I found two more dead queens drawn out of the hive. A few bees were flying about, as I have frequently seen them when they have lost their queen, but the main body of the bees were quiet. About 12 o'clock there appeared to be a good deal of commotion among them. I went to my dinner; was gone about half an hour. On my return, I found the hive *empty*, except a few scattering bees. On the bottom board lay another dead queen which made *five* that I had found dead. I looked around to see if I could find any trace of the absconded bees. About 20 or 25 yards from the hive, I found a swarm of bees settled on a peach tree, which I supposed to be a part of those that had left the hive. There could not have been more than one third, or one half at the farthest, of what I had put into the hive the day before. What had become of the others I could not tell. I went for a hive, but be-

fore I got one ready they all took their wings and went to the woods. I would here remark that the first hive that commenced swarming the day before had swarmed *three* times this season before, and each time had returned to the old hive, of their own accord. The second time I knew a queen came out, for I found her in the grass, and lifted her up, and she arose into the air. Whether she got lost, or returned to the old hive with the bees I could not tell. On the next day (May 27,) the same hive that first commenced swarming on the 25th, swarmed again. I was present when they came out. Seeing a number of bees on the grass near the hive, I looked for the queen. I soon found *one*, and took her prisoner, as I was determined to put the bees back into the old hive. The bees flew a short distance and settled on the limb of a tree about 12 feet high. I got my hiver and took them down. I had the curiosity to examine them and see if there was another queen, and to my surprise I found *three* more, all of which I made prisoners. I then let the bees go back into the old hive. The next day (May 28,) I was informed that a swarm of bees had come out and settled on a tree in the yard. I did not see them till they were all settled; of course I could not tell what hive they came out of. I got my hiver and took them down. I soon found one queen; cropped one wing to prevent her from flying away, and put her into a hive. On further examination I found another, which I took away and killed. I put the bees into the hive, and set it where I intended it should stand. During the afternoon I passed the hive several times. At one time I discovered a queen outside of the hive which had *not* her wing cropped. She had hid herself in the bees, and I had overlooked her. I took her prisoner. The next day the bees came out of the hive and went directly to the woods. I then ascertained for a certainty that *five* queens had been killed, including what I had killed myself. And allowing *one* to go off with the swarm, there must have been at least six queens when they first swarmed.

On the 30th, the hive where I put the bees back on the 27th, (after destroying four queens,) swarmed again. I examined them, and found two queens. One I killed—I cropped one wing of the other and put her into a hive with the bees; I thought there was no use in putting them back again into the old hive, they appearing determined on swarming, and would multiply queens as fast as they wanted them.

JACOB HITCHCOCK.

Dwight Mission, C. N.,
June 8, 1844.

On the Manuring and Steeping of Seeds.

By JAMES F. W. JOHNSTON, F.R.S.S.L. & E.,
Hon. Member of the Royal Agricultural Society of England.

IN our last number an article was given in relation to soaking seeds in chemical solutions, with a promise to recur to the matter again. We acknowledge considerable interest in this subject, without however feeling prepared to subscribe to all the sanguine expectations of the German writers. Many experiments have been tried in this country which have resulted in tolerable success, showing plainly, that it is worth while for the farmer to look into them. To raise large crops cheaply, is the grand object in profitable farming; and it would be a great practical error to conclude that all is known, which is likely to promote this desirable end. After knowing what is said, the enterprising farmer will adopt the measures most likely to lead, as he may believe, to the furtherance of his interests.—Ed.

PUBLIC attention has lately been drawn in this country, to the possibility of so manuring or otherwise doctoring the seeds of our usual grain crops, before they are put into the ground, as to do away with the necessity of manuring the soil itself. It has been long known to practical farmers that, by steeping their seeds in urine, in salt and water, or in other solutions, and sprinkling them while wet with quicklime, their growth is in many cases promoted, and the rust, smut, and similar diseases, in a great degree prevented. It has been observed also in regard to potatoes, that in some soils a dusting of lime makes the cuttings more productive than they would otherwise be, and that, when powdered with gypsum, they thrive still better. The absolute effect indeed of all such applications to the seed-corn or to potatoes, will in every case be modified by the kind of soil in which the seed is sown. If the soil abound in common salt, the salting of the seed will be less efficacious, while if it be rich in lime or in gypsum, the dusting of the potatoes with these substances will produce a less striking effect. Yet the above observations of practical men, show that it is possible in certain circumstances, and by the use of certain substances, so to doctor or manure the seed we intend to sow, as to make the growth of our crop more sure, and the return of our harvests more abundant.

From this *limited* conclusion, which is justified by experience, some persons have hastily leaped to the *general* assertion, that *all seeds may be so doctored as, in all circumstances, to grow more luxuriantly*—and still farther, that *they may be so treated as to render unnecessary any manuring of the soil in which they are to be sown.*

It is in Germany that this latter broad assertion has been most confidently made and most pertinaciously repeated. It has met with some credence also among ourselves, from persons chiefly, who, like the German fathers of the statement, know a little more than the generality of practical men, but who do not know enough to enable them to see the difficulties that beset their own views, nor the limits within which their statements are true.

It will, no, doubt, interest the British farmer, to read the statements of those who bring forward these novel views, and to consider the degree of probability which exists as to their expectations being realized.

The great discoverer in this new line is Franz Heinrich Bickes, of Castel, near Mayence, who has published a pamphlet under the title of an "*Account of the Discovery of a Method of Cultivating the Soil without Manure*," in which he thus speaks: "The discovery—of cultivating the soil without manure—has been carefully verified in different countries, and in the most dissimilar soils.

"It is twelve years since the discovery was made, and it has, during this time, been more and more tested.

"The experiments have been made at various seasons of the year, and the same crop has been repeated on the same soil without regard to the usual rotation of crops.

"The cost is very trifling—a shilling or two an acre—and the supply of the substances used instead of manure, is inexhaustible."

He then expatiates on the importance of his own discovery.

"It is not good," says Plato, "to push our investigations too far; the natural sciences find their limits, beyond which the mantle of Isis covers what is mysterious. Can any one reveal the nature of force, of life, and of motion? *The mantle of Isis is now, by this discovery, at length removed.*

"It is not the discovery of a mere crude substitute for manure, but the result rests on a knowledge of the nature of plants, by which the vital power is increased in all respects, and their existence elevated and ennobled!"

Here follow some of the results of his new method.

"Who can assign limits to the growth of a plant?"

"I possess dried plants of wheat, consisting of fifty-six and fifty-seven stalks. Indian

corn, grown in a poor soil, with three or four stems and eight or nine heads. Sunflowers eleven feet high, with flower disks fourteen inches in diameter, and seeds as large as small coffee beans. Potatoes above seven feet high, and tubers in proportion.

"Varinas and Havanna tobacco have, for eight years, preserved the well-known flavour of their native country.

"Drift sands have produced crops equal in quality to the neighbouring loams.

"All parts of the plants, stems, roots, leaves, seeds, fruits, have been equally improved—the tubers of potatoes, and other roots, are tenderer and more agreeable to the taste. Turnips and fruits more abundant in sugar, flowers of brighter hues and higher perfume.

"Agriculture can now be prosecuted after an entirely new method. Manured every year almost without cost, plants will develop themselves almost spontaneously, and yield the largest returns.

"A rotation of crops is a mere beggary from the soil! Every third, fourth, or fifth year, the farmer manures a third, a fourth, or a fifth of his whole farm, and in return he has the pleasure of seeing his fields green without putting much into his pocket—while now the most profitable crops may be raised with a luxuriance hitherto unknown."

The author here calculates the present cost of manuring the soil, and supposing the new method to cost only one-fifth, shows how many millions the adoption of it would annually save to every nation in Europe. He then adds—"Consider how much land in every country at present yields little or nothing, and yet might be brought into the greatest fertility, and how many happy people might enjoy life upon it who are at present a burden to the state. . . .

"Look to England. What fearful want now exists in that country, the resources of which are every year diminishing. Men daily die of hunger, and the most talented statesmen are without hope of mitigating the evil. For several years past the city of London has been paying 24,000,000 of florins of poor's rate, while the whole of Germany pays only 60,000,000.

"Berlin pays annually 420,000 florins, and 40,000 souls are tax-free. All these could find, in the neighbourhood, land susceptible of cultivation, on which they could not only live, but from which they could pay taxes to the state." . . .

"Potatoes are vegetable bread; Indian corn also is a wholesome nourishment; both grow beautifully on the lightest drift sand: with the former the whole sea-shore might be covered."

The practical farmer will justly consider that Bickes' mode of treating his seed potatoes must be something wonderful, to make them grow well on the sandy downs that line so much of our coasts. But he proceeds to give testimonials as to the efficacy of his method and the truth of his statements. These testimonials are from practical men in various parts of Germany, and must be deserving of credit to a certain extent. It will be proper, therefore, to hear what they say. The first two are dated Vienna, 1829, and are signed by four persons; they refer to seed sown in the imperial gardens. From the second of them I quote the following:—"In general, the plants from the prepared seeds exhibited a very much stronger growth, were of a deeper green, had thicker stems, finer and fresher leaves, larger grain, and the grain was thinner skinned, and therefore contained more meal. In particular,

"1°. The hemp was of a much larger size, and had many side shoots bearing seed.

"2°. The Indian corn had more heads.

"3°. The buckwheat was upwards of three feet high, and full of seed.

"4°. Wheat, rye, barley, and oats are thicker, and have more numerous stems, larger ears, and more grains in each.

"5°. The Lucerne was beyond all comparison stronger, had more shoots, and its roots were as thick again.

"6°. The disks of the sunflower were doubled in diameter, the cabbage had larger heads, the cucumber large fruit, while the unprepared seed yielded nothing."

I quote further what must be considered as a mere opinion, adopted in part, no doubt, from the sanguine Mr. Bickes himself:—"Since this highly beneficial discovery renders all manure unnecessary, and can be applied to the poorest soils without the necessity of having a previous stock of cattle to produce manure—which, from want of fodder, is in many places impracticable—as the material is of little cost, and as the corn crops will require less seed, its benefit to agriculture must in many respects be incalculable."

The next two testimonials are dated from Offenbach, in August, 1830, and are signed by five persons. Three of these had allowed their seed to be prepared by Mr. Bickes, and thus speak of the effects when sown upon their own fields:—"The prepared wheat had from ten to fifteen stalks from each grain of seed, and the ears and grain were larger. The rye had nearly one half more, and larger grains in the row. The two-rowed barley had from eight to fifteen stalks from a single seed; generally the produce was greater than on the best fields of their

farms. The prepared flax was one half heavier in stems and seed capsules, and the latter were double in number; and when the unprepared had already become yellow, the prepared was still of the deepest green. But the potatoes excelled everything yet known in the most productive fields. From a single potatoe there were seldom less than ten, and sometimes seventeen strong stems, while, in the best fields, there are seldom more than one-third of this number."

All other plants, clover, beans, turnips, &c., are said to have been equally benefited. One-fourth only of the usual quantity of seed—of wheat and rye—was sown on a poor unproductive clay, and yet the produce was greater than on the newest land of good quality, though aided by manure.

Two testimonials follow, dated September, 1831, signed by burgomasters, town-councillors, gardeners, schoolmasters, farmers, and land-valuers, seventeen in number. The following is an extract from the one which relates to experiments made in a garden at Büdingen:—

"1°. Several sunflowers had a height of ten to eleven feet, the foot of the stems being eight and a half and nine inches in thickness. The stems consisted of firm wood, and contained as much combustible material as young fir trees of eight or ten years of age.

"2°. Ten or twelve potatoe plants gave on an average thirty large potatoes each, and had stems seven feet in height.

"3°. Fifteen stalks of Indian corn had on an average five heads each, some having as many as eight or nine heads to a single plant."

The next experiments quoted by the author, were made at Amsterdam, in 1834:—

"The buckwheat was four and a half to five feet high, the flax had four to five stems from each seed, the Indian corn was nine to ten feet in height, and had four to five heads from each seed. The white clover was as large in the leaves and stems as the red clover usually is; the red clover and Lucerne three feet high.

"These results were obtained from the prepared seeds alone, without manure, on a depth of six or eight inches of the drift sands of the downs, arranged in beds for the purpose of the experiments."

Between 1834 and 1839, nothing is recorded regarding the progress of the author's discovery or researches, and he leaves us to infer that, in this interval, nothing had been done—since, under the date of September, 1839, he inserts only an extract from a Mayence newspaper, containing a statement of some of the results obtained in

the former years. To this is subjoined one other testimonial, dated November, 1841, declaring that his potatoes, sown on unmanured soil, were superior to any others in the neighbourhood of Castel, where M. Bickes resides.

I think the conclusion which is fairly to be drawn from a careful perusal of this pamphlet is, that, for a few successive years, the author had made experiments upon the preparing of seeds, and out of a number of less successful, had obtained some very interesting and striking results; that he had then laid the matter aside for about as many years more, and again, in 1841, made a solitary experiment or two, which he has incorporated with his previous results in his pamphlet of 1843. For twelve years, therefore, he has been more or less occupied with the subject, but during all that time he has never published or given any account of his process for preparing the seeds according to his method. He is one of that class of discoverers who wish to sell their secrets, and, by magnifying their importance, hope to derive a larger profit from divulging them. With such men the true friends of agriculture can have no sympathy.

I do not think, however, that his pretensions are wholly unfounded, or that, by a skilful study of the preparation of seeds, much good may not hereafter be derived by practical agriculture. The reasons for this opinion will appear in the sequel.

(To be concluded in next No.)

For the Farmers' Cabinet.

Variety of Colours.

TO THE EDITOR,—Among the many beautiful and wonderful objects which we are accustomed to gaze upon, almost without taking note of them, as we walk forth upon this wide world of ours, the great variety of colours which we witness in things around us, is not one of the least delightful. We pass through the garden, and though it may be in humblest style—for nature works just as delicately for the peasant, as for the prince—we behold "flowers of all hue," from the deepest and most gaudily coloured, to the *snow white*, which we are told, shows the absence of all colours. The eye luxuriates over the rich paintings which spring up in all directions, the delicacy of whose touches, Solomon could not rival, in all his glory. We pass through the corn-field, and once in a while observe that nature has played one of her pranks, by stepping apparently out of her usual track, and producing a stalk which shows some striped leaves

different from all else in view—we witness the difference of colour in the foliage of different trees and grasses—and we look again at the birds which sing to us, or at those which prowl upon our labours, or at those which are domesticated in our yards, and cannot avoid the question—how happens all this beauty and variety, and richness of colouring? And when the philosopher steps forward and undertakes to explain it all, we really find he does not know much more about it than ourselves. True, he may by a beautiful process decompose a ray of light, and talk to us very learnedly about it, but I have yet to meet the man, who could give any other reason why the “Rose is red, and the Violet blue,” than that it is their respective natures to be so.

In Maund’s Botanic Garden for November last, I find the following remarks in relation to this subject; if they are considered worth their room, please give them a column in the Cabinet. S. P.

“In reference to the consideration of colours, we have usually found that the black soil of old gardens, rarely affords flowers with colour either so deep or bright as fresh earth of redder tint. The rich deep-coloured wall flowers, sometimes called bleeding hearts, growing against a country cottage, may have met the admiration of many of our readers; and some may have proved that by transplanting them into town gardens, of black earth, they have become comparatively pale and ordinary coloured. This, it is possible, since acids heighten the tint of many yellows and reds, may arise from the deficiency of oxide of iron in such soils. Liebig says, however, ‘It must be ammonia—an alkali—which forms the red and blue colouring matters of flowers.’

“On no subject is human knowledge more defective, than that of the production, and changes, of colours. Several theories have been promulgated in different ages, but still none that has been generally accepted. Although astonishing advances in science have lately been made, still our knowledge on this head, may well keep us humble minded.

“A few facts, proved by Dr. Lewis, may interest our readers more than speculation. Yellow flowers, unlike all others, communicate to water or to spirit of wine, durable yellow colours, not alterable, but in degree, by acids or by alkalies; the former only rendering them paler; and the latter rendering them deeper. Wool or silk, impregnated with a solution of alum or tartar, receives, on being boiled with the watery infusion or decoction, a durable yellow dye. A durable yellow lake is prepared, by precipitating

with alum, an infusion of yellow flowers made in an alkaline ley. In some of the orange coloured flowers, the yellow matter seems to be of the same kind as that of the pure yellow flower; but the red matter seems to be different from that of the pure red flowers. The yellow matter is extracted from these flowers by water; and the remaining red matter is extracted by spirit of wine, or by a weak solution of a fixed alkali, in water.”

Prevention of Potatoe Failure.

BY MR. JAMES CAIRD, BALDOON, WIGTON.

WITH the remarks in the last and preceding Quarterly Agricultural Reports, on the failure of the potatoe crop, I quite agree, and have experienced the propriety of the advice to plant unripened seed. My seed potatoes last year (1842) were raised before they were perfectly ripe, and I have had no failure. Nearly all the seed I planted this year, however, was the small unsaleable tubers planted whole, rejecting the very smallest. The crop was very healthy and productive. Indeed I have never seen a failure where small potatoes uncut, are used for seed; and I believe this uniform success to arise from the *small* potatoe being unripe when taken from the ground. This opinion rests on the assumption that all the *small* potatoes of a crop have not reached maturity when the rest of the crop is ripe, as being the last formed. If this be so, it strengthens the common opinion, that the less ripened potatoe of the upland districts makes the best seed. But at the same time we see how good seed may be had without the trouble or expense of a change from a late district, if we either plant the small potatoes of our own crops, or raise a portion for seed before they have reached maturity.—*Journal of Agriculture.*

COTTON.—Of the four great divisions of the globe, Europe was the last to receive the cotton manufacture, and England was among the last to engage in that branch of industry. So immense is the extent of the British cotton manufacture at this time, (1838,) that the yarn spun in a year would, in a single thread, pass around the globe’s circumference 203,775 times; it would reach 51 times from the earth to the sun; and it would encircle the earth’s orbit eight and a half times. The wrought fabrics of cotton exported in one year, would form a girdle for the globe, passing eleven times round the equator.—*Seabrook’s Memoirs on the Cotton Plant.*

From the N. Y. Farmer and Mechanic.

Sulphate of Ammonia, Sulphate of Soda and Nitrate of Soda.

THESE are very useful preparations and essential materials for manures; they may be used separately or collectively, and but a few experiments are required to detect the great advantages which they are respectively exercising. The *Sulphate of Ammonia* is according to the subscriber's ideas, best employed in a liquid state, say two to three lbs. for a barrel of water, and by sprinkling over the ground morning and evening, the effect is visible within three days, and Mr. Gilbert, of Jersey City, has made the same observation with his cauliflowers; mushroom may readily be raised in a week; there is no doubt but the advantages in using these very preparations are twofold. 1st. In planting corn, you make the grain sprout quickly, and the grub-worm, which is the greatest enemy to the farmer, has little time to attack the planted seed, which at once begins to sprout. 2nd. The plant certainly produces an early crop in every instance, and in a pecuniary respect it is of much service. The *Sulphate of Soda* may be used in a liquid state, but I prefer it in lumps mixed up with dung or horse manure, as it will then gradually decompose and form with the ammonia devolved from the dung the various production of salts; it is invaluable for an early potatoe crop. The *Nitrate of Soda* is by itself too powerful to use, and may well be mixed with the Sulphate in proportion of one lb. of the first to four lb. of the latter.

All the three salts may be used in solution or in a dry state, and will prove very efficient, say:

- 2 lbs. Nitrate of Soda,
- 3 lbs. Sulphate of Ammonia,
- 5 lbs. Sulphate of Soda,

All mixed up and dissolved in one hoghead of water, if intended for artificial guano; to the above composition one bushel of bone dust may be added, and it will be found to be highly useful.

The subscriber is now preparing synthetically the guano as by the analyses of Dr. Charles T. Jackson, of Boston, and will be able to furnish it at five cents per lbs.

The price of Sulphate of Soda is half a cent per lb. by the barrel, of about 200 lb.

The price of Nitrate of Soda is five cents, and the price of Sulphate of Ammonia is seven cents per lb.

Compound chemical whale oil soap has stood the test of three years use, and is found beneficial either as a wash on trees, or with a syringe thrown over them, where

the insects prevail, such as the ants,—either black, red or white—curculio, turnip beetle, coccus, rose bugs, leaf lice, peach, apple and pear tree insect, caterpillars, &c.

For further particulars, apply to

DR. LEWIS FEUCHTWANGER.

Dairy Contrivances.

BELVOIR CASTLE, the residence of the Duke of Rutland, in Derbyshire, England, is celebrated not only for its elegance as a ducal abode, but for the extent and excellence of its agricultural arrangements, and especially for the accessories of its fine dairy, under admirable management, and a model in all its operations. The plan adopted in this dairy for obtaining the cream without skimming it from the surface of the milk, has been mentioned in a late address to the Royal Horticultural Society, somewhat as follows: The milk-room in the first place, is lined with porcelain, and in order to preserve it continually fresh and cool, as well as to create a gradual ventilation, a fountain of cold water is kept constantly flowing in the middle of the dairy, the current rising through an upright pipe in the centre, and, having attained its height, rolling back in sheets of water over a cone of successive basins, increasing in size from the top to the bottom, where the water enters a drain and is carried away. All the puncheons are of china-ware, and very shallow, it having been satisfactorily ascertained that the amount of cream thrown to the surface by a given quantity of milk, is dependent, to a certain extent, on the breadth of surface given to it by such shallow vessels, the same measure of milk poured into a vessel, allowing it to stand at two inches deep, casting nearly twice as much cream as it would do if its depth were eight inches. In the experimental part of the dairy, the puncheons, containing milk from various cows of the different breeds, are arranged in distinct order, and duly registered with every circumstance of condition supposed to affect the quality and quantity of the milk and cream obtained in each case; but the greater bulk of the milk is kept in leaden cisterns, about three feet long, two feet wide, and three inches deep, the bottom of each cistern, inside, having a slight concavity, in the centre of which is an aperture, connected with a tap underneath, for the purpose of drawing off the milk, and leaving the cream behind, untouched, in the cistern.—*Saturday Post*.

INSTEAD of spending a rainy day idly, repair whatever wants mending, or post your accounts.

Horticultural Exhibition.

THE 16th Autumnal Exhibition of the Pennsylvania Horticultural Society, will beheld at their rooms on the 18th, 19th, and 20th of next month. They offer the following premiums.

NATIVE GRAPES.

For the best Isabella, not less than six bunches,	\$3
For the next best do. do. do.	2
“ “ best Bland or Powell, do. do.	3
“ “ next best do. do. do.	2
“ “ best Catawba, do. do.	3
“ “ next best do. do. do.	2
“ “ best Elsinborough, do. do.	3
“ “ next best do. do. do.	2
“ “ best of another variety, do. do.	3
“ “ next best do. do. do.	2

FOREIGN GRAPES, RAISED IN THE OPEN AIR.

For the best Black or Red Hamburg, four bunches,	\$5
For the best Hansteretto, four bunches,	5
“ “ “ Black Constantia, do.	5
“ “ “ Chasselas, do.	5
“ “ “ White Gascoigne, do.	5
“ “ “ do. Frontignac, do.	5
“ “ “ St. Peter's, do.	5
“ “ “ of another variety, do.	5

FOREIGN GRAPES, RAISED UNDER GLASS, WITHOUT ARTIFICIAL HEAT.

For the best four bunches,	\$5
“ “ next best four bunches,	3

FOREIGN GRAPES, RAISED UNDER GLASS, WITH ARTIFICIAL HEAT.

For the best four bunches,	\$5
“ “ next best four bunches,	3
“ “ best peaches, not less than one peck,	3
“ “ next best do. do. do.	2
“ “ best do. do. two dozen,	2
“ “ best do. do. one bushel,	10
“ “ next best do. do. do.	5
“ “ best Seckel pears, not less than one peck,	3
“ “ next best do. do. do.	2
“ “ best Beurre or Butter do. do.	3
“ “ next best do. do. do.	2
“ “ best Bartlett pears, not less than half a peck,	3
“ “ best pears, of another variety, not less than one peck,	3
“ “ next best pears, of another variety, not less than one peck,	2
“ “ best and most numerous named varieties of pears,	5

For the next best and most numerous named varieties of pears,	\$3
“ “ best apples, not less than one peck,	2
“ “ next best apples, do. do.	1
“ “ best apples, do. do. one bushel,	3
“ “ next best apples, do. do. do.	2
“ “ best and most numerous named varieties of apples,	5
“ “ next best and most numerous named varieties of apples,	3
“ “ best quinces, not less than half a peck,	3
“ “ next best do. do. do.	2
“ “ best nectarines, not less than one dozen,	3
“ “ best plums, not less than two dozen,	3
“ “ next best do. do. do.	2
“ “ best water melons, not less than three in number,	3
“ “ next best water melons, not less than three in number,	2
“ “ best nutmeg melons, or variety thereof, not less than three in number,	2
“ “ best cranberries, cultivated, not less than half a bushel,	2
“ “ best potatoes, not less than one bushel,	2
“ “ next best do. do. do.	1
“ “ best sweet potatoes, do. do.	2
“ “ next best do. do. do.	1
“ “ best onions, not less than four dozen,	2
“ “ best cabbage, not less than six heads,	3
“ “ next best cabbage, do. do.	2
“ “ best red cabbage, do. do.	3
“ “ best lettuce, do. do.	2
“ “ next best do. do. do.	1
“ “ best endive, blanched, do. do.	2
“ “ best carrots, garden culture, two dozen,	2
“ “ best salsify, not less than two dozen,	2
For the best and greatest amount of honey, produced by one swarm of bees, of the present season,	3
For the next best and greatest amount of honey, produced by one swarm of bees, of the present season,	3
For the best fifty named varieties of dahlias,	5
For the next best fifty named varieties of dahlias,	3
For the best twenty named varieties of dahlias,	3
For the next best do. do. do.	2
For the best American seedling parti-coloured dahlia,	3

For the best American seedling self-coloured dahlia,	\$2
For the best ten named varieties of dahlias, grown by amateurs,	3
For the next best ten named varieties of dahlias, grown by amateurs,	2
For the best dahlia, grown by amateurs,	2
FOR DESIGNS FORMED OF CUT FLOWERS, ETC.,	
<i>Which are not to occupy at their base more than six feet square.</i>	
For the best and most appropriate,	\$40
“ “ next best and most appropriate,	30
“ “ do. do. do. do.	25
“ “ do. do. do. do.	20
“ “ do. do. do. do.	15
“ “ do. do. do. do.	10
“ “ do. do. do. do.	5

☞ No special premiums to be awarded for designs.

FOR BOUQUETS.

To be confined to those suitable for the centre-table, the hand, or of basket form.

For the best and most approved,	\$7
“ “ next best and most approved,	5
“ “ do. do. do. do.	3
“ “ best formed of indigenous flowers,	5
“ “ next best do. do. do.	3
“ “ best pair of wreaths for festooning,	10
“ “ next best pair of wreaths for festooning,	5

Guano and Turnips.

ON reading in your last paper, the statement made by John Henry Vivian, Esq., M. P., president of the Swansea Farmers' Club, respecting the failure of his turnip crop that had been manured with guano, it reminded me of a similar occurrence, which happened to a friend of mine in this neighbourhood, and of which I was an eye-witness. Hearing so much about the wonderful effects of guano as a manure, induced him to make trial of it for part of his turnip crop; and not knowing any thing of its nature, or of the mode of using it, he thought the best plan he could adopt was to sow the guano and turnip seed together, as when bones are used. He accordingly did so; and after waiting for some time, he wondered why no turnips made their appearance, as they did in other parts of the field. On examining the drills, he was surprised to find that some of the seed had chipped, and made an effort to grow, but had afterwards shrivelled up. Others, again, looked as if they had been kiln-dried, and lost their vegetative power. As a matter of course, the guano was blamed as the cause of the failure, and most heartily

was it and every other new kind of manure abused. Nothing, in his opinion, would ever surpass good old farm-yard manure, and any body might have his share of guano, for what he cared about it. Happening to ride past at the time my friend had made this unfortunate discovery, I recommended him to have the part of the field harrowed afresh and sown again, by way of experiment—for I ought to observe, he had applied the guano at the rate of rather more than three cwt. per acre. He adopted my suggestion, and, singular enough, in the course of some days, the turnips which had been sown broadcast, made their appearance from one end of the field to the other, marking as distinctly as possible, the lines where the drill had deposited the guano in the first sowing. In due time, the intermediate spaces were horse-hoed, and the turnip rows properly thinned. Nothing could exceed their luxuriance. Although sown nearly three weeks later than the main crop, they soon overtook them, and became far superior in every respect—so much so, indeed, as to be the subject of general remark in the parish. Hence I think it may be safely laid down as an axiom in the use of guano, and which has already been mentioned in the Gardener's Chronicle, *that it should never be applied in contact with seeds*, as it kills the embryo in germination.—*Gardener's Chronicle.*

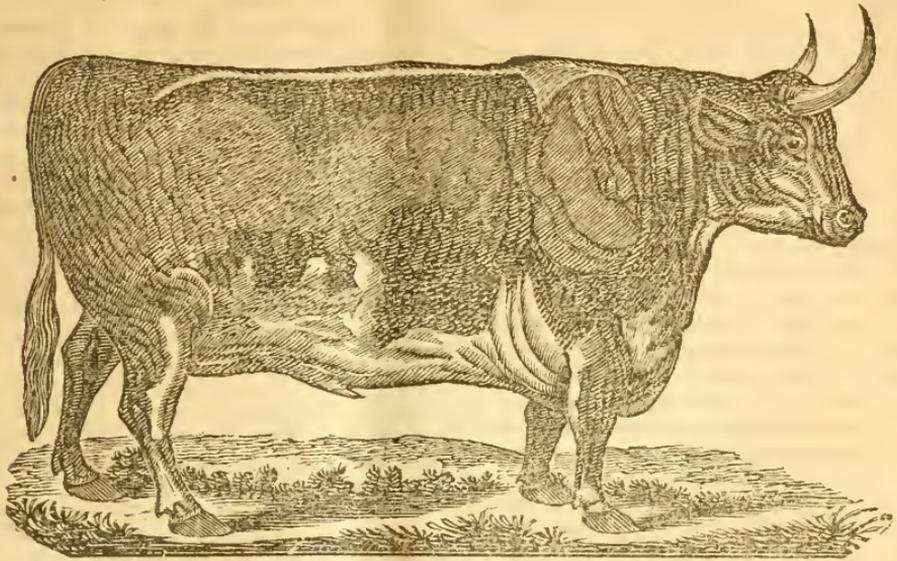
A CHEAP PAINT.—Take one bushel of unslacked lime, and slack it with cold water; when slacked, add to it 20 lbs. of Spanish whiting, 17 lbs. of salt, and 12 lbs. of sugar. Strain this mixture through a wire sieve, and it will be fit for use after reducing with cold water. This is intended for the outside of buildings, or where it is exposed to the weather. In order to give a good colour, three coats are necessary on brick, and two on wood. It may be laid on with a brush similar to whitewash. Each coat must have sufficient time to dry before the next is applied.

For painting inside walls, take as before, one bushel of unslacked lime, three lbs. of sugar, five lbs. of salt, and prepare as above, and apply with a brush.

I have used it on brick and wood, and find it preferable on both, to oil paint.

You can make any colour you please. If you wish straw colour, use yellow ochre instead of whiting; for lemon colour, ochre and chrome yellow; for lead and slate colour, lamp-black; for blue, indigo; for green, chrome green. The different kinds of paint will not cost more than one-fourth as much as oil paints, including the labour of putting on.—*Exchange Paper.*

B. B. HERR'S NATIVE STEER.



THE above is an illustration of a steer, or young fattling, raised on the farm of Mr. B. B. Herr, near Paradise, Lancaster county, Pa. He was slaughtered by Messrs. Schorff & Miller, of Lancaster, in May last. His weight in dressed meat, was 1,400 lbs.; age four years. He was considered a fine specimen of the native breed.

Raising Heifers.

ISAAC W. ROBERTS, of Montgomery county, has been very successful in raising and fattening cattle, chiefly of the Durham breed. It is his practice to take the calves of this fine breed, and, when two or three weeks old, put them with common native-bred cows. He weans at 3 or 4 months old, when the calf is able to thrive well on grass alone, and the native cow, going dry, is soon fit for the butcher, at a price that will nearly, if not quite, pay for her first cost and a fair allowance for pasturage. He thinks that calves thus raised, and entering the winter in good condition, being properly housed and fed during cold and inclement weather, gain nearly a year on such as are prematurely weaned or fed on skimmed milk. He entirely disapproves of letting calves run three or four months with valuable cows intended for breeding, and especially where milking properties are to be retained.

With all those who desire to possess an improved and select stock, it is deemed highly important that they should raise their own calves; and this is rendered the more important from the high prices usually to be obtained for calves of the best breeds. Mr. Colman gives the following information upon

this subject, derived from his observations in Massachusetts. "A farmer of my acquaintance in the interior, raises all his calves from a large stock of cows. His cows are known to be of prime quality. His heifers are allowed to come in at two years old, and are then sold with their first calf generally for thirty-five dollars, which he deems a fair compensation for the expense of raising. His calves are raised mainly upon skim-milk and whey, until they can support themselves on hay and grass. His steers pay a proportional profit when sold at three to four years old.

"The English authorities say, that upon two cows calving at different times, seven calves may be fattened for the butcher in the course of the year. More than this may be done if the calves are to be reared for stock, and if some little addition of meal or vegetables is added to their feed.

"Mr. Jacques remarks, on the subject of raising calves, that 'he generally lets them take a portion of milk from the cows for about three months, and prefers keeping them in the stall until they are about a year old, thinking that he gets better forms, rounder barrels, straighter backs, greater broadness on the loin and hips, by this management.'—*Farmer's Encyclopædia.*

Clotted or Clouted Cream.

UNDER the head of BUTTER, the process of making this preparation is described; but as the subject is one of particular interest to the American dairy, the following more detailed account is inserted, taken from the *Library of Useful Knowledge*, 2nd vol. of *British Husbandry*. The dairymaids of the western counties of England, think that clouted cream furnishes one-fourth more cream from the same quantity of milk than can be obtained in any other way. The process is simply this: "The milk while warm from the cow, is strained into either large shallow brass pans, well tinned, or earthen ones, holding from two to five gallons, in which should be a small quantity of cold water. This is thought to prevent the milk from burning, and to cause the cream to be more completely separated and thrown to the top.

"The morning meal of milk stands till about the middle of the day; the evening meal until the next morning. The pans are now steadily carried to, and placed over a clear, slow fire; if of charcoal, or over a stove, the cream is not so apt to get an earthy or smoky taste as when the milk is scalded over a turf or wood fire. The heat should be so managed as not to suffer the milk to boil, or, as they provincially term it, 'to heave'; as that would injure the cream. The criterion of its being sufficiently scalded is a very nice point; the earthen pan, having its bottom much smaller than the top, allows this point to be more easily ascertained; because when the milk is sufficiently scalded, the pan throws up the form of its bottom on the surface of the cream.

"The brass pan, if almost as big at the bottom as at the top, gives no criterion to judge by, but the appearance and texture of the surface of the cream, the wrinkles upon which become smaller and the texture somewhat leathery. In summer, it must be observed, the process of scalding ought to be quicker than in the winter, as in very hot weather, if the milk should be kept over too slow a fire, it would be apt to run or curdle.

"This process being finished, the pans are carefully returned to the dairy; and should it be the summer season, they are placed in the coolest situation; if on stone floors or slate benches, the better; but should it be the winter season, the heat should rather be retained, by putting a slight covering over the pans, as cooling too suddenly causes the cream to be thin, and consequently to yield less butter: the mode of making which, is this: the cream should, in

hot weather, be made into butter the next day; but in winter it is thought better to let the cream remain one day longer on the milk. The cream, being collected from the pans, is put into wooden bowls, which should be first rinsed with scalding, then with cold water. It is now briskly stirred round one way, with a nicely cleaned hand, which must have also been washed in hot and then in cold water, for these alternate warm and cold ablutions of bowl and hand, are not only for the sake of cleanliness, but to prevent the butter from sticking to either.

"The cream being thus agitated, quickly assumes the consistence of butter, the milky part now readily separates, and being poured off, the butter is washed and pressed in several cold waters; a little salt is added to season it; and then it is well beaten on a wooden trencher until the milky and watery parts are separated, when it is finally formed into prints for the markets."

"If the quantity of cream be considerable, the cream will be an inch or more thick upon the surface, and it is then divided into squares and taken off. The remaining milk, however, contains little besides the watery particles in its original composition."—*Farmer's Encyclopædia*.

GAS TAR.—It will be recollected that a writer of some celebrity recommended the very free use of this ingredient, to keep off vermin; sowing it with seed, daubing it on trees, and various other applications. A doleful account of losses occasioned by it, appears in the same paper. A person dressed the trees in his orchard, three or four feet up from the ground with it. Apple trees began to fail, and died altogether, the bark of others rotted, and many suffered severely. This ought to be a caution never to try experiments, so often founded on theory alone, except on a very small scale. The Gas Tar kept away vermin, but it killed the trees. Theory said that it would keep off a plague; but the trial which proved its efficacy in that particular, sacrificed an orchard.—*Gardener and Practical Florist*.

EVERY farmer should supply his table with fresh meat from his poultry-yard, instead of the butcher's shambles. A butcher's bill presented once or twice a year, to be paid in cash, is a very annoying affair. With proper care it may be avoided as above. Some farmers dispose of their calves and lambs to the neighbouring butcher, and thus square off his bill; but this is not a good plan—they need the cash for this part of their stock, to pay the storekeeper's bill, &c.

Tulips.

It may be remembered that, some fifty years ago, the mania for tulips was exceedingly great all over Europe, particularly in France, and still more in Holland. A root, the *Semper Augustus*, was sold for 12,000 francs; a *Yellow Crown*, for 1,123 francs, and a chariot drawn by two handsome bays; a very middling tulip, the *Viceroy*, was sold for the following objects:—four barrels of flour, eight of rye, four cows, eight pigs, twelve sheep, two casks of wine, four of beer, two of butter, a thousand pounds weight of cheese, a bed with all its appurtenances, a bundle of wearing apparel, and a silver cup. At this period there might be seen in the public prints, under the head of foreign intelligence, such a paragraph as this—“Amsterdam.—Admiral Liefhens has flowered perfectly at M. Berghem’s.”

But we must not forget the story. One day it was discovered that tulips with a yellow ground were no longer beautiful, and that the admiration lavished on them for some time, had been bestowed on them most wrongfully; that the only tulips worth cultivating, were those with a white ground; that every yellow tulip ought to be rejected from every flower bed that had any respect for itself, and that their seed ought to be cast to the winds. The amateurs divided themselves into parties: letters, pamphlets, squibs, songs, nay, large volumes, were written on the subject. The amateurs of yellow tulips, were treated as pig-headed creatures; beings enveloped in the swathing-clothes of prejudice; illiberal, retrograding, awkward persons—enemies of enlightenment—nothing better than Jesuits.

On the other hand, the partizans of white tulips were branded as innovators, revolutionists, democrats, disturbers of the public peace, *sans-culottes*, mere youngsters.

Friends quarrelled, spouses were opposed, families were disunited. One evening that M. Muller was playing at dominoes with one of his earliest friends, an old school-fellow, and a renowned horticulturist, like himself, the conversation turned on tulips—tulips yellow, and tulips white. M. Muller stood up for the yellow; his friend was a partizan of the white. Both gentlemen were men of good taste and knowledge of life, and always used the greatest moderation in their language, and avoided with great care coming to a discussion.

“Certainly,” said M. Muller, “nature has done nothing in vain: there is not a single gem in her jewel-case which does not charm the sight: it is melancholy to see persons act on the principle of exclusion. I freely

admit that there are certain tulips with white ground, that I would willingly admit into my collection, if my garden was more extensive.”

“I also,” remarked his friend, desirous of not remaining behind in politeness and concession, “I am ready to allow that the *Erymanthus*, yellow though it be, is a flower altogether presentable.”

“I should not despise the *Unique de Delphos*, notwithstanding its white ground,” remarked M. Muller.

“It is not very white,” retorted his friend. “Not more than three or four days elapse before it frees itself from a yellowish tint which it has on opening its petals: in consequence we think but little of it.”

“It is, however, the one of your collection that I should prefer.”

The two friends were on excellent terms when Madame Muller quitted the room to get tea ready. It is difficult to tell exactly by what imperceptible transitions they departed from that condition to bitterness, to abuse, to insult; but so it is, that when Madame Muller returned to the room five minutes after, she found them under the table, holding each other by the hair, and cuffing away with all their might. M. Muller had thrown the dominoes in his friend’s face, and thus the quarrel began. It may be guessed what sensations of shame seized on the two antagonists, when the first effervescence had subsided. The next morning M. Muller sat down and wrote to his friend:

“I am a wild beast, and an ill-bred man; receive my apology. Our old friendship will wipe out this moment of madness. My wife requests the pleasure of your company to dinner to-day. We shall have some of those Brussels sprouts you are so fond of.

Your friend, MULLER.

“P. S. You will oblige me, my dear friend, to put aside for me a few of your beautiful white tulips, for which I have reserved for next season, one of my best squares.”

He immediately received the following reply:

“I shall be with you at a quarter before five. You will permit me, my excellent friend, to introduce to you a horticulturist, who is desirous of admiring your magnificent tulips.”

Through a refinement of politeness, that both understood, M. Muller made a point of admiring the whitest of the white tulips, and his friend was not less polite, with respect to the yellow. However, this move-

ment of generosity on the part of M. Muller, could not always maintain itself at the same elevation. The ground in which the white tulips were placed was neither dug, nor manured, nor sifted, like that destined for those of yellow grounds. The second year, M. Muller took it into his head that they encumbered the ground; the third year they were placed under a gutter; and M. Muller, after having exhibited his yellow tulips in all their brilliancy, used to say to his visitors, "there are some of the finest of the white tulips; they have been given me by my friend Walter, and I prize them infinitely;" and when, ten minutes after, he added, "I cannot comprehend that any one can cultivate white tulips," every one was naturally of his opinion.—*Gardener and Practical Florist.*

From the Western Farmer and Gardener.

The Blight in Pear Trees.

To those who are interested in the growth of Pear trees, every idea thrown out for their preservation, is valuable. The following letter from the Western Farmer and Gardener, published at Cincinnati, Ohio, is from a practical man, though his own experiments do not appear to have been extensive. The editor has been invariably unsuccessful with his pear trees, of every kind, and in every soil on which they were tried. They would flourish finely for five or six years—bear once or twice, then begin to die at the end of the limbs—dwindle and perish. But let farmers persevere. Pears uniformly bring a good price in market.—Ed.

WE have made the blight in pear trees a subject of inquiry for twenty-five years—have read every article on the subject we came across; and, as we travelled extensively in that time, have asked every practical farmer whom we thought likely to have any light upon the subject.

We are inclined to the opinion, that this blight is a kind of vegetable apoplexy or paralysis, caused by an over charge of fluids. You will generally see its ravages the worst of wet, growing seasons, under the influence of hot, scorching suns. Some of the facts which have led to this opinion are the following. All the pear trees which we have planted in a rich soil, where they have had a rapid growth, have flourished until they have approached the bearing state; about that time they were attacked with the blight, and after lingering a few years they have become entirely extinct, to the amount of some fifteen or twenty. About twenty-two or three years since, we brought a number of pear scions from Fairfield county, some grafted and some natural; we planted

them all but two on a rich soil—white-oak flat, but they have all disappeared as above. With a view to there being more certainty for fruit, by having trees at different elevations, we planted two of the lot on a high southern exposure—soil thin and hard. They have had a slow growth, but are very healthy in appearance, though they have not borne much yet. About twenty years since, we procured a lot of scions from a natural stock, of good repute in Perry county. We put two of them in our front yard, on the brow of a hard, shelly bank or point, at an elevation of ten or twelve feet from the water course—southern exposure. They have had a slow growth, but are now some twenty-five feet in height—have been bearing for several years, and are remarkably healthy—not the least sign of blight as yet. While those from the same maternal stock which we planted in a rich soil, where they grew as much in four years as the others did in ten, have long since been entirely annihilated with that fatal disease.

We have an additional case yet, which, although it involves another principle, tends to the same result. About fifteen years since, we planted in our garden, in as rich a situation as nature and manure combined could produce, one "Philadelphia Butter Pear," which we had two or three years previous grafted on a natural stock. This tree is of remarkably slow growth, and thus secures from nature the same advantage that others do from thin, hard soil. It began to bear as soon as the top was as big as a bushel, which, we believe, is some ten or more years since; and we do not recollect that it has failed to bear more or less every year since. It is now about fifteen feet in height, and has on this year what will make some two or three barrels of pears, if it meets with no mishap. There has never been the least sign of blight, until about a week since we discovered a limb on the top, of about twenty inches in length, struck with that disease, which we immediately removed, but since have discovered no further progress. An apple tree by its side, was at the same time considerably affected with the blight, the dead limbs being quite numerous on the latter.

The result of our experience, then, is, that fifteen trees or more, planted on rich soil, have every one disappeared with the blight many years since, with the exception of the Butter pear above, which had a slower growth on rich land than the others had on poor. And the four trees we planted on thin, hard soil, consisting of two varieties of natural fruit, have all lived, and so far done well, though their kind perished with the

blight, on soil which gave them a rapid growth. From these facts—and from the further fact, that all the examinations we have seen recorded on the subject, have never been able satisfactorily to attribute the blight to any species of lice or insect—we are inclined to the opinion, that it is owing to a surcharge of the fluids. We are aware that there are difficulties connected with this suggestion, to which we have not time to refer; but we make it for the consideration of those who have leisure to attend to the investigation.

The ill success we had with the pear, owing to the ravages of the blight, discouraged us from its cultivation, so that, for the last sixteen years, we have paid no attention to this kind of fruit, relying mostly on the apple, until a year or two back, encouraged by the few that have been saved from the blight, and the discovery that some soils are better adapted to the cultivation of the pear than others, we have recommenced attending to the pear again. We have procured several varieties from the nursery of Mr. Nicholas, of Belmont county, and have engrafted several kinds of ourself.

We are of opinion that our practical men would do a good service to direct their attention to such kinds of the pear as are adapted to the climate, and proof against that fatal disease, the blight. The pear is, perhaps, the most delicious fruit that is cultivated, and he would do a great favour to the gratifications of the community, who would promote the cultivation of this rich luxury. We have no hesitancy in saying, that the Philadelphia Butter Pear above, is the best article of the kind that we have any knowledge of. In the *first* place, the tree seems to be free from the blight; in the *second* place, it is a good bearer, and begins very early to produce fruit; *thirdly*, it is the most delicious of the fruit kind that we ever tasted. It is so rich that a man of ordinary appetite cannot eat more than two or three when they are in a state of perfection. There are many varieties called Butter Pear, but this is the Philadelphia Butter Pear, and is said to be the best pear brought into the Philadelphia market.

C. SPRINGER.

Meadow Farm, Ohio, June 13th, 1844.

The Philadelphia Butter Pear is said to be the same as the Virgalieu, or White Doyenné.

It is better to seek a good appetite for one's food, than to be curious to get good food for one's appetite.

Form and Constitution of the Cow.

It is well known that animals of the same breed fed on the same food, will yield milk not only in different quantities, but also of very different quality. In regard to the form, Mr. Youatt states that the "milch cow should have a long thin head, with a brisk but placid eye,—should be thin and hollow in the neck, narrow in the breast and point of the shoulder, and altogether light in the fore-quarter—but wide in the loins, with little dew-lap, and neither too full fleshed along the chime, nor showing in any part an inclination to put on much fat. The udder should especially be large, round, and full, with the milk veins protruding, yet thin skinned, but not hanging loose or tending far behind. The teats should also stand square, all pointing out at equal distances, and of the same size, and although neither very large nor thick towards the udder, yet long and tapering towards a point. A cow with a large head, a high back bone, a small udder and teats, and drawn up in the belly, will, beyond all doubt, be found a bad milker." Thus while much depends upon the breed, the form of the individual also has much influence upon its value, as a milker.

But independent of form, the quality of the milk is greatly affected by the individual constitution of every cow we feed. Thus in a report of the produce of butter yielded by each cow of a drove of 22, chiefly of the Ayrshire breed—all of which we may presume to have been selected for dairy purposes, with equal regard to their forms, and which were all fed upon the same pastures in Lanarkshire, the yield of milk and butter by four of the cows in the same week, is given as follows:

	Milk.	Butter.
A yielded	84 quarts,	which gave 3½ lbs.
F and R each	86 " "	" 5½ "
G yielded	88 " "	" 7 "

Showing, that though the breed, the food, and the yield of milk were nearly the same, the cow G, produced twice as much butter as the cow A,—or its milk was twice as rich. This result would have been still more interesting, had we known the relative quantities of grass consumed by these two cows respectively. I will not insist upon other causes by which the quality of the milk is more or less materially affected. It is said that when stall-fed, the same cow will yield more butter than when pastured in the field—that the age of the pasture also influences the yield of butter—and that salt mingled with the food, improves both the quantity and the quality of the milk.

There are probably, few circumstances which are capable in any way of affecting the comfort of the animal, which will not also modify the quality of the milk it yields.—*Johnston's Lectures.*

New York Agricultural Institute.

WE learn from the N. Y. Farmer and Mechanic, that Dr. Gardner has made arrangements for the institution of a thorough Course of Agricultural instruction next winter, in the University of New York. The subjects of study are as follow:

“**AGRICULTURE.**—This course is designed to communicate to the student all facts in Chemistry, Geology and Botany, which are useful to the farmer. So that being conversant with the characters and properties of the bodies wherewith he is engaged, he may be furnished with sound principles to guide his practice and improve his culture. The theories of Liebig, Pull, Payen, and Sausure will be canvassed, explained where they coincide with practice, and exposed where fallacious. The explanation of all processes for the improvement of the texture and drainage of lands, will be made on scientific principles.

“Improvements in the orchard, vineyard, and the cultivation of commercial staples, will be detailed. The collection, storage and preservation of grass, grain, fruits—the feeding and improvement of stock; the economy of making manures, will form prominent parts of the course.

“Mineral manures found in this and adjoining States, saline, vegetable, and animal manures, their comparative values, successful application, and causes of failure, with their economy, will be thoroughly examined and illustrated by appeal to decisive experiments. In short, all the topics usually embraced in the courses given by the professors of agriculture in European Colleges will be introduced.

“**ANALYSES** of soils, the ashes of plants and saline manures form another principal object of study. The student will conduct these analytical inquiries himself, so as to become proficient.

“It will be a constant object to familiarize the pupils with the method of applying principles to practice. To this end a series of cases will be prepared, in which the character of the soil, determined by examination, will be given to discover the necessary amendments. Thus a specimen of soil being introduced from a field, valuable from its proximity to market, it will be required of the student to point out the means by which

it may be brought into a perfect state of fertility at the least expense. Thus they will be prepared to think for themselves and apply the facts of science. Students coming from remote counties should bring specimens of soil from home, to furnish profitable materials for examination during the winter.

“**CHEMISTRY** as an abstract science, is taught by Professor Draper in the University, and can be attended in connection with the preceding studies.

“**ANATOMY AND PHYSIOLOGY.**—This course, directed more especially to an examination of the human body, is delivered by Professor Pattison in the University, and may be attended with profit to the student, if required.

“All the studies of the University are open to those who desire to pursue other courses of instruction.

“New York offers numerous advantages for the establishment of the Agricultural Institute. Many farms in the vicinity are in a high state of cultivation, market gardens, nurseries, orchards, vineyards and conservatories, abound near the city, and may be freely examined. Agricultural implements, and other appliances of the art, can be investigated; while the meetings of the Farmers' Club will offer a means of obtaining choice seeds, and much valuable local information. No where can the subject of manures be studied with equal success. Board and lodging will be found cheaper than in many villages; the students of the University seldom pay more than \$2 50 to \$3 00 for respectable accommodation.

“The *Institute* opens on the first Monday of November, and continues in session until the 1st of March following. The lectures and recitations will occupy two or more hours daily. This portion of the year has been selected to accommodate those engaged in farming, that they may not be drawn from their estates during the busy season.

“Fees for the course on Agriculture, \$20. For Analysis, \$30. For both, \$40. The laboratory students will provide their own utensils, which cost about \$5. Full laboratory course \$100.

“The courses on Agriculture and Analysis, will be undertaken by the subscriber, with such assistance in the latter as may be found necessary.

D. P. GARDNER, M. D.”

Good buildings—good fences—good land—good stock—good implements, and a long purse, are among the requisites for the *beautiful*, in farming.

Premiums offered by the Agricultural Society of Newcastle County,

At the Fall Exhibition, Cattle Show and Ploughing Match, to be held at Wilmington, on Wednesday and Thursday, 11th and 12th of September, 1844.

HORSES.

For the best thorough-bred stud-horse, \$10
do. next best do. do. do. Youatt
on the Horse.

For the best stud-horse for field and road, \$5

For the best pair of carriage horses, Turf Register, 1 year.

For the best saddle-horse, certificate of merit.
do. do. pair of work horses, \$5

do. next best do. certificate of merit.
For the best thorough-bred mare, \$5

do. do. mare for field and road, Youatt on the Horse.

For the best horse colt, from two to three years old, Farmer's Cabinet, 1 year.

For the best horse-colt, one to two years old, certificate of merit.

For the best mare colt, from two to three years old, Farmer's Cabinet 1 year.

For the best mare colt, one to two years old, certificate of merit.

For the best colt under 1 year old, certificate of merit.

CATTLE.

For the best bull, \$5
do. second best do. Youatt on Cattle.

do. third best do. Farmer's Cabinet 1 year.

For the best cow, \$5
do. second best do., the latest improved churn.

For the third best do., superior butter tub.
For the best pair of fat cattle, \$5

do. do. fat steer, 3
do. do. lot of grass fed steers, not

less than six in number, 10

For the best lot of fat heifers, do. do. 5
do. do. bull calf, from one to two years

old, Youatt on Cattle.
For the best bull calf under 1 year old,

Farmer's Cabinet 1 year.
For the best heifer calf, from two to three

years old, Colman's Reports.
For the best heifer calf, from one to two

years old, Youatt on Cattle.
For the best heifer calf, under one year old,

Cultivator 1 year.
For the best lot of store calves, not less than

six in number, Colman's Reports.
For the best pair of working oxen, \$10

do. second best do. 5
do. third best, Colman's Reports.

For the best pair four year old steers, Youatt on Cattle.

For the best and best broke pair of steers, 3 years old, Farmer's Cabinet 1 year.

SHEEP.

For the best Long-woolled buck, Blacklock's Treatise on sheep.

For the next best Long-woolled buck, certificate of merit.

For the four best Long-woolled ewes, Farmer's Cabinet 2 years.

For the four next best Long-woolled ewes, certificate of merit.

For the best Short-woolled buck, Treatise on sheep.

For the next best Short-woolled buck, certificate of merit.

For the four best Short-woolled ewes, New England Farmer, 1 vol.

For the four next best Short-woolled ewes, certificate of merit.

For the four best lambs of any breed, 2 vols. Cultivator.

For the four next nest lambs of any breed, certificate of merit.

HOGS.

For the best boar over 1 year old, Farmer's Encyclopædia.

For the second-best boar over 1 year old, Farmer's Cabinet 1 year.

For the best boar under 1 year old, American Farmer 1 year.

For the best sow over one year old, Farmer's Encyclopædia.

For the best sow under one year old, Farmer's Cabinet one year.

For the next best sow under one year old, American Farmer 1 year.

For the best litter of pigs, not less than five, Colman's European work.

For the next best litter of pigs, not less than five, American Farmer.

FARMS.

For the best farm, having regard to product to economy in the working, and to arrangements of barns, shedding, &c., also to neatness in its management. Premium, a survey of the farm, designating each enclosure, enumerating the contents of each, also locating handsomely on the plot, the different buildings.

COMPOST MANURE.

To the person who shall make the most satisfactory, and in the judgment of the committee, the most useful experiment in composting manure, not less than 100 loads of 40 cubic feet, before October 1st, 1844.

CROPS.

- For the best crop of wheat, not less than 30 bushels per acre, and not less than five acres, \$10
- For the next best, not less than two acres, 5
- For the best crop of corn over 70 bushels per acre, and not less than two acres, 10
- For the next best do. Farmer's Cabinet one year.
- For the best crop of oats, over 60 bushels per acre, and not less than four acres, \$5
- For the next best do. Farmer's Cabinet one year.
- For the best crop of grass, making not less than two and a half tons of hay per acre, nor less than three acres, Colman's Reports.
- For the best crop of potatoes, not less than 300 bushels per acre, not less than one acre, Farmer's Encyclopedia.
- For the best crop of ruta-baga turnip, of one acre or more, not less than 800 bushels per acre, Colman's Reports.
- For the best crop of sugar-beet, of half an acre or more, and not less than 25 tons to the acre, Colman's Reports.
- For the best crop of flat turnips, quarter of an acre or more, not less than at the rate of 300 bushels per acre, Farmer's Cabinet one year.
- For the best crop of Sweet potatoes, not less than quarter of an acre, Farmer's Cabinet one year.
- For the best field of potatoes, not less than three acres, Colman's Reports.

BUTTER AND CHEESE.

- For the best new milk cheese, Colman's Reports.
- For the best fresh butter, not less than five pounds, Youatt on Cattle.
- For the next best do. Farmer's Cabinet one year.
- For the best potted or preserved butter, not less than 20 pounds, not less than two months old, Colman's Reports.
- For the next best do., three stone water pots.

CULINARY VEGETABLES.

- For the best and greatest variety of garden vegetables, \$10
- For the second best do. 5
- For the third best do. Colman's Reports.
- For the best cabbage, not less than six heads; to be produced on or before the Fall Exhibition of 1844, Bridgman's Gardener's Assistant.
- For the best cauliflower, not less than three heads, Vegetable Physiology.

- For the best kale, not less three bunches, of one pound each, to be produced by November 21st, 1844, Farmer's Cabinet one year.
- For the best half peck of onions, raised from the seed, Farmer's Cabinet one year.
- For the best bunch of onions, certificate of merit.
- For the best tomatoes, not less than one peck, certificate of merit.
- For the best egg plants, not less than half a dozen, certificate of merit.

FRUITS.

- For the best fall pears, not less than half a peck, to be produced on or before November 21st, 1844, China fruit basket.
- For the best winter pears, not less than half a peck, to be produced between the 1st and 17th of March, 1845, China fruit basket.
- For the best native grapes, not less than four bunches, to be produced between the 17th and 22nd of October, 1844, Bridgman's Gardener's Assistant.
- For the best plums, the least liable to injury from insects, not less than two dozen, to be produced on or before the 5th of October, 1844, Farmer's Cabinet one year.
- For the best quinces, not less than half a peck, to be produced at the Fall Exhibition of 1844, Cultivator one year.
- For the best peaches, not less than half a peck, to be produced at the Horticultural Exhibition, a handsome fruit basket.
- For the best apples, not less than half a peck, Farmer's Cabinet one year.
- For the second best apples, certificate of merit.

FLOWERS.

- For the best varieties of Camellias, to be produced to the Society by March, 1845, certificate of merit.
- For the best varieties of Hyacinths, to be produced to the Society on or before May 20th, 1845, certificate of merit.
- For the six best varieties of Tulips, to be produced on or before May 20th, 1845, certificate of merit.
- For the six best varieties of Dahlias, to be produced on or before October 20th, 1844, certificate of merit.
- For the ten best varieties of Chrysanthemum, to be produced on or before Nov. 21st, 1844, certificate of merit.
- For the best bouquet exhibited at the exhibitions of the Society, certificate of merit.
- For the introduction of any new and valuable seeds, fruits or plants, presented to the Society during the years 1844-5, a silver medal of the value of three to five

dollars, at the discretion of the Board of Directors.

SILK.

- For the best reeled raw silk if approved, not less than a pound, a premium Silk reel.
- For the heaviest and best cocoons, excluding double ones, not less than five pounds, Treatise on Silk.

AGRICULTURAL IMPLEMENTS.

- For the best plough, certificate of merit.
- For the best Drilling Machine, do.
- For the best Grain or Grass Sowing Machine, certificate of merit.
- For the best Mowing or Reaping Machine, certificate of merit.
- For the best Straw and Hay Cutter, certificate of merit.
- For the best Root or Vegetable Cutter, certificate of merit.
- For the best Corn-sheller, certificate of merit.
- For the best display of Agricultural implements, certificate of merit.
- For the best Threshing Machine, certificate of merit.
- For the best farm and road wagon, certificate of merit.
- For the best cart, certificate of merit.
- For the best and most convenient harvest bed on wagon or cart-wheels, certificate of merit.

Any newly invented Agricultural apparatus will be entitled to an appropriate premium.

MAIZE SUGAR.

- For the largest quantity of sugar, having regard to quality, not less than 20 pounds, manufactured from corn stalks, Colman's Reports.

AMERICAN MANUFACTURES.

- For the best American "Russia iron," certificate of merit.
- For the best piece of fine broad cloth, certificate of merit.
- For the best lot of casinetts, not less than three pieces, certificate of merit.
- For the best lot of fine satinets, not less than three pieces, certificate of merit.
- For the best specimen of cotton goods, certificate of merit.
- For the best ingrain piece of carpeting, certificate of merit.
- For the handsomest and best made saddle and bridle, certificate of merit.
- For the handsomest and best set of single or double harness, certificate of merit.
- For the best lot of edge tools, certificate of merit.

For the best constructed cooking stove, certificate of merit.

- For the best lot of cabinet furniture, not less than three pieces, certificate of merit.
- For the handsomest and best parlor stove, certificate of merit.
- For the handsomest and best made marble mantle, certificate of merit.
- For the handsomest and best made boots and shoes, three pair of each, certificate of merit.
- For the handsomest and best manufactured hat, certificate of merit.
- For the handsomest lot of manufactured silver ware, certificate of merit.
- For the best and most convenient four wheel carriage or dearborn for family use, and having regard to cost, certificate of merit.
- For the handsomest and best specimen of castings, certificate of merit.
- For the best sample of coach or shoe leather, certificate of merit.

☞ All to be made in Newcastle county.

PLOUGHING MATCH,

- For horses and oxen, to take place on the 2nd day of the Exhibition.
- For the best ploughing, \$10 and Farmer's Cabinet one year.
- For the best edge furrow ploughing, \$10.
- For the best flat furrow ploughing, \$10.
- For the second best edge furrow, Colman's Reports.
- For the second best flat furrow, Farmer's Encyclopædia.

Claims for the premiums on crops must, in every instance, be accompanied with a statement of the condition of the ground before commencing, and then the whole process of tillage; and the measurement must be of the whole crop by the half bushel, and certified in writing by the applicant. Crops to be entered as early as the day of exhibition—applications to be acted on by the committee any time before the 1st of January, 1845.

No animal shall take the same premium a second time.

All articles exhibited will be returned to contributors unless otherwise directed.

If, of any article for which a premium is offered, no specimen be submitted worthy of distinction, the Society reserves the power to withhold the premiums, and in all cases where premiums shall be demanded, they will require such evidence from the claimants as shall be satisfactory to the directors. No person shall be entitled to a premium for any animal which he shall not have had or possessed at least six months immedi-

ately preceding the time of exhibition. It is to be distinctly understood, that all grain, vegetables, &c., produced for competition, shall be the growth of the producer.

All premiums not demanded within sixty days after they shall have been awarded, shall be deemed as having been relinquished to the Society. The object of the Society in offering these premiums, is simply to excite a spirit of emulation amongst cultivators to improve the varieties of fruits, vegetables, and other productions. It is desirable that each kind of fruit offered for competition may be as numerous as possible, regard being had to produce none but of fair quality. Each article should be accompanied by its appropriate name. It is also desirable that the articles exhibited should be accompanied by short observations on the mode of culture, with any other remarks deemed to be of utility.

The judges are authorised to withhold premiums where none is entitled to distinction; and where but one of a class is exhibited, they will award such premium as they think it merits. Those who intend to compete, must inform the Committee of Arrangement before 11 o'clock on the day of exhibition.

All stock, &c., exhibited, must remain on the ground during the exhibition; and all stock intended for sale, will be required to be registered in a book provided by the Committee of Arrangement, at the following rates: For each horse, \$2; for neat cattle, \$1 each; for hogs and sheep, 50 cents each.

Articles that are designed to compete for premiums, will be produced when practicable, at the annual exhibitions of the Society. Perishable articles may be offered at any of the meetings of the Society, or at those of the Directors, which take place on the afternoon of the second Saturday of every month in the City Hall; or they may be subjected to the inspection at any time, of either of the following committee appointed for that purpose, viz:

DR. J. W. THOMSON,
MERRITT CANBY,
SAMUEL HILLES,
PHILIP REYBOLD,
ANTHONY M. HIGGINS,
ZIBA FERRIS,
W. J. HURLOCK.

The Society will dine together at three o'clock. All members *not* in arrears to the Society, will receive their tickets to the dinner free of charge. The Annual Address will be delivered by J. S. SKINNER, Esq., of Washington, at John Hall's Hotel, immediately after dinner.

Meeting of Agricultural Society.

A stated meeting of the Philadelphia Society for promoting Agriculture, was held on the 3rd inst., Dr. James Mease president in the chair—present twelve members.

The committee appointed at last meeting to arrange a list of the different animals, implements, produce, &c., for which premiums are to be offered at the Exhibition about to be held by the Society in October next, made report, which on motion was ordered to be published.* Dr. Emerson, chairman of the Committee appointed to examine the plan of a Bone-crushing Machine, offered by W. Hasler & Co. of this city, made favourable report of the same, which led to an animated discussion on the subject of the use of bone-dust, or ground bones as a manure; Dr. Emerson stated his strong conviction of their usefulness, from experiments made on his farms in Delaware, for several years past. Mr. Gowen also expressed his decided belief in the great utility of the article. Some other gentlemen present observed that they had not noticed any great advantage in their application; a different mode of using them might have produced different results. The following resolution was offered by Dr. Emerson, which on motion was adopted. "Resolved, that the Committee of Arrangement be authorized to offer a premium of \$50, for the best machine for crushing bones for farming purposes, with the addition of the necessary horse-power. The said machine to be capable of being used by farmers, and with the horse-power not to cost over \$300."

Dr. Elwyn read an account of some experiments made by Dr. Bridges of this city, on the properties of anthracite for absorbing gaseous ammonia, like ordinary charcoal, whereby it may become a great fertilizer of the soil. An interesting discussion took place on the subject of the use of Guano as a manure, the wonderful effects of which had been discovered in England and Scotland.

A specimen of clover seed from the river Rhine, was presented by A. Clement. It is said to grow to the height of two and a half to three feet; may be cut three times during the season, and continues to produce well from seven to nine years. When cut for hay, the leaves do not fall off as from other clover. The seed can be obtained from the second crop. It is also said that cattle are not injured by over feeding on this as on other clover.

AARON CLEMENT,
Recording Secretary.

July 5th, 1844.

* See last No. of the Cabinet, p. 380.

Atmospheric Rail-way.

WHILE steam was apparently having the field to itself in relation to rapidity of travel, electricity comes in, and runs ahead of all calculations, in its faithful transmission of intelligence by machinery. Latterly there is considerable interest manifested in England, on the subject of atmospheric Rail-ways. We give below, a tolerably lucid description of this contrivance from the Westminster Review. In Minor's Rail-road Journal for the present month, is an article of considerable length, being the main part of an Essay on the adaptation of atmospheric pressure to the purposes of locomotion on Rail-ways, accompanied by very neat drawings illustrative of the working of the machinery. That there should be much diversity of opinion among professional men in relation to the practical operation of the atmospheric system, is not at all surprising. Time and experience will test the whole matter. The Rail-road Journal shows that a saving in England, of upwards of £22,000 per mile, may be made in the construction of the atmospheric, instead of the common Rail-way; and that the transportation which will cost by locomotive power more than £4,000, need cost on the atmospheric way, but about £1,600. The Journal of the Franklin Institute, for last month, meanwhile, gives an article from the London Rail-way Magazine, demonstrating that what costs on the Great Western Rail-road but £357, and on that of London and Birmingham £575, will cost on the atmospheric road, £1,300.—Ed.

THE speed of the atmospheric mode of travelling, as far exceeds that of the locomotive pian, as the locomotive speed exceeds that of the stage-coaches; this mode also reduces the expenses one half, which the locomotive system does not, it being as expensive, or more so, than the coaches. To describe the atmospheric rail-way in all its detail, would occupy more space than we can devote to the subject, neither would such a description suit the general reader; the following particulars must therefore suffice:—Along the entire line, and between the rails, runs a pipe, which, on the Kingstou and Dalkey line, is fifteen inches inside diameter. Along the entire length of this pipe is a slit or opening, through which a bar passes, connecting a piston,—which moves freely in the pipe—with the carriage outside. The opening at the top of the pipe is covered with a leather strap, extending the whole length of the pipe, and two inches broader than the opening. Under and over this leather strap are riveted iron plates, the top ones twelve inches long, and half an inch broader than the opening, the bottom ones narrower than the opening in the pipe, but the same length as those of the top. One edge of the leather is screwed firmly down, like a common bucket-valve, and forms a hinge, on which it moves. The other edge of the valve falls into a groove;

this groove or trough is filled with a composition made of bees'-wax and tallow, well worked by hand, so as to make it pliable and tough before spreading it in the groove; this composition being pressed tight against the edge of the leather valve which rests in the groove, makes the valve air-tight, or at least sufficiently so for all practical purposes. As the piston is moved along the pipe by the pressure of the atmosphere, that side of the valve resting on the groove is lifted up by an iron roller fixed on the same bar to which the piston is attached, thus clearing an opening for the bar to pass as it moves along. The opening thus made allows the air to pass freely behind the piston; the disturbance which takes place in the composition by the lifting of the valve, is again smoothed down and rendered air-tight, as at first, by a hot iron running on the top of the composition after the valve is shut down. This has actually been done when the piston was travelling at the rate of seventy miles per hour, and it was smoothed down air-tight, after it, by the iron above mentioned. It is contemplated to place stationary engines along the line, about three miles apart; at each engine or station there is an equilibrium valve fixed in the pipe, so that each three miles or section of pipe can either be exhausted or filled with air, independently of the other sections. The equilibrium valve is made to move freely, out of the way of the piston, by the carriage while passing over it, so that the train passes from one section of pipe to another, without any stoppage. It is evident, that as the tractive force is derived from the pressure of the atmosphere on the piston, the amount of the force or pressure will depend upon two causes, i. e., the extent of exhaustion on one side of the piston, and the area of the piston itself.

TO MAKE BLUE-WASH FOR WALLS.—Get a pound of blue vitriol from a drug store, and have it powdered in a mortar. Provide also, two quarts of lime. Take six cents worth of glue, boil it in a quart of soft water till thoroughly dissolved. Put the powdered vitriol in a wooden bucket, and when the glue-water is cold, pour it on the vitriol, mix and stir it well. When the vitriol is dissolved in the glue-water, stir in by degrees the two quarts of lime. Try the colour by dipping in a piece of white paper, and when dried, you can judge if the colour is as blue as you want. If too pale, stir in a little more powdered vitriol. It is well to provide an extra quantity of each of the articles, in case a little more of one or the other should be required.—*N. England Farmer.*

Pigs Sucking a Cow.

FOR several weeks in succession our dairy-maid complained that our best cow was deprived of her milk by some foul means. That when she came from pasture she had just been milked, and that the udder was still wet. I could accuse no one but a tenant who lived near the lane through which they passed, and which was generally open from the cow-yard to the pasture. The accusation was denied with evident surprise. At length I determined to watch the cattle on their evening walk from their pasture, and you may judge my surprise, when I observed that on the cow mooing as if in search of her calf, about fifty yards distant from the yard, four shoats, three months old, ran squealing down to meet her at their utmost speed. The cow remained in the rear of the others, and quietly and patiently stood still till every drop of milk was extracted from her udder by the pigs; they *standing* the while erect on their hind legs, with each a teat in its mouth. The place for the operation was most favourably selected, as small apple-trees interposed between the parties and the house, which stands upon an elevation. The extraordinary thrift of my pigs, which all along was so discernible, was now accounted for; and I learned a lesson which shall never be forgotten through life, viz., never to make accusation on mere circumstantial evidence, unless strongly corroborated.

I shut my pigs in a pen immediately. The next morning the cow appeared as uneasy without their visit as if she had lost a calf, and the pigs squealed in answer, as if they had been deprived at the time of their mother.—*Christian Intelligencer*.

FRUIT IN CINCINNATI.—The Cincinnati Atlas says, "It is estimated that the market has been supplied with one hundred bushels of large delicious strawberries daily, for three or four weeks past. The raspberry is now succeeding the strawberry in about the same quantities, and the blackberry will succeed the raspberry in the like profusion. There are strawberry patches in the neighbourhood containing about twenty acres, cultivated by a single individual, and gardens of the same size devoted to the raspberry. These berries sell at the stalls in the market, at five to ten cents per quart. They form a standing dish on most of the tables of the wealthy and middle classes: and none so poor, but they are more or less supplied. We have melons and peaches in

great abundance during the season; and as for apples, we challenge the world to match us." A late committee from the Horticultural Society of that city, appointed to ascertain the statistics in relation to the growth and sale of strawberries in Cincinnati and its vicinity, has reported, that in pursuing their investigations they had found in the market, during one day in the last week of May, 235 bushels of this fruit; and this was exclusive of the large quantities bought by the hotels, and also of those brought into the city after market hours, and hawled about the streets.

ANECDOTE OF A MANDARIN DUCK.—Of this bird Mr. Beale related several anecdotes, which prove it not destitute of sagacity. Upon one occasion, one of these birds was for a few days removed from the aviary: his mate seemed almost inconsolable, sitting by herself near the brink of the fountain, apparently in sorrow at the loss she had sustained. Another duck—a gay and dashing fellow—attempting to pay his addresses to the forlorn one, *ducking* around her, and whispering, doubtless, many flattering things in her ears; but the faithful bird heeded not the charmer, and seemed highly to resent his assiduous attentions. At length the absent one was restored to the aviary; when, after a few moments, the duck was observed in close confab with her mate, which seemed much ruffled at her recital; and no sooner was it ended, than, advancing straight to his rival, a furious battle ensued, and ere they could be separated, the injured bird had laid the aggressor dead at his feet.

SAVING FLOWER SEED.—Instead of saving seed from any blooms that may chance to remain on, it should be saved from the best well formed early flowers. The proper way is to mark good flowers as soon as they can be found, and let their seeds ripen well before they are gathered. Let them be from good double flowers. When the seed is rubbed out, only the few outside rows of seed should be used: those which come from the centre or disk, will almost always come high. There are no means so effectual as making the best early blooms of the best varieties, and relying on those pods of seed only.—*Gardener and Practical Florist*.

Good buildings—good fences—good land—good stock—good implements, and a long purse, are among the requisites for the *beautiful*, in farming.

For the Farmers' Cabinet.

Deep Ploughing.

The impression among unreflecting farmers is almost universal, that the value of deep ploughing consists in the increased amount of soil in which the roots may vegetate. Whatever advantage the greater amount of loose soil may be, it is by no means the most important one. We all know, that growing grain suffers from extremes of heat and cold, wet and drought. Late in the fall, when we always have rain, the six inches of vegetable soil are soon filled with water, and perhaps the cold of the succeeding night freezes it, and thus are the roots of your wheat embedded in ice, to suffer during the approaching winter. But if the land had previously undergone the operation of a "*Prouty and Mears*," nine inches deep, followed by a *subsoil-plough*, nine inches more, the rain had scarcely ceased to fall until it had sunk beneath that surface which the roots occupy. In a soil six inches deep, with a hard limestone subsoil, rain has no place to go; but in eighteen inches or less, its own weight sinks it below the possibility of doing harm. And while you thus have your wheat secured for the winter, in a comparatively dry soil, clear of ice and its evil consequences, in the spring you have a vigorous plant, free from the sallow sickness of an icy bed, prepared to take advantage of the first genial sun which the spring brings with it. And now, from this period until harvest, the hopes and fears of the farmer are controlled by the season: too much wet drowns his wheat; too much heat blasts it with mildew, and drought prevents it from filling. Deep ploughing obviates all these contingencies. Wheat is drowned out, because its roots are in the water; mildew blasts it, because the hot sun beats upon a surface saturated with water, and produces a sudden flow of sap in the plant, which is unnatural; and it is the more destructive, because the constitution of the plant has previously suffered from one of the extremes of cold, wet or drought: your wheat does not fill, because, perhaps there is not moisture enough in the earth to replenish the plant;—but if your loose soil be deep enough, no matter how much or how long it rains it will have scarcely ceased until the roots are relieved. Pour a bucket of water upon a sponge, and you have but just quit pouring until the upper surface is comparatively dry; so it is with the spongy earth, the water's own weight takes it immediately below the place where harm is done, not to be lost, but to remain there as a reservoir, to replenish the thirsty plant through that sea-

son when drought so often does its destructive work. In our limestone land, a rain may fill the six inches of vegetable soil, and when full, so hard and impervious is the subsoil, that the residue runs into the hollows, and its place of escape among the sink-holes and crevices of the rocks:—the heat of a week's sun dries this up, and the wheat requires more rain, and it suffers. But if you have twelve inches of water in your reservoir below, there it remains to answer the drafts of a six or eight weeks sun, with that regularity of moisture which the plant requires, and which brings you through all the contingencies of heat and cold, wet and dry. W.

Carlisle, 4th August, 1844.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, EIGHTH MONTH, 1844.

THE 8th volume of the Farmer's Cabinet closed with the last number: the 9th commences with this month.

It is now a year since the present proprietor took the concern entirely into his own hands; and while he was determined to devote himself to its interests, he felt that he would have continual occasion to make drafts upon the liberality and kindly feeling of his subscribers. He was aware that his inexperience in his new position, might not unfrequently expose him to embarrassment. He felt also, that however ambitious he might be, to edit a paper which the agricultural part of the community should cheerfully acknowledge to be of public utility, and with which himself should feel satisfied, his ability to do this did not so much depend upon himself, as upon the active and efficient aid which he confidently hoped would be rendered by his friends. This hope has to a very considerable extent been realised: yet it would afford the Editor much pleasure to find at the close of the coming volume, that the frequent contributions of his correspondents had made it more valuable than any of those which have preceded it. It is not in the calculations of the Editor to sit in his office and prepare unassisted, such an Agricultural Journal as the country shall be satisfied with. He relies upon the help and the experience, and the facts, and the speculations of others. He promises, so far as his judgment will enable him to do it, to make his selections of a character that shall always instruct—but he takes this opportunity to urge upon the readers of the Cabinet, to make it rich in original matter, and to remember that he depends upon them to do so.

We may also remark, that our subscription list is not so well filled up as it ought to be. Does not every subscriber feel that he might do something in this matter? and that his interests as well as our own, would be promoted by circulating more widely a paper, industriously devoted to the substantial agriculture of the United States.

WILLIAM CRISPIN, of Gloucester co., N J., brought to this office a few weeks ago, from his farm on Timber creek, several famous stalks of Timothy, some of which were five feet seven and a half inches in height, with heads ten and a half inches long. The stoutest stem of Timothy we have ever seen, was a solitary one found in the woods several years ago, near a ravine. It was about five feet nine inches in height, with a splendid head ten inches in length.

THE Annual Fair and Cattle Show of the New York State Agricultural Society will be held at Poughkeepsie, on the 18th and 19th of next month. Those which have heretofore been held at Albany, Syracuse and Rochester, have been largely attended, and have been objects of strong interest to the farmer. Adequate preparations are making to render the approaching Show equal to any which have preceded it; and as it is easy of access to persons from a distance, many will doubtless be drawn thither.

THE Washington Reporter, published at Washington, Pa., says the crop of wool in that county, the present season, has been large, amounting to at least 800,000 lbs.; and that the market has been unusually brisk for some weeks past. It has been generally taken up by dealers in that county and in Pittsburgh, at an advance of 30 or 40 per cent. on last year's prices. Three hundred thousand dollars make no trifling sum to scatter among the farmers of a single county, for one single article of its produce: a county too, which claims to be but little behind any other in the State, in the largeness of its grain crop.

ON the 25th ult., we saw for the first time this season, in our markets, sweet potatoes from Jersey, of quite a respectable size.—Price eight cents per pound. This is rather earlier than usual for the appearance of this excellent vegetable. The season, as we all know, has been perhaps ten days more forward than ordinary.

It is stated in one of the New York papers, that \$900 freight were received in one day, two or three weeks ago, by the New Jersey Transportation Company, on the article of green corn alone. A friend of ours in the vicinity of Portsmouth, Va., who removed from New Jersey, informed that he paid last season, upwards of \$1,200 freight on his vegetables to the Philadelphia market.

THE proprietor of the "American Farmer," published at Baltimore, being about to enter upon other engagements which will very much occupy his time, is desirous to dispose of his well known establishment. The American Farmer is the oldest Agricultural paper in the country, it being more than a quarter of a century since it was commenced by J. S. Skinner, that veteran friend of the farming interest, "chiefly as a vehicle for the outpourings of his own crude notions of what might be done to improve the processes and implements of American agriculture, to meliorate our domestic animals and fruits and vegetables, and to vindicate and elevate the cause of agriculture, as a great and neglected national interest." It was long and ably sustained by him, and has been in the hands

of Samuel Sands, its present proprietor, one of our best conducted papers.

THE kindness of the publisher Laurens Wallazz, No. 25 Minor street, in this city, has placed in our hands a very neat copy of the fourth edition of Ruffin's Essay on Calcareous manures. It is not designed to give at present anything like a synopsis of this well known work. We have in the course of our labours, many times referred to it, and availed ourselves of its contents, and would recommend to every practical farmer to acquaint himself familiarly with them.

In the concluding paragraph of the first edition, published in 1832, is the following remark: "My task is completed. Whether I shall be able to persuade my countrymen to prize the treasures and seize the profits which are within their reach, or whether my testimony and arguments shall be fruitless—soon or late, a time must arrive when my expectations will be realized. The use of calcareous manures, is destined to change a large portion of the soil of lower Virginia from barrenness to fertility." These sanguine expectations, so beautifully expressed twelve years ago, their writer has now the satisfaction of beholding in good measure answered. This is plainly shown by the statements* which he made at a *Farmers' dinner*, given him near the close of last year, by his old friends and neighbours of Prince George county. And thousands are prepared to acknowledge that no man has laboured more industriously or more availingly for the agriculture of Virginia, than Edmund Ruffin.

WE keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
BEVAN on the HONEY BEE,	31½
BUIST'S ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

☞ SHORT ADVERTISEMENTS, ☞

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

* See last vol. of *Farmers' Cabinet*, p. 270.

In an Address lately delivered before the Agricultural Society of Fort Mitchell, Alabama, General Hamilton says he planted this year twelve hundred acres of cotton, and that he manured six hundred of it. The remainder was planted in a rich virgin soil, which needed no manuring. He also says Madder is beginning to attract the attention of the most intelligent of our agriculturists, as a staple adapted to our soil and climate, and susceptible of a moneyed return vastly transcending the culture of cotton. His Address appears in the Southern Agriculturist of the present month. Valuable information in relation to Madder, will be found in our last volume, pages 54 and 119.

THE last number of the Cultivator says that M. Van Buren, the ex-president, raises on his farm, near Kinderhook, what is called the *Carter* potatoe, which was produced a few years ago by the Shakers, from a ball. He considers them a very valuable potatoe, yielding well, and in quality equal to any other.

Dr. Beekman, president of the New York Agricultural Society, has tried several experiments to ascertain "whether lime would kill sorrel. After a lapse of two years, no effect whatever has been discoverable, either for, or against the sorrel, or any other plant."

A PRIVATE letter dated Salem, Iowa, the 30th of Sixth month, gives an unfavourable account of the wheat crop of that district. "The long continued rains," says the writer, "have not only raised the streams almost beyond bounds, but have also drowned the wheat on the flat lands; and on the high lands the wheat is not flattering. Of oats, there is any quantity. The corn is very small. Some farmers have ploughed it up where it had been replanted two or three times, and been as often drowned out by the great rains." From various accounts it appears that the damages and sufferings on the Mississippi and its branches, from the unprecedented rise of the waters, have been indeed appalling. It is of course, impracticable to estimate with even a show of accuracy, what these damages may amount to in a pecuniary point of view. Calculations however, have been made, which set them down at ten or twelve millions of dollars. Whole estates have been inundated—the buildings on them, swept down the streams—and the occupants hurried to their last long homes.

THE Ledger says some French capitalists have made arrangements to enter spiritedly upon the cultivation of the vine in Louisiana; after carefully exploring many parts of that State and Mississippi, they have determined to locate themselves on Beaver creek.

As we were entirely unable to satisfy the demand for Poudrette last spring, and as the fall sowing of wheat is close at hand, when the demand will again be brisk, we remind those who wish the article, to attend to it early. The accounts in relation to its use, so far as they have reached us, have very generally been favourable. In a note from D. S., at Burlington, N. J., who the other day, ordered four barrels for his turnips, and who had previously had twenty five barrels last fall and spring, it is remarked, "the last I had shows to the admiration of all who see its effects, par-

ticularly where it was put into the corn-hills at the time of planting. That which I put on the wheat last fall also, has nearly or quite doubled the crop."

THIS, so far as we have learned, is very decidedly, a *fruit* year. Our markets are filled to overflowing, with every variety in its season, of the finest quality. We trust our country friends will attend in earnest, to securing a full supply of *good vinegar*. One would conclude that with the abundance of apples which occasionally bear down our orchards, there should never be a scarcity of this article. There need be no difficulty in its manufacture: it is one of the simplest processes. Indeed, nature and time will effectually do the work, if the cider be not improperly weakened. It was the plan of the Editor for many years, while on his farm, constantly to keep in an out-house, three vinegar casks—a hogshead, a barrel, and a five gallon keg: and he has no recollection of ever being without No. 1, on his table in the country. The keg was drawn out of for family use, and there was a care to keep them all, one-half or two thirds full. The bungs should be but loosely put in their place, so as not to exclude the air, or a piece of gauze may be secured over the bung hole, to admit the air and exclude insects, &c. It is best to keep the casks only partly filled, as there is then a greater surface exposed to the atmosphere. Frequent shaking, or drawing off from cask to cask, exposes the liquor to the action of the air, and hastens the necessary fermentation. With due care, the farmer who has apples, need never be without good vinegar on his table; nor is it at all necessary that our citizens should have so much difficulty in obtaining it. It is wholesome and agreeable with many kinds of food, and eight or ten, or twelve cents a gallon, by the large quantity, will well repay the farmer for the manufacture. Who would relish corned beef and cabbage with second-rate vinegar?

In a letter recently come to hand from Goshen, Ohio, dated the 4th of last month, it is said the wheat, oats, potatoes and grass of that vicinity, promise well; but the corn was greatly injured by "the *wire* worm, which," says the writer, "has been making sad work for several years, and appears to be increasingly mischievous. It is a yellow, hard worm, about an inch long and size of a knitting needle: it works itself into the heart of the corn before it is up, and afterward collects around the roots, and seems to take away the juices, so that the corn makes but little progress in growing. Can any of the correspondents of the Cabinet, hit upon a remedy? Unless means are found to stop the work of this insect, some of our farmers talk of abandoning the crop of corn altogether. I am now trying on my farm as an experiment, a strong solution of arsenic, indigo and copperas separately, having steeped the corn fifteen hours." We shall be glad to be advised in relation to the habits of this worm, and of any means for a remedy against its very serious mischief. Our correspondent will please report the success of his experiments.

We have seen it stated that arrangements are in progress to extend the Electric Telegraph to this city, New York and Boston.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds, Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844.

tf.

POURETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. Farmers to the South, and in the interior, both of this State and New Jersey, are invited to try the article. As a manure for turnips, buckwheat, &c., it has been used to great advantage. The season for applying it to the wheat crop, is now at hand. Those who contemplate using it this fall, would do well to secure it early.

JOSIAH TATUM.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail, a complete assortment of Farming tools, among which may be found *Horse-powers and Threshing Machines, Grain and Seed Fans* of various patterns. *Corn-shellers* in variety. Hay, Straw, and Corn-stalk Cutters, eight different patterns, from \$1 50 to \$30. *Corn-stalk Cutters and Grinders*—Churns—Cheese-presses, &c. *Centre-draught Ploughs* of eight sizes. *Bill-hooks*—*Bramble Scythes*—*Grubbing Hoes*—*Axes and handles*—*Hatchets*—*Potatoe Hooks*—complete sets of instruments for making capons.

Garden, Grass, Flower and Field seeds, warranted fresh and true to name.

D. O. PROUTY.

Agricultural Implement Manufactory,

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Penn. Hospital, 8th mo., 1st.

On our 31st page, will be found a list of premiums offered by our spirited friends in Newcastle co., Delaware, at their Annual Exhibition next month. They anticipate high gratification from the Address to be delivered by J. S. Skinner.

CONTENTS OF THIS NUMBER.

Discovery of a Guano Island.	PAGE 9
Galvanic Experiments on Vegetation.	11
Death of J. C. Loudon.	13
Vegetable Physiology.	15
New Grain Fork.—Harvest Song.	16
Bees.	17
Manuring and Steeping Seeds.	18
Variety of Colours.	20
Prevention of Potatoe failure.—Cotton.	21
Sulphate of Ammonia, &c.—Dairy Contrivances.	22
Pennsylvania Horticultural Exhibition.	23
Guano and Turnips.—A Cheap Paint.	24
B. B. Herr's Native Steer.—Raising Heifers.	25
Clotted Cream.—Gas Tar.	26
Tulips.	27
Blight in Pear Trees.	28
Form and Constitution of the Cow.	29
N. York Agricultural Institute.	30
Newcastle Agricultural Society Premiums.	31
Meeting Philadelphia Agricultural Society.	34
Atmospheric Rail-way.—Blue wash for walls.	35
Pigs Sucking a Cow.—Fruit in Cincinnati.	36
Deep Ploughing.—Editorial Notices.	37

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

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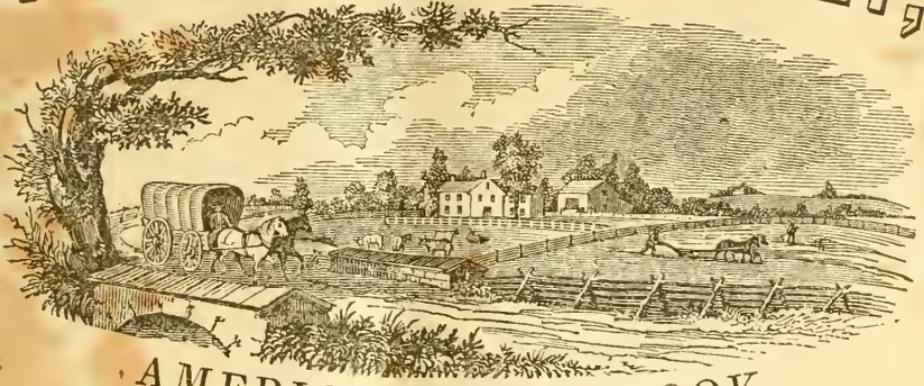
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THE FARMERS' CABINET, AND



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Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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9th mo. (September) 16th, 1844.

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PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,
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Price one dollar per year.—For conditions see last page.

On the Manuring and Steeping of Seeds.

CONCLUDED FROM LAST NO.

Another German pamphlet on this subject has lately appeared from the pen of a Mr. Vietor, an apothecary at Neiderholm, in Hesse Darmstadt, under the title of "*The Manuring of Seeds, or a Simple and Cheap Cultivation of the Soil by the Artificial Manuring of Seeds, by which, at the same time, the Rust and other Diseases of the Corn Crops are Prevented, practically tried for five years; and proved on a large scale.*" By C. L. VIETOR. This author describes his methods, and is so far more worthy of the attention of the practical man. Before detailing these methods, however, I shall insert a few of his preliminary observations.

As the principle upon which the manuring of the seeds ought to be preferred to that of the soil, he remarks "that the manure can never be so equally distributed through the soil that the due proportion of food shall be

given to each seed or plant; and that, besides, before the plant comes to require it, much of the organic matter of the manure has become decomposed and lost, and that even the inorganic matter is liable to assume forms of combination, in which it can with difficulty be made available to the nourishment of the growing plant."

These disadvantages, he says, may be avoided by manuring the seeds themselves which we wish to grow, while, at the same time, the following advantages will attend the adoption of this method:—

"1°. The same crop may be repeated on the same soil, though already exhausted, or even in any usually unfruitful soil.

"2°. We can manure the seeds with those special substances only which it is not likely to find in the soil, or of which it has been exhausted by previous crops."

This is an advantage which is possessed by all saline and mineral manures, and is one of those benefits which will appear more clearly and strikingly to the practical man as he becomes more familiar with the natural wants of the crops he wishes to raise, and with the kind of substances which are present in his soils and in the manures—such as farm-yard manure—which he usually employs in preparing them for the seed.

"3°. As the rotation of crops is rendered necessary chiefly by the abstraction of saline substances from the soil, it may be rendered unnecessary by adding again these sub-

stances, in such a way as to be within the reach of the seeds only. Thus, by steeping the seeds in sal ammoniac, and drying them with flour, the deficiency of salts may be supplied.

“4°. The rust and other diseases of corn plants are owing either to an excess or to a deficiency of food in the soil. These extremes can be best avoided by manuring the seed itself with the proper materials and in the proper degree. Thus,” he says, “in a field of wheat after oats, upon a poor soil, a portion of the seed, which had been prepared with sal ammoniac, gave only a light crop, while another portion, prepared with oil also, gave a crop twice as heavy.”

Influenced by the considerations above stated, some of which may, to a certain extent, be regarded as questionable, Viator has been induced to try the manuring of the seeds before they are sown, and, from the success which has attended his results, to recommend it to others. The substances he employs, and his mode of using them, are as follow:

Substances employed.—1°. *Blood*, in the liquid state, is mixed with one-eightieth of its weight of glauber salts, dissolved in a little water; when thus mixed, it may be kept for a long time in a cool place without congealing or undergoing decomposition; or clotted blood may be dried either alone or mixed with a little earth or powdered clay, and then reduced to fine powder.

2°. Wool, hair, parings of leather, horns, hoofs, and bones, are charred in close vessels, until they are capable of being reduced to powder.

3°. The dung of all animals is dried and reduced to powder.

4°. Fats and oils of all kinds are mixed with so much earth, clay, or rye-meal, as will enable the whole to be reduced to powder. Oil-cakes are also powdered for use.

Mode of using them.—He makes up a semi-fluid mixture with which he mixes the seeds, and then he dries up the whole by the addition of the powdered manures already prepared. His semi-fluid mixture is thus prepared:—For a bushel of wheat or other grain, take

20 to 30 lbs. of clay in fine powder.

1½ lbs. of pounded sal ammoniac, or-3 lbs. of common salt.

3 to 5 quarts of whale, rape, or other cheap oil.

15 to 20 quarts of fresh blood, or blood, kept in a fluid state by means of glauber salts, or, in the absence of blood as much water.

3 to 5 lbs. of linseed meal or pounded oil-cake.

These are mixed together intimately, and water added, if necessary to make a half-fluid mass. The seed is then to be poured in and stirred about till every seed is completely enveloped by the mixture. A layer of one of the following dry mixtures is then spread on the floor, over it the manured seed, and then another layer of the dry powder. The whole is then stirred together and left to dry.

Dry Mixtures.—Of these drying mixtures he describes several, consisting chiefly of powdered clay, mixed with one or other of the dry powders already mentioned. Thus he recommends mixtures of

1. 75 of powdered clay, 8 horn shavings, and 17 of bone dust.

2. 85 of clay, with 15 of fluid, or 5 of dried blood.

3. 85 of clay, 5 of charred hair, and 10 of oil-cake.

4. 60 of clay and 40 of powdered dung.

5. 70 of clay, 25 of charred leather, and 5 of bone dust.

6. 80 of clay, 1 of fat, tallow, or oil, and 2 of powdered dung.

These are all to be finely powdered and intimately mixed. The principal alleged use of the clay is, to make the other substances cohere together, and to attach them more strongly to the grain.

When the mixture of grain and manure is dry, it is broken up with the hand and thrown upon a fine sieve, which allows the loose powder to pass through and the uncovered grains, and then upon a coarser sieve, through which the dressed seeds pass, leaving the lumps, in which two or three seeds may be present, and which are to be carefully broken up. He prescribes further, that much caution is to be used in completing the operation so quickly that the grain may not be permitted to sprout, and thus become liable to injury during the succeeding operations.

When it is wished to grow corn after corn in fields manured in the usual way, Viator recommends mixing, for each bushel of seed, two to three pounds of sal ammoniac, or four to six pounds of common salt with ten to fifteen of rye-meal, adding a little water, stirring the seed well among it, and drying the whole in a stove.

Such is the substance of Viator's pamphlet and observations. I have stated them pretty fully, because I think he deserves this much at the hands of those who are interested in the progress of practical agriculture; because he has stated the reasons for his procedure, has described his processes fully, and claims neither great merit nor great reward for alleged great discovery.

Besides, there is a show of reason in what he states. For though we may very fairly doubt, or perhaps entirely disbelieve, that the quantity of manure with which he envelopes his seeds, can be sufficient to supply the wants of the crop that is to spring from them, yet there can scarcely be a more economical way of employing the same quantity of manure—one in which there will be less waste of it, or in which it will be more useful to the growing plant. In every way of applying manure to the soil which has hitherto been adopted, a large portion never reaches the roots of the plants. Even when drilled in along with or near the seeds, a notable quantity escapes from the neighbourhood of the roots, and is more or less completely lost to the crop it is intended to feed. Such must obviously be the case to a very much smaller extent where it is in actual contact with the seed it is to nourish, and actually envelopes it.

Still it is doubtful whether the gain or saving effected by this method, will be equal to the cost of time and labour which it involves. Should such a mode of manuring be found easily practicable, more skillful mixtures than those of Victor—such as would be more certain to succeed, and such as would be fitted especially to aid the growth of this or that kind of crop—could easily be suggested.

In illustration of this opinion, I will here briefly state the facts from which I am led to believe that considerable benefit may in reality hereafter accrue to practical agriculture, from a careful study of the effect of certain known steeps or prepared mixtures upon the after growth of the seeds upon which they have been tried.

1°. The quantity of inorganic matter contained in the grain of wheat, oats, barley, &c., is comparatively small. In wheat and barley it varies from $1\frac{1}{2}$ to 2 per cent. of the whole weight; in oats it is about $3\frac{1}{2}$ per cent., but a considerable proportion of this is contained in the husk with which the oat is usually invested. But, though small in quantity, this inorganic matter is absolutely essential to the perfect condition of the seed, and to the healthy growth of the plant that springs from it.

2°. When seeds are steeped in water, they swell and increase in bulk. They absorb a portion of the water and of any saline substances it may hold in solution. Now, if the small quantity of saline or inorganic matter which exists in seeds does really promote their growth, may not a larger quantity promote it more? May not the growth be more luxuriant if the seed be steeped in water containing saline substances

in solution, and be thus made to absorb an additional proportion! It does not appear unreasonable to suppose that a bushel and a half of seed-wheat may be made to absorb a pound of saline matter. This appears, indeed, to be only a very small quantity, and yet, if absorbed, it would add one half more to that which the seed naturally contains. We cannot pronounce beforehand, with absolute certainty, that by this absorption the growth of the seed would be greatly promoted, though both theory and practice concur in rendering it probable. Thus the experiments of Bickes—whose mode of preparing seeds appears to be a simple steeping in saline solutions—appear decisive in favour of the opinion that such artificial additions to the saline matter of the seed do really, in some cases at least, greatly promote the growth of the seeds, and increase the luxuriance and produce of the after crops.

The fact that saline manures are beneficial, in many cases, to the growing crop, when merely applied to the soil, is in favour of the same view. The salts, it is true, when applied to the soil, enter the plant by its roots; but, nevertheless, their action is simply to yield saline matter to the plant in larger quantity than it could otherwise readily obtain it from the soil. This additional supply might at once be given it, to a certain extent, by steeping the seed itself.

3°. Further, we know that some seeds germinate much more rapidly and certainly than others. We know, also, that the proportion of inorganic matter, or of ash they leave when burned, varies in different samples of seeds of the same kind. That contained by wheat, for example, is sometimes $1\frac{1}{2}$, sometimes $1\frac{3}{4}$, and sometimes nearly two per cent. of its weight. Can this difference in the growth of seed and the difference in the proportion of saline matter, have any connection with each other? Do some germinate feebly, do others fail entirely, because they contain too small a proportion of the usual saline constituents of the seed? Would they germinate better if more were by some means given to the seed? The same experiments of Bickes, upon the effect of steeping, seem almost to answer these questions in the affirmative; they, at least, render it very probable that some such relation does exist between the two differences to which I have alluded. The same may also be said of the observation made by Mr. Fleming, of Barochan, that seed wheat, which had been dressed the previous year, with certain saline substances, grew more luxuriantly, and gave a better crop than that which, though grown on the same field, had not been so

top-dressed. It is not very unreasonable to suppose that this better growth of the dressed seed might be owing to its having obtained, from the substances applied to the soil, a larger proportion of saline matter than that to which no top-dressing had been applied.

Still these circumstances only render probable the opinion to which I have adverted. They point out, however, new series of researches, both in the field and in the laboratory, by which the opinion will be tested, and either refuted or confirmed. In the field, experiments must be made with different seeds, dressed and undressed. In the laboratory these seeds must be examined, the proportion of inorganic matter they respectively contain determined, and if this inorganic matter be equal in quantity in seeds exhibiting different powers of germination and growth, the difference in the kind or quality, as well as in the quantity of the ash, must be more or less rigorously ascertained. By these united methods of investigation, we may hope, by and by, to make out what are likely to be the real and constant effects of steeping upon seeds—to what kind of seeds or roots it may be applied most beneficially—under what circumstances this treatment ought to be especially adopted—what kind of saline substances ought to be applied to each species of seed, and in what proportions—and what is the nature of the influence they may be found to exercise in promoting or otherwise modifying the growth of the after crop.

In the mean time, there are two principles by which our trial of steepings ought to be regulated, by which the saline substances we may employ with advantage in our first experiments in the field and upon different crops are distinctly pointed out. In a future paper I shall explain these principles, and state the practical suggestions which may be drawn from them in regard to experiments upon the steeping of roots and seeds.

Durham, November 20th, 1843.

Old Virginia.

A CORRESPONDENT of the National Intelligencer, writing from Wilton, near Richmond, Va., thus speaks of the diminution in the population of that State:

"Thus much have I written with an eye to tempt to Virginia Northern farmers. I have a great desire to capture this good old Commonwealth for the Yankee stock of States. Land is cheap; I say land, of which a good farm may soon be made, from three to ten dollars an acre—not the land on the banks of the river, cleared and cultivated, but land where marl lies, marl worth more

to the land than a gold mine. Society is good. The people are a good people. Schools will come with a population. It often seems to me that as yet there are no people here, and I wish, therefore, to see them come. I have to take up a spy-glass to see the houses of my neighbours, they are so far off, and yet so near am I to a capital of about 24,000 inhabitants, that I can see its spires and steeples, and almost hear the hum of its labourers. Back of me, and below me, off of the river as far as I have explored, I cannot find much else but woods, woods, woods. I ride for miles and miles in the forests, looking for people. And yet, this is the first settled, and oldest settled part of Virginia! The people have gone off; they have settled in Georgia, Alabama, Kentucky, Missouri, Mississippi, Louisiana, Florida; and now, as if there were too many people left, a bribe is held out to the rest to go to Texas! Well, if they will go, all I can say is, Northern farmers come here and settle. Such land as you can sell in New York and Pennsylvania for fifty, and seventy-five, and a hundred dollars an acre, you can buy here from three to ten.

"It is a shame, I say, that this beautiful country, so blessed in climate, and so little needing only the fertilizing hand of man, should be without people. Here is an old venerable river running past my door, older than the Hudson, now lined with towns and villages—much older than the Ohio—older in settlement and geography, I mean—but where are the people? For a hundred and fifty miles from Richmond to Norfolk, the first explored river running into the Atlantic Ocean, the home of Powhatan and Pocahontas, and the scenes of the truly chivalrous John Smith—*where are the people?* Gone, I say, gone to the South and West, the trumpet blowing them now to go to Texas! Virginia has here depopulated herself to make homes elsewhere. The cry now of one set of her politicians is, manufactures that would keep the people here are *nothing*; Texas is *every thing*. Were I a Virginian, I should esteem as worth more on James river one good white man, than all of Texas from the Sabine to the Rio del Norte. Why, here is Texas all about us, land as cheap as in the distant Texas, and as good."

In the neighbourhood of Hereford, England, recently, a swarm of bees settled under the bonnet of a little girl, down the side of her face, and round her throat. Fortunately the child stood still, and the bees were hived without her receiving a single sting.

Conversion of Wood into Iron.

THE conversion of wood into iron and stone for railroad purposes is exciting much interest in England. If the experiment bears the test of thorough trial, it will add immensely to the facility of constructing rail roads. We hope the engineers and those concerned in the building of rail roads will not delay in testing the value of this new discovery. The following extract of a letter of Professor Wright, dated London June 18, 1844, and published in the Boston Chronicle of July 10, will show how the matter is regarded by intelligent men in England.

“A good deal is said lately about wood, and a patent has been taken out for converting it into iron, I should rather say into stone, by means of iron. This *metalized*, or or rather *fossilized* wood has been used in constructing the terminus of the Dover railway, and it really seems to have both the properties of stone and iron. Rails of it laid down at Vauxhall, for experiment, endured a travel equal to that of a year on the most thronged railway, without any perceptible wear, not even the saw marks of the timber being removed. It is supposed that timber thus prepared will not be subject to rot or decay of any kind. This, time will test. If this proves true, the invention will be of immense importance to the United States, where timber is yet plentier, and iron scarcer than here. The process of preparing timber is simply this; the pieces, after having been fitted by the carpenter or joiner for their places, are introduced into an immense iron cylinder, which is then exhausted by an air pump. A solution of sulphate of iron is then injected, which immediately enters into the exhausted pores of the wood. The wood is then withdrawn, and again placed in a similar vacuum in a solution of muriate of lime, which coming into contact with the sulphate of iron within the wood, decomposes it, and forms an insoluble sulphate of lime or gypsum, within the wood; and the muriate of iron, the other new compound, goes about its business. So the wood becomes thoroughly impregnated with stone, as hard as a rock, and is yet as tough as it was before. The expense of preparing 2000 sleepers, enough for a mile of railway, is said not to exceed \$400. Some of the greatest engineers have expressed their confidence in the invention, and the process is employed on many of the government works. What an invention for our Mississippi Valley! Railways built of light porous wood, the more porous the better, probably; may, for less than a thousand dollars per mile, be converted into roads, nearly, if not

quite as durable as iron.—*New York Farmer and Mechanic.*

SALT FOR PLUM TREES.—Mr. Benjamin Jacobs, of Dorchester, had a small plum tree which never bore more than half a dozen plums that came to maturity; seeing salt recommended as a remedy, he applied two quarts, the first of March, in a space about two feet wide around the tree, commencing about six inches from the tree. It was dug into the ground a little. The consequence has been a fine lot of fruit. We saw this tree a short time since, and it was as full as it could hold. It is evident that salt made the great contrast between this and previous years as to the production of fruit.—*Boston Cultivator.*

POINTS OF A GOOD MILCH COW.—The following is from a report of the Guernsey Agricultural Society:—*Points.* 1. Purity of breed and qualities of the dam for yielding rich and yellow butter. 2. Small head, large and bright eyes, small muzzle, small ears, orange colour within. 3. Straight back from the shoulders to the tail, and chest wide. 4. A fine and loose skin, with soft and short hair. 5. Sides well rounded, flank small between the side and haunch, tail fine. 6. Fore legs straight and well proportioned, hind legs broad above the knee, fine and clean below. 7. Udder large, and the teats large and springing from the four corners of the udder; milk-vein large and well defined.—*Exchange Paper.*

GUANO, A PRESERVATIVE OF FLOWERS.—Those who are lovers of flowers, and delight in having them constantly in their rooms, may continue to keep them fresh for a very considerable time, by putting into the water a pinch of Peruvian Guano, which is rendered immediately soluble, and taken up by the cuttings. Guano is essentially different from all other manures; it possesses most of the constituents of plants, and contains a great portion of salt and other antiseptic—and yet the most fertilising ingredients.—*Exchange Paper.*

TANNERS' BARK is slow of decomposition. On this account it is generally neglected as a manure. The best way of employing it, is undoubtedly, in the form of compost with lime and earth, or with liquid or solid farm yard manure, by which procedure decay is speedily effected. Tanners very frequently burn their spent bark, and apply the ashes to their grounds.

Eben Elshender, the Moor Farmer.

THERE is something so lively and agreeable, and so thoroughly practical, in the following article, which we find in *Littell's Living Age*, of the 17th of last month, and which is there credited to *Chambers' Journal*, that we have particular pleasure in transferring it to the Cabinet. It presents to our view a beautiful illustration of the philosophy of farming. The man whose main object is the maintenance of his family, must be careful that his experiments and his enterprises shall eventually prove successful—they should therefore, be of a very limited character, compared with what those may be, of the large capitalist—our friend Eben, for instance. Where the means are abundant, we can scarcely imagine a more pleasing and rational employment, than that of improving worn-out or impoverished, or naturally repulsive soils. It is a delightful spectacle to observe the man of gloomy mind, roused up to successful action and public usefulness, by an object with which the healthiest and strongest might almost fear to grapple. Reference has occasionally been made in the Cabinet to the advantages of long leases. We are aware, that these are less strikingly obvious in this country than in England, where there is not so strong a probability, that economy and thrift will soon enable their possessor to make himself his own landlord: and in the case before us, we at once perceive, that nothing could have been done without a long protracted engagement.—Ed.

EBENEZER ALEXANDER, or, as he was usually called, Eben Elshender, a native of the north of Scotland, was originally a manufacturer, but not being successful in this line, and falling into low spirits, he went to spend some time at a village where an elder and more prosperous brother had a bleaching establishment, in the hope of recovering the tone of his mind by means of country air and exercise. The place seemed at first sight unlikely to cheer up an invalid of the mind, being situated in a high and sterile district, with a north-east exposure, and far from all other human haunts; but things turned out much better than might have been expected, and we shall tell how this came about.

Eben, in his wanderings in the neighbourhood, was speedily attracted to a hollow in the neighbouring moorlands, which might be considered as the only place within several miles presenting the least charm for the eye—a brook, fringed by a line of willows and a strip of green, formed the simple elements of the scene, and from its situation it had a look of seclusion and warmth. He was led, by what he saw here, to surmise that elevation is not an insuperable difficulty in cultivation, provided there be shelter; and soon becoming convinced of the fact, his active mind in no long time conceived that he might employ himself worse than in endeavouring

to clear a little possession for himself, at a nominal rent, out of the neighbouring lands. He looked around, but, excepting the few patches in the neighbourhood of the village, the region was one either of unbroken heath or of moss of great depth, broken into pits, and filled with water even at midsummer. Nothing, therefore, could seem more hopeless. On the left only, as he looked northward, a large flat, lying far beneath him, and black and barren, or covered with brown heath, but looking to the sun, seemed to offer the semblance of a cultivated field, and he determined to visit it. He did so, but found it very unpromising. The surface, though apparently smooth at a distance, was rough and uneven; the soil was either stony and shallow, or a deep quick moss, wet everywhere even in summer, and with no fall by which it might be drained. A rivulet skirted it on the east, and was the natural boundary in that direction; but a swell many feet in height rose on the bank, and closed in the surface of the proposed farm from almost the possibility of being drained; and there were similar embankments on the north and west. Still it was a large surface, not materially uneven; it lay beautifully to the sun, and he could not but think that, if drained, and sheltered, and cultivated, here might be an extensive, perhaps a valuable farm. It would not require deep cuttings, as in mossflows, nor extensive levellings, as in very unequal surfaces. He determined to think further.

He spoke of his purpose to no one, but he brooded over it for days, again and again visiting the ground, and at last he waited on the agent of the proprietor. Even from him he exacted a promise of secrecy, if nothing should follow upon his offer; and then, for a lease of thirty years, offered a shilling an acre for four hundred acres of that unbroken waste, with power to renew his lease for thirty years more, if he should so incline, at five shillings per acre; but with liberty, also, to quit at the end of five years, without being liable in damages from any cause.

Many landlords seem to fancy that though land is of no value in their hands, they have yet a right to be sharers in the profits produced by the intelligence, labour, and capital of others; and that they are extremely liberal in forbearing to share for a few years in what had never existed for them, and yet will, at the end of those few years, be a valuable inheritance to them and their heirs forever. The landlord in the present case was wiser. He saw that he was about to receive immediately, for a small portion of this moor in cultivation, almost as much as

the entire moor brought as an inferior sheep-walk, and that at the end of thirty years it would exceed the original income of the entire possession; while this attempt at cultivation, if successful, would be an example of the utmost value, and might give his village that neighbourhood which it so much required. Not only, therefore, was the offer of our friend accepted, but wood for buildings was voluntarily offered, and a proper allowance for useful and well-constructed drains.

The villagers were astounded to hear that they were to obtain such a neighbour, but happy even in the hope of it. Enclosed as the place was by banks, which, instead of admitting it to be drained, would, if broken down, inundate it with water, it looked to them like a huge frying-pan, and of course there was no abstaining from some little quiet jokes:— This last was indeed the worst aspect of the affair. There was a fall for draining within the farm, but not without it; there was no final outlet. Still, our friend determined on pursuing his experiment; and, as a first measure, determined to give his possession a good name: he called it *Glen-Eden!*

He next marked off the site for his stead—on a very slight but bare and valueless knoll, being desirous at once to sit dry and to spare his good land if there were any. As he felt that nothing would be more apt to encourage him than the comfort of his home, as soon as his turf-cottage was roofed in, he had a floor laid down in one end of it, and raising up slight ribs of wood by the walls, and continuing them overhead, had the whole neatly covered by a thin boarding, which, with the addition of a little carpet and a slight curtain festooned over his couch—

A couch ordained a double debt to pay;

A couch by night, a sofa all the day—

made his end of the tenement seem a palace, and enabled him to look on the storm or the sunshine with equal consciousness of snugness and security to health. Good fires soon made the other end very tolerable to his servants; and being washed with lime, though not plastered, it formed a very cheerful temporary residence. He had the rankest of the heath pulled and secured for thatch or fuel, intending to burn the rest on the ground as soon as the ground should be dry. He next laid out the fields, and ordered them to be cleared of stones—an operation that covered them in some places to the depth of several feet; and finally, he

set himself to endeavour to lay the land dry.

For this last purpose, at the lowest part of the farm, but where the surrounding wall, as it may be termed, was highest,—and this was on the east,—he ordered a bank of moss to be dug out, and placed in a situation convenient for being dried and burned. In the course of this digging he came upon both stones and clay, treasures of great value in his circumstances; and lest the winter, by filling the pond with water, should render further digging impossible, he pursued his labours with great assiduity. His determination was, that this reservoir should afford him an opportunity of draining the land: and should it prove unequal to this, that a pump or pumps, to be worked by a small windmill, should raise the water to a height enabling him to send it off his territories. In the mean time he knew what ridicule the suspicion even of such a project would draw upon him, and therefore he gratified inquirers by informing them that he was forming a fish-pond for the residence, and even expected to draw profit from the ice in winter, by letting it out for curling, though the game was not then known in that part of Scotland; and the parties, breathing softly, turned from him, and gently lifting up their hands and eyes, departed. Meantime he was intersecting his fields in numerous directions by drains, leading them into one another, diverging, branching, and every way varying them according to the inequalities of the ground; and after proving their running, carefully filling them with the stones taken from the surface, and all tending at last to the general reservoir. Even in winter, therefore, the land became drier and drier, and people now began to see the use of the pond. By the return of spring he had effectually drained a large space in front of his residence, and generally prepared it for the operation of the plough. And even in this, by a sort of natural instinct, he differed from the accustomed mode. Aware that oxen draw most gently and steadily, he had secured the temporary use of a strong yoke of these, to be tried in all such portions of the soil as seemed likely to be capable of being opened up by the plough. People from the village had been engaged to attend at the same time to complete, with the spade and other implements, what the plough might leave imperfectly done, and give him, if possible, a field; and they had by this time so entered into the spirit of the thing, that the attendance was large, and in many cases gratuitous. He had no lime for the present; but he had been scavenger to

the village during the winter, and he had secured all the runnings from his own cattle in a great tank. He now set to burning, in close kilns, all the turf he had been able to accumulate during the summer; and between these and the refuse of the few cattle for which he had been able to find food, he was enabled to plough and manure some twenty acres of land, which he sowed and planted with the usual crops, accompanying all the white crops with sown grass. To complete his experiment, he had procured a cask to carry out the runnings of his stables, &c.; and having placed it on a cart, and fitted it with a tail-box pierced with holes, such as is used for watering streets and roads, he, as a last operation, sprinkled this liquor, so far as it would go, over the ground that had been dressed with ashes, at night, that no portion of it might be wasted by the sun; and so closed the labours of his first spring.

Science had not then disclosed to us what is now known to be true, that the terms good and bad land, as generally understood, are expressions without meaning, as almost every species of land requires some culture to make it productive; and by suitable means much may be made of almost any kind of land. Neither was it then known, as it now is, what are the precise ingredients necessary to the production of the various crops, and to which the soil is a mere matrix or receiver; and that burned earth or lime, and ammonia or the runnings of stables and other usual manures, contain many of those ingredients. But by instinct or accident, by reasoning from what he had noticed, or heard, or read, and perhaps so far experimenting without much knowledge or expectation, our friend had hit upon many things now known to be useful, and the result surprised many. Not only was there no failure in the crops of Glen-Eden,—as they now began seriously to call it,—but they were rich and beautiful. The oats, standing upon moss of great depth, but drained—and that but for the draining and manure, would not have borne a green leaf—were as luxuriant as if the depth of the moss had been the cause of their excellence. The other soils, lately so thin and dead, were now deep and dry, and bearing excellent barley, with a flush of clover about its roots. Potatoes, the gift of a warm and distant region, were flourishing in their little beds on this lately cold and barren moor, as if it had been their native and appropriate soil; and, in short, industry and intelligence had in a few months triumphed over the ignorance and neglect of centuries.

'Till these things became apparent, how-

ever, our experimenter kept in the shade. He had dismissed all his workers, except his hind, whom he termed his "resident manager," and his wife, who was his sole servant, and a Gibeonite of a boy, for looking after his sheep.* As the crops began to show themselves, his hind urged upon him the beauty of their appearance, and the almost certain success of his experiment, and consequently the duty of resuming operations. According to all appearances, his first crop would more than pay the expense that would give him a permanent and valuable possession; and as Eben inclined to this opinion, he determined to resume. As a proper preparative to this, he allowed his mother and sisters to visit him; and though they were shocked with the outward aspect of his residence, a black and cheerless looking turf-but, in the midst of a comparative wild, and guarded by a pet sheep and her lambs, that, as they approached, patted the ground in a very menacing manner, yet when they entered it, and found the servant cheerfully preparing for them a meal in the one end, while in the other was a little parlor such as a gentleman might inhabit with rest and enjoyment, they were not only surprised and pleased, but would gladly have protracted their visit, and were delighted to understand that they were speedily to join him.

Of course, from greater experience he rose to greater success. Even his labourers worked more cheerfully from seeing the success of what had been done. Moss that had hitherto seemed a nuisance, was to him a treasure, and husbanded accordingly; and stones that, above ground, were such an encumbrance, were, when placed in drains beneath it, of the utmost value. He became perfectly happy in his labour of improving, and almost regretted to think that one day it must have an end. Thirty years have passed since these operations were begun; the barren moor has been reclaimed into a valuable and productive farm: the once bare and rugged banks that impeded its draining have long been turned into boundaries covered with herbage of the softest texture, and crowned with woods at once an ornament and a shelter, and that being to be paid for, will render their owner rich. Even the deep and unsightly pool, that first assisted in laying the land dry, has been surrounded and screened by willows and alders, both useful in their way; and the numbers of ducks and geese constantly breeding on its borders and floating on its bosom, must add no inconsiderable item to the profits of the farm. Where the first damp and disheartening turf-shed was erect-

ed, there are now warm and substantial offices; and fronting all, and flanked by garden walls, and behind them trees, stands a farm-house, in its first days a cottage, but always the seat of plain abundance, and now of every comfort and a generous hospitality. Though in a climate not very genial, it is always warm; and from various flowering shrubs spread over it, seldom without flowers. It is the cherished residence of an industrious, ingenious, and very worthy man.

Many, stimulated by his success, soon followed his example, though on a less extensive scale; but the unpromising wild of thirty years ago, is now a sheltered, cultivated, and comparatively fertile spot, and the abode of many industrious and contented families.

For the Farmers' Cabinet.

Wheat Sowing.

ALTHOUGH the wheat crop of the United States does not amount to more than a fifth of that of corn—the latter according to Ellsworth's last Report, being in 1843, nearly five hundred millions of bushels, while the yield of wheat was but about one hundred millions, yet as it is of vast importance to the country, and withal a more precarious crop than corn, farmers cannot, we think, bestow too much care in committing their seed to the earth. It would be impossible to point out the best kind for sowing, as this would depend upon various circumstances. Some kinds will best suit light and thin soils—some will best bear late sowing, &c., and it is for each practical farmer to make his own close observations and draw his own conclusions on this point. But whatever kind may be chosen, it should not be forgotten to sow good seed, well cleaned, steeped in brine and rolled in lime or plaster. If the advantages of steeping seeds in chemical solutions, and *doctoring* them, as professor Johnston calls it, spoken of in some of the late numbers of the Cabinet, should prove to be realised, they will indeed be of incalculable importance in the economy of our business. I hope they will claim the attention of our enterprising farmers sufficiently to be well tested. Because the results stated may appear improbable, it does not by any means follow that they are not correct—there are many things in agriculture which are not yet explained, and the first step towards every improvement, is a conviction that we do not already know all that is to be known.

It is doubtless one of the advantages of our agricultural periodicals, that they render convictions of this kind more easily attain-

able by throwing abroad among us, the common progress of the country. A late writer has remarked, that individuals moving continually within the same circle, comparing themselves with none but their own neighbours, and having few means of seeing or hearing what is done beyond the contracted sphere of their own native village and nearest market town, are not so easily convinced of their own deficiencies, as may be those of wider and more extended intercourse.

Early sowing of wheat is pretty well demonstrated by facts, to be almost essential to good crops. The farmer then who drives his business—the fore-handed man, will have the best reason for hope at the coming harvest.

A late number of the Quarterly Review estimates the average produce of wheat in England, to be 26 bushels, and says if this could be raised to 27 bushels, it would add to the nation's income, 475,000 quarters, worth at 50 shillings, about £1,200,000. The average yield in the United States, is probably not more than 10 bushels—if we could by improved management, bring it up to 11 bushels, we would thus add to the farmers' income, six or eight millions of dollars. Could it be doubled, as no doubt it one day will be, sixty or eighty millions of dollars would be added to the annual receipts of our farmers!

I have thrown out these few unimportant remarks, not on account of my own large operations or experience—for I am but a small farmer—but with a view to stir up to diligent inquiry, every one who handles the plough or sows an acre of wheat. Select good seed—sow early—have the ground in good order, and aim to increase every year the average of your crops. R. N.

Sweedeshorough, N. J.

CLEANLINESS IN MAKING BUTTER.—It seems almost unnecessary to allude to cleanliness as peculiarly necessary to the manufacture of good butter. But I do so to bring under your notice the fact, that cream is remarkable for the rapidity with which it absorbs and becomes tainted by any unpleasant odours. It is very necessary that the air of the dairy should be sweet—that it should be often renewed, and that it should be open in no direction from which bad odours can come.—*Johnston's Lectures.*

W. F. KARKEEK, in a late Essay on manures, says where guano is drilled in with seed, not less than a ton of earth or ashes, should be mixed with each cwt. of guano.

For the Farmers' Cabinet.

Best Method of Constructing Cisterns.

TO THE EDITOR,—In some parts of the country where running streams are not adjacent to the dwelling—or where the water is *hard*, or difficult to be obtained, in consequence of the great depth which it is necessary to dig the wells, it becomes a matter of considerable importance, to know how to provide, in the best possible manner, cheap and durable *cisterns*. I find the following communication in a late number of the *American Farmer*, and it appears to me well worth copying into the Cabinet: I accordingly copy it for that purpose, knowing many farmers who would be greatly accommodated by a cistern under their shed, but who have heretofore been discouraged from the undertaking, from an impression that it was exceedingly difficult to prevent continued leakage and disappointment.

H. R.

Burlington co., N. J.

MESSRS. EDITORS.—You will doubtless allow me to communicate through your valuable monthly, *pro bono publico*, but especially for the benefit of those interested, a few brief hints in regard to the proper manner of constructing cisterns; household appendages so necessary to the comfort and convenience of those who are not blessed by nature or art, with a generous fountain of pure soft water at their doors.

Of the various methods recommended and practiced in different sections of the country, the plan of constructing cisterns of brick and water cement, is doubtless far superior to any other, particularly in regard to usefulness and durability. Though we have made one answer a tolerably good purpose for a number of years, made of white pine, bound with strong iron hoops, and firmly set in blue clay, yet the liability of the material to decompose and become useless, even when every precaution is used, suggested the propriety of adopting some improved mode in constructing it. The plan chosen was the one above mentioned. We constructed two of different sizes. For the largest, a pit was ordered to be dug ten feet in diameter and nine feet in depth, the bottom being shaped similar to that of a large potash kettle, and the sides perpendicular. The brick selected from the kiln for the purpose, were those burned hard, though but little cracked or warped. The mortar used was made of two parts coarse clean river sand, and one part ground water cement ready for mixing, obtained at the mill near Schuylerville, N. Y., at 25 cents per

bushel, though from the fact that it does not petrify or "set" as soon as some kinds, it is believed a superior quality may be obtained. Water is worked in to render it sufficiently soft for use, like common lime mortar. With materials and pit thus prepared, the mason commences operations exactly in the centre and bottom of the excavation, by covering the surface with a thick coat of his mortar, and laying the bricks with their flat surfaces contiguous, forming as soon as convenient, a perfect circle of some three or four feet in diameter. Regular courses are then laid around the circle, taking care to increase the inclination of the upper edge towards the centre, so that when the bottom is finished to the edge from where he wishes to carry up the sides, the bricks will be placed in an angle of about fifty degrees with the perpendicular side. Extreme care should be taken with this part of the work, and an extra quantity of cement used, in order to prevent the possibility of a leak, as in turning up the wall, the outer edges of the bricks must necessarily be further apart than the inner, and every cavity should be completely filled with the mortar. The sides were then carried up perpendicularly five feet, from which point they were gradually drawn in until carried up nine feet, and the neck or top so small as to admit of being covered with large slabs of white marble, with a circular orifice sufficiently large to admit an ordinary sized person, and to place a pump for raising the water. A curb is then carried up sufficiently high to prevent any action of the frost on the work below, and filled in with dirt or gravel that will not heave. At the top of the brick wall and immediately under the stone covering, is left an opening the size of a brick, from which a drain is laid to conduct off the surplus water, made like the cistern of brick and cement. While the wall is going up, the mason should be particularly careful to lay on a good coating of cement over the outside before filling in, care being taken to preserve a sufficient space between the bank and wall for this purpose. To complete the work, a flat stone is placed on the bottom of the cistern in a bed of mortar for the pump to stand upon, the whole inside plastered with cement similar to the walls of a house, and after drying a few hours, whitewashed with a thick mixture of cement and water, and the work is done. Water may be admitted after the work has become partially hardened, but should be conducted to the bottom in such a manner as not to wash the coating of cement. The first quantity of water discharged into it, will be hardened and rendered unfit for use, by the sulphate

of lime contained in the cement, which may be pumped out, when the next will be soft.

The advantages of having cisterns constructed as above described, must be apparent to the most casual observer. When done in a workmanlike manner, and with proper materials, they will be as durable as though formed of solid rock, and the inside presents a surface as free from filth as any stone vessel used for culinary or household purposes. Different families will of course require different sizes, and the amount of material necessary to construct them, varies accordingly; the one described, containing something like 45 hogsheds, the other about 20. The builder, Mr. Richard Swartwout, of Schuylerville, N. Y., has often, to save expense, been ordered to plaster the cement directly on to the earth as shaped with the shovel, and covering with plank or large stone as before. But the mode is evidently objectionable, as, if accidentally exposed to the frost, the sides will crack and become leaky. Brick cisterns laid up with common mortar, are also liable to crumble in time, and prove defective. In either case, however, the top should be sunk below the surface and covered with gravel sufficiently deep to prevent the action of the frost on any part of the masonry. If any of your readers choose to construct their cisterns according to the above directions, taking care to secure an experienced workman and good materials, they will find doubtless, should they live so long, that the lapse of half a century, will not affect their usefulness or impair their durability.

J. CHACE.

Hoosick Falls, June, 1844.

Pressing Hay.

RAIL-ROADS and canals make many things portable to distant markets, that otherwise would not pay. Large towns, for instance, cannot be supplied with hay by *wagons*, with profit to the farmer, at a distance beyond 15 or 20 miles—but by packing and sending by rail-roads and steam-boats, and sail-boats, it may be sent any distance. Milk, again, that could only be sent by ordinary conveyance from a few miles around large cities, is now sent from 100 miles around New York.

The following information about packing hay, was some time since kindly communicated to me by Doctor G. B. Smith, of Baltimore, a man of uncommonly strong and inquisitive mind, who is ever ready to exhibit his lights when called on—while some men, esteemed wise, hide theirs under a bushel, or have none to hide. I. S. S.

I will answer your questions according to their purport:

1. Size and weight of bundles of hay, as sold in this market, 4 feet 4 inches long, 30 inches deep, 30 inches wide, average weight 350 lbs. Some weigh 300 lbs., some 400 lbs., and all intermediate weights.

2. Cost of apparatus for pressing hay, from \$125 to \$350. There is no fixed price, and no one here that I can find, who makes a business of erecting them. A well built tobacco press, it is supposed would answer for a hay press.

3. Pressed hay in bundles, comes from the North, (New York, &c.,) and also from this neighbourhood. Mr. Fenby himself, has a hay press, and puts up a large portion, if not all he sells.

4. The difference in price between the hay loose and when pressed, is supposed to be about \$1 per ton; but it must be evident that pressed hay is worth no more to the consumer than loose hay. Pressing is only an advantage to the producer, as it enables him to get it to market cheaper than he can loose hay. It certainly adds nothing to the qualities of the hay to press it into bales. Ordinary wagon hay, is selling in our streets now, (25th of January, 1843,) at \$9 to \$11 per ton. Fenby asks for his pressed hay, \$12 per ton. But I presume that Fenby's pressed hay is better than ordinary hay, or he could not expect to get so great a difference of price for it. In estimating weight, a bundle of hay is equal to five barrels.

5. Freight of hay to New Orleans, depends entirely upon your meeting with vessels going out empty or nearly so. In such cases fifty cents a bale will be taken. In other cases the freight would be higher than the hay would be worth. I am told that hay is cheaper now in New Orleans, than here.—*Marlborough Gazette*.

From the Marlborough Gazette.

Plank Fences.

Heart Yellow-pine cheaper than Hemlock.

THERE are many memoranda like the one subjoined, which are torn up or thrown away, that might be useful in themselves, or lead to useful thoughts and reflections, if committed to the columns of an Agricultural paper. Every day I receive letters, from which useful extracts might be made, if I had time to do it; but alas, how often, (aye, every day,) we have occasion to wish for a double set of all our faculties, to do half that we would wish to achieve, in the course of a short life, which, short as it is, is one

half of it spent in *eating, drinking, or sleeping!*

The memorandum which follows, I find in a letter from a gentleman on the Eastern Shore of Maryland, of ample means, yet of not the less systematic habits—making nice calculations, and keeping exact accounts, being in that respect an example worthy of regard by many who have stronger reasons than he to do as he does. I. S. S.

Plank Fences.

5,097 feet Hemlock plank, \$11		
per m.	\$56	06
100 lbs. nails,	5	50
202 posts, Cedar, White oak, &c.	30	30
19 days labour, one man, at 75 cts. }	19	00
“ “ board, “ “ at 25 cts. }		
15 days labour at 37½ cts. }	56¼	8 44
15 days board at 18¾ cts. }		
	<hr/>	\$119 30

The above materials make 202 panels post-and-rail fence,—59 cents, say 60 cents per panel of eight feet.

Not having Hemlock plank enough to finish my range of fencing, purchased 1495 feet Southern heart pine, flooring plank, 6 inches wide, 1½ inches thick, cost \$16 50
Freight, 2 00

\$18 50 p. m.	\$27	66
Labour of 1 man 4 days, 75 cts.		
board 25 cts.	4	00
Labour of 1 man 4 days, 37½ cts.		
board 18¾ cts.	2	25
20 pounds of nails, 5½ cts.	1	10
61 posts, locust, 24 cts.	14	64
	<hr/>	\$49 65

The above plank made 61 panels of 10 feet per panel, and as the panels are one-fourth longer than the Hemlock, the account will stand:

Hemlock,	60	
Add one-fourth, 15		
Southern pine,	—	\$75 00
		82 00

One fence of the latter, from the superiority of materials, is worth two of the former. The great saving is in the posts—also the labour of every kind.

Yours truly,

CHASSEUR AUX RENARDS.

DR. ABERNETHY'S prescription for the gout, was to live upon sixpence a day, and earn it,

For the Farmers' Cabinet.

Book Farming.

WE hear a great deal said among farmers, about looking to Agricultural papers for information on practical matters relating to their business, and I am inclined to think that some among us, do not sufficiently value their importance. As a little illustration of the many hints which I acknowledge myself to be indebted to them for, I send the following from the New England Farmer: and I think a man who makes a little use of his head as well as his hands, can hardly help getting from its perusal, more than a year's subscription to a paper which contains it. W. S.

Bristol, Pa.

In conversation with Mr. G., whose farm had run backwards, I suggested to him the idea of collecting the leaves and decaying vegetable matter from a piece of woodland near by. "Why," says he, "I hav'nt much opinion of this vegetable matter—'tis sour stuff—only give me dung enough from the hovel windows, and I can raise as good crops as Mr. I. does, with all his swamp muck, lime, compost, and book-farming." I inquired if he took an agricultural paper. "No," said he, "I did take one several years ago, and that had so much to tell about a new kind of potatoe, that they sold for 25 cents a pound, and after all, it was'nt no better than the long reds; and about tree corn and mulberry trees; and a good many farmers got *bit*, by believing their great stories, that I got sick of, and stopped it, and would not now take the gift of one."

I afterwards called upon Mr. I., the "book farmer," as Mr. G. sneeringly called him, and found him a middle-aged, intelligent farmer, who was quietly improving his land by every means within his reach. I was so much interested in his management, that I thought I would attempt to communicate an account of it to the public, through the columns of your useful journal, with the hope that other farmers might be benefitted by his example.

Upon looking into his barn, I found his hovel floors were water-tight, and sloping toward the back side. In the rear of the cattle, was a kind of trough of the width of 12 or 15 inches, made by sinking one of the floor plank two inches; this was also water-tight: the droppings from the cattle mostly fell into the trough, and by giving the cattle a good bedding of litter every night, they were kept comfortable, and nearly as clean as when at pasture. He had the past winter used several loads of saw-dust from a

shingle mill, and leather shavings from the currier's, for the purpose of bedding, and soaking up the urine. The hovels were daily cleared out by wheeling the manure and litter into the centre of the yard,—which is dishing,—and piling it up in a snug heap. His barn is so situated he cannot dig a cellar under it, but intends the coming season to build a shed for the purpose of keeping his manure under cover in future. The floors of his horse stables are tight: every day they are cleared, and the manure and litter are spread under a shed, and by being trodden by his stock, it does not heat and fire-fang, as is too often the case. Most of his winter manure will be mixed with swamp mud, to compost through the summer. I inquired respecting a heap near his barn: he said there were two cartloads of lime-mortar, that he bought for a trifle, of a man who had taken down a large house: it was mixed with about four loads of brake-root turf, about eighteen months ago; it had been left this length of time for the purpose of having the plaster come to pieces, and rotting the turf. Last fall it was shovelled over, and two lime casks of fleshings procured at the tanner's, mixed with it. He thought while this animal matter was decomposing, there would be a large amount of nitrogen generated, and give him a large amount of nitrate of lime by spring, when it would be again shovelled over, and 35 bushels of good ashes mixed, and then applied to an acre and a half of ground, upon which he should sow wheat: I think he said the compost was to be put on after the ground was ploughed, and to be harrowed in with the wheat. The ashes he had purchased at ten cents per bushel.

He had a cart-load of the waste wool, or flyings, from the wool carder's; this was to be boiled for a short time in lye,* to cleanse the oil and grease, and to render the wool more decomposable. By way of experiment, a part of it would be used to manure some of his corn and potatoes in the hill, the rest would be mixed in the compost heap, to remain a year or so. He also had a large quantity of old woollen rags, that he bought of a store-keeper for a trifle—having, he said, read in some book, that 100 lbs. of woollen rags contained as much nitrogen as 300 lbs. of cow manure. Some of these rags were to be chopped up and steeped in urine for a few days, then to be partially dried and sprinkled with gypsum, and used as manure in the corn and potatoe hills; the other part would, like the waste wool, be

composted. He had a number of casks of fleshings that were obtained at the tanner's, which would be mixed with vegetable mould soon as the snow was off, and he could obtain it; he has also taken the hair, lime, and piths of horns from the tan-yard; the bones are broken up by the hammer and mixed with the manure and ploughed in; they will slowly decompose, and supply phosphate of lime to his land: he had about two barrels of the settlings of salts from the pearlsh factory—similar, he thought, to the material known as glass factory manure; an account of its use and value is given in Mr. Colman's Fourth Report, pages 344-5, by a Mr. Jarvis. There were a few inches of lye upon the top of the salts in the barrels, so strong as to float an egg with nearly one half its surface above the lye. This, he assured me, according to Mr. Jarvis' statement, would convert 10 or 15 loads of loam or muck into a compost equal to the same amount of good stable manure. All these materials, saw-dust, wool, fleshings, hair, lime, piths of horns, and salts from the potash, he had for removing, as they were considered a nuisance, and of no value by the manufacturers or owners. The droppings of the fowls are occasionally scraped from the boards, over which the hens roosted, and put in old casks: in the spring it will be moistened with urine and ground to pieces with a hoe, and mixed with plaster of Paris, to be applied to grass land, or put about the corn and potatoe hills, at the first or second hoeing;—he styles it "Yankee Guano." He has a strong tight box under his back house, in which is frequently thrown gypsum, or charcoal dust obtained from the coal-pen of the village blacksmith: it absorbs the smell, and once in a week or two, the contents of the box are mixed with dry peat or saw-dust, or some other material, to absorb the liquid part, and put into old tight barrels. This is home-manufactured *poudrette*. His hog-yard is of good size, has been dug to the depth of 18 inches, and a good plank floor over the whole, which makes it easy shovelling out the manure. The suds from the wash are conveyed to it by a spout, which with the manure of his hogs, mixed with the loam, muck, and other materials, make many loads of valuable manure. He has tried many experiments that he has seen recommended in the agricultural books and papers that he has read; says, after he became "one and twenty," he did not feel obliged in all things to follow in the "foot-steps of his worthy predecessor," his father, and sometimes pursued a new track, and went upon his own hook. He intends getting a small quantity of guano and ground

* We hope he did not pour this liquor into his gutter, to run off and be wasted.—W. S.

bones the coming spring, for the purpose of testing them by the side of other manures. Several of the kinds he has not yet tried, but from his remarks, I feel satisfied he will find them all invaluable helps for increasing his crops, and from the nature of some of them, valuable and permanent improvers of his soils.

Alpaca.

PROBABLY few ladies who wear and admire the beautiful fabric called Alpaca, are aware of the source of its production. The Alpaca is a wool-bearing animal, indigenous to South America, and is one of four varieties which bear general points of resemblance to each other. The Lama, one of these varieties, has been long known and often described; but it is only within a few years that the Alpaca has been considered of sufficient importance to merit particular notice.

Nine-tenths of the wool of the Alpaca is black, the remainder being partly white, red and grizzled. It is of a very long staple, often reaching twelve inches, and resembles soft glossy hair—which character is not lost in dyeing. The Indians in the South American mountains, manufacture nearly all their clothing from this wool, and are enabled to appear in black dresses, without the aid of a dyer. Both the Lama and Alpaca are, perhaps, even of more value to the natives as beasts of burden than wool-bearing animals, and their obstinacy when irritated, is well known. The importance of this animal has already been considered by the English, in their hat, woollen and stuff trade, and an essay on the subject has been published by Dr. Hamilton, of London, from which some of these details are collected.

The wool is so remarkable, being a jet black, glossy, silk-like hair, that it is fitted for the production of textile fabrics differing from all others, occupying a medium position between wool and silk.

It is now mingled with other materials in such a singular manner, that while a particular dye will affect those, it will leave the Alpaca wool with its original black colour, and thus giving rise to great diversity.—*Iris*.

DROP CAKES.—One quart of milk, a large teaspoonful of saleratus, dissolved in a cup of cream; to which stir in flour very smoothly until a thick batter is formed. Then dip your spoon in milk, and with it place your batter at short distances in a buttered pan. Very delicate, made entirely of cream, either with or without eggs.

For the Farmers' Cabinet.

Turning in Green Crops.

TO THE EDITOR,—I saw an editorial in the last number of the Cabinet, calling upon its readers to bear their proportion of the labour, or the pleasure, if you choose, in giving variety and interest to its pages: and it seemed to me so reasonable that we who are principally benefited by its publication, should yield a hearty support, not only by our subscriptions, but also by our pens, to this well established paper, that I looked around me, to see what I could find to say, which, while it filled a column, would at the same time, give a valuable hint, or stir up to action a fellow ploughman, who might perhaps otherwise forget to practice what he had already learned. It immediately occurred to me to say, that I believe we are very apt to overlook one of the cheapest and most efficient modes of improving our impoverished lands, and sustaining them in their fertility. I allude to the ease with which we might all avail ourselves of the expedient of turning in green crops. Clover, buckwheat, corn, have often been recommended for this purpose; and among these, some prefer one, and some another. Corn sown broadcast, even if the ground is poor, will start up and soon afford a very considerable crop to plough in. Buckwheat is of quick growth, deriving much of its support from the atmosphere, and therefore returning more to the earth than it draws from it. Clover also, from its abundant foliage and large tap root, is quite a favourite,—and deservedly so in my opinion—with many for ploughing in. Where the ground is tolerably good, an amount of green herbage will spring up, that will very nearly or quite equal a moderate dressing of stable manure. Clover to be of much avail, must have a good footing in the soil. Corn or buckwheat may be sown in the early part of summer, and in the course of two or three months, will be ready to be turned under, when the ground may be put in wheat. Large crops of wheat and rye have often been the result of this method; and it certainly is much cheaper, where there is a scarcity of manure, than to buy it; but I do not think our general practice is such, as shows that farmers are sufficiently aware of the means they have within themselves of improving their lands.

Now I am aware that this is not the time of year to sow either corn or buckwheat, for the purpose above suggested—but let those who have a good swarth of clover on land which they wish to put in wheat, turn in a good plough and cover it up thoroughly, and

I will venture the prediction, that their chance for a crop will be as fair as their neighbours, who manure from their barnyards.

A. N. R.

Essex co., N. J.

Meeting of the Farmers' Club.

THE New York Sun gives the proceedings on the 20th of last month, most of which we copy below.

GENERAL TALLMADGE in the chair. Mr. Wakeman, the corresponding secretary of the Institute, called for the reading of a circular from the Farmers' Club to the Gardeners and Farmers of the Union, on the subject of the Farmers' Convention, in October next, at the Fair in New York. The circular was read and unanimously adopted. President Tallmadge then offered the following remarks:—"In looking over some title deeds and other papers recently, I found some specimen cards of wool from Saxony sheep, which I obtained with some of the sheep, in 1826—I present them to you, gentlemen, together with a specimen of the clip of this summer from my sheep, which had been Merino, crossed by these Saxons. These specimens exhibit the influences of our climate upon this fine wool, in the county of Dutchess, in this State, where I reside. The staple of this American wool is much longer than the Saxon clip, and appears to be as fine. The original Saxon gave two pounds at a clip; this American product gives three pounds at a clip. The weight of the fleece depends much on the *fare and keep*. Our flocks have for some six or eight years been neglected, or they would have been much better than they are, and I will show the reason why.

"Before 1800, we had a long-legged, coarse woolled sheep; the wool of which was worth from *six to ten cents* per pound. Col. Humphreys, our Minister to the Court of Spain, and Chancellor Livingston, who was in Paris, caused some Merino sheep to be sent to us. They were eagerly sought for by our farmers, and the wool gradually spread over the nation. In 1826, the Saxon fine woolled sheep were imported; the price in 1828, was from *sixty to eighty cents* per pound. Wheat was sold for two dollars per bushel. But wool went down, down, down to *twenty-five cents* per pound. The sheep, not being worth their feed and care, were allowed to go to destruction, and one method was to kill and boil them, and get all the fat out of them that was possible. At Catskill, a large sheep-destroying establishment was constructed, where thousands

of them passed through this *trying* process. Thus have our finest sheep in number and quality been destroyed. The public prints of Dutchess county have stated truly, that Dutchess had *seven hundred thousand pounds* for sale in the market, at *sixty to eighty-seven cents* per pound, or at an average of *sixty-five cents* per pound, per annum. Before 1842, this product of Dutchess county sunk to three hundred thousand pounds, at twenty to twenty-five cents per pound only; so that from an annual wool sale for four hundred and fifty-five thousand dollars, she dwindled down to a sale for seventy-five thousand dollars; then adding the loss of the carcass of the sheep, it is just to state, that Dutchess county has sustained an annual loss of about half a million of dollars. This is no exaggeration."

Poisonous weeds.—D. Jay Browne, Esq., moved the adoption of a resolution recommending to city and town authorities, and to gardeners and farmers in general, to exterminate all weeds that are poisonous to men or stock, or injurious to crops, before they go to seed. Mr. Fleet inquired if stramonium is not useful as a medicine. Dr. Field replied that there is a much greater quantity than is required for medicinal purposes, and that the destruction of weeds is a very important matter. They occupy a great deal of ground, and abstract the moisture; they keep off the dew from other plants, and deprive them of their nourishment; the seeds of the weeds become scattered far and wide, sometimes lying in the ground, under certain circumstances, a long time without vegetating. Gen. Johnson was of opinion that they last for many years, and when brought to the surface or place favourable to them they grow, and that such was also the case on some pine lands, which have lost their timber—the acorns of scrub oaks grew, after being in the ground for fifty years. With regard to weeds, Gen. Johnson remarked that he made manure of some of them, by mixing them with headland soil and liquid manure from the stable. For an onion bed, he usually took the dry weeds and brush and burned them together—they become a sort of charcoal, and make an excellent top dressing. The place for making the manure ought to be fixed that the liquid manure from the stable and yard would easily run into it, and be absorbed by the weeds, &c. In Flanders the urine of a single cow is considered to be worth *ten dollars* per annum.

Disease amongst potatoes.—Mr. Fleet stated that the potatoes of Westchester and elsewhere, appear to suffer from some disease—the leaves fall from the stems and

the potatoes seem to be affected, and he considered the subject worthy of immediate investigation, a measure strongly recommended by the chairman.

Grapes.—Mr. Fleet stated that Mr. Shonard, of Westchester, has some very fine grapes which have been shaded by locust trees. They are far better than common. He further remarked that the shade of locust trees was favourable to the growth of grass, and that cattle had made this discovery.

Insects.—Col. Clark said that he had a lot of young locust trees, which appeared likely to be destroyed by the well known and troublesome "apple borer." With a view of exterminating them, he had, with a stomach pump, injected into the holes made by the borers, lime water, also caustic, potash and spirits of turpentine, since which time he has had no further trouble with them, and the trees so treated are now growing well.

Mr. Wakeman remarked that while he was in the State of Maine, he had gathered some facts which appeared to be worth mentioning. It is estimated that on a peninsula, about three miles long and one and a half miles wide, there are two thousand apple trees which have been generally attacked by the worms, and that their prospect of bearing fruit is hopeless. About forty trees only, belonging to a Mr. Perkins, appeared to be untouched. These were perfectly green and vigorous, and likely to bear fruit. The trunks of these trees had been whitewashed, and on inquiry of the proprietor, I ascertained that in the latter part of April he scraped all the dead bark off these trees, so as to leave them perfectly smooth. He then whitewashed them with lime from the bottom to about eight or nine feet high, and this was all that he had done to them. On one tree about a dozen worms had been found and picked off, but not a single worm had been found on any other of the trees that had been whitewashed, which fact spoke well for the use of lime.

With regard to poisonous plants being avoided by animals, Mr. Allen said that the goat eats stramonium freely. Mr. Browne said that the goat eats hemlock, another poisonous plant. Col. Clark said the ass eats green tobacco very freely. Mr. Meigs stated that the gazelle, the antelope, and the camel, also eat tobacco with apparent satisfaction. On this subject President Tallmadge remarked that on offering tobacco to an elephant, he would knock the person down with his trunk. With regard to vermin on trees, he stated that whale oil might be considered a specific. Dr. Gordon, in

reply, remarked that whale oil soap had been long recommended and employed for this purpose by English orchardists, but that the soap has a tendency to injure the flavor of the fruit. In a letter to Dr. Mitchell, it was stated that a peach which had been sent to the Dr. was so impregnated with salt, in consequence of a quantity having been placed at the root of the tree, as to render the fruit entirely valueless.

DAIRYING.—The best dairying in New England, is upon our roughest, highest granite hills. The quantity of butter turned out from cows pastured upon them, is much greater, and the quality much better than that produced from the lowland pastures. Fortunate is the farmer with the good housewife, who knows how to make the best butter. Mr. Baker, who resides about four miles out of this town on the Bow hills, furnishes three large families in Concord, with all their butter on the produce of five cows, after commendably serving up his own family in butter, cream, and the best new milk. These five ordinary cows, gave him in the month of June, as high as thirty-six pounds of butter in a week; and while others were selling their butter for store pay, at ten and twelve cents a pound, he was regularly dealing out his butter for cash, at fifteen cents a pound. The hard flinty hills of New Hampshire, contain beneath the earth's surface those elements of fertility which make our soil really more desirable, under a proper treatment and cultivation, than the best prairie country of the West and South. We have here no malaria, producing agues and chills and congestive fevers. We have no overflow upon the hills, destroying the crops far and near: from the dangers to which poor humanity is the heir in nature's great convulsions, our granite hills are at the highest point of distance.—*Farmers' Monthly Visitor.*

TO MAKE WATER COLD FOR SUMMER.—The following is a simple mode of rendering water almost as cold as ice: "Let the jar, pitcher, or vessel used for water, be surrounded by one or more folds of coarse cotton, to be constantly wet. The evaporation of the water will carry off the heat from the inside, and reduce it to a freezing point. In India and other tropical regions, where ice cannot be produced, this is common. Let every mechanic or labourer have at his place of employment two pitchers thus provided, and with lids or covers—the one to contain water for drinking, the other for evaporation—and he can always have a supply of cold water in warm weather."

Waste Manures.

CAREY & HART have lately published one of the best Essays we have seen on "The Economy of Waste Manures." It was written by John Hannam, for the Yorkshire Agricultural Society, and should be in the possession of every farmer who properly appreciates the value of the fertilizing materials which he is in the habit of collecting together—he will be vastly aided in his operations by the judicious, practical and simple instructions of the writer: and he who does not already thus appreciate his manure heap, will hardly fail to be stimulated on this point in a manner that will soon show itself on his increased crops. Below is an extract directly to the point.—Ed.

Nothing must be allowed to run away in the form of a fluid, or to fly away in the disguise of a smell. * * * Mark out a piece of ground on which the dunghill is to be made, on a good slope, if possible, and close by a pond. Cut a gutter all round, and puddle it with clay, so as to make it water-tight. Then, at the lowest part, outside the place where the dunghill is to lie, dig a sink hole eighteen or twenty inches deep; let this be well puddled, and connected with the gutter already spoken of. Things being thus prepared, throw down a layer of manuring substances, about a foot deep; tread them well down, and scatter some fixer over it: finally, water it well. In this manner go on with layer after layer, till the heap is the desired height. * * * During the operation of making the heap, some water will have drained away; in that case, it will have run into the gutter, and been collected in the sink hole. Scuppet the water out as the work proceeds, and throw it back on the dunghill. If the hole is not large enough, another can be made near it; none of the drainings *must on any account be lost*. It should have, at least, once a week, for a month, a good quantity of fluid thrown upon it. Pot-boilings, and soap-suds, are much better than common water; but urine is preferable to both. * * By these contrivances nothing is allowed to leak, but the dunghill becomes a soft mass, holding fast all which belongs to it, except what flies away. To catch the latter is the *purpose of the fixer*. There are many kinds of fixers,—oil of vitriol, blue vitriol, salt and lime, (not either salt or lime by themselves on any account,) gypsum, &c., may be used; but some of them at all times, and in some cases all them, have the fault of costing money. A substitute which costs nothing except labour is, therefore, to be sought for. Such exists in cinder siftings, charcoal dust, good black earth, peat or hog mould, rotten saw-dust, leaf mould, black mud from ponds, bottoms of wood stacks, soot, brick-dust, burnt clay, &c.

Mr. H. S. Thompson, of Kirby Hall, at the late meeting of the Yorkshire Agricultural Society, at Doncaster, recommended the plan he adopted, which was, "to have a pit dug in the earth, in which to throw the manure, instead of having it piled up in a heap. The bottom of the pit is water tight, and has a slope towards the centre, where a tank is placed so as to receive the drainings from the manure. These drainings are frequently poured over the manure, so as to keep up a regular, but not excessive, fermentation. He was in the habit of collecting all the couch grass, stubble, and other vegetable refuse which the farm afforded, and spreading it on the bottom of the pit to the depth of six or eight inches. This, when well soaked with the liquor that drained from the manure, which was carted upon it, and fermented together with that manure, was, he believed, as good as any other portion of the heap. In this way he had, last year, on a farm of two hundred acres of arable land, increased his manure by two hundred single horse loads, which was equivalent to four additional loads per acre for his fallow crops. If the manure was wanted for immediate use, it should be lightly thrown together, and, after being well soaked with tank liquor, have a thin covering of soil to absorb the gases which would otherwise escape. In this case, it must be carefully watched and well watered, from time to time, to prevent the fermentation from becoming excessive. If the manure is to be kept six months or more, it should be made solid by carting over it, and have a thick covering of soil, which would nearly exclude the air. In this way manure may be preserved for a year almost without loss. In very dry weather, the drainings from the manure are not sufficient to keep it moist, and it becomes necessary to saturate it with some other liquid. If the farmer has other tanks on his premises, it would be better to use their contents for this purpose, but where such are not at hand, plain water may be used, and has been found to answer exceedingly well."

SHEEP.—It is very common in the months of June and July, for some kinds of sheep, especially the fine Leicester breed, to be struck with a kind of fly, and by scratching the place with their feet, they make it sore and raw. To prevent this, take tar, train oil and salt, boil them together, and when cold, put a little of it on the part affected. This application keeps off the flies, and likewise heals the sore. The salt should be in very small quantity, or powdered sulphur may be used instead of it.—*Boston Traveller.*

For the Farmers' Cabinet.

Manuring Seeds by Steeping.

WELL has the editor of the Cabinet called it a "startling doctrine, that all seeds may be so treated as to grow most luxuriantly, without any manuring of the soil in which they are cultivated,"* for it seems to overthrow some of our long accredited notions concerning manures and rich soils. From pure beach sand, or an equally barren sub-soil, we are promised a greater crop without manure, than has usually been obtained from a good soil well dressed! and this, on the simple condition that the seed used should undergo a short and cheap preparation! One cannot help being curious to know if this magic power, given to the seeds of annual and other short lived plants, would be alike imparted to those of slower growth—to the peach, for instance, of a few years, and to the oak of an hundred!—if so, what giants may the forest not be made to produce.

Yet we are bound to give heed to these claims, for they are confirmed by many witnesses; a tittle of the testimony offered to sustain them, would suffice to convict of the highest crime in our courts of justice. Moreover, when we remember that a few elements constitute the food of all vegetables, and that air and water furnish the most of these; when we see a plant thrive well in a bottle of pure water, and the sturdy oak springing from a naked rock with a few chinks only for the admission of its vagrant roots, we are led to consider whether the food of plants is not more abundant and more accessible than we had supposed; and whether *the first condition of vigorous growth be not a good appetite and good digestion, to be derived only from a robust constitution through a vigorous germ or seed.* If so, we have some clue to the astonishing results referred to, and some rational ground of faith in the matter. But my object was, by relating a fact having some bearing upon the subject, to encourage others to do the same, for doubtless many such facts are afloat in the community, and it is only by their multiplication and aggregation that any thing like a safe theory can be formed in the premises.

Some years ago, the writer was shown by the proprietor and cultivator of a small farm of a light sandy soil, in the eastern part of Massachusetts, seven cars of corn, of the kind called brindled, or red and white; five were large full cars, the other two, smaller, but sound and merchantable. They were

* See page 377, last vol. of Cabinet.

all, he said, the produce of a single seed! this seemed almost incredible to all, especially when he added, that no extraordinary care or dressing had been used in its cultivation; and had not the relator been a man of undoubted integrity and noted accuracy, his account would, I have no doubt, have been discredited. But perhaps the most singular feature in the case was to come; he had not even planted the corn, it had sprung up from the dung dropped on the spot by a corn-fed ox! Thus, this prolific seed had passed through the organs, but escaped the process of digestion. This circumstance was viewed at the time as a most singular coincidence, but strange to say, of the many that were acquainted with the facts in the case, no one, so far as I know, looked upon them in the light of cause and effect.

This case seems to me to go, as far as a single case can, to confirm the novel doctrine of the German,* and to justify the trial of the excrements of cattle made liquid, and of their urine also, and perhaps of the guano, for fertilizing seed.

On reviewing this subject in the light we now possess, I cannot but consider it as promising important results to agriculture, and as precinently worthy the attention of every intelligent husbandman. At the hands of the physiologist too, in connection with the animal as well as the vegetable kingdom, it seems to me the whole doctrine is worthy of the closest scrutiny; it would not surprise me if in it should be found a clue to the marked dissimilarity of offspring of the same parents, occurring under what appeared to be similar circumstances.

It is the intention of the writer to try the effect of the new process on the *germination* of seeds to some extent;—further than this to test the agricultural value of the new doctrine, his situation is not favourable—it is favourable, however, to the preparation of the chemical solutions; or "corn-growing liquids," of James Campbell, an account of which is contained in the Cabinet of seventh month last; and it is his present purpose, in order to facilitate the attempts of others to test their value, carefully to make such solutions, and to furnish them to applicants at a barely remunerating price.

PAUL SWIFT.

Philadelphia, Eighth month 30th, 1844.

A MIXTURE in the proportion of one ton of refuse fish to ten tons of earth, are used in Cornwall as a manure for turnips.

* See last No. of Cabinet, page 18.

Raising Water.

WE have not unfrequently been spoken to on the subject of raising water for family purposes, where it is difficult to obtain it by the ordinary process from wells. The following communication appearing in a late number of the American Farmer, presents the subject in quite an interesting light, and where cisterns are not resorted to, the method suggested may be turned to valuable account.—Ed.

TO THE EDITOR,—

SIR,—The object of this communication is to make known, for the benefit of others, a means of raising water, which I have employed with perfect success under circumstances which must be common throughout the State.

My summer residence is upon a very narrow and gravelly spur of Elkridge, near the Thomas viaduct, immediately above the Hockley Mill. On one side is the Patapsco, and on the other a very deep ravine, at the bottom of which, and one hundred and fifty feet below the site of the house, is a small rivulet with a rapid fall, which, in ordinary seasons, affords a supply, in dry weather, of about six gallons of water per minute. Before I commenced building, I dug a well, which promised to answer my purposes; but after I had completed my improvements, finding that it did not furnish me with quite as much water as I required, I attempted to increase the quantity by deepening the well, when an unlucky blast opened a seam in the rock and I lost all that I had at first obtained. The result of going still deeper was so problematical, that I now turned my attention to the rivulet just mentioned; and seeing, about this time, an advertisement in an English paper of the improved Hydraulic ram of Easton and Amos, of London, I wrote to the firm describing my situation; and their reply being favourable, I imported one of their machines, which I have had in use since May last. Some doubt as to the operation of the ram, induced me to guard against possible failure, by conducting a distant spring in pipes under ground, to a point from which I could pump it by a common pump; but the ram succeeded perfectly, when it arrived, and was put up, and it is to this that I now wish to call attention.

The "*Belier Hydraulique*" of Montgolfier, is described in all works upon natural philosophy, and has been known, for many years, as one of the most beautiful contrivances in the range of mechanics. But it was regarded, generally, as more admirable in theory than in practice, until the improvement of Messrs. Easton and Amos, gave to it an adaptability, which has made it of very

common use in England. If a column or body of water, moving rapidly under a head, through a pipe, is suddenly checked, its tendency is to burst the pipe. This is well known in all places where there are water works, from the bursting of the leaden supply pipes, where these are not strong enough, on the sudden shutting of the hydrant cocks. If a hole is made in the pipe just above the cock, the water will escape from it in a very high jet, much higher than the head, whenever the cock is shut. It is this principle which is brought into action in the hydraulic ram. If a smaller upright pipe is attached to the hole, just mentioned, in the main pipe, having a valve shutting downwards, which will permit the water to pass upwards, but not to return, each opening and shutting of the cock will force up into the smaller pipe a quantity of water, in proportion to the head upon the main pipe, until the weight of the water in the smaller pipe is greater than can be moved by the *momentum* of the water in the main pipe when the latter is suddenly closed. And the first ram was, in fact, as invented by Whitehurst, nothing more than a common hydrant pipe with an upright and smaller pipe and valve, inserted just above the cock, the opening and shutting of the cock, in the ordinary use of the hydrant, operating to supply a reservoir on the top of the inventor's house. Montgolfier's great improvement, which made the machine self-acting, was to substitute an outlet valve, shutting upwards, in place of the cock; which valve was weighted so as just to open when the water in the main pipe was in a state of rest. But the moment the outlet valve was opened by the weight upon it, the water which then rushed out, acquired a power *in addition* to its gravity—the *power of its momentum*—which was sufficient to close the outlet valve, when the same effect was produced that was produced by the shutting of the cock, and a jet of water was thrown upwards into the smaller pipe, which may be called the "raising main." The water in the main pipe was thus brought to a state of rest, when the weight on the outlet valve was again sufficient to open it—and the water rushing out of it created again the *momentum* necessary to close it, when a further supply was forced into the raising main, and so the outlet valve was kept constantly opening and shutting, or pulsating, as it is termed, and a regular stream was made to pass up the raising main. An air vessel was attached to this last, to produce a *uniform* flow of water, like that used in a common forcing pump. But the weight on the outlet valve was an imperfect contri-

vance after all; because, if the head of water varied, the weight required to be varied also, and so long as the weight was the only known method of making the ram self-acting, the machine did not get into very general use, being found oftener on the shelves of philosophical cabinets than in farmers' barn-yards. The improvement of Easton and Amos does away with the weight and makes the hydraulic ram as nearly perfect as any known machine. It consists in placing a small air chamber in the body of the machine, the air in which acts as an elastic cushion, against which the water in the main pipe rebounds when the outlet valve is closed, and thus relieves the valve from the pressure which has closed it, and allows it to open, when the water, escaping at it, again closes it; the rebound again takes place, the valve again opens, only to shut again, and the machine is thus kept steadily at work until the materials of which it is made wear out. A small vacuum valve supplies to the air chamber last mentioned, as well as to the air vessel which makes the flow from the raising main *uniform*, enough air to compensate for that which the water absorbs, besides aiding the opening of the outlet valve by the partial vacuum consequent on the rebound.

I have thus, as clearly as I can without a diagram, described the principle and mode of operation of the hydraulic ram, which is a means of raising water by the agency of two valves, without water wheel or forcing pump—a means unequalled for its simplicity, cheapness, and universal adaptation to all situations where there is a stream of *running* water.

With the ram used by me, I have a head of 30 feet—my main or supply pipe is of iron, two inches in diameter, and one hundred and fifty feet long,—*laid perfectly straight*, the lower end of which, where it is connected with the machine, being of course thirty feet lower than the upper end, to which the water is brought by common chestnut pipes from the rivulet. The raising main is an inch lead pipe three hundred and fifty feet long, and the elevation overcome, or the vertical height between the ram and the basin where the water is discharged, is, as already stated, 150 feet. One-sixth of the water passing through the supply pipe is forced up the raising main—that is, if the rivulet furnishes eighteen gallons of water per minute, I am supplied with three of them at the top of the hill. If it furnishes but eighteen pints, which in this dry season has been much oftener the case, I get three pints. The machine requires no care, no attention, and no oiling or packing. For

the effects produced, it is really, to the eye ridiculously small, weighing perhaps 120 or 130 lbs. It is protected from mischief by a suitable covering, and when it is set in motion, which is done by pressing open the outlet valve by putting the foot on the stem, it goes on working day and night, pulsating with the regularity of a time-piece until the valve wears out, when a new valve must be put in its place, and on it will go again. Three outlet valves, I am told and believe, will last for about five years, and a new valve may cost five dollars. The wear of the other valves is imperceptible.*

The quantity thrown up at each pulsation depends upon the play given to the valve, which is regulated by washers upon the stem. When the machine is throwing up a gallon a minute, it makes 60 pulsations with unvarying regularity; and a very simple mechanism would furnish a clock at the engine house as accurate as any that depended upon pendulum or balance wheel for isochronism.

So far as I am aware, the machine at Fairy Knowe is the first that has been put up in this country; and as there are hundreds of situations where it must be most desirable to have it, I have attempted in this long communication to explain its principles and usefulness. The ram itself, without the pipes, cost, all duty and charges paid, \$100. The cost of putting one up, must depend of course upon the length of the iron and lead pipes leading to and from it. Two inch iron pipe, laid down, will cost about 45, perhaps 50 cents a foot—and lead pipe, say 20 cents—though this last depends upon the weight of the pipe, which again depends in some degree on the height to be overcome. The labour of ditching and the cost of an engine house or shelter for the ram, depend upon distance and the views of the parties in regard to expense. These estimates are very rough: but should my example induce others to follow it, I would recommend them to John Elgar, Esq., who has made the machine his particular study, and to whose careful and judicious superintendence, I am indebted for saving in time and money in putting the machine to work. Mr. Elgar's address is Sandy Spring, Montgomery county, Md., and he is prepared to furnish accurate estimates, to

* A much less head of water than thirty feet, will answer all purposes. Indeed a ram has been made in England, to raise one hundred hogsheads of water to a perpendicular height of 134 feet in twenty-four hours, with a head of only four and a half feet. The scant supply furnished by my rivulet, was the cause of my using so great a fall as 30 feet.

make the necessary survey of the premises, and to superintend the work. He has made arrangements also to have the machine constructed at the establishment of Mr. Winans, in Baltimore, at much less than it cost me to import mine.

I would omit an act of justice, were I not to mention here, that Mr. Winans has made a very admirable improvement, which enables the machine to be used where the supply of water is irregular, without the trouble of going to it to start it after the head has accumulated, and which promises also to make it useful upon the largest scale, even to the supply of cities, in place of the water-wheel and forcing pump.

Respectfully,

JOHN H. B. LATROBE.

Fairy Knowe, Aug. 2nd, 1844.

From the North American.

Protection from Lightning.

WITHIN the last few years, this subject has acquired renewed interest, in consequence of the immense loss of life and property which has been sustained throughout our country, by this terrific agency. It has, therefore, become a practical question of vast importance, in which we all have a deep concern as to the causes of this destruction, and the best means of counteracting an element so universally diffused throughout space, and which left to itself, proves so highly destructive. To a superficial observer, it must be very manifest that there exists a culpable ignorance on the part of the community, in reference to this whole subject, as well as a general neglect in the employment of those means which, both experience and philosophy have proved adequate for the perfect protection of property, and consequently of human life. From recent investigations, it has been satisfactorily ascertained, that the simple rod of Franklin is all sufficient, if properly made and applied, to secure this requisite protection, and that in all cases, where buildings have been destroyed or much injured, it has been owing either to a neglect of its use, or to some violation of established principles in its construction or application.

No building can be considered secure without a good conductor, and nine-tenths of those not having them, are not much better off, owing to the fact of their faulty construction, the inadequate height and termination, and the very negligent manner of their application. As the conducting power of the rod is greatly influenced by extraneous circumstances, it should be made, not only with great care, but in strict ac-

cordance with those principles which experience has proved necessary, in order to attain the highest possible degree of this essential requisite.

The Conductor should be made either of copper or iron:—the first is by far the best, as it is not liable to rust, and possesses eight times the conducting power of the latter; but its very high price operates to exclude it from general use, and causes iron to be preferred, as its moderate cost brings it within the means of every citizen and farmer throughout our city and country.

The Conductor should be of a rounded form—three-quarters to one inch in diameter—the larger, the better security, as the *conducting power is in proportion to the solid mass*; it should be continuous, the bars of which it is composed being well screwed into each other, or nicely adapted, by means of a mortice and tenon joint pinned firmly together, by which the surfaces are brought into the most intimate contact.

The Conductor should be terminated at its superior or upper end, by a stem of copper, capped either with one or more points made of gold, platina, or silver, but of these, the first is the best, as its conducting power is much greater than either of the other metals, and if made solid, or well galvanized, is less liable to rust, a common result in a climate so moist and variable as ours. In addition to this, the rod should be well painted with several coats of black paint, which not only protects it from the moisture, but also tends to increase its conducting power.

As to the application. The efficiency of a conductor is greatly increased by its *height above the building*, and in this particular the greatest possible ignorance prevails, not only in the community at large, but in those who profess to understand this subject, and to furnish the necessary means of protection to others.

It is a common occurrence all over the land, to see large barns and public buildings of great dimensions, say of thirty, forty-five, or sixty feet in extent, protected with a small rod, elevated two or three feet above the chimney or ridge of the roof, an experiment not only dangerous in itself considered, but a useless expense, without securing in any way, the object for which it was applied.

The established rule then is, *That a conductor will protect a space every way, only twice the extent of its height above the building*, and this rule should never be violated in the adaptation of the Conductor; for if it is placed only three feet above the ridge of the roof of a house or barn, say thirty feet in length, it follows of course,

that only *six feet in every direction from its point receives protection*, while the rest of the building is left exposed to almost certain destruction, if struck by lightning under these circumstances, and in this way it can be readily understood why houses having a rod, are frequently destroyed, and the disrepute into which the ordinary means of protection have fallen in many parts of our land.

One conductor is sufficient for almost any sized building, provided its elevation is equally great, but when this is not desirable, two or more placed in different situations should be employed,—particularly if there be several high points or chimneys.

It should be secured to the building by means of iron or wooden stays, embracing necks of glass bottles, rings of horn, or dried wood, through which the rod should be passed,—thereby removing all danger of the lateral discharge, which however, is not great if the rod be perfect, and due attention be paid to facilitate the discharge at its termination into the earth's surface.

The *termination of the rod should be into earth permanently moist*, which is found ordinarily at five or eight feet in sandy or gravelly soil. This is of vast importance, and if overlooked, will endanger the building and its inmates, however perfect the conductor may be in its construction and application; much, almost every thing depends on this principle being fairly carried out, the *rod must be inserted into earth permanently moist*.

In order to guard the rod from rust, when passed into the ground, it will be necessary to paint it a number of times with good black paint, and the hole into which it is inserted, should be partially filled up with fine charcoal, such as found in the pen of every housekeeper; as this not only retains moisture for a long time when wet, but likewise counteracts that tendency to rust, which proves so destructive to iron, with a few years exposure in our climate.

With due attention to these directions, and the principles laid down more fully by Professor Olmstead, of New Haven, the community may rest satisfied that there is *almost perfect security in the lightning-rod of Franklin*, and no reason, whatever, in itself considered, why public confidence should be withdrawn in any degree from this mode of protection, which has been confirmed both by experience and philosophy.

J. M. P.

It is, perhaps, easier to bring up a dozen children correctly, than to reform a single ruined one.

Usefulness of Toads.

In proportion to what he is capable of doing, there is not a more useful animal to man than the toad. He has not bad habits, and in the pursuit of a livelihood he is sure to benefit some body. Yet how often do we find him the victim of an ignorant and cruel prejudice. Naughty children are allowed to torture and kill them through mere wantonness; and the fastidious lady sometimes orders them expelled from her garden, lest her nerves might be disturbed by meeting them in her walk.

The spawn of the toad, like that of the frog, is deposited in the water. As soon as the young have attained the use of their legs, they take to the land, and subsist on such flies, beetles, and worms, as they are able to swallow—thus in obtaining their subsistence, rendering a very essential service to the farmer and gardener. The number of insects in this way destroyed, is immense. As many as fifteen beetles have been found in the stomach of a single toad. It feeds mostly in the night, at which time insects are abroad. It is quite amusing to see the toad seize its prey. In the dusk of evening, it may be seen through the summer season, near the places most frequented by insects, snapping up, almost with the quickness of lightning, every bug or worm that makes its appearance.

In the days of boyhood, we have often amused our friends by the exhibition of a large pet toad. During the day we kept him in a little pen in the shade, covered by a board. At evening we let him out and fed him with "white grubs," "cut-worms," &c., which during the day, had been detected in their depredations on the corn-field. Sometimes when his appetite was keen from twenty-four hours' fasting, we would enjoy the sport of seeing him swallow a big horn-bug or "pinching-bug." And such a *face* as the toad would "*make up!*" But after scratching and straining a little, he would get him down. On one occasion this toad swallowed in rapid succession, *twelve* full grown larvæ of the May-bug, (the "white grub.") This will give some idea of the great benefit which results from the destruction of insects by this animal.

Several years ago, a gentleman advertised in the newspapers for toads to put in his garden, for which he offered a small sum each, and if others would follow his example, and thus induce the boys to save the toads alive instead of killing them, all would be gainers.—*Cultivator*.

REMEMBER that economy and industry are the two great pillars of the farmer's prosperity.

For the Farmers' Cabinet.

Fighting Bees.

IN passing through Water street a few days ago, my attention was attracted by seeing a large number of bees flying round an open cellar door, but as these insects often collect in considerable numbers where our wholesale grocers deposit their hogsheads of sugar, molasses, &c., I would probably have passed them without giving the matter further thought; but when I came opposite the cellar, I found the bees were clustering together in numerous parties, from three or four, up to as many as forty or fifty. They were violently agitated, and my first impression was that they were swarming. I stopped to see if the queen bee was among them; but that was not the case, as they were in distinct groups: on closer examination they were found to be engaged in *fighting*, and I soon found there were two classes of bees in the battle; one was the common honey bee, and the other a *smaller bee*, and almost *black*; lacking also, the fringe of hair around the rings of the abdomen, that adorns the honey bee. Perhaps I should rather say the hair was much more sparsely scattered over the body of the smaller bee, than over the honey bee.

The whole incident was so curious and interesting to me, that calling in a friend who has a fondness for natural history, I took some pains to inquire further into the matter.

The bone of contention, we were told by one of the clerks in the store, was a hog-head of honey in the cellar, so we descended into the midst of the combat, to get a fairer view of the whole affair. The hum of the angry combatants was quite enough for weak nerves, but the scene was so interesting that we laid aside *personal* feelings to enjoy it.

The honey bees were evidently the more numerous, but the little *black* bee did not lack spirit, and the battle was *hardly* fought; indeed the clerk above named assured us it was a feud of many days standing. Their mode of attack was curious:—the bees, if in single combat, generally approached face to face, till their antennæ met, when each grasped the other, striving to get such a hold as would enable her to sting her opponent in the thorax, never attempting to inflict a wound in the abdomen. The honey bee seemed to us the best tactician, crouching down, so as to prevent her antagonist getting the advantage of her, while the black bee always stood up, thus giving an advantage to the other, which was improved to the great loss of the black army. If in

their struggles they became separated for more than an inch or two, they often could not again find each other, satisfying us of the extreme near-sightedness of vision in the bee.

They fought both singly and in groups, as above stated, though when in clusters they seemed to lack that care and tact observable in single combat.

What kind of a bee was the little black one? Can some of the readers of the Cabinet, who are more curious than myself in such matters, inform us! My friend and I concluded it was a native or wild bee. Were we correct in so thinking! W.

Philadelphia, Eighth mo. 1844.

From the American Agriculturist.

Culture of Coffee.

I HAD almost forgotten the promise I made during our pleasant intercourse at my residence last summer, to give for the Agriculturist a short account of the cultivation of coffee and other products in the northern sections of South America and the province, or rather State of Venezuela. At the time I traversed that country, I did not feel that deep interest in things pertaining to the cultivation of the soil, which would induce minute observation of all that related to the products of the country. My observations were more of a general nature, and were directed to the cultivation of coffee, cocoa, and indigo, as subjects of interest to a traveller, and connected intimately with foreign commerce.

The luxuriance of vegetation in those valleys, which lie between the various branches of that great range of mountains which passes through the South American continent, far surpasses all that we meet with in this country. The valleys of Caraccas and Aragua, consist of a deep, rich, black loam, equal in fertility to the most productive portions of the Mississippi or its tributaries. Throughout these, and on the sides of the adjacent mountains, are the coffee plantations, scattered here and there, small cultivated spots in the immense tract of neglected and uncleared waste. I shall not soon forget my first impressions of a coffee-estate, as I caught sight of it in the distance, or when actually within its precincts.

We were on Las Vueltas, or the back of the mountain, and descending by a gently sloping zig-zag mule path, shaded by lofty forest trees on our left, and on our right a steep precipice. Far below this lay the city of Caraccas, as on a map, its spires glittering in the sun, and its surrounding estates

stretching many miles along the beautiful and cultivated valley. On the winding road to the city, were many hundred mules with their burdens, carefully picking their way down the steep sides of the mountains. In the distance was seen the Silla of Caraccas, 10,000 feet above the level of the sea, while all along the valley, the verdure and harvest hues were truly gorgeous. The sugar-cane, the changeable tints of the waving barley, the green maize, the orange groves, and above all, the distant beauty of the coffee plantations, contributed to heighten the effect of a scene to me exceedingly attractive, and one well worthy the pencil of a master hand. Many other things conspired to make my first distant view of a coffee plantation, with its accompanying scenery, very interesting, yet a close inspection was needed to appreciate its beauty.

Just before entering the city of Caraccas, we passed a large and imposing entrance, with a patriotic inscription overhead. Finding it to be a coffee estate, we dismounted from our mules and rambled through it. Imagine an extensive grove of trees, the branches of which, commencing about fifty feet from the ground, formed a large, compact, umbrella-like head, with dark-green, thick, glossy leaves, similar to those of the Cape Jessamine, and covered with brilliant scarlet flowers the size of the hand. These trees called the bucaris, are planted about thirty feet apart, their leafy heads forming a dense canopy impervious to the rays of the sun. The coffee-tree is planted under these about ten feet apart, in straight rows. At two feet from the ground the branches radiate horizontally from the main stem, which is allowed to rise to the height of eight or nine feet, where its growth is stopped by splitting the top, and placing wedges in it, the fruit being better and more abundant where the growth of the tree is thus retarded. The tree was now in its full bloom and ripeness, exhibiting conical forms of about six feet in diameter, with leaves of a glossy green, acuminate, and slightly indented. The fruit grew from the bark about the size and shape of a cranberry. The branches were loaded, like the arms of an oriental beauty, with beads of every tint. Some with the beautiful white flower, similar to our white jessamine, in continuous clusters on the top of the horizontal branches; others with the fruit of every shade, from the palest green to emerald, then the rose, the crimson, and last of all a chocolate-brown, the sign of maturity. When to the refreshing shade and stately appearance of the bucaris, and the graceful foliage of the coffee-tree, are added the exceeding gra-

grance of the coffee-flower, frequently perfuming the air for half a mile or more, the thick velvety turf beneath them, studded with flowers of the most gorgeous colours, and adorned with little rivulets, deemed necessary to convey moisture to the roots of the plants, nothing can be more beautiful. As I rambled through the rows of coffee-trees entirely protected from the sun, with the velvety turf beneath my feet, and birds of the most brilliant plumage singing sweetly over my head, I thought that no crop or plantation whatever could possibly compare with it in beauty, and that if the cultivation of the soil here on Long Island, was attended with such pleasures, mercantile life would find but few votaries. Nowhere else, however, but in this valley and that of Aragua, did I see the plantations shaded by that beautiful tree, the bucaris. It requires too long a period to obtain the tree of sufficient size for shade. Throughout the West Indies, in Porto Rieo, Hayti, Jamaica and Cuba, I observed that they generally planted the banana or plantain on the sunny side of the coffee-tree, to mitigate the heat of the sun by its glossy, pea-green leaves of six to eight feet in length.

When the berry becomes of a chocolate-brown and is quite ripe, it is picked by women or young persons. It is then carried to a platform, which covers sometimes an area of several acres, and is made of plaster and lime, very hard and dry. The berries are then spread out in the sun to dry. After being thus dried, they are placed in a mill similar to a cider-mill, where a heavy wheel passes over them and takes off the husk; it is then cleaned by a common fan, and placed in bags for exportation.

The cultivation is simple, and I see no reason why it could not be advantageously introduced in our Southern states. It flourishes well on the Jamaica mountains, at a height above the sea, where the climate is quite as cold as South Carolina, Georgia, or Louisiana. The labour is very light. The tree when once planted, will bear thirty, and sometimes fifty years, with scarcely any attention. The preparation for market is very simple, and can be performed by children. It would be equally profitable with cotton, and I think far more so than either rice or sugar, without the sacrifice of health attending the cultivation of the former, or the terrible using up of flesh and muscle demanded by the latter. The only point to be ascertained is, whether it will bear the climate of our southern States; if so, there can be little doubt that for productiveness and facility of culture, it will be preferable to any other southern crop. I hope some of

the southern readers of the *Agriculturist*, may be induced to give the coffee-tree a trial, and report the result. It would be a very valuable advantage to our agricultural productions for home consumption, and as an article of export; the demand abroad is almost unlimited.

There are many articles of foreign produce which can without doubt, be profitably cultivated in this country. We have every variety of soil and climate, and there is no reason why we should resort to other countries to obtain articles for the cultivation of which nature has provided us with abundant resources. Many able articles have recently appeared on the cultivation in this country, of madder, sumach, indigo, &c. I hope the subject may not be given up, but that every possible effort will be made to increase our agricultural wealth by the encouragement and introduction of new products.

S. B. PARSONS.

Commercial Garden and Nursery, Flushing, L. I., 11th mo. 23rd, 1843.

Opposite Opinions--Birds.

"Woodman, spare the tree—sportsman spare the birds."

THE following sensible remarks are found in the *Gardener's Chronicle*, and are as applicable here as in the vicinity of London. There is no question at all with us, that the war waged in some places against these "tenants of the air," is quite an injudicious one, and that although at particular seasons of the year, some of them are a real annoyance to the farmer, upon the whole they more than "earn their keep." Nuttall, in his *Ornithology*, after enumerating the many, and varied pleasures derived from their song and their companionship, says, they "associate around our tenements, and defend the various productions of the earth on which we rely for subsistence, from the depredations of myriads of insects, which but for timely riddance by unnumbered birds, would be followed by a general failure and famine." Public economy and utility, as he believes, no less than humanity, plead for the protection of the feathered race.—ED

THE various, and in some instances, contradictory statements of your correspondents, must, in many minds, create a tendency to scepticism; that is to say, where parties do not make practical observations and judge for themselves. One states that salt has produced him magnificent asparagus—another says that salt has destroyed his plants. One advises carcasses as a manure for vine borders; another says they have nearly destroyed his vines. One says that for thirty years he has not suffered from turnip fly, owing to his steeping his seed in oil, and powdering it with sulphur—another says that he has tried it, and still the vermin

have marched in military array over his field, perforating and consuming his crop. One says persecute the rook and other birds—another encourages them as your best friends. As great a contrast frequently arises as to the quality of fruits—one stating a particular variety to be excellent—another will not admit it to be second-rate. How are we to reconcile such statements, admitting, as we must, in respect of parties with whom we are unacquainted, that each is entitled to equal credit? In many instances, no doubt, the old aphorism may be applied—"Circumstances alter cases," as with regard to salt and carrion manure; a skilful gardener, knowing the time, and watching the result of his experiment, follows up a perceptible improvement, and counteracts the first appearance of a retrograde movement before the disaster becomes irremediable. In similar cases, the rash or inexperienced fail. With regard to the turnip fly also, there may be some peculiarity of tillage. I have heard of a whole field failing, except where a roller had casually been drawn—in some seasons, that the plants are more liable to attack when the ground is rolled. As to fruit, there can be not the least doubt that soil and aspect, or climate, will produce a much greater difference than exists between the first and second class. But with regard to the rook and birds generally, I think there ought to be but one opinion, namely, that their usefulness very greatly exceeds any injury committed by them, either to the farm or garden. An instance is recorded upwards of a century ago, I believe by Bradley, of the inhabitants of a certain village destroying the whole race of birds in their locality, by setting a price upon their heads; the consequence of which was, that their entire produce was attacked by insects and caterpillars innumerable the following year, and they were glad to offer a similar or greater reward to have fresh colonies brought to their assistance. Dr. Stanley also relates, that a whole district in Germany, was nearly deprived of its corn harvest by having destroyed their rooks. I have myself seen a field of Swedish turnips so infested by grubs, that from three to ten were found under nearly every root that was examined, the turnips having the appearance of watery excrescences, being quite hollow within. An immense flock of rooks, accompanied by a flock of starlings, covering more than an acre, alighted upon them, and so busy were they that they would allow a person to go within a few yards of them without flying up. They remained there a whole afternoon, and on examining the turnips afterwards, I

found scarcely one that had not been cleared of the grubs. That piece of ground has been much more productive from that time; and I think at least some share of the improvement is due to the rooks, though certainly not all. As to sparrows and other small birds, particularly wagtails, a careful observer may see them in breeding time following the plough or scarifier, dart their beaks into crevices and pick out the wire worms incessantly, then carry them to a smooth piece of earth, lay them in a bundle, and then clap them firmly in their beak and carry them off to their young. Now suppose the rook in searching for grubs, pulls up the plant with it, would not the vermin have ruined it in all probability if he had not? And allowing that he pulls up some potatoes on the moor lands, a little expense of watching obviates that calamity. Also allowing that sparrows will do considerable damage to the wheat crop from the time the grain is formed until harvested—a period of six weeks or two months—wasting as much as they eat, yet a few old men, for a few shillings per week, may check their depredations over an extensive farm. But by what process, involving fifty times this outlay, could man himself perform the service rendered him by these active labourers, who never need to be called to their employment—are never idle when there is any prospect of their working to advantage—and who never call upon their protector upon a Saturday night. Prejudices often take deep root, and are handed down from ancient to modern times; sparrow clubs are still in existence; and I was informed a few days ago, of a person sending 3,000 heads to a member of one club, and having to send 3,000 more to be exhibited as the genuine trophies of that individual. He also may consider he is doing man a service; but unless I receive further evidence to the contrary, I must continue in the opinion that birds are eminently serviceable to man during at least ten months out of the twelve; that there is no known substitute for their service; and that any injury which they might effect during the rest of the year may be easily and cheaply prevented.—*F. J. Graham.*

Agricultural Meeting.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held on the 4th inst., Dr. James Mease, President, in the chair—present 21 members.

A. L. Kennedy and John Poole, were elected resident members.

A committee consisting of five members,

to wit: Dr. Emerson, Dr. Elwyn, Mr. Hulme, Mr. Blight and Mr. Newton, to which was added the president, Dr. Mease,—were appointed to visit the National Convention of Farmers and Gardeners, to be held on the 11th of October next, at the American Institute, New York.

A letter was read from P. A. Browne, Esq., describing the peculiar qualities of a new kind of squash, obtained in Montgomery county, a sample of which was sent to the meeting.

Mr. M. S. Powell, exhibited a fine sample of Tuscan wheat, from the farm of Dr. Uhler, Newcastle county, Delaware—grain large, full and white; a superior article.* A spirited and interesting discussion took place on the subject of ploughs and ploughing, during which various opinions were expressed with regard to the proper mode of turning the furrow, in order to produce the best results. Dr. Emerson stated that he had within a few days, visited the farm of Benj. W. Cooper, near Camden, N. J., in company with Messrs. A. Clement and Hulme, to witness a trial of Prouty's improved Centre-draught ploughs, the performances of which were highly satisfactory. The grass and weeds—the latter of which were from three to four feet high—were completely covered under, and six or seven inches deep; the ground afterward presenting a fine, well broken, clean surface, requiring but little application of the harrow. The soil was a mellow, sandy loam.

The following gentlemen have been appointed judges of stock, implements, &c., at the Exhibition to be held on the 16th, 17th, and 18th of October, at the Rising Sun Village.

On Horses.—Gen. G. Cadwallader, Dr. Elwyn, Owen Sheridan, A. Mellor, Jacob Stadelman.

On Cattle over two years old.—Benjamin Serrill, David George, Thomas S. Woodard, John Worth, jr., Alexander Johnson.

On Cattle under two years old.—Joseph Crawford, William P. Serrill, David Lyons, Lewis Willard, Charles Garrett.

On Sheep and Swine.—Dr. James Mease, Isaac Newton, W. W. Barber, Aaron Johnson, W. W. Roberts.

On Agricultural Implements and Produce.—John C. Cresson, Jesse George, William Roberts, Jonathan Robinson, James Thornton.

* It can be obtained at the Seed store of M. S. Powell, No. 23, Market street.

On Ploughs and Ploughing.—John George, John Hunter, Isaac W. Roberts, Aaron Johnson, John L. Williams.

On Butter.—Joseph Head, Dr. W. Gibson, John Sturdivant.

On Poultry.—Dr. Elwyn, Dr. Emerson, P. Physick.

A. CLEMENT, *Rec. Sec'ry.*

Statistics of Great Britain.

From Mr. Laing's Prize Essay and other authentic sources.

THE united annual income of the people of Great Britain, is estimated from £290,000,000 to £310,000,000. The national debt on the 1st of January, 1843, was £795,000,000, so that a little more than two years and a half income would pay it off.

There have been seventy rail-roads constructed in Great Britain, at an expense of £60,000,000, and extending over a surface of nearly two thousand miles. On these rail-roads, 25,000,000 of passengers were conveyed in 1843, at an average expense of about one penny and three-quarters—not quite four cents—per mile, and with only one fatal accident to a passenger. These railroads pay on an average five per cent. interest on the capital employed; the average cost of construction has been about £34,360 per mile. During the present session of Parliament, sixty-six additional rail-roads have been petitioned for, of which about forty, it is thought, will pass. There are in Great Britain, one hundred and eighty navigable canals, the aggregate length of which is 2,682 miles, which have cost upwards of £30,000,000. The London and Birmingham Rail-way gives constant employment to near two thousand persons. It is not generally known that the first rail-way for the conveyance of passengers, was opened in 1821, between Budweis and Linz, in Bohemia. Notwithstanding the immense traffic on rail-ways in Great Britain, the revenue on the turnpike road trusts increased from £1,431,609 in 1834, when, excepting the Liverpool and Manchester, there was scarcely a passenger line in operation, to \$1,532,956 in 1839, when most of the principal rail-ways had been opened, being an increase of about seven per cent.; and what is more remarkable is, that the greatest increase was in the counties most intersected by rail-ways.

The number of inhabited houses in Great Britain in 1841, was 3,464,007, nearly double what it was in 1801, and there were in 1841, more than 30,000 additional houses building. The increase of houses was, from 1831 to 1841, two per cent. greater than the

increase of population, and this not only through the country generally, but also in large manufacturing towns, such as Leeds and Manchester; Liverpool was one of the few exceptions to this gratifying result.

The amount of British products and manufactures annually exported was, in 1830, £35,000,000; in 1844, £50,000,000.

In 1843, there were consumed 35,127,000 pounds of tea; 22,779,000 pounds of tobacco; 3,825,000 cwts. of sugar; and 39,514,000 bushels of malt.

Mr. Laing states the quantity of British spirits which was consumed in 1843, to have been 35,190,000 gallons; but this must be an error, for the entire amount of British spirits that paid duty for home consumption in 1841, was, according to the Parliamentary papers, only 14,268,453 gallons; this could not have increased one hundred and fifty per cent. in two years. There is also an error with respect to the wine consumed, which Mr. Laing states at 7,000,000 of gallons. In 1841, it was 5,582,385 gallons, and Mr. Porter states that the consumption of wine does not increase with the population, and the quantity of port wine consumed in England in 1842, was 324,660 gallons less than in 1841, or about forty per cent. The Sherry and Spanish wines fell off 64,000 gallons, and the Colonial and Cape wines about nine per cent. The total decrease in all imported wines was 425,812 gallons. Supposing the stock on hand to have been the same in 1841 and 1842, it would make the consumption of 1842 to have been 5,156,573 gallons. This could not have increased to 7,000,000 in 1843.

The consumption of malt liquors of all kinds in 1841, was, in the United Kingdom, 665,750,000 gallons, or about 25½ gallons per head. But although the British are called, and undoubtedly are, “a beer-loving people,” they are outdone in this respect by the Belgians, who are represented by one account as consuming 37½ gallons per head annually, and by Mr. McGregor, whose statistical returns may be relied upon, the quantity consumed by each person in Belgium, is stated at 51¼ gallons.

The quantity of soap consumed in Great Britain in 1841, was 170,280,641 pounds. There were 344 licenced makers of soap, and more than one million cwts. of tallow were imported into England for its manufacture and that of candles.

In 1841, the coffee imported into Great Britain was 70,250,000 pounds, being nearly double what it was in 1838; of this amount there was 27,298,322 pounds consumed in Great Britain, or nearly one and a half pounds by each individual. Here again the

British are beaten by the Belgians, for M. Dieteric, in his statistical tables, makes the consumption in Belgium, seven pounds per head. He states the consumption in France, as being one and one-tenth pounds per head, and that in the German League, at two and a third pounds per head.

In 1843, there were in England, 855 marine steamers, with a tonnage of 109,288 tons; in France, 107, with a tonnage of 10,183.

By Lloyd's returns, it appears that the annual loss to the country by shipwreck, is 610 ships, £2,000,000 of property, and 1,500 lives.

The taxes which have been repealed since—in the settlement after the war—1819, may be stated in round numbers at £16,000,000, or £17,000,000 per annum; but the remaining taxes, in consequence of the increase of population and the hitherto prosperous state of the country, produce nearly as great an amount as was formerly raised, with the addition of those which have been repealed.—*National Intelligencer*.

James Gowen's Cattle.

WE take from the printed catalogue the following memoranda, in relation to these cattle—they will afford information to some who may not otherways obtain it previous to the time of sale.

No. 1. WALNUT, an imported roan, calved seventh month 7th, 1837, by Colossus; should calve to Leander, a son of Dairy Maid, in the first month of next year.

No. 2. SIR RODERICK, roan; calved eleventh month 19th, 1843, by WHIG—dam WALNUT, as above. WHIG by the celebrated bull, SIR THOMAS FAIRFAX.

No. 3. CLEOPATRA, roan; calved fifth month 1st, 1839—dam imported ISABELLA. Took the premium at the exhibitions in 1841-2-3.

No. 4. BESSY BELL, light roan; calved third month 27th, 1843, by LEANDER, son of DAIRY MAID—dam CLEOPATRA, as above.

No. 5. FAVOURITE, roan; calved seventh month 30th, 1844, by COLOSTRA, the younger—dam CLEOPATRA, as above.

No. 6. VICTORIA, white; calved ninth month, 1839, by SIR THOMAS FAIRFAX; should calve to LEANDER in the fourth month, next.

No. 7. DAPHNE, roan; calved tenth mo. 20th, 1840, by imported COLOSTRA; should calve to LEANDER in second month next.

No. 8. YOUNG NELL, roan; calved twelfth month, 1841, by imported COLOSTRA; should calve to LEANDER in third month next.

No. 9. MISS MODEL, roan; calved third

month, 1842, by LEANDER; was served by COLOSTRA, the younger, 26th ult.

No. 10. JULIA, roan; calved 15th of seventh month last, by COLOSTRA the younger—dam MISS MODEL, as above.

No. 11. FAIRY, red and white; calved 18th of third month last, by WELLINGTON.

No. 12. AUGUSTA, roan; calved 3rd of eighth month last, by COLOSTRA the younger.

No. 13. VICTORINA, red; calved 23rd of fourth month, 1842, by WHIG; should calve to COLOSTRA the younger, next month.

No. 14. DUCHESS, light roan; calved first month 15th, 1843, by LEANDER, son of DAIRY MAID; should calve to COLOSTRA the younger, in third month next.

No. 15. CHERRY, red with a little white; calved eleventh month 26th, 1842, by LEANDER; should calve to COLOSTRA the younger, in the second month next.

No. 16. FAIR STAR, red, with star in the forehead; calved 1st of twelfth month, 1842, by LEANDER; should calve to COLOSTRA the younger, in second month next.

No. 17. MISS MEADOWS, red and white; calved twelfth month 23rd, 1842, by LEANDER; bids fair to make a splendid cow; should calve to COLOSTRA the younger, in third month next.

No. 18. MILK MAID, red and white; calved 7th of first month, 1843, by LEANDER; gives great promise of fine dairy properties; should calve to COLOSTRA the younger, in second month next.

No. 19. BUTTER CUP, red and white; calved third month 19th, 1843, by LEANDER.

No. 20. MISS DALE, red and white; calved eighth month 4th, 1843, by NED OF THE HILLS.

No. 21. CAULIFLOWER, red and white; calved eleventh month, 1843, by LEANDER.

No. 22. FANNY, roan; calved eighth mo. 6th, 1840, by COLOSTRA the younger.

No. 23. ROSE, red; calved eighth month 11th, 1844, by LEANDER. ROSE is Durham and Hereford.

No. 24. BLOSSOM, white and red; calved third month 25th, 1841, by LEANDER, son of DAIRY MAID—dam OLD BUTTER CUP, the great dairy cow; should calve to COLOSTRA the younger, in second month next.

No. 25. WOOD NYMPH, red; calved in 1839, by a son of Col. Powell's WELLINGTON; is Durham and Hereford, and is dam to A. Clement's fine heifer, YOUNG ROWAN; should calve to LEANDER in twelfth month next.

No. 26. LADY MILFORD, red; purchased of William Ward, a reputed judge of cattle, in 1842, when she was four years old; should calve to LEANDER in eleventh month next.

No. 27. PIZARRO, white, red ears; calved

sixth month 12th, 1843, by LEANDER—dam KITTY CLOVER: combines good milking with easy feeding, to a considerable degree.

No. 28. CHORLEY, white; calved 8th of second month last, by COLOSTRA.

No. 29. HENRY CLAY, red and white; calved sixth month 26th, last, by LEANDER: may be relied on for producing stock of great milking properties.

No. 30. LOGAN, white, red ears; calved sixth month 30th, last; full brother to PIZARRO.

No. 31. COLOSTRA the younger, white; calved seventh month, 1841, by Wolbert's imported COLOSTRA.

No. 32. LEANDER, beautiful red and white; calved 1839, got in England, by Whitaker's Prince of Northumberland—dam, imported Dairy Maid. Leander lays claim to the best blood by his sire, while on the other side, through his dam "DAIRY MAID," he takes the highest rank for purity of blood, as it is believed she possesses more of the COMET blood than any animal now living.

No. 33. DAIRY MAID, roan; calved 1835, by HARLSEY; was bred by J. Whitaker, Esq., of Burley, near Otley, Yorkshire. Her milking properties are remarkable, and believed to be unrivalled.* In points, figure, and proportions, she exhibits the very acme of the "Improved Short-horn Durham;" while her pedigree proves her to be derived from the purest and best blood of that stock in Great Britain.

Nos. 34 and 35, are twins; VALENTINE, white; and ORSON, roan; calved 7th month 31st, last, and sired by COLOSTRA the younger.

No. 36. RUBY; Young Devon, of a good milking strain—has had one calf, and was served by COLOSTRA the younger, on the 9th of seventh month last.

For the Farmers' Cabinet.

Unripe Potatoe Seed.

MR. EDITOR.—Conversing with an old countryman, a native of Ireland, on their mode of raising the potatoe, he confirmed by his experience, the opinion expressed by Mr. James Caird, in the article in your last number, p. 21, copied from the Journal of Agriculture,—that the potatoe chosen for seed, should not be perfectly ripe. The old countryman above mentioned, stated that they planted their potatoes for seed, late in the season—too late for maturity—in ground well prepared with an extra quantity of manure, and tended them carefully; the produce was not fit to eat, but was very superior for seed, producing a very abundant and sure crop. Yours, &c. J. R.

* See Farmers' Cabinet, vol. 5, p. 57.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, NINTH MONTH, 1844.

ENQUIRIES are frequently made for the second number of Colman's Agricultural Tour in Europe. It has not yet appeared. The following extract of a letter from him to the editor of the Cultivator, dated London, July 19th, of this year, gives a very good and sufficient reason why it is thus long delayed. "I want, through you," says he, "to assure my friends how much obliged I am by their kind reception of my first Report, and to express my regret that I have not been able as yet, to give them more of the result of my labours. I bespeak their patience. I assure them I am not idle or negligent; and if Heaven spare my life, in due season they shall hear from me as fully as they can desire. I feel it due to them as well as to myself, to make my work as little unworthy of their acceptance as I can possibly render it; but they would not have me recite my lesson before I have learned it. Even a moderate share of self esteem may persuade a man to think his labours of much more importance than they are; but surely in this case, a proper and grateful respect, which I deeply feel for my patrons, should induce me to perform my work as well as I can, and not to give them what would be the result only of crude and partial observation. I cannot fix any definite time for the appearance of my Reports; but I have no doubt of bringing them very nearly within the time of two years, which was assumed for the enterprise."

The American Institute has called a Convention of "Farmers and Gardeners, and friends of Agriculture throughout the Union," to meet in New York on the 11th prox., to deliberate and promote an interchange of sentiment in relation to matters connected with these great interests. Among other things it is contemplated to solicit government to render more efficient aid to agriculture, by the establishment of a *Home department, &c.*, as was at one time recommended by General Washington. Our Agricultural Society, as will be seen by its minutes, appointed delegates to attend the Convention.

COATES' SEED STORE,

No. 49 Market Street, Up Stairs:

FRESH TURNIP SEED,

Of the most approved varieties for Cattle and Table use, with a complete Assortment of

GRASS & GARDEN SEEDS,

Of the finest Quality and best Varieties—Bird Seeds, &c,

JOS. P. H. COATES,

Successor to George M. Coates.

SHORT ADVERTISEMENTS.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

THE *Marietta Argus* speaks favourably of a *Grain Drill*, invented by Major Haines and Wells Kilbura, which has been successfully in operation in that neighbourhood. "It is drawn," says the editor, "with ease by two horses—the manager of the Drill stands upon the hind part of the machine, with a handle that reaches from the large wheel in front, by which he is enabled to guide the machine. It sows the seed in drills nine inches apart, and five drills at a time. The seed passes from a hopper or box to the hollow teeth that open the ground, and the seed passing down directly behind, falls in the furrow, and the dirt falling back directly upon the seed, and a roller following, presses the seed in. The depth of the planting can be varied by simply turning a screw. The teeth are fixed in pieces of scantling, which are separate from each other, that they may follow the unevenness of the ground, and so plant the seed at a regular depth in the ground. The machine is so fixed with wooden pins, that if it should happen to strike anything to injure it, the pin breaks, and leaves the machine unhurt—the broken pin can be replaced by a new one in a moment.

"It is quite a simple invention, and is not liable to get out of order;—it can be made by almost any mechanic. We are told by the patentees, that it can be manufactured for the low price of \$50."

It has been estimated, we believe, by Judge Tucker, of Virginia, that the productions of our common industry as a nation, were as follow: Agriculture, \$654, 387,597—Manufactures, \$239,836,224—Commerce, \$79, 21,046, and of Mining, \$42,358,751, making in the aggregate \$1016,303,658. This seems, and indeed is, in reality, an enormous sum. If, however, we suppose our present population to be 20,000,000, we find that it gives but about \$50 per annum, for each one to live on.

The reflections which perhaps first present, on acquainting ourselves with these facts, are—how vast and incalculable in amount, are the productions of the earth, and of our own industry—and how comparatively small a part of these, does each one of us, absolutely require for his subsistence!

PARTICULAR attention is invited to the sale of James Gowen's stock, advertised by Wolbert & Herkness, auctioneers of this city, to take place on the 26th inst. The character of the owner as a breeder of some of the best Durhams in the country, is well known, and those who would supply themselves or their farms with these splendid cattle, have now an opportunity that is of rare occurrence.

It is announced that George Bancroft, Esq., the historian, will deliver the Address before the New York State Agricultural Society.

It was mentioned in our last number, that the Fair and Cattle Show of the New York State Agricultural Society, would be held at Poughkeepsie on the 18th and 19th of this month. It may be well further to state, that the 17th will be devoted to the trial of ploughs, and testing the qualities of other new and improved farming implements. The ploughing match will take place on the 19th, the last day of the exhibi-

tion. Among the members of the committee on cattle, we notice the names of Levi Lincoln, of Mass., James Gowen, of Philadelphia, H. L. Ellsworth, of Washington, and Dr. Thomson, of Delaware.

JOHN VICARY, of this city, brought to the office about the middle of last month, eight or ten very stout stalks of potatoe coats—they measured six feet four inches in length, and were well filled: they were grown by his brother Philip G. Vicary, in Beaver co., Pa. The yield was estimated at 70 or 80 bushels to the acre.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

We are informed by the Recording Secretary of the Philadelphia Society for promoting Agriculture, that a beautiful sample of white wheat was exhibited at a stated meeting held on the 7th ult., by R. T. Potts, which was grown on his farm near Norristown, Montgomery county. A yield of fifty bushels had been produced this season, from two and a half bushels of seed sown, weighing 60 lbs. to the bushel. R. T. Potts stated that he obtained thirteen heads of this wheat from Col. Rayer, of Baltimore, from which the above had been by repeated sowings produced.

The proposal of Aaron Clement, Secretary of the Agricultural Society, as stated in his advertisement, to attend to the purchase and sale of choice stock, will be found a great convenience, particularly to persons at a distance. He was long a practical farmer—is extensively and well acquainted with cattle, sheep, &c., and his judgment may be relied on in these matters.

The Bucks County Agricultural Society at its meeting on the 15th ult.—Dr. Jenks, one of the Vice-presidents in the chair—made the necessary arrangements for the annual exhibition next month.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

Sept. 5th, 1844.

POURETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the **FARMERS' CABINET**, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. Farmers to the South, and in the interior, both of this State and New Jersey, are invited to try the article. As a manure for turnips, buckwheat, &c., it has been used to great advantage. The season for applying it to the wheat crop, is now at hand. Those who contemplate using it this fall, would do well to secure it early.

JOSIAH TATUM.

THE South Western Farmer says that "Mr. Hatch, of Vicksburg, is paying great attention to the nomenclature, or naming of fruits. He expects by another summer to be able to give to each of the fine peaches and nectarines now scattered nameless over our country, their true names. Wherever he cannot determine the real name, he has the fruit drawn, painted and described in full." It is also stated that the painting and description are then forwarded to our Horticultural Society, in order that the true name may be ascertained. No such communication has yet come to hand.

A LIST of premiums to be awarded by our Horticultural Society, at the exhibition to be held on the 18th, 19th, and 20th of this month, was published in the last number of the Cabinet. The Society will occupy the two grand saloons in the Philadelphia Museum, at the corner of Ninth and George streets, and will make them attractive as usual, by having on the ground, arranged in the neatest manner, the richest and the rarest of vegetables, plants and flowers. Competition is open to persons from any section of the Union.

THE potatoes to the eastward, and in some parts of New York, are said to be diseased; short crops in those places will be the result. We have as yet heard no complaint of this kind in this vicinity, though the drought will doubtless affect the late crop unfavourably.

THE quantity of rain which fell during the Eighth month, (August,) 1844, was nearly three inches and a half. 3.4 inches.

Penn. Hospital, 9th mo., 2nd.

FROM a statement made in the North American, it appears there are published in this city, six daily subscription papers, and eight daily penny papers. Connected with these dailies, are fourteen semi-weekly and weeklies—there are fourteen secular, and fifteen religious weeklies, making in all, including two printed in German, fifty-nine daily and weekly papers. These, it is said, throw off weekly, about 576,000 sheets, or nearly 30,000,000 annually.

It is not easy to calculate the influence which these periodicals exercise over the public sentiment. But for evil or for good, it is unquestionably very great: and how vastly responsible is the situation of those who wield this mighty engine, and throw abroad daily into the minds of half a million of people the reflection of their own thoughts, and thus mould the public feeling similar to their own.

WE cannot forego the inclination felt to call the attention of our readers to the article of Dr. Swift, on page 53. The suggestions thrown out, are not only exceedingly curious in a speculative point of view, but should they be realised, their practical importance may be found of greater moment than we can readily calculate. We invite the experiments of the agriculturist in relation to this subject: the physiologist too, will not fail to examine it thoroughly. The closely observing, and philosophical mind of the Dr. will, we trust, scrutinize the matter, and favour us with the results. He may be found in Race, between Twelfth and Thirteenth streets.

THE Constitution and Eye-laws of the Cumberland County Agricultural Society, adopted at their first meeting in the Fifth month last, has been kindly forwarded by its President, Frederick Watts. From the list of officers appointed, and the steps taken for the public exhibition at Carlisle, on the 24th of next month, we anticipate satisfactory results. They ask the favourable opinion and zealous aid of all their citizens, in the promotion of the purpose for which they have associated, and we trust they will be cheerfully rendered.

We observe that they avoid the offer of premiums in money. For the best managed farm, for instance, having regard to product, economy in the working, neatness in management, arrangement of barns, cribs, shedding, &c., they propose a survey of the farm, designating each enclosure, marking the contents of each, and locating handsomely on the plot, the different buildings. For the best crop of wheat, not less than 30 bushels to the acre, and not less than five acres, they offer a premium plough, with a certificate of merit. As premiums for other crops,—superior stock, farming implements, &c., they offer agricultural works or papers, which as we have heretofore suggested, is preferable to the offer of small sums of money.

A FRIEND who has just returned from Bellefonte, Centre co., Pa., informs us that Robert V. Miller, of that place, cut a field of very fine oats this last harvest—he threshed 92 dozens of what he believed to be the average, and they yielded 158 bushels. The crop of oats in Centre, is uncommonly good this year.

Extensive Sale of Durham Cattle.

On Thursday, the 26th of September, at 10 o'clock,

At the Exhibition ground of the Philadelphia Agricultural Society, Rising Sun Village, on the Germantown Road, 3 miles from Philadelphia,—will be Sold—A superior lot of Improved SHORT HORNS, from the celebrated herd of JAMES GOWEN, Esq., of Mount Airy—consisting of young Bulls, Cows, Heifers and Calves, of high blood, imported, or immediately derived from imported animals of great repute.

Also, some fine Young Heifers, from one-half to seven-eighths blood, sired by Leander, Son, of Dairy Maid.

Mr. Gowen assures us, that this Sale will, in point of numbers and character, far exceed his Sale of 1842. Leander and Colostra, the younger, will be among the Bulls; and the celebrated Dairy Maid—the beautiful Cleopatra—Walnut and Miss Model, among the Cows to be offered.

Catalogues will be ready in due time, and the Cattle will be on the ground for exhibition two days previous to the Sale.

We invite the special attention of Breeders and the lovers of fine Stock in general, to this splendid selection of Cattle. So excellent an opportunity for procuring fine specimens of the best Durhams, but seldom occurs.

WOLBERT & HERKNES, Auctioneers.

Agricultural Implement Manufactory,

No. 196, Market street, two doors above Sixth street, and two doors below the Red Lion Hotel:

Where are manufactured and for sale, lower than can be purchased elsewhere, Horse Powers and Threshing Machines, Fanning Mills, Corn Shellers, Straw and Hay Cutters, Horse Rakes, Ploughs, Harrows, Cultivators, Seed Planters, Cheese Presses, Churns, Pumps, and every kind of farming implement generally in use. Also, Beach's Self-sharpening Plough and castings—and Wiley's two-pointed do. Every description of implement made to order, or repaired by experienced workmen, and warranted. Slater's Patent Corn Shelter and Grinder.

EDWIN CHANDLER,

Agent for Agricultural Machines of every description.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c. GARDEN AND BIRD SEEDS generally.

July 15th, 1844.

tf.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail, a complete assortment of Farming tools, among which may be found Horse-powers and Threshing Machines, Grain and Seed Fans of various patterns. Corn-shellers in variety. Hay, Straw, and Corn-stalk Cutters, eight different patterns, from \$4 50 to \$30. Corn-stalk Cutters and Grinders—Churns—Cheese-presses, &c. Centre-draught Ploughs of eight sizes. Bill-hooks—Bramble Scythes—Grubbing Hoes—Axes and handles—Hatchets—Potatoe Hooks—complete sets of instruments for making capons.

Garden, Grass, Flower and Field seeds, warranted fresh and true to name.

D. O. PROUTY.

CONTENTS OF THIS NUMBER.

Manuring and Steeping Seeds, concluded, . . .	PAGE 41
Old Virginia,	44
Conversion of Wood into Iron,	45
Eben Elshender, the Moor Farmer,	46
Wheat Sowing,	49
Best Method of Constructing Cisterns,	50
Pressing Hay.—Plank Fences,	51
Book Farming,	52
Alpaca.—Turning in Green Crops,	54
Meeting of the Farmers' Club, N. Y.,	55
Draining.—Making Water Cool for summer,	56
Waste Manures,	57
Manuring Seeds by Steeping,	58
Raising Water,	59
Protection from Lightning,	61
Usefulness of Toads,	62
Fighting Bees.—Culture of Coffee,	63
Opposite Opinions—Birds,	65
Agricultural Meeting, Philadelphia Society,	66
Statistics of Great Britain,	67
James Gowen's Cattle,	68
Editorial Notices,	69

THE FARMERS' CABINET;

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It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

TERMS.—One dollar per annum, or five dollars for seven copies—payable in advance.

All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

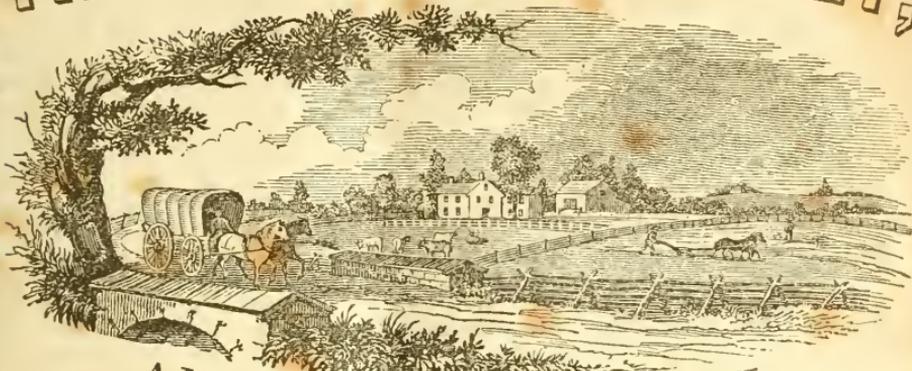
For six dollars paid in advance, a complete set of the work will be furnished in numbers, including the ninth

volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly half-bound and lettered. Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 3.]

10th mo. (October) 15th, 1844.

[Whole No. 117.

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

**New York State Fair and Cattle Show
at Poughkeepsie.**

HAVING been present at the annual exhibition of the New York State Agricultural Society, held at Poughkeepsie, I take occasion to give you a short description of that very interesting affair, by way of gratifying your readers, who no doubt, have frequently heard of the great fairs and cattle shows of New York; though they may not have had such information as enabled them to form a proper estimate of their utility and greatness. In saying this, I do not mean that what I am about to state, can adequately supply their want of information, for at best, mine will be but a hasty and imperfect sketch—time will only permit me to attempt a mere outline, leaving the readers of the Cabinet to fill it up, as fancy or sense may suggest.

The town of Poughkeepsie, lies half way between the cities of New York and Albany;

CAB.—VOL. IX.—No. 3.

it can be reached from either of these places by steamboat, in four to five hours. It has a population of some nine to ten thousand inhabitants, and when I say it is a beautiful place, and that the people are intelligent, generous, hospitable and prosperous, I need only remark, by way of proof, that it is situated on the Hudson, or North river, and that it is in the State of New York. Here, then, about a mile from the town, came off the great Fair and Cattle Show of the 18th and 19th of September. The ground was high and well adapted for display, and was enclosed to the extent of some ten acres, with a close board fence, so high as to prevent all ingress but by the gates, through which all were admitted on paying a shilling. A large marquee, said to be capable of accommodating five thousand persons, stood within the enclosure, prominently inviting for shade from the scorching sun, or for rest on the seats, arranged in tiers within. Tents were pitched for the accommodation of the several committees of judges, into which they might retire and consult upon the subject of their decisions and reports. There was also a large business marquee, where the officers of the Society, committee of arrangements, and clerks, could always be found when required. There was also a tent for the gentlemen connected with the press. Then there were the Manufacturers' Lodge, the Farmers' Hall, and the Horticultural Department—these were very large and capacious, well and appropriately filled. The

Horticultural Department surprised me the most, for there I saw the finest pears, peaches and plums, I ever did see, and roots and vegetables superior I think in quality, to any I had ever seen exhibited in this quarter; but what astonished me more, were the size and richness of the grapes, especially the Isabella and the Catawba.

May I say a word as to the ladies who presided in these temples of Pomona and Flora?—no, I dare not, for then might I raise an envious or jealous twinkle, even under the shade of those beautiful lashes that fringe the soft and lustrous eyes of the Quaker girls of Pennsylvania; to say nothing of the dashing belles of Philadelphia; but I must say, rash man that I am, that I should have no objection to see our Pennsylvania fair, and the ladies of the empire State, exhibited in juxta position, with their fruits and flowers: their cheese and butter; and their hose and coverlets, with me for judge.—Phœbus! The scene at Mount Ida would not be a circumstance to such a display; and Paris, but a mere pettifogger to so profound and experienced a functionary, as my honourable self! Well, I must quit this theme, thanking my stars that I have gotten so well over it, for beautiful places, generous hearts, and lovely women, were always among the governing predilections of my fancy, and business and work but a duty, a drudgery, for which I never had any very natural inclination, notwithstanding I am reckoned a working man; but in sooth, that habit did not come of itself—it was not natural, but acquired. Not so the appreciation of all that is beautiful to the eye and enchanting to the heart—this was innate, intuitive, and I shall cease to be myself, when I forget Poughkeepsie, its social and generous inhabitants, its splendid hospitality—and, its fair, without which, their splendid Fair would have been to me but a poor affair indeed.

The show of horses was as good as might have been expected, yet it would have been creditable in many places, elsewhere. The carriage horses were fine; one pair especially struck me as being the best matched, best broke, and most respectable span, I had seen for many a day—they were owned by William A. Davis, Esq., of Poughkeepsie, who with his brother, General Davis, and their amiable ladies, contributed largely to the elegant and generous hospitality that characterised Poughkeepsie during the exhibition.

Of cattle there was quite a large display; the fit cattle were uncommonly fine, and the working oxen remarkable for their docility and training. James S. Wadsworth, ex-

president of the Society, exhibited ten yoke, driven to one wagon, a sight in itself, worth a journey to Poughkeepsie; and yet this was matched by Mr. Fuller, of Hyde Park, who turned out a similar number, drawn to a staging on a wagon, wherein were arranged specimens of all the fruits, flowers, grain, roots, and vegetables, of the garden and the field. Mr. Sotham's Hereford cattle were remarkable, at least in this,—there were no other cattle of the *same breed* in the field to compete with them; in that respect they had it all to themselves. They are fine cattle for feeding; I should rank them above the Devons. There were some Ayreshires on the ground, which were creditable specimens of that breed. I was disappointed to find so few Devon cows, where I had expected to find so many; on inquiring the reason, I was informed that the mixed Durham and Devon, and Durham and common cattle, were superseding the Devons fast, as dairy stock. Of these crosses there were several at the exhibition; some of them were highly spoken of.

The show of cattle would have been indifferent indeed, had it not been for the Durhams, which imparted a redeeming character to the whole exhibition. Of these noble animals there was a fine display, especially of bulls. The Durhams were chiefly owned by Messrs. Prentice, Lenox, Sheaff, and Vail; among these herds were several splendid Dairy cows; one especially was conspicuous—she was the property of Mr. Lenox.

The sheep were not numerous, but there were some that would have done credit to any flock, particularly the Leicesters, and the Merinoes exhibited by Mr. Randall. The same remark is applicable to the swine; they were comparatively few, but they were principally very good.

The agricultural implements were varied, and altogether the best collection I ever saw. The ploughing match was conducted with great propriety, and in excellent spirit, as was every thing else, throughout the whole proceedings of this most creditable exhibition. No one who has not witnessed a show and fair by this Society, can form any thing like an adequate idea of their vastness in contributions, expense in arrangements, and the crowds that attend them. It was estimated that from twenty to twenty-five thousand spectators passed through the gates in one day, to the exhibition.

The annual address was delivered by Mr. Bancroft; it was listened to with marked attention—it was of course a highly finished piece of composition. There was but one

defect, and that was natural, and to be expected. It was not sufficiently agricultural for the occasion—however this might be regretted, it showed the orator's good sense, not to attempt to assume the agriculturist, as some have done, who could neither look, nor play the character of a farmer.

But the great moral of these splendid exhibitions is, their influence on the patriotism and prosperity of the State of New York. Here were to be seen highly educated men, of boundless wealth, commingling with the hard-working, every day farmer, cheering him on, and rendering his path less rugged and thorny, by participating, as it were, in his toils, abridging his work, and demonstrating to him the happy results of an improved husbandry. Would that the rich proprietaries of Philadelphia and Pennsylvania in general, had witnessed the scene I have hastily, and but feebly described. It would have taught them a lesson of true wisdom, in this, that whatever promotes the landed interest, enriches them, by enhancing the value of their own property; enabling their tenants, through improved culture, to pay their rents; and the farmers in general to pay the taxes necessary to liquidate our enormous debt. How selfish, and how blind to their own interests are the wealthy, who refuse to contribute to this great end. The subscribing for a few copies of your useful paper, which, if they did not read themselves, they should bestow upon their tenants, or others, or by making a donation to our Agricultural Society, or even the annual contribution of a member, would not only be serviceable in a pecuniary point, but highly beneficial, by way of example. And especially should the State of Pennsylvania *do something* to encourage agriculture, by establishing a State Society, similar to that of New York. It will not do for the commonwealth to say she has no funds. If agriculture is permitted to languish, she never will have funds. The farmers will feel discouraged, refuse, perhaps, to pay taxes, or abandon the lands.

New York gives to her Agricultural Society, some seven to eight thousand dollars annually—there is not one Act of her legislature that illustrates more forcibly her wisdom, than this small gratuity to agriculture. It is now repaying her a thousand fold, as is demonstrated yearly, by the spirited, intelligent, and enterprising gentlemen of the New York State Agricultural Society. Glorious New York! when will Pennsylvania shake off her lethargy and imitate your noble example.

J. G.

When, where, and how to get a drove of Sheep.

THERE is something so matter-of-fact and to the point, in the following letter from our friend Solon Robinson, to the *Prairie Farmer*, that we conclude our western friends will hardly fail to be interested in his mode of operating. Many of them are looking towards raising a flock of sheep, and the *when, where, and how*, are important considerations.—*Ed.*

You state that particular information is wanted as to where a person shall go to buy sheep—when and how to go—the expense—cost of sheep, &c.

The best information I can give is my own experience, and advice founded upon that experience.

The nearest point where sheep can be bought to good advantage, is in some of the central counties of Ohio; distance from Chicago, 300 miles; the route, by La Porte, South Bend, Goshen, and Fort Wayne, Ia., Wiltshire, St. Mary's, Sidney, Urbana, Springfield, &c.; or else from St. Mary's bear more east, through Logan, Union, and Delaware counties of Ohio. Another route is through Michigan, by way of Toledo, into the north-eastern part of Ohio, which will increase the distance and cost of sheep, but generally speaking, give a better quality—that is to say, a finer wool breed; leaving the word *better* for future discussion.

I left home last year the last of August, with one man and a boy twelve years old; I was absent thirty-seven days, and brought in about 800 head of "good common" sheep, that is, an average of about half-blood Merinoes. I bought in Champaign and Clark counties, on the waters of Mad river. The prices varied from 50 to 87½ cents, and averaged upon the 500 which I bought myself, 66¼ cents. The other part of the drove was bought by the man who drove in company with me, and I have not the cost. I sold a part of the wool from this purchase when last in Chicago, at 35¼ cents, and according to that, the average price would have been about 31 cents upon the whole clip. The average weight of the fleeces is two and a half pounds. Drove sheep never yield as much wool the first year as after, especially when poorly wintered. The average cost of my sheep at home, was 81½ cts. each, which includes all the expense of three hands and three horses, going, buying, and extra help at times, and the expense of one additional horse on the return, *except* about a quarter of the total expense out, which was borne by the man in company with me, as his proportion. This average also includes all lost sheep, but does not include my own time. We will therefore add thir-

ty-seven days time of one man and boy, and three horses and wagon, including wear and tear of all the "fixings" at \$1 25 a day, \$46 25—less than ten cents a head, while the actual cash expense was a fraction over ten cents, but including losses, 14 $\frac{3}{4}$; so that it may safely be said, that one can go from Chicago to Ohio, and bring in from 500 to 800 head of sheep, at twenty-five cents a head, and that a good lot will cost less than seventy cents a head.

Now as two very important questions will be asked by every reader who has any notion of buying sheep, I mean to ask them and answer them myself:

First; What is the need of all these horses and wagon? and next, with them and hands, how do you contrive to travel at an expense of less than \$1 50 a day?

First, then, when starting for a drove from here, I would have a good light two-horse wagon, a feed trough attached behind; a good tent, made of 30 yards cotton drilling; two buffalo skins, three blankets, one horse-bucket, one do. for drinking-water, one tea-kettle—as men *will* drink coffee, and so will I when on the road where I am obliged to make the water bitter, to destroy a worse taste—one coffee-pot, a pound of ground coffee in a little bag, a frying-pan, a small pot, six round tin plates, three cups, three knives and forks, a little pail for butter, a wooden box for sugar, a few other small fixings in the provision chest, 40 lbs. of bacon, a week's supply of bread, a bag of potatoes, two or three bags of oats, a trunk of necessary clothes—old ones—an axe, an auger, a little spare rope and a few leather strings—and I am ready for a start. Rain or shine, I would sleep dry and warm in my tent, which is made, when set up, in the shape of the roof of a house, the ridge supported on a pole placed upon two posts about seven feet long, sharpened and stuck into the ground; the bottom is fastened with pins, one gable end closed and the other open towards the fire—cooking my own supper and eating it from a broad board held up on four sticks stuck in the ground, and partaking of all the comforts and conveniences that an "old camper" always knows how to provide.

I would take with me a man and boy, and a saddle and bridle, but no saddle horse, because I could purchase one there for \$25 or \$30, that would bring \$40 at home. In driving sheep, a good dog or horse is very necessary; the average distance should not be over ten miles a day, if yarded at night; or thirteen miles if pastured at night. The expense of the baggage wagon and horses

and driver is much less than it would be without them, besides the great convenience of having a wagon along, which enables one to camp wherever wood, water, and feed can be had at night, without being obliged to "push ahead" to a tavern.

Two good drivers can drive from 500 to 800, though three are much better, and sometimes actually necessary.

I find on looking over my memorandum, that I was nine days travelling last summer, before I commenced buying, with three hands and three horses—cash out, \$5 61, including horse-shoeing and wagon repairing—all the horse feed purchased, and nearly all the provision taken from home. I spent about a week in buying, and hired an extra hand at a dollar a day, which with the cost of collecting and keeping sheep, &c., is all included, as before stated, in the average expense per head. I was three weeks on the road home—800 sheep, four horses, three hands, and about half the time four hands to board, and the expense for every thing was \$35 04, averaging \$1 66 $\frac{3}{4}$ a day, and grain enormously dear on account of the scarcity occasioned by a great drought. The actual cost of driving 800, averages per head 4 $\frac{3}{8}$ cents, and adding in time of men and horses, not over nine cents a head. The larger the drove, the less average per head expense.

A short piece of advice about keeping, and I have done bleating about sheep. Before you start to buy, be prepared for keeping. Sheds are necessary—but more particularly good "wind-breakers," and dry yards. If situated upon clay prairie, the yard must be made dry by ditching and the use of straw. Sheep are loath to leave the grass in the fall, even after all nutriment is gone from it. Be careful that you do not let them get poor at this season. Put them up, and if they refuse hay, give them sheaf oats; fed in boxes well constructed, there will be no loss. If you keep the sheep fat the first part of the winter there is no danger. Prairie hay does not agree so well with sheep the first winter, and they will need more nursing with grain, turnips, tar, salt, sulphur, copperas, &c.

The best paint for marking sheep is *dry Venetian red*. It combines with the oil of the wool and is indelible. A thief stole twenty-five from me and tried his best to cover up the mark with tar—but it would not do—the guilty blush was there.

Another much neglected thing about keeping sheep must be attended to—that is, poisoning the wolves. A drachm of strychnine—the extract of nux vomica or "dog butter"—costs \$1 75, and will make 175

doses. No matter if it kills a few dogs too; they have killed more sheep for me than ever wolves did.

Don't forget to shut up your own bucks from July 1st to November 15th, and make wethers of every other man's that run at large. And above all, don't forget to get the sheep. And don't forget the good advice of your old friend. SOLON ROBINSON.

Lake C. H., Ia., July, 1844.

Cultivation of the Peach.

To the Cincinnati Horticultural Society:—

GENTLEMEN,—I have never yet met with a person who could answer me this question: "Will the pit of the budded peach produce the same fruit as the bud, or as the stock, or a mixture of the two?" That the pit of a seedling peach will produce its kind, is well known, as the Heath Cling has been cultivated exclusively from the pit in Virginia and Kentucky, for the last fifty years. It is a subject of great interest to those who raise peaches for their own use only, as it will enable them to raise their own trees, of the finest fruit, with little trouble, and no expense. I have never found the subject referred to in any Horticultural work. This is most singular, as the peach is constantly raised from the pit, without budding, and will bear in three years. I have never fairly tested the question, but my experience led me to believe that the budded pit produced the same fruit as the original stock. Twenty-five years since I raised as many as 500 or 1000 trees yearly for budding, and the pits were picked up in the garden, where I had none but fine fruit, and almost exclusively such as I got for budded trees. From thirty to fifty trees would yearly lose the bud, and were allowed to produce their own fruit. The fruit, except in a single instance, was small and worthless. Many years since, I saw Mr. Dennis Kelly buying a peck of fine large cling peaches, and he informed me his sole object was to plant the pits. A few years thereafter, he informed me that all the trees proved to be small free stones. But I was not yet satisfied on the subject; and three years since I planted twenty pits, of a fine large yellow free stone, from a tree sent me from the east. One only grew, and it this season bore me fruit of the same kind. But a single tree is not a fair test, and the more so, as it may have been produced from a chance pit in the garden, and not from one planted. I bring forward the subject at this time, with the hope that some of our horticulturists will plant a number of pits of a known budded variety. I should prefer planting

the pits as soon as gathered, and not more than one-eighth of an inch under the surface. Pits planted deep, seldom come up. They may for certainty be planted in a clump, and transplanted as soon as they vegetate, or as soon as they are in leaf. I know of no experiment so easily made, that would be of greater public utility, and it is singular that the question was not placed beyond doubt at an early period. I send an Oldmixon free stone peach; this is I believe a peach that has been cultivated near two hundred years. Also a seedling free stone peach, raised in the interior of Kentucky, and sent to me three years since, under the name of Evelina free stone: I deem it one of the best peaches of the season. The present season has not been favourable to it, and those sent are not a fair sample of what it is in favourable years. The Oldmixon is a favourable sample, and one of the best fruits of the season, and by comparing the Evelina with it, its quality can be ascertained. I also send a Bartlet pear—Williams' Bon-cretien. This pear is of good quality, and valuable for its size, but will not bear a comparison with the Washington, or Doyenne, that ripens at the same time.

N. LONGWORTH.

August 25th, 1844.

RIPE FRUIT AND DYSENTERY.—There is a pernicious prejudice with which people are too generally imbued—that fruits are injurious in the dysentery—that they produce and increase it. There is not, perhaps, a more false prejudice. Bad fruit, and that which is imperfectly ripened, may occasion colics, and sometimes diarrhœa; but never epidemic dysentery. Ripe fruits of all kinds, especially in the summer, are the true preservatives against this malady. The greatest injury they can do, is in dissolving the humors, and particularly the bile, of which they are the true solvents, and occasion a diarrhœa. But even this diarrhœa is a protection against the dysentery. Whenever the dysentery has prevailed, I have eaten less animal food and more fruit, and have never had the slightest attack. I have seen eleven patients in one house; nine were obedient to the direction given, and ate fruit—they recovered. The grandmother, and a child she was most partial to, died. She prescribed for the child burnt *brandy* and oil, powerful aromatics, and forbade the use of fruit. She followed the same course herself, and met the like fate. A minister attacked with dysentery, ate three pounds of red currants between 7 o'clock in the morning and 9 in the evening—next day he was entirely cured.—*Tissot.*

Wheat turning into Cheat, or Bromus.

EDITOR OF THE FARMERS' CABINET.—The enclosed communication was read before the Bart Lyceum more than a year ago. Attention was recalled to it by the appearance of an article in the Cabinet some months since, in vindication of the doctrine of wheat turning into cheat; it was therefore directed to be forwarded to the editor of the Cabinet for publication, if deemed worthy of a place in that valuable periodical.

W. L. R.

Bart, Lancaster co., Pa., Ninth
mo. 17th, 1844.

As this is the season of harvest, and the state of the weather does not admit of gathering in the grain, I propose devoting a portion of the time to considering an opinion so prevalent in the community, that it may well be doubted if a majority of the people do not entertain it—I mean the opinion that *wheat* produces, or is turned into *cheat*.

This opinion is so firmly fixed in the minds of many, that it is impossible to change, or even to shake it; while others as positively deny it, and are quite as difficult to be convinced. The subject, then, is well worthy of attention, as a question of fact no less than a matter of opinion. If wheat *does* produce, or turn into cheat, all the trouble, labour and expense, which some farmers are at in procuring clean seed, or in cleaning their own, are altogether useless; if it does *not* so change, then will such labour and expense be well rewarded. *Does* it then so change? From reason and from observation—for I have not had an opportunity to test it by experiment—I have come to the conclusion that it does *not* so change, and that there is no good reason for believing that it does. My reasons follow:

If cheat be not regularly produced from its own seed *alone*, it must be a chance production, arising from accidental causes; or a hybrid, bred between two different species, as the mule between the horse and ass. If it be the *latter*,—which is seldom if ever alleged—the produce must be entirely *barren* and unproductive, as hybrids never reproduce or breed. I shall hereafter inquire if this holds good in respect to cheat. If it be a chance production, arising from adventitious causes, it is fair to presume that its appearance and character would vary according to its causes; it would be uncertain, irregular, and not subject to any specific name;—all which is refuted by our daily observation and experience; cheat being as regular and well defined as any other plant.

Wheat and cheat are totally unlike; the stalk, the leaf, the berry, being entirely different. The cheat stalk is generally smaller, and of a different colour, as well as stiffer, harder, and rougher, than that of wheat. The wheat leaf is smooth and naked on its upper surface, while that of cheat is rough and thickly set with stiff bristly hairs. The berry of wheat is borne in a simple spike,—a single head or ear—while the cheat head is divided and subdivided into many parts. It is also destitute of chaff; but has a single husk, which is inseparable from it, like the interior one of oats. It may also be observed, that its whole appearance and habit more resemble oats than wheat; and like the former, its blossom is *always* concealed within the husk, while that of wheat is *never* so concealed.

These characteristics of cheat being, as I have already remarked, regular and unvarying, we find that naturalists have classed and described it as a separate and distinct plant, growing from its own seed and reproducing its own kind. To our winter wheat they give the name of *Triticum Hybernum*; while that applied to cheat, or chess,—as some call it—is *Bromus Secalinus*. Are they mistaken? Are those who have made nature and her handy work their study and delight, less likely to perceive the truth than others, who from habit and occupation are unable to devote much of their time and attention to the subject? I am unwilling to believe it; for if so, study and education are worse than useless—a perfect waste of that precious time which might be much better employed in the common avocations of life.

But there is *much more* that goes to prove the same thing. The two are *never seen* growing from the same stalk—the same root or stool *never* produces both, as evidently *might* be, if we admit the possibility of a change. A man once thought he had found both growing on one stalk; but when it came to be examined, it was found that a branch from a cheat head had become entangled among the grains of the wheat and broken off from its parent stem, without being united to the other. In another case, a person—with whom I was acquainted, by the way—found both growing together, and apparently from the same root. He carried them to a friend, who denied their common origin, and with an air of triumph, exhibited his proof. “But,” said he to me, “my friend was wiser than I. He agitated the root in water, and it naturally separated into two, one of which was wheat, and the other cheat.” I have myself seen hickory and oak, poplar and maple, as well as other dis-

tinct kinds of trees growing together, their roots and bases so united and grown into each other, that it was altogether impossible to separate them; yet who would say that a hickory nut produced an oak, or an acorn a hickory? or that a poplar and a maple sprang from the same seed? I will not write the word by which the world would designate the man who should make such an assertion. Another person, also known to the writer of this, was very particular in selecting and cleaning his seed. I give the result in his own words: "For thirty years I have not had a stalk of cheat on my premises." My own observation goes to show that the more attention is devoted to obtaining clean seed, the less cheat will be found in the crop; while a contrary result follows uniformly from an opposite course. Is more required? I am able to give yet more; for I have seen cheat growing profusely where no wheat had been sown since the memory of man, if indeed it had ever been.

I have never heard it contended that other grain, or any other plant, is turned into cheat, except wheat alone; yet have I seen it growing among all other kinds of grain, in fields of Indian corn, and bearing a conspicuous part in crops of grass, where little or no other grain was to be seen. In what way will the advocates of change account for this? To solve the difficulty, some admit the growth of cheat from its own seed, an admission fatal to their theory, as I conceive; while others, in accordance with the nature of hybrids and chance productions, deny its growth thus, and offer no explanation whatever. But with an air of triumph they point us to the larger proportion of cheat in places where the wheat has failed from any cause, and ask us why is this? The same thing, however, may be seen in other grains. Do these likewise change into the same identical cheat? Impossible: it is not contended for, nor even hinted. Here, then, is the old difficulty; a difficulty altogether inexplicable by the theory of change, but very easily explained on other principles, which I proceed to notice.

Cheat is, as I have said, a separate and distinct species of plant, having the peculiar characteristics already noticed. This plant is particularly hardy, not being affected by those causes which often produce a failure in other kinds of grain. This will satisfactorily account for the prevalence of cheat in places where wheat has been destroyed by wet, or by the winter. The same thing may be observed where the seed of wheat, or other grain has been picked up by the birds, or cropped off after it has come up. The wheat was picked up while the cheat

was left to grow; or both being cropped off, the wheat was killed, and the cheat being more hardy, and withal a little later in its season, sprouts up, grows again, and produces seed. Another reason of this apparent prevalence may be found in the fact—which does not seem to be generally noticed—that cheat produces twice the seed that wheat does, and more than any other grain with which I am acquainted. It was but a day or two ago, that I counted on a small head of cheat, not less than one hundred and twenty grains; while fifty or sixty grains are allowed to make a good head of wheat, and the very largest that ever fell under my observation, yielded only one hundred and five. Oats seldom reach one hundred and twenty, though the most prolific of all our cultivated grains. What number of grains a large head of cheat would yield, I am unable to say.

I have already given facts to sustain my opinion that cheat is only produced from its own seed:—it may not be amiss to say in addition, that different individuals have sown it, and it has always reproduced its kind. An experiment might be tried as follows: in a garden plot, or other suitable place, plant—not sow—a certain number of grains of wheat in such regular form, and at such regular distances, that it may be readily known if any of them fail to grow, or change into something else. If this be fairly done, I dare venture to say that no cheat will be found where wheat was planted; and if cheat be found in the plot at all, it will be irregularly, and from seed contained in the manure, or previously lying in the ground. All irregularity or uncertainty in conducting the experiment, would be fatal to the result. The number of seeds and the precise spot of their deposit must be known, or nothing definite will be ascertained. Vary the experiment by substituting cheat grains for some of the grains of wheat, and the result will show a stalk—or rather a root producing several stalks—of cheat for each grain of cheat planted, and the same in respect to the wheat. Some grains may not grow, but these will be readily known, and if more should spring up than were planted, it will only prove that more seed was supplied from some other source. The intelligent experimenter will perceive other methods of arriving at certainty in the matter, and I am persuaded they will all result alike.

That cheat will grow, also accounts for the fact adverted to above, of cheat growing profusely in grass fields. Four years ago last spring, it was my lot to observe a field of this kind. I thought it

really grass, though of what sort I was unable to say, and it was intermixed with a small proportion of clover, of which there was no doubt. The observations of passers by were such as these: "What noble grass!" "What fine timothy!" No one thought it wheat; there was no wheat amongst it, and none perceived the resemblance. But lo, and behold, when it came to shoot into head, what was it! Every one could see, and there was no longer room for doubt. It was cheat! really nothing but cheat! The "noble grass," the "fine timothy,"—three-fourths of the produce of that field were turned into cheat! Yes, actually changed from its proper nature, and converted into that mongrel cheat! From the owner of the field, I learned that it had been in wheat the year before, and—to use his own expression—"it was more than half cheat." Here, then, was a complete solution of the mystery. No supernatural change had taken place, no mongrel was produced; but the grain crop being "more than half cheat," had left seed enough on the ground to furnish a tolerable crop of hay, principally cheat thus reproduced.

Is it possible to resist the conclusion that cheat grows only from its own seed, and is never otherwise produced? But in order to give the advocates of the changing theory a fair chance, I lay down the six following principles; either of which being disproved, I shall be constrained to acknowledge that I have been in error *partially*, and may be wholly so.

1. Cheat and wheat *never* grow on the same stalk.
2. They *never* grow from the same root or stool.
3. Hybrids, or mixed species, *do not* propagate.
4. Chance productions are variable, having no fixed laws.
5. Cheat seldom fails to grow, and *always* produces after its kind.
6. Cheat *never* turns to wheat.

Till one or more of the above propositions shall be proved false, *I will* and *must* contend, that wheat *does not* and *cannot* turn to cheat.

AGRICOLA NON.

Pleasant Mount, July 10th, 1843.

Electricity.

It appears that according to Wheatstone's experiments, electricity travels at the enormous velocity of 258,000 miles in a second. A note about this velocity, and also relating to the motion of light, which is similarly rapid, shall be cited in order to exalt, if possible, the conceptions, and to point atten-

tion to the marvels with which the material world teems.

Light is about eight minutes thirteen seconds in passing from the sun to the earth, so that it may be considered as moving at the rate of one hundred and ninety thousand miles in a second, performing the tour of the world in about the same time that it requires to wink with our eye-lids, and in much less than a swift runner occupies in taking a single stride. * * * * * Such is the velocity of light, that a flash of it from the sun would be seen in a little more than eight minutes from its emission; whereas the sound evolved at the same time—supposing a medium like air capable of conveying sound between the sun and earth—would not reach us in less than fourteen years and thirty-seven days; and a cannon ball proceeding with its greatest speed, in not less than twenty years. The velocity of electricity is so great, that the most rapid motion that can be produced by art, appears to be actual rest when compared with it. A wheel revolving with a rapidity sufficient to render its spokes invisible, when illuminated by a flash of lightning, is seen for an instant with all its spokes distinct, as if it were in a state of absolute repose; because however rapid the rotation may be, the light has come and already ceased before the wheel has had time to turn through a sensible space: the following beautiful experiment was made by Wheatstone: A circular piece of pasteboard was divided into three sections, one of which was painted blue, another yellow, and a third red; on causing the disc to revolve rapidly, it appeared white, because a sunbeam consists of a mixture of these colours, and the rapidity of the motion caused the distinction of colours to be lost to the eye: but the instant the pasteboard was illuminated by the electric spark, it seemed to stand still, and each colour was as distinct as if the disc were at rest.

From what is said of the physiological effects of common electricity, we extract the following paragraphs:

It is stated by Mr. Morgan, that if a strong shock be passed through the diaphragm, the sudden contraction of the muscles of respiration will act so violently on the air of the lungs, as to occasion a loud and involuntary shout, but that a small charge occasions in the gravest persons a violent fit of laughter: persons of great nervous sensibility are affected much more readily than others.

A small charge sent through the spine instantly deprives the person for a moment of all muscular power, and he generally falls to the ground. If the charge be very powerful, instant death is occasioned. Mr.

Singer states that a charge passed through the head, gave him the sensation of a violent and unusual blow, which was followed by a transient loss of memory and indistinctness of vision. A small charge sent through the head of a bird will so far derange the optic nerve as to produce permanent blindness; and a coated surface of thirty square inches of glass will exhaust the whole nervous system to such a degree as to cause immediate death. Animals the most tenacious of life, are destroyed by energetic shocks passed through the body. Van Marum found that eels are irrecoverably deprived of life when a shock is sent through their whole body; when only a part of the body is included in the circuit, the destruction is confined to that individual part, while the rest retains the power of motion.

The bodies of animals killed by lightning, are found to undergo rapid putrefaction; and it is a remarkable circumstance, that after death the blood does not coagulate.—*Temperance Advocate*.

From the Public Ledger.

Management of Fruit Trees.

WE give below the account of R. L. Pell, Ulster county, New York, which took a gold medal, being a premium offered by the American Institute for the best fruit farm. It appears Mr. Pell has had in view the market of Europe, by launching into one article of fruit, the Newton pippin, that cannot be competed with for profit in that market. He has also kept in view the market of his own State in other fruits, for which he has been awarded the premium as above.

To the Committee on Fruit Farms:—

GENTLEMEN,—Being desirous to compete for the premium to be awarded by the American Institute at its sixteenth Annual Fair, for the best fruit farm in the State, I now abide its rules, and offer, at the request of Mr. T. B. W., its worthy and very useful secretary, my mode of managing.

For some years I have been experimenting upon the apple tree, having an orchard of 20,000 Newton pippin apple trees; I have found it very unprofitable to wait for what is termed the bearing year, and consequently it has been my study to assist nature, so as to enable the trees to bear every year; I have noticed that it bears more profusely than any other tree, and consequently requires the intermediate year to recover itself, by extracting from the atmosphere and earth the requisites to enable it to produce. If unassisted by art, the intervening year must be necessarily lost. If, however,

it is supplied with the proper sustenance, it will bear every year. Three years ago, in April, I scraped all the rough bark off a few of the apple trees in my orchard, and washed the trunks and limbs within reach with soft soap, trimmed out all the branches that crossed each other early in June, and painted the wounded part with white lead, to keep out the moisture, then split open the bark by running a sharp pointed knife from the ground to the first set of limbs, in the latter part of the same month, which prevents the tree from becoming bark bound, and gives the inner wood an opportunity of expanding. In July I placed one peck of oyster shell lime around each tree, and left it piled about the trunk until November, when I dug the lime in thoroughly. The following year I collected from those trees 1,700 barrels of fruit, some of which was sold in New York for \$4, and the balance in London for \$9 per barrel. Strange as it may appear, they are literally bending to the ground with the finest fruit I ever saw, a specimen of which is before you. The other trees in my orchard, not treated as above, are barren, next year being their bearing year.

ROBERT L. PELL.

Ulster co., New York, Oct. 8th, 1843.

GUANO.—Contracts for Ichaboe (African) guano have been signed, to be delivered from March to the middle of May, 1845, at £6 6s. per ton, at Liverpool. The last news from the island of Ichaboe was, that one hundred ships were then waiting their turn to load. It is thought by some that in twelve months the stock of guano on Ichaboe island will be exhausted; but it is said there are other islands equally valuable. If that was the case, why should so many ships wait so patiently their turn to be laden? The supply of African guano here—Liverpool—is very liberal. It is calculated by many importers that guano will be bought on better terms the next three months, than will happen again for years; for the number of ships on their passage to load at Ichaboe, and those returning laden, will overstock the market, as the season will be over before they can arrive.—*London Ag. Gazette*.

VENTILATION and cleanliness are very important helps to economy in the feeding of all animals. Shelter and warmth will do harm, if free and pure air is not admitted to the fattening stock. The same is true of cleanliness, so favourable to the health of all animals. The cleaner their houses and skins are kept, the more they thrive under any given form of treatment in other respects.—*Johnston*.

For the Farmers' Cabinet.

The Gad Fly—Sheep-nose Worms.

TO THE EDITOR,—I take the liberty of calling your attention, or some of your correspondents, "to the *astrus bovis*, a species of gad fly, that is said to deposit its eggs in the noses of sheep; which is hatched by the warmth of the breath of the sheep, passes up into the nostrils, and there remains until it has acquired its growth; it then leaves its old habitation, and falling to the earth, buries itself therein, until it becomes a fly." Having lost a great many sheep at different times by this insect, as I suppose, my attention was called more particularly to it in 1843, when I sustained a loss of about one-tenth of my flock; they began to die in February, and continued to die throughout the month of March. Of the last which died, I had the head opened, and took out of the upper regions of the nose about thirty worms of various sizes, some of them encircled by dark coloured, rough rings; from which appearance I supposed that they had arrived at full age, and were ready to take their departure; while others appeared young and tender, and not more than a quarter of an inch in length, and about two-thirds of the same in thickness; there was also an intermediate size, from three-quarters to an inch in length. I was for some time at a loss to account for the great difference in the appearance of these worms, but finally concluded that it must be ascribed to their being deposited at different times: i. e. that the oldest worms are the deposits of 1840, the next of 1841, and the youngest of 1842, so that the oldest required two and a half years to attain their full age. I think that I am supported in this opinion by the circumstance that I have never lost a yearling or one under two years of age, and when I have found worms in the heads of young sheep, they seemed to be of a size and appearance corresponding to the age of the sheep.

I am inclined to the opinion that the fly is not general through the country, but is mostly to be found in certain districts, and where there have been large importations of foreign sheep. The small number of sheep slaughtered in the country for the use of a private family, will not furnish a sufficient supply for the investigation of this subject; but in a city like Philadelphia, a person can at all times have recourse to the butcher's stall, where he can examine the heads of sheep of all ages, and test the correctness of my hypothesis on this subject.

I will notice a prevalent opinion, here, as

well as elsewhere—that is, that when the sheep crowd together in hot weather, keep their noses down and stamp the ground, that they are trying to avoid the gad fly; but I am of a different opinion, I believe they are endeavouring to defend themselves from the attack of the stable fly, whose bite is very severe, and which is a tormentor of our stock of all kinds. I would rather suppose that the *astrus bovis* prefers the evening, when the flock has retired to rest, or during the night season, for depositing its eggs—to scuffling in mid-day to accomplish its object. In Rees' Encyclopedia, under the article upon sheep, you find the term *sheep-nose worms*, where the *astrus bovis* in the fly state, is described as being of a very lazy disposition, and not liking to make any use either of its legs or wings: the duration of its life in the fly state is said to be about two months. For a further account of the effect of worms in the heads of sheep, I will refer you to an article published in the 12th vol. of the American Farmer, page 39, by R. K. Meade, of Frederick county, Virginia.

AN OCTOGENARIAN.

September, 1844.

The above is inserted without our knowing whence it comes. It would have been a satisfaction to the editor, as well as his readers, to be able to locate the depredations referred to by our correspondent.—ED.

For the Farmers' Cabinet.

Agriculture and its Improvements.

TO THE EDITOR,—There is so much good sense in the following extract of a letter from Alexander Walsh, Esq., that I feel quite inclined to forward it for insertion in the Cabinet. I find it in the British American Cultivator, published at Toronto, Canada—it is there credited to the New York Mechanic and Farmer, where I suppose it originally appeared. The ideas thrown out in relation to changing seed, are practically good; potatoes are particularly benefitted, not only by a change of the tuber from place to place, but also by propagation from the seed. In relation to irrigation, mentioned in the letter below, I believe we pay by far too little attention to it. The value of agricultural papers is in bringing these matters frequently to view, and stirring us up to more care in our modes of management.

T. N.

"Of all civil occupations, that of agriculture should be regarded as foremost: it is the most indispensable, the best preserver of health, of morality, of virtue, and of religion. It was the occupation of our first parent, and has been that of a majority of

his descendants in all past ages, and must necessarily so continue to time's end. How largely are we interested in its improvement and success! It is, however, a painful truth, that its progress in our country is far from being exhilarating. Habits, venerated only for antiquity, are obstinately adhered to, to the exclusion of "book-farming," and this without any investigation into relative merits; numerous are the deformities growing out of this error; slovenly managed farms—not arising from idleness—for idleness is not the besetting sin of the tillers of our soil; farms disproportionate to the means of proper cultivation; fields rendered unproductive by a succession of wasting crops, and then left to be resuscitated by the slow operation of nature. To these might be added many other equally obvious defects, too numerous for present detail.

"It is passing strange, that while the aid of the press is consulted in support of every design, even those of minor importance, or of doubtful policy, agriculture, the most important of all, seems alone to reject its influence; this unhappy prejudice is gradually yielding to better judgment, and we may hope the day is not distant when the farmer will be no more without his agricultural magazine, than he would without his almanac.

"There are certain primary principles so evident as to be within the unaided observation of every tiller of the soil, yet even these often require a friendly monitor to keep them present to the mind: others there are, dependent on scientific research, and seldom to be discovered except by the studious reader. The press, in these cases, is the best monitor and the truest instructor. In truth, the few shillings annually charged for an agricultural journal, if properly attended to, are the most productive outlay of the farmer.

"The proper selection of seed grain is an important consideration. The best if possible, should alone be used. Grain is liable to degenerate by long succession of unchanged seed. An occasional change of seed for that of other farmers, will often be found beneficial, insomuch that even that received in exchange, will, although of an inferior quality, frequently yield a produce superior to that given in exchange, especially if the latter has exhibited any symptom of degeneracy. The potatoe is a very necessary and valuable esculent; there is perhaps no vegetable more liable to degenerate by a continued succession of the same stock in the same soil: were it not for the friendly agency of nature, which annually scatters its seed on the ground, and thus

gives birth to a new generation, this necessary article of food might be entirely lost. This effort of nature never fails in mild climates, but should not be relied on where the rigorous cold of our northern winter seldom fails to destroy delicate seeds when exposed to its action. An exchange of seed potatoes with a neighbouring farmer, will generally check the menaced evil, but the true mode is to imitate nature; the farmer should every two or three years preserve a small quantity of the seed which is contained in the balls growing on the green tops or stalks of the potatoes, and sow the same in a bed in his garden; the plants when they appear over ground, should be transplanted, and placed at the usual proper distance. The produce of the first year's growth, generally of a size too small for use, may be reserved for the next year's planting. This is deemed an infallible remedy against degeneracy, and gives the best security for good and wholesome crops, in regard to abundance and quantity.

"The improvement of his breed of cattle, is an object of the greatest solicitude to every farmer. He does not always know how much is directly in his power, in regard to this object. This secret, if it be one, consists, in no small degree, in a plentiful supply of food to the young animal; the full grown beast will eat less and fatten sooner, than were he neglected while young. An early attention to abundant feeding, will improve the humblest stock of cattle, while the best breed, if neglected, or not sufficiently fed while young, will degenerate and become in their maturity unsightly and profitless.

"Irrigation of land, is a practice of great antiquity. History does not, I believe, any where notice it as a modern invention. Virgil, the son of an Italian farmer, who wrote before the Christian era, states that it was practised in his country. Irrigation, when not attended with too much expense, is a valuable fertilizer of the soil. All kinds of vegetation are benefited by a skilful application of it. Meadows subjected to its action, will yield double the usual quantity of grass, and may be mowed twice in a year. Grass thus nurtured, will not, although artificial, wear out, but may, by this treatment, be preserved permanently.

"The overflow of the river Nile, is a display of irrigation on a magnificent scale; on the subsiding of its waters, the agriculturist almost without an effort, raises an abundant crop. Egyptian grain has, by reason of its quality and abundance, become proverbial. Lands adjoining rivers, or streams of water, where the overflows

are periodical or occasional, and not too frequent, produce results proportionally similar to those of the Nile. I have seen no calculation made with a view to ascertain the utmost amount of money, or of labour as the equivalent of money, which a farmer may safely expend in the irrigation of his lands. I incline to the opinion that the outlay may profitably exceed the general apprehension. The watering of the kitchen garden is deemed by the horticulturist indispensable; the labour is generally performed by hand and watering pot, the most expensive of all modes in use; yet, I believe that, on a minute calculation, it would appear that no equal extent of the farm yields so large, or, all matters considered, returns so large a per centage on the capital employed. This, if true, goes far to prove that small farms, well cultivated and irrigated, even at considerable expense, are more productive of profit than large farms without the means of a thorough cultivation, and depending on casual falls of rain for the necessary moisture.

"All lands at all worthy of cultivation, contain the means of retaining them perpetually in a state of continual productiveness. Ignorance or prejudice alone, would permit any part of the farm to be fallow. Compost is the common production of every farm, and is not the least valuable resuscitator of exhausted soils; it is usefully applicable to every soil, increasing in every instance the quantity of the crop. How strange that this valuable auxiliary to agriculture should be disregarded and left scattered about the farm yard to be trodden by man and beast, and thus rendered almost useless."

Dr. Beekman's Address.

Delivered at the Fair of the Dutchess Co. Agricultural Society, at Washington Hollow, N. Y., on the 13th ult.

We make the following extracts from Dr Beekman's Address, believing that they may be profitably pondered by us of the Keystone, as well as our brethren of the Empire State. The average yield of wheat is said to have very much lessened in many parts of New York, and though we are not prepared to say this is also the case with us, there is but one way to prevent the discouraging result—that is to nurse our lands, and return to them more than we deprive them of. Indeed wheat in this vicinity has become one of our expensive, precarious, and poorly remunerating crops. With our land worth from fifty to one hundred dollars an acre, though deprived of much of its virgin fertility, we can scarcely compete with the cheap, yet deep rich lands of the West. Nevertheless, when we do grow

wheat, let us by good management and thorough cultivation, endeavour to make our average as near to the Doctor's forty bushels as possible.—Ed.

DUTCHESS has for many years stood high as a well cultivated county. No doubt the praise is merited; but tell me where is the intelligent farmer whose land is not susceptible of being made better? Where is the farm that will average forty bushels of wheat to the acre, and so proportionably its other products? Now can any one doubt that this may be done? That it has been done elsewhere, we have the most abundant proof. Will you acknowledge that the land elsewhere is so much better naturally than yours, that you do not raise half that amount? No, I know you will not make such an admission. To what then is it owing? There can be only one answer, and that is imperfect cultivation. The time has been when forty bushels of wheat to the acre, have been repeatedly raised in Dutchess; but that time has for the present gone by, whether it will return or not, will depend upon your own industry and intelligence. That it will return I have no doubt; for I have the confidence to believe that your desire for agricultural distinction will induce you to adopt a more systematic and intelligent course of husbandry.

When the forest was opened to the plough, you had the accumulated decomposed vegetable matter of centuries to enrich your soil, which made it immensely productive: but drawing too long and too often upon that store house, you have in a great measure emptied it of its treasures, and now you have no resource left but to draw upon your own management and skill. I have no hesitation in saying that you will be equal to the occasion, and that the lost fertility of this county will in process of time be more than restored. But it cannot be by farming as our fathers have done; it will be by becoming better acquainted with the nature of our soils—with the food most congenial to the plants we wish to cultivate, and applying to that soil whatever may be deficient to assist the full developements of its capabilities.

Depend upon it, the great defect of our farming is the scanty return we make to the soil that we crop so closely; and when you complain of poor returns for your labour, at least in the quantity gathered, it is upon the principle that you are willing to work your horse but not to feed him. Until therefore we feed with a more liberal hand, we shall not be more liberally rewarded. If I compare our farming, however, with what it was twenty years ago, I see a decided improvement; better houses, better barns, better fences; better, that is cleaner fields,

better crops, and stock essentially improved. With all these man improves. But there is a vast deal yet to be done, and we must not talk of good farming until we can in all things double, and in many treble our present product; for, let me tell you the productive powers of the earth are almost illimitable.

I commenced this Address by propounding the query—Where is the farm that will now upon the average yield forty bushels of wheat to the acre? If in this assemblage there is one individual who owns that farm, and he realizes, positively realizes that result, I will here stop and respectfully ask him to give us the benefit of his practice and intelligence. No one speaks. If not forty, then thirty; if not thirty, then twenty. With less I cannot be content, because with less, although it would be an improvement, it would not be so decided as that the man's experience would be an essential benefit. They have raised seventy bushels, eighty bushels of wheat to the acre in England; and shall we, the freemen of America, who own the soil and its improvements, be content with less than twenty? No, I will raise the standard higher. It must be doubled, and let no farmer stop until he comes up to the average of forty. We cannot accomplish great things if we do not attempt them, and success is only to be won by effort. Between sixty-eight and sixty-nine bushels of wheat to the acre have been raised in the town of Wheatland, as stated by Gen. Harmon, of Genesee. This is a proof that it may be done here, because it has been done in this State, and if in that portion of it why not in this?

Wheat was originally a wild plant, the kernel much smaller than it is now, and we hear of it first in the East. But we know nothing definite as to the era in which it first appeared, the country that produced it, nor at what time it was first used as the food of man. Its growth is almost co-extensive with the world; and whether sown under the tropics or in northern latitudes it always matures, and always furnishes the same valuable and nutritious food. Valuable as it is in its nutritive powers, that value is very much enhanced from its universality, for it will thrive in all climes, and man can avail himself of it in all places. It is so well adapted to his support, that bread made from it is justly termed "the staff of life." A plant that is so useful both as an article of food and as a means of commerce, surely ought to draw our most careful attention to its successful cultivation. It is a hardy plant; what it wants is a rich, clean soil, well pulverized, and to be sown in season.

The History of Guano, from Dr. Gardner's Essay.

AMONG the many surprising discoveries of the Spanish adventurers in America, that of islands formed of the excrement of birds was not the least. The fertilizing power of this new manure, evoking the most extraordinary growth from barren sand, in a climate unvisited by rains, was so worthy of attention, that the earlier writers are full in their accounts of the guano, and speculations on its origin. The Indians knew that it was the excrement of the flammands, cormorants, cranes, and other piscivorous birds that darken the air of their coast. They calculated the supply of manure, and fixed seasons for its removal. The birds were to them providers of food, for their sands could yield none; and hence they looked upon them with so great a reverence, that human life itself was scarcely equal to that of these birds. They called the deposit *huana*, or dung for manuring, and formed from it the verb *huanuchani*, to manure. But the Spaniards were not equally satisfied of its origin; they had no hesitation in referring the white, recent excrement, to birds; but the dark brown fetid *guano* seemed to be altogether another substance.

Ulfoa says—when the depth is considered at which the guano is dug, it appears probable that it is an earth, although the smell might be considered against this opinion; and he is inclined to suppose that a considerable portion of earth is mixed with the birds' dung. Frezier, who examined the coast in the last century, and visited the island of Iquique, (*Voy. dans la Mer. Sud.*) tells us that Indians and negroes are engaged in collecting guano, which is a yellow earth, believed to be the dung of birds from its smell, and the occurrence of feathers at a great depth; but he is overcome with difficulty to account for such accumulations, since, for upwards of one hundred years, there were loaded annually ten to twelve ships, and without any great diminution in its height.

It was, perhaps, this doubt as to the nature of the manure, that led the Spaniards to neglect the wholesome provision of the Incas in respect to the birds, so that now the bustle of ships and boats has driven them away. The discovery of large stores in the earth, under layers of sand, and sometimes clay, seemed to remove the necessity for new deposits; and the recent article, which, in remote times, was almost exclusively used and gathered from the several islands to the extent of 20 to 25 tons the season, is now only procured from such collections as were overlooked by them, or unnecessary to their culture, and will be soon exhausted.

The accumulation of recent excrement is extremely slow. "Experience seems to prove," says Humboldt, "that one island will scarcely produce a ship load in a great number of years."

Several of the older deposits, under sand, were also worked by the Indians. The islands of Iquique, St. Lobos, Isla di Gnana near Arica, are mentioned by the first writers.

We owe most of our information of the present condition and extent of these deposits to Humboldt and Mr. Winterfeldt, who resided in Peru for a number of years, and published an account in Bell's Weekly Messenger, September 11th, 1841.

Humboldt estimated the range of guano islets from 13° to 21° south latitude—but it certainly extends beyond these limits, for the island of Lobos is as far north as 6° south latitude, and Mr. Bartlett, recently from Peru, states that they extend to the 25th degree south.

The following islands and ports are best known as furnishing the manure:

Iquique, lat. $20^{\circ} 20'$ south, near the port of Iquique, has been wrought from time immemorial, and is beginning to be exhausted, according to Mr. Winterfeldt.

At Pabellon de Pica, from the hill of Pica, large quantities are obtained, this bed being a mile in length and extremely deep—it is even said 800 to 900 feet. The deposit was covered with a considerable accumulation of drift sand.

From St. Lobos island, three leagues south of Pica.

At the island of Torrecella.

At the port of Islay, from the islands of Islay and Jesus, which formerly yielded upwards of twenty tons of recent guano, but whence the birds have been driven by the opening of the port.

At the port of Mollendo, large quantities are sold for the province of Arequipa, where it is extensively used for maize and other crops. In the adjoining province of Tarapaca, it is also used in even larger quantities as a manure for wheat, maize, fruit trees, and indeed every crop except sugar. (Winterfeldt.)

The Chincha islands, lying about fifteen miles from the port of Pisco, in lat $14^{\circ} 23'$ south, longitude $76^{\circ} 1'$ Greenwich, furnish immense supplies. One of these possesses an excellent harbour, so that ships can be warped sufficiently close to the land to take on a cargo through a canvass hose, or any similar contrivance. The deposit is estimated at 300 feet deep, and the island half a mile in diameter, with a high hill in the centre. There are three islets—the most favourable is the middle.

The islands about the port of Arica, lat. $18^{\circ} 26'$ south, longitude $70^{\circ} 16'$ West Greenwich, have also been wrought for a long time, and abound in excellent guano.

The islands of Ila and Iza are mentioned by Humboldt.

Nearly from Coquimbo to Guayaquil, the shore is barren, only here and there presenting fertile valleys where a stream descends from the mountains, as at Arica and Coquimbo, where an abundance of wheat is raised, and at Quillota and Lambaryèque, where even forests exist. The country near Lima, is moister from the proximity of the Andes and the heavy mists called *garrrua*. But excepting the valleys, extensive deserts of sand, with naked rocks, are met for 1600 miles. From Coquimbo to Copiapo, 300 miles, not a village exists: then the traveller crosses the wastes of Atacama, and to the north of Truxillo occur those of Picera and Séchura. Along the coast, on islands stretching to the sea, on headlands, and uninhabited points, buried under many feet of sand, it is probable immense deposits exist which have never been opened, but which the enterprise of the Peruvian company will discover.

The amount drawn for the supply of the district of Arequipa only, is stated by Mr. Winterfeldt at 600 to 700 tons. Tarapaca requires more. The lands about Arica and all along the coast are extensively manured with it; hence many surmise that the guano will be rapidly exhausted, but it is probable that only a few islands are yet known, for they extend to upwards of fifteen miles from the coast. The beds of manure are usually under sand or drift, and reach various depths, from a few feet to 900 feet, according to some captains. In superficial dimensions they are equally various, from a few hundred feet to upwards of a mile and a half.

The success attendant on the importation of guano into England, gave rise to a mercantile speculation on the part of a company, who have secured from the Peruvian and Bolivian government a monopoly in the sale of the manure, for which they are said to have paid \$1,000,000; moreover there is a duty of £3 the ton levied on the export.

The recent excrement is not an article of export, but that which is red or brown. It usually exhales an ammoniacal odour, which sometimes, after heavy dews, becomes intolerably offensive. It is said that at Arica the smell from the neighbouring guano islands is sometimes so great as to keep off shipping—and an epidemic is even attributed to it: notwithstanding, the crews of vessels engaged in transporting it are robust and healthy.

It is well understood that the manure is found only along those portions of the coast that are continually dry, and where rain scarcely ever falls. On all coasts similarly situated, the manure will be found; but beyond, even although the birds may be as abundant, no true guano can be expected, but only the insoluble parts.

The coast of Peru is admirably situated, being the boundary of an interminable sweep of the Pacific Ocean, as a resting place for sea-birds, where they may form their nests and raise their young; but under these circumstances they are intolerant of any interruption, and leave the islands as soon as an excavation is made for manure.—*New York Farmer and Mechanic.*

THE boiling or steaming of dry food, and even of potatoes and turnips, is recommended by many as an economical practice. Professor Johnston believes the general result of the numerous experiments which have been made upon this subject in various parts of England, is in favor of this opinion in so far as regards fattening and growing stock. It seems a more doubtful practice in the case of horses which are intended for heavy and especially for fast work—though Stephens in his *Book of the Farm*, says that even for these animals, the use of steamed food is coming into use with extensive coach contractors.

Productive Farms.

To a person not familiarly acquainted with the history and statistics of English husbandry, the extreme productiveness of the farms of that country will appear incredible. Nearly nine-tenths of the cultivated lands in Great Britain and Ireland, are rented to tenants, who pay, usually, from four to five pounds sterling per acre, annual rent. Where is the farmer in this country, who could live under such a burden? Here a farm comprising a hundred acres, is often rented for one hundred dollars, and even at this rate the tenant has a hard task. The cultivation, even where there are a large number of acres in grass, will little more than pay the rent and taxes; but in England the result is widely different. The tenant who there pays £5 per acre annual rent, and finds all appliances, obtains not only a comfortable living, but in many cases wealth, from the prosecution of a business which here, with like burdens, would doom him to want and misery.

In 1811, Irwin estimated the produce of one English farm of eight hundred and

ninety acres, at £8,578, or \$38,000! The quantity of manure applied was 13,746 one-horse cartloads in one year, and 10,250 the next! Now admitting the rent of this farm to be \$12 per acre, and the cost of manure and its application \$12 more; and if to this sum we add, for interest, or expenses, taxes, and the various contingent expenses of cultivation, &c., \$12 more, we shall find, upon striking the balance, that there will remain a profit of \$10 the acre, amounting in the gross aggregate to the sum of \$10,000 clear gain to the tenant in a single year!

In the vicinity of London, a hay farm, comprising one hundred and sixty acres, was rented. The rental in this instance, was \$12 per acre, amounting in the whole to \$1,920 per year. A very heavy expenditure was required for manure—probably as much as many a New England farmer would have been willing to give for the land, and yet the tenant succeeded, and has since become wealthy, and with no other income than the produce of his farm.

In Ireland, a poor man hired an acre of land, erected his cottage, purchased manure and farming tools, and the first season cleared all expenses, and had a balance of £8 left. And yet that Irish peasant, in addition to the expenses and outlays above enumerated, had a church tax to pay, and to be at the expense of purchasing his own seed, and maintaining a family of four besides himself and wife. The frugality of the Irish peasantry is proverbial. But there was something more than mere frugality at the bottom of this man's success. There was *thorough cultivation*—a thing which in New England may be said to be wholly unknown. This is the mystery, and the only one. That Irish peasant, with like expenses, would have starved here on forty acres with our cultivation.—*Western Farmer and Gardener.*

Rust, Blight, and Mildew of Wheat.

A correspondent of the *Weekly Intelligencer*, who signs himself C. A., and dates from Philadelphia co., makes the following remarks in relation to wheat.—Ed.

Our philosophers have theorised, and our farmers have descanted, upon the origin and cause, and effect of blight or rust, upon the stalks of wheat.

Of the effect, it is apparent that the proper juices of the plants are absorbed by some foreign substance, which prevents the proper ripening of the grain.

Our naturalists tells us that the blight is a plant of a parasitical nature, endowed with all the functions of growth and regeneration

that are necessary for any plant to have, in order to produce its kind.

If we examine with an ordinary magnifier those parasitical appearances, found so abundantly upon cedar fences, we shall find that they blossom, fructify and increase their kind in a manner similar to many other plants of a larger growth; and it is asserted that the blight when exposed to the action of a powerful microscope, exhibits all the phenomena of a living plant, but the truth of that is yet to be proven, as but few have examined minutely enough to risk their reputation on the assumption, while all admit, that, as a natural production, it must be formed according to nature's laws, and that its proper nutriment must be the juices of plants.

But be that as it may, its position as a plant or a disease will remain unknown, until it has been chemically tested; but when its nature and composition are once accurately ascertained, then, if a disease, chemistry will find a cure; if a plant, chemistry will teach man to apply a remedy that will make it seek other quarters.

Now it appears rational that as lichens, mosses, &c., do not very extensively attack trees in the vigor of their growth, they will not attack plants whose growth is sufficiently vigorous and healthy.

Hence, if we grow a stalk that shall be vigorous in all its life, and in all stages of maturity shall flourish with luxuriance; then the blight will be obliged to seek other quarters, as the wheat will be of too healthy a growth to allow of its substance being taken up by foreign plants for their support.

In order to grow a stalk of this kind, the earth must be supplied with an abundance of the materials that wheat requires for its support, i. e., carbon, nitrogen, hydrogen, oxygen and ashes. A compound of nitrogen and hydrogen forms ammonia, of oxygen and hydrogen forms water, and of oxygen and nitrogen forms atmospheric air.

Hence, in order that wheat may grow with the proper degree of luxuriance, the soil must be copiously supplied with water, ammonia, ashes and air.

The ammonia may be applied by wetting the grains and rolling them in powdered muriate of ammonia, as a quantity sufficient for maturing the plant will adhere to the grain, and the ashes can be applied to the soil; the air and water are within reach of the plant and therefore do not need attention or application.

AGRICULTURE is the art of raising crops;—husbandry, the art of preserving and expending them.

Shell Fish as Manure.

HAVING noticed the good effects of shell fish in gardens, applied to carrot and onion beds, it occurred to a gentleman of our acquaintance that the same species of manure would be found equally useful on a larger scale, in the case of a green crop cultivated in the open field. Accordingly, he instructed his labourer to repair to the shore, and excavate four cart-loads of live shell fish, composed chiefly of wilks, cockles, and muscles. When carried home, the deposit was thrown into a heap, and allowed to remain until it began to emit an unpleasant odour. Warning thus given, the shells were smashed and mixed with peat earth, to absorb the moisture and facilitate the application. They were then laid in the drills, after the manner of bones, at the rate of 16 bushels per acre—sown with turnips—and the better to test the utility of the experiment, turnips were planted the same day over thick layers of barnyard manure. The seed on the shells took a wonderful start, the plants showing themselves at the end of three days, notwithstanding the intense drought; while the dung operated so slowly, that eight days elapsed before the slightest tendency to greening appeared.

Thus far the shells and substance enclosed have worked perfect wonders, and bid fair to outvie crushed bones, and even guano. The carbonate of lime and animal matter in shell fish are great nourishers of vegetable life.—*Dumfries Courier*.

MENDING A TREE.—We saw at Isaac Frost's, Newton, a tolerably large apple tree that had the bark eaten all around by the mice, some years ago, and of course would have died without some extra pains to save it. Mr. Frost set about a dozen scions in the tree, one end in the green bark and wood below, and the other above the wound. They all took at both ends and grew well, excepting one which took only at the bottom and is forming a little tree by itself. The scions are now about two inches in diameter, and are touching each other. The tree is in a fine flourishing condition. This method of mending a tree is attended with some trouble, but by this simple means, which can be done in a few hours, a valuable tree may be saved, as has occasionally been the case.—*Maine Farmer*.

IN West Chester co., N. Y., the disease in the potatoe is general. On Long Island, on heavy ground the rot is prevalent, but in light sandy soils, they have escaped. The continued wet weather is assigned as the cause by the Long Island Farmer.

Report on Indian Corn.

In a late number of the *Southern Agriculturist*, we find the following Report made to the Agricultural Society of South Carolina. That State already raises nearly corn enough for her consumption: and with the improved cultivation which may be anticipated from the use of lime, and her abundant supply of marl, we should not be surprised if in the course of a few years, she should have a surplus of this noble grain.—Ed.

Your committee on Indian corn, beg leave to report:—We consider the corn crop as second to no other crop made in the United States; and in this State, the advantage of raising our own supplies would be of great importance, and would save to the State a large sum of money spent annually for corn. Under these circumstances, any improvements in planting, or cultivating this valuable grain, must be interesting. By a judicious use of the plough, and other good management, the crop may be much increased, and in a few years, a full supply for the State might be expected.

In the years 1833 and '39, about 500,000 bushels of corn were imported. From October, 1841, to October, 1842, 360,000; and from October, 1842, to October, 1843, 260,000; showing an increase of the crop of the State, of 100,000 bushels in one year. This increase may be attributed to the efforts made by Mr. Ruffin and others, in recommending marl and other manures, and the proper use of ploughs.

All plants derive their nourishment from air, water and soil, and the corn plant must have a supply of air and moisture to effect a full developement of its growth; and the soil, to do its part, must be well manured and cultivated.

Where the land has been long planted, there is frequently a hard subsoil crust, which must be well broken up by the subsoil plough, to enable the perpendicular roots to penetrate deep into the earth, to obtain moisture for the plant.

In preparing land for a corn crop, we would recommend that in the early part of the winter, a furrow of six or eight inches deep should be made with the common plough, that the subsoil plough should be run in this furrow to the additional depth of ten or twelve inches, and that corn-stalks and other manure should be put in this trench, and listed in, when thoroughly wet, with a small plough or hoe, as may be convenient; the land to remain in this state, to the period of planting.

We cannot too highly recommend the use of the subsoil plough. By its use the soil will be less wet after great rains, and more moist in great drought. Mr. Delaplain in-

forms us, that in 1823, he planted a field of 25 acres of corn; that in a part of this field he used the subsoil plough, and in the other part, the common tillage. A furrow was made with the common bar-share plough, five or six inches deep, and with the subsoil plough seven inches deeper—that in all other respects, the soil, planting and tillage, were the same. In that part of the field where the subsoiler was used, the corn kept its colour throughout the season, and produced 50 per centum more than the other. And where the common tillage was used, it suffered much from drought, and fired considerably.

Mr. C. M. Bement also states that he subsoiled a part of a piece of ground which he planted to Indian corn. The piece of ground was on a light loamy, or sandy knoll. That he subsoiled it in strips, leaving alternate strips not subsoiled, all being manured alike: he ran the subsoiler from eight to ten inches deep. The season proved to be very dry, and where the subsoil plough was not used, the corn was so burnt up that it produced nothing; but where it was used, the corn remained green and flourishing through all the drought, and produced a good crop.

The soil must be moist at the time of planting, or a good stand cannot be expected. The seed corn ought to have been selected with care in the field from those stalks bearing the greatest number of ears. And here we would recommend, in the highest terms, the use of the coal-tar, to preserve the seed from birds, &c. When the seed is well prepared by the use of coal-tar and soot, and the soil well moistened by a good rain, to be planted at the distance of three feet, the rows being from five to six feet apart; and either one, or two stalks should be left, according to the fertility of the soil. Where the soil is very rich, or highly manured, we think it best to plant at two feet apart, and to leave two stalks.

As soon as the corn is up, the plough ought to be used in breaking up and pulverizing the earth between the rows, and when five or six inches high, the best ploughman ought to run a furrow as near as possible to the plant, the bar side of the plough being next to it, and the other ploughmen may break up the intermediate space between the rows. At this period the ploughing ought to be deep and close, breaking up and pulverizing well the soil. By porosity of soil, the air is admitted, and a larger quantity of organic and inorganic food for the plant is afforded.

In dry weather the oftener the plough is used the better, until the corn is about one-third grown, after which, the plough ought

to be laid aside, and the cultivator or hoe-harrow used in its place. In wet weather, the plough ought never to be used. Corn is benefited at all periods of its growth, by the application of manure on the surface, over the roots. If the drought is great, and the corn far advanced towards maturity, the surface crust must be broken and the earth frequently stirred lightly, to admit air and moisture to the roots, but care must be had not to disturb or cut the lateral, or surface roots.

About the time corn is maturing, brace roots shoot out from the joints near the surface of the earth. These roots frequently strike deep into the earth, affording both nourishment and support to the plant. If a high hill has been made, these roots shoot out higher upon the stalk where it is brittle, and likely to be snapped off the first high wind. If there be little or no hilling, the corn would bend and yield to the storm, and rise again, having sustained little or no injury. This would be particularly the case, where the soil is very fertile and highly cultivated.

Well grown corn has from forty to sixty large roots extending from the joints under the ground, which, with the tap-root, penetrate deep into the soil, if not obstructed by a hard subsoil. From these large roots innumerable small fibrous roots shoot out in all directions towards the surface, extending across the rows five or six feet, in search of nourishment for the plant. The large perpendicular roots afford moisture, and the small fibrous roots food to the plant. The deeper the perpendicular roots penetrate the soil, the less injury the plant will sustain from drought. And the more the surface has been broken up and pulverized, the further the surface roots will extend in search of nourishment, to mature fine and large ears.

JOHN H. TUCKER, *Chairman.*

June 18th, 1844.

For the Farmers' Cabinet.

Philadelphia Butter.

THE BEST BUTTER is to be had only in *Philadelphia*. This may appear to be a rash assertion, but I appeal to all who have travelled over the country, whether there is not a *richness and fine flavour*, altogether exempt from any rancidity, acidity, or *tallowy taste*, not to be met with in the butter we get at hotels either north or south of that city! That it should excel Southern butter, is not to be wondered at, because the climate and the grasses are better, but why should it be better than that which we meet

with in New York, and all through New England, the latter being, especially, a grass country? It cannot be that the process of butter making is better understood there than elsewhere, for every variety of process and contrivance for butter making has been set forth in the agricultural papers. Is it not that there is something peculiar in the pastures in the neighbourhood of Philadelphia, which affects the quality of the lacteal secretions—and in what does that peculiarity consist? Is it found that the best Philadelphia butter comes from cows that graze on the old *meadows below it*? If the fact assumed be disputed, it might be difficult to prove it;—all that could be done would be to leave it to the judgment of those who have had an opportunity of forming an opinion, and it would not be easy to collect their judgment in the matter; but supposing the fact of its superiority to be admitted, it is worthy of inquiry *why it is so*?

After an interval of twenty years, I have been again lately to Boston and that vicinity, and although I thought I could perceive some improvement in the quality of the butter there, I can safely say that never, either there or in the State of New York, have I met with butter that would bear a comparison, to my taste, with such as I have often eaten at the *table d'hôte* of my old friend, at the *old Mansion House*, Philadelphia. The next best butter decidedly, according to the observation of the writer, is that from the dairies of the Hitlens—of Hampton—of Waverly, and others in the neighbourhood of Baltimore. Do your readers believe me to be correct in my impression? if so, can your correspondents throw any light upon the matter? It would not be worth while to argue and dispute about the *fact*.

S. S. I.

THE TOAD.—That poor, despised and harmless reptile, is admirable in its proportions, and has an eye of such transcendent beauty, that when I find one, I place it on my hand to view it more minutely. Its skin too, so completely adapted to the subterranean places into which it goes for shelter, is well worth the attention of the philosopher. As this little animal is innocuous, I feel sorry when I see it trampled under foot by inconsiderate people, who have learned from their grandmothers that it is full of venom.—*Waterton's Ornithology.*

M. ARAGO says the atmospheric pressure principle may be so applied, as to insure safe transit at the rate of six leagues a minute, or a thousand miles an hour.

From the New Genesee Farmer.

Successful Cultivation of Madder.

We have at different times heretofore adverted to the cultivation of Madder—*Rubia Tinctorum*—and are a good deal apprehensive that it might be made a profitable crop. We do not know that it has been successfully cultivated in Pennsylvania. The following article by our friend Bateham, editor of the Genesee Farmer, appeared more than a year ago in that paper, though it had not caught our eye till quite recently. It is published now with a hope that it may lead to further inquiry on the subject.—ED.

In these times of national embarrassment, when the whole country is suffering under the ill effects of an immense indebtedness to foreign countries, it certainly is the duty of every good citizen to inquire what he can do to aid in restoring prosperity, or in removing the causes of adversity; and the man who successfully introduces or promotes the home production or manufacture of any article of consumption hitherto imported, is a true patriot, and deserves the thanks of his country.

It will doubtless be a matter of surprise to many, to learn that for the single article of Madder, we are annually paying an immense amount to foreign countries, while at the same time it is fully demonstrated that this article can be raised in the greatest perfection, and with good profit, in a large portion of the United States.

In the central or eastern part of the State of New York, madder has been cultivated for some years past, but I believe not very extensively, or with much profit, probably owing to a want of sufficient heat in summer to give luxuriance and depth of colour to the roots; but in the State of Ohio, and similar latitudes, this difficulty cannot exist, and the climate is doubtless as favourable as that of Germany, if not more so.

While travelling in the western part of Ohio the past month, I was informed that Mr. Joseph Swift, a farmer of Erie county, was largely engaged in the culture of madder, and found it very profitable. I accordingly determined to visit him and learn the facts in the case. Mr. Swift was one of the earliest settlers of that part of the country, having resided there nearly thirty years, on the farm he now occupies, which consists of about 400 acres of choice land, mostly alluvial bottoms, in the valley of the Vermillion river, seven miles from Lake Erie. Having informed himself on the subject, he commenced by planting nine acres of madder in the spring of 1839, which he allowed four seasons' growth, and harvested the crop the past fall. The result is, he is now building a large and beautiful house with the

proceeds. I found Mr. Swift very hospitable and intelligent, and willing to communicate any information I desired. At my request he furnished me the following:

Practical directions for the cultivation of Madder, which, he remarked, must be understood as intended for those who wish to cultivate only a few acres, and cannot afford much outlay of capital. Those who wish to engage in the business on an extensive scale, would need to adopt a somewhat different practice.

Soil and Preparation.—The soil should be a deep, rich, sandy loam, free from weeds, roots, stones, &c., and containing a good portion of vegetable earth. Alluvial bottom land is the most suitable, but it must not be wet, nor too dry. If old upland is used, it should receive a heavy coating of vegetable earth, from the decayed wood and leaves. The land should be ploughed very deeply in the fall, and early in the spring apply about one hundred loads of well-rotted manure per acre, spread evenly, and ploughed in deeply; then harrow till quite fine and free from lumps. Next plough the land into beds four feet wide, leaving alleys between, three feet wide, then harrow the beds with a fine light harrow, or rake them by hand, so as to leave them smooth and even with the alleys; they are then ready for planting.

Preparing sets and planting.—Madder sets, or seed roots, are best selected when the crop is dug in the fall. The horizontal uppermost roots,—with eyes—are the kind to be used: these should be separated from the bottom roots, and buried in sand, in a cellar or pit. If not done in the fall, the sets may be dug early in the spring, before they begin to sprout. They should be cut or broken into pieces, containing from two to five eyes each; i. e. three to four inches long. The time for planting is as early in the spring as the ground can be got in good order, and severe frosts are over, which, in this climate, is usually about the middle of April. With the beds prepared as directed, stretch a line lengthwise the bed, and with the corner of a hoe make a drill two inches deep along each edge and down the middle, so as to give three rows to each bed, about two feet apart. Into these drills drop the sets, ten inches apart, covering them two inches deep. Eight or ten bushels of sets are requisite for an acre.

After culture.—As soon as the madder plants can be seen, the ground should be carefully hoed so as to destroy the weeds and not injure the plants; and the hoeing and weeding must be repeated as often as weeds make their appearance. If any of the sets

have failed to grow, the vacancies should be filled by taking up parts of the strongest roots and transplanting them. This is best done in June. As soon as the madder plants are ten or twelve inches high, the tops are to be bent down on to the surface of the ground, and all, excepting the tip end, covered with earth shoveled from the middle of the alleys. Bend the shoots outward and inward, in every direction, so as in time to fill all the vacant space on the beds, and about one foot on each side. After the first time covering, repeat the weeding when necessary, and run a single-horse plough through the alleys several times to keep the earth clean and mellow. As soon as the plants again become ten or twelve inches high, bend down and cover them as before, repeating the operation as often as necessary, which is commonly three times the first season. The last time may be as late as September, or later, if no frosts occur. By covering the tops in this manner, they change to roots, and the design is to fill the ground as full of roots as possible. When the vacant spaces are all full, there will be but little chance for weeds to grow; but all that appear must be pulled out.

The second year.—Keep the beds free from weeds; plough the alleys and cover the tops, as before directed, two or three times during the season. The alleys will now form deep and narrow ditches, and if it becomes difficult to obtain good earth for covering the tops, that operation may be omitted after the second time this season. Care should be taken when covering the tops to keep the edges of the beds as high as the middle, otherwise the water from heavy showers will run off, and the crop suffer from drought.

The third year.—Very little labour or attention is required. The plants will now cover the whole ground. If any weeds are seen they must be all pulled out, otherwise their roots will cause trouble when harvesting the madder. The crop is sometimes dug the third year; and if the soil and cultivation have been good, and the seasons warm and favourable, the madder will be of good quality; but generally, it is much better in quality and more in quantity, when left until the fourth year.

Digging and harvesting.—This should be done between the 20th of August and the 20th of September. Take a sharp shovel or shovels, and cut off and remove the tops within half an inch of the surface of the earth; then take a plough of the largest size, with a sharp coulter and a double team, and plough a furrow outward, beam deep, around the edge of the bed; stir the earth

with forks, and carefully pick out all the roots, removing the earth from the bottom of the furrow; then plough another furrow beam deep, as before, and pick over and remove the earth in the same manner; thus proceeding till the whole is completed.

Washing and drying.—As soon as possible after digging, take the roots to some running stream to be washed. If there is no running stream convenient, it can be done at a pump. Take large, round sieves, two and a half or three feet in diameter—found in eastern cities—with the wire about as fine as wheat sieves; or if these cannot be had, get from a hardware-store sufficient screen-wire of the right fineness, and make frames or boxes about two and a half feet long and the width of the wire, on the bottom of which nail the wire. In these sieves or boxes, put about half a bushel of roots at a time and stir them about in the water, pulling the bunches apart so as to wash them clean; then, having a platform at hand, lay them on it to dry. To make the platform, take two or three common boards so as to be about four feet in width, and nail cleets across the under side. On these spread the roots about two inches thick for drying in the sun. Carry the platforms to a convenient place, not far from the house, and place them side by side, in rows east and west, and with their ends north and south, leaving room to walk between the rows. Elevate the south ends of the platforms about eighteen inches, and the north ends about six inches from the ground, putting poles or sticks to support them, and it will greatly facilitate drying. After the second or third day drying, the madder must be protected from the dews at night and from rain, by placing the platforms one upon another to a convenient height, and covering the uppermost one with boards. Spread them out again in the morning, or as soon as danger is over. Five or six days of ordinarily fine weather will dry the madder sufficiently, when it may be put away till it is convenient to kiln dry and grind it.

Kiln drying.—The size and mode of constructing the kiln may be varied to suit circumstances. The following is a very cheap plan, and sufficient to dry one ton of roots at a time. Place four strong posts in the ground twelve feet apart one way, and eighteen the other; the front two fourteen feet high, and the others eighteen; put girts across the bottom, middle and top; and nail boards perpendicularly on the outside, as for a common barn. The boards must be well seasoned, and all cracks or holes should be plastered or otherwise stopped up. Make a shed roof of common boards. In the inside

put upright standards about five feet apart, with cross pieces to support the scaffolding. The first cross pieces to be four feet from the floor; the next two feet higher, and so on to the top. On these cross pieces lay small poles about six feet long and two inches thick, four or five inches apart. On these scaffolds the madder is to be spread nine inches thick. A floor is laid at the bottom to keep all dry and clean. When the kiln is filled, take six or eight small kettles or hand furnaces, and place them four or five feet apart on the floor,—first securing it from fire with bricks or stones—and make fires in them with charcoal, being careful not to make any of the fires so large as to scorch the madder over them. A person must be in constant attendance to watch and replenish the fires. The heat will ascend through the whole, and in ten or twelve hours it will be all sufficiently dried.

Breaking and grinding.—Immediately after being dried, the madder must be taken to the barn and thrashed with flails, or broken by machinery,—a corn-cracker or something of the kind—so that it will feed in a common grist-mill. If it is not broken and ground immediately, it will gather dampness so as to prevent its being ground. Any common grist-mill can grind madder properly. When ground finely it is fit for use, and may be packed in barrels like flour for market.

Amount and value of product, &c.—Mr. Swift measured off a part of his ground and carefully weighed the product when dried, which he found to be over two thousand pounds per acre, notwithstanding the seasons were mostly very dry and unfavourable. With his present knowledge of the business, he is confident that he can obtain at least 3000 pounds per acre, which is said to be more than is often obtained in Germany. The whole amount of labour he estimates at from 80 to 100 days work per acre. The value of the crop, at the usual wholesale price—about 15 cents per pound—is from 300 to 400 dollars. In foreign countries it is customary to make several qualities of the madder, which is done by sorting the roots; but as only one quality is required for the western market, Mr. Swift makes but one, and that is found superior to most of the imported, and finds a ready sale.

If any person desires instruction for making several qualities of madder, or further information respecting any other point, it may be obtained by addressing, (post paid) Joseph Swift, Birmingham, Erie co., Ohio.

M. B. BATEHAM.

CATTLE should have plenty of good water.

The Drummond Light.

THIS brilliant and splendid means of illumination has recently attracted public attention to a considerable extent, and a great deal of curiosity has been expressed by those not familiar with its use, as to its mode of production and utility for ordinary purposes. The light is produced by a small cylinder of quick lime heated to whiteness by means of the oxyhydrogen blow-pipe, an instrument which was invented by Dr. Hare, Professor of Chemistry, in the University of Pennsylvania, and which as applied to many purposes in the Chemist's Laboratory is found to be a most useful and ingenious contrivance.

This blow-pipe is a very simple instrument, by which two streams, one of oxygen, and the other of hydrogen gas, are made to terminate in a common jet. Hydrogen being a very combustible gas, and oxygen the most active supporter of combustion, the one being inflamed in the other as they issue from a common orifice, occasions the most intense heat yet produced. In this flame, a small piece of lime is placed, which immediately becomes intensely incandescent, and evolves a light so bright as to be painful to the eyes, when looked at for a few minutes, while it illuminates every thing upon which it shines to a degree scarcely surpassed by the light of the sun.

The Drummond Light, though by no means the most important use to which Dr. Hare's Compound Blow-pipe is applied, is capable of several useful applications. It was first employed, for practical purposes, by Lieutenant Drummond, in the Trigonometrical Survey of Ireland, and hence it has received—very improperly, as some think—its present name: for whatever credit may be attached to Lieutenant Drummond for its first application, the honour of its invention is certainly due to Professor Hare. It has been within a few years successfully applied upon the coast in light-houses, for which it is particularly suited by its intensely brilliant and star-light appearance. It has also been applied with great success in the oxyhydrogen microscope, which has attracted great attention, as recently exhibited by Dr. Lardner and others in this city.

One of the chief objections to this light for the illumination of houses and public halls, is its painful and injurious effect upon the eyes; this, however, may be obviated by placing it near the ceiling and in such a position as to throw its rays into all parts of the room, without being in the direct line of vision. Another difficulty is its expense,

which would be considerably greater than that of the ordinary city gas. For very large rooms, however, in which one Drummond light would be sufficient, and which are only lighted occasionally, and for a few hours at a time, this would hardly be an objection. The chief item of cost is the oxygen gas, which in its greatest purity is made from the chlorate of potash, a salt which costs one dollar per pound; one pound is sufficient to make about thirty gallons of the gas, which in an ordinary jet would burn, perhaps, five or six hours. To this must be added the small expense of the hydrogen gas and lime, together with the wear and tear of the apparatus, which would make one light, such as that ordinarily used in the exhibitions to which the public have had access, cost about 35 cents per hour, or somewhat less where it was used as a permanent means of illumination.—*Weekly Intelligencer.*

Guano as a Manure; from Dr. Gardner's Essay.

MANURES may be divided into two classes—those that merely forward the growth or development of cellular tissue, and give dimensions without solidity—and those that yield the inorganic basis of plants, and give firmness. Ammonia and azotized matters belong to the former, whilst bone-earth, lime, ashes, &c., represent the second class. But farm-yard manure and the excrement of birds, in which the urine and fæces are mingled, contain both essentials, and are serviceable not only in giving luxuriance of growth, but an increased supply of grain. Hence their value and uniform success. But these complex manures differ much in quality, as they contain an excess of one or other of the bodies enumerated. Practice has not yet determined how much nitrogen is best, but so far as experiments with guano have tended to a solution of this vital question, it would appear that ordinary specimens are not too rich for highly cultivated plants. Now guano may be represented as a compound of 20 per cent. azotized matters, 30 per cent. bone-earth, 10 per cent. alkaline salts, and the rest humus and sand—and is worthy of attention as furnishing us with an extremely successful compost, well calculated as a formula for artificial mixtures. It is questionable, however, whether for many plants, such as clovers and grasses, the proportion of nitrogen is not too high, and calculated to produce herbage luxuriant in dimensions, but cellular and loose in structure, as is known to be the case with sulphate of ammonia. Hence guano uniformly produces large bulbs in turnips and

potatoes, and a great increase of straw. It will be found that in poor lands, by which I mean those containing little soluble saline matter, the tendency of the manure is to act in this way—but in well prepared soils it will not exhibit so marked an excess in the proportion of nitrogen; for the nitrogen, in the form of ammonia, entering the plant, increases the function of nutrition to the highest point, and there is a necessity created for saline bodies of the second class of manures, which, if freely supplied, leads to a firm as well as luxuriant growth, but if not simultaneously introduced, leads to an imperfect development. On a rich soil, the saline substances will be attainable, but on poor land, badly tilled, they will be wanting.

There is nothing specific in the form of guano that hinders it from being imitated. Pigeon and fowl excrement in a similar state of decay, would produce the same effects. But in making artificial guano, there is one difficulty to be overcome before the great value of the natural article can be produced. The oxalate and urate of ammonia yield their base *gradually* by decay, and not suddenly, as would be the case with carbonate of ammonia used as a substitute. It is necessary to imitate this gradual production of carbonate of ammonia before any artificial manure can equal guano, when applied in a similar bulk. To this end there should be introduced animal matters with a high per centage of nitrogen, and in a state of rapid decay. Dried blood, hair, horn-shavings, wool, dried muscle and fish, gelatine of bones, might all be prepared in a state of powder, and liable to quick decomposition by a little attention, and being added to the mineral constituents of artificial guano, would produce a compost of the highest value.

The substance nearest approaching guano in composition is dried urine, which is not at all inferior in agricultural value—the only difference being the presence of urea in place of urate of ammonia, and less phosphate of lime. Artificial guanos have met with favour amongst English farmers, and been extensively used—but it is impossible to give an estimate of their value from experiments hitherto made: some specimens have attained one half the value of the Peruvian, whilst others fall very far below. The best formulae are as follows:

Mr. Fleming's artificial Guano.—Bones dissolved in muriatic acid, 224 lbs.; charcoal powder, 224; sulphate of ammonia, 112; salt and gypsum, each 112; wood ashes, 560; nitrate of soda, 28; sulphate of soda and magnesia, each 10.

*Turnbull's artificial Guano (supposed).—*Sulphate of soda, 224 lbs.; sulphate of ammonia, 224; carbonate of soda, 112; bones, partly dissolved, 1680.

There were used, in comparison with guano and farm-yard manure, on Swedish turnips, by Mr. Fleming:—

	Tons.	cwt.	qrs.	Expense.			Gain in weight.			
				£.	s.	d.	Tons.	cwt.	qrs.	
Nothing,		12	5							
Guano, 3 cwt.	3	23	8	3	15	0*	11	3		
Turnbull's, 3 cwt.	3	14	11	1	4	0	2	6	0	
Fleming's, 3 cwt.	3	17	14	1	10	0	5	8	3	
Farm-yard manure, 20 tons	18	11	2	10	10	0	6	6	0	

* Guano is estimated at six dollars the hundred weight.

It appears from this experiment that Mr. Fleming's mixture, at less than half the price, produced a gain nearly equal to half that of the guano, and that it is better than Mr. Turnbull's.

In both these composts, and in that recommended by Professor Johnson, there is not a sufficient amount of ammonia. The following more nearly resembles guano: Sulphate of ammonia, 30 lbs.; bones dissolved in muriatic acid, 30; fine ashes, 50; dried animal matter, prepared in powder, with humus, 100. The whole to be mixed intimately, and applied in several parcels, as a substitute for one cwt. of guano. The prepared animal matter may be obtained in the following manner: Let the flesh, fish, blood, &c., be dried by a stove, and then cut or bruised as far as possible; make a heap, with very fine mould, the animal matter and caustic lime, laying them together lightly, and exposing to the air under a shed. If any putrefaction occurs, add more lime: in a short time, depending upon the weather, the whole will be reduced to a powder.—Care must be taken that the animal substance is well dried. Shavings of horn, bones, wool, &c., require more time for disintegration.—*New York Farmer and Mechanic.*

THE failure of the potatoe crop seems to be universal throughout the Northern States. In this vicinity scarcely any will be preserved. The Barre Gazette says: "Nearly or quite the entire crop of potatoes in this region is lost. When dug, they are found to be diseased and rotten. Some have been dug early, and placed in the cellar in an apparently sound condition, and in a few days found to be decaying fast. They appear, to sight and smell, as if rotten. Several of our farmers have commenced ploughing them in, in the field. We learn that the difficulty extends to all the region about us. It is said some hogs have died after being fed with them. No reasonable cause is given for this singular occurrence. Should the crop fail throughout New England in

the same manner, great suffering, as well as loss, must ensue."—*Greenfield (Mass.) Democrat.*

DISEASE AMONG POTATOES.—We have several times alluded to the disease among potatoes. The same disease is noticed in the Amherst Express, Pittsfield Sun, and Bridgeport (Ct.) Farmer. It appears to be very extensive, and this crop in many towns is nearly destroyed. We have a field of "Mercers," that have nearly all rotted, while "Carters" adjoining, appear much less injured. A writer in the last Pittsfield Sun, remarks: "As yet, I believe no one has accounted for this disease. On examining my own field, I find that each remaining green leaf is covered with small insects, about the size of the house flea, very black, which fly off when disturbed. The tender parts of the leaves appear to have been eaten, which may account for the premature decay of the tops."—*Northampton (Mass.) Democrat.*

DISEASED POTATOES.—We learn from several farmers, that their potatoes are dying, and that their crop will be almost an entire failure. We have seen several fields, mostly of the pink-eye variety, where the tops were dead. The potatoes probably not more than half grown. What is the cause of this, we do not know. The season here has been favourable for the crop. We have noticed among some early potatoes we have raised, that a considerable portion are affected with the disease, which proved so disastrous to the potatoe crop in this country and in England, last year. We invite the attention of correspondents to this subject, and hope to hear from them in our next number.—*Central N. Y. Farmer.*

DISEASE AMONG POTATOES.—We have noticed throughout the country, that potatoes show signs of premature decay. The vines generally hold green until the first frost; but this year the vines of some entire

fields have commenced drying up, while the potatoes have not half reached their maturity. The crop will not be half a yield. We learn from a gentleman who has passed through New York, recently, that the same disease seems to be prevalent throughout that State. This is very singular, and is a subject of sufficient importance to claim the attention of scientific men, that the causes may be made known, and if possible, the evil remedied another year.—*Pittsfield, Massachusetts, Eagle.*

THE POTATOE CROP.—There is no crop of vegetables of so much value and importance to all classes, as the potatoe. It is bread, and meat, and drink, and sustenance, to the needy; with potatoes, it is impossible to starve, and they are the delight of the rich as well as the poor—there is no aristocracy about a potatoe. The man of wealth has them served up in various shapes and forms at his table—the boiled mealy potatoe, the fried, the mashed, the scolloped and the stewed, while the poor thrust them peel and all under the burning embers, and with a little salt make a meal upon them fit for an emperor. How painful therefore, it is to learn that whole crops of this valuable esculent have been destroyed by the rot. Farmers, scientific cultivators, and chemists, should employ themselves assiduously in discovering the cause. Is it in the soil, in the manure, in the cultivation, in the seed, or in the planting? We hope nothing will be left undone to ascertain the cause and apply the remedy.—*Saturday American.*

The potatoe crop throughout New York, is stated to be ruined. The Shakers, who engaged to deliver fifteen thousand bushels in that city, have given notice of inability to furnish a single bushel, and will hardly have enough for their community, offering to the "world's people" the whole crop, if they would dig it. The only section from which no complaint is heard, is Maine, but it is hardly possible that even there the crop has escaped the disease.—*Saturday American.*

The New Fertilizer—Guano.

THE Inverness (Scot.) Courier brings forward a statement to make stronger the truth of the old saying, that there is "nothing new under the sun," and with reference to guano as a manure, remarks that it is mentioned in Robertson's "History of America," speaking of the ancient agriculture of the Peruvians, where the author says, "They

enriched the soil by manuring it with the dung of sea-fowls, of which they found an inexhaustible store in all the islands scattered along their coasts." And in a note he adds, "The Spaniards have adopted those customs of the ancient Peruvians; they continue to use guano, or the dung of sea-fowls, as manure. Uloa gives a description of the almost incredible quantity of it in the small islands near the coast." We had thus the name and use of guano told us by Robertson seventy years ago.

GUANO.—We find the following paragraph in Burke's account of the European settlements in America:

"The district which produces this pepper in such abundance, is small but naturally barren; its fertility in pepper, as well as in grain and fruits, is owing to the advantages of a species of a very extraordinary manure, brought from an island called Iquiqua. This is a sort of yellowish earth of a fetid smell. It is generally thought to be the dung of birds, because of the similitude of the scent, feathers having been found very deep in it, and vast numbers of sea fowls appearing upon that and all the adjacent coasts. But on the other hand, whether we look upon this substance as the dung of these sea fowls, or a particular species of earth, it is almost equally difficult to conceive how the small island of Iquiqua, not above two miles in circumference, could supply such immense quantities, and yet after supplying upwards of twelve ship loads annually, for a century together, for the distant parts, and a vastly larger quantity for the use of the neighbourhood, it cannot be observed that it is in the least diminished, or that the height of the island is at all lessened."

PERUVIAN GUANO.—All the departments of art and industry have their occasional novelties. The reigning novelty in the agricultural world—that is, in this part of it—is the substance called guano, which the reader will perceive is advertised as on sale in Baltimore. This manure consists of the deposits of sea birds that roost and breed on the islands on the south-west coast of America. It has been used for ages in Peru, and is there so indispensable to the growth of corn and wheat, that, according to some writers, the country would have been a barren waste without it.

Its use in England, where it has been applied with wonderful results to almost every sort of crop that grows in that country, is of comparatively recent date; just long enough to have spread a conviction of its efficacy so widely as that seven or eight hundred vessels are now employed in the "guano trade!"

Its strong recommendation consists in the small compass of bulk and weight which renders cheap and easy, the transportation to any distance, of a great amount of fertilizing power. A calculation has been made by a careful and discreet farmer near Petersburg, to show that guano, at the rate of even four hundred pounds to the acre, which is a very liberal allowance, two to three cwt. being the usual quantity, does not cost, at \$3 per hundred, more than half as much as the stable manure required to produce the same results, at twenty-five cents for the two-horse wagon load, when hauled from one and a half to three miles.

To gratify our agricultural readers, we subjoin the analysis of the genuine guano by Prof. Ure, of London. So great is the demand for Peruvian guano, that a spurious compound in imitation of it has been manufactured.

Average result of analysis of the genuine guano, in reference to its agricultural value, by Professor Ure, M. D. F. R. S.

Azotized organic matter, included urate of ammonia, and capable of affording from 8 to 17 per cent. of ammonia by slow decomposition in the soil.	50.0
Water	11.0
Phosphate of lime	25.0
Ammonia, phosphate of magnesia, phosphate of ammonia and oxalate of ammonia, containing from 4 to 9 per cent. of ammonia	13.0
Siliceous matter from the crops of birds,	1.0
	100.0

To distinguish "the true from the sham," Professor Ure says that genuine guano, when burned upon a red hot shovel, leaves a white ash of phosphate of lime and magnesia, whereas the foreign substance leaves a black fused mass of sea salt, copperas, and sand. The specific gravity of good fresh guano is never more than 165, water being 100, whereas that of this substance is as high as 217, as produced by the sand, salt, and copperas in it.—*Exchange Paper.*

From the Saturday American.

Lightning Rods.

I WILL consider the several queries proposed in your favour of August 30th, in order.

1. "Do the square rods possess any superiority over the round ones as conductors of electricity?"

Faraday, one of the best authorities on electricity, asserts that the conducting power of a rod is proportioned to its mass, or quantity of matter and not to its surface; and the same doctrine is assumed by an English writer, in "Sturgeon's Annals of Electrici-

ty." It is admitted that the fluid pervades only the surface; still it is maintained that the conducting power depends on the mass. I have not in my possession any set of experiments which authorises the opinion of Faraday, but he doubtless had, or he would not have asserted it to be a fact. If this doctrine be true, then so long as the mass is the same, it is of no consequence whether the rod is square or round.

2. "Are a number of points attached to the extremity of a rod preferable to one?"

According to the experiments of Earl Stanhope, made more than sixty years ago, a single needle will discharge a leyden jar more rapidly than a bundle of the same; and in conformity with this, a single point is generally used for the termination of lightning rods in Europe, and I believe one is preferable to several—especially where they diverge from each other as they commonly do. In the lightning rods constructed by a skilful manufacturer in this city, the upper termination is formed of a sharp copper spindle, at the base, of the same diameter as the rod—say an inch or three-fourths of an inch. This is permanently gilded by the electrotype process. It makes a beautiful finish; as may be seen in the rods recently erected on the new Library of Yale College. The joint where the spindle is attached to the rod is as perfect as possible—a cylindrical projection on the spindle, nicely turned, fitting closely into a hole in the end of the rod, nicely bored. All the parts of a rod should be fitted by joints as close as this. Many rods have proved defective, within my knowledge, merely because the parts were united loosely by the hook-and-eye joint.

3. "Are tubes to be preferred to solid cylinders, on account of the greater surface exposed?"

If Faraday's doctrine that the conducting power is proportioned to the mass, is true, then the tubes, of a given diameter, cannot be equal in power to solid rods.

4. "Do the projecting points placed along the whole length of a rod, and at right-angles with it, in some forms of conductors, increase the efficacy of the rods?"

In case a rod is well connected with the ground, so as to deliver the charge freely, I think such points are unnecessary, so far as they are supposed to dissipate the charge, and therefore to render it less dangerous than when it traverses the rod in a concentrated state. They are sometimes appended on the idea of inviting or directing a lateral or horizontal charge; but I have never seen any well attested fact of their utility in such cases. It appears to me of great importance to preserve all possible simplicity and cheap-

ness in the construction of rods, else we cannot hope for their being generally used. Hence, any appendage that is not decidedly advantageous, ought to be avoided.

5. "Are not vanes, balls, and ornaments which are often placed on rods, obstructions to the fluid?"

I think these appendages do not generally affect the efficacy of a rod.

6. "Should not lightning rods have a clean smooth surface; and would not a coating of tin be beneficial?"

I do not suppose it to be important that the surface should be *smooth*; but it ought to be free from *rust*,—which greatly impairs the conducting power of iron. A coating of black paint,—the basis of which is charcoal, (a good conductor,) or, better, a galvanized surface—which is not liable to oxidize, is essential to the permanent efficacy of a rod.

The most essential points in the construction of a rod, appear to me to be these: that the rods should project sufficiently high above surrounding objects, and terminate in a bright metallic spigot,—that its parts should have as perfect continuity as possible, and that it should descend to the depth of permanent moisture.

DENISON OLMSTED.

Yale College, Sept. 3rd, 1844.

Marl Underlying Charleston.

Extract of a letter from PROF. BAILEY of West Point, to DR. J. LAWRENCE SMITH.

IT may be that the extract from this letter is of too purely a scientific character for this journal; but it must be interesting to us all notwithstanding, as it is connected with the geological structure of the spot we inhabit; a few preliminary observations will make what follows more intelligible.

Ehrenberg, a distinguished German naturalist, discovered a few years since, that there existed immense beds of earthy matter miles in extent, and many hundred feet in thickness, formed solely of the remains of microscopic animalcules, so small that millions were comprised within the compass of a cubic inch; their forms are varied, and their composition that of pure sand; in fact these little creatures when alive, were enveloped in flinty cells so indestructible as to remain perfect to the present day, a monument of their previous existence; these deposits have been found in many parts of the globe, but no where in greater abundance than in this country. There is a material brought from one of the Northern States, and used as a polishing powder, that consists entirely of these remains. Ehrenberg also found chalk to be made up of the re-

main of microscopic animalcules, whose covering was composed of carbonate of lime instead of silica.

These facts which may appear simply to show the wonders of nature, are destined to be of incalculable service to the geologist in pointing out the comparative ages of many formations upon the globe, and Prof. Bailey of West Point has directed his attention to this subject, his labours have already been of great service; and we look with anxiety to see a complete detail of what he has done in this department of science. The subject of this letter is the immense bed of marl that underlies Charleston, and perhaps a large portion of the eastern half of this State, the thickness of this bed is unknown; it has been penetrated to a depth of over three hundred feet, and the specimens examined were from this boring.

"You can now inform the good people of Charleston that their *city is built upon a bed of animalcules several hundred feet in thickness*, every cubic inch of which is filled with myriads of perfectly preserved microscopic shells. These shells, however, do not, like those beneath Richmond and Petersburg, &c., belong to the silicious infusoriae, but are all derived from those minute calcareous shelled creatures, called by Ehrenberg polythalami. You are aware that Ehrenberg proved *chalk* to be chiefly made up of such shells, and you will doubtless be delighted to learn that the tertiary beds beneath your city, are filled with more numerous and more perfect specimens of these beautiful forms, than I have ever seen in chalk or marl from any other locality. These forms are destined to be of great value in geology, and when the precise position of the formation beneath Charleston shall be fixed, and the forms belonging to each bed determined, we shall then have so perfect a guide to the geology of a large portion of our southern country, that by a mere glance through the microscope at portions of strata, scarcely large enough to be seen by the naked eye, their characteristic fossils may be seen, and their true position in the series determined. It will be a great labour however, to give the subject all the development it needs. I have myself examined the forms from as many as forty different and distant portions of our continent, but still feel very diffident in using the knowledge thus acquired." "This polythalamia to whose labours South Carolina owes so large a portion of her territory, are still at work in countless thousands upon her coast, filling up harbours, forming shoals, and depositing their shells to record the present state of the sea-shore as their predecessors, now entombed beneath

Charleston, have done with regard to the ancient ocean."—*Southern Agriculturist*.

Madder.

Communicated for the Farmers' Cabinet.

To the Agricultural Society of Newcastle County, Del.

I HAVE noticed with regret the low prices which the staple articles of agricultural produce of this district, command at this time, owing in a measure, to their being brought into competition by means of the Western rail roads and canals, with the cheap fertile lands in the northern parts of the Mississippi Valley. Under these circumstances it behoves every farmer and friend to the farming interest, to endeavour to find other objects of culture, on which they may bestow their time and labour, with more profit to themselves, and advantage to the community.

Among other articles that may not be wholly unworthy attention, in this respect, is that of Madder for dying—*Rubia tinctorum*.

Although this colouring matter, may at first view, appear of but small consequence, yet we may reflect, that there are now imported into this country annually, upwards of five thousand tons, at a cost of more than one million of dollars. And if our manufacturing establishments continue to be sustained, the consumption will yearly increase; may it not therefore, in a short time, become a profitable article of cultivation, to many of our farmers.

From experiments which have been made, it is found, that it can be produced in this climate, of quite as good, if not a superior quality, to that which is imported. Under this view, may we not look forward with a hope, that at no very distant day, it will become a valuable article in our items of export?

Madder is now brought into the United States principally from Holland and Germany; their mode of cultivation has heretofore been represented as tedious, and laborious, requiring much care and skill as well as a large outlay of capital. These representations appear to have deterred most of our American farmers from undertaking its culture. It is true, the crop requires four years to bring it to full maturity, and needs some labor, knowledge and capital; but from the experience of Joseph Swift, an enterprising farmer of Erie county Ohio, who has been engaged in its culture for several years, it has yielded more clear profit in proportion to the land occupied and labour

bestowed, than any other crop he could raise, viz. \$200 net profit per acre every four years.

The above few hasty observations, are made merely to call more able, and experienced minds to the subject, if any should think it deserving their attention.

Very respectfully,

JACOB ALRICHS.

DR. J. W. THOMSON,
President, &c.

Before the above communication was received, the article on the same subject on page 91, was in type. We are pleased to find our friend's attention has been directed to it: and hope others whose situation may be favorable, will make the necessary enquiries, and act accordingly. The reasons given by J. Alrichs for the cultivation of madder in the middle states, are certainly very cogent ones. We must here, if we would compete with our western farmers, not only endeavour to produce large crops at little expense as possible, but we must look around, and see if we cannot in some particulars, bring about a change of crops. The Editor is aware that this is but a repetition of what he has heretofore several times said: he hopes the nature of the subject, will plead his excuse.—Ed.

For the Farmers' Cabinet.

Mustard Seed.

TO THE EDITOR,

WE have recently purchased from J. H. Parmlee of Ohio, a part of his crop of brown mustard seed, raised, as he informed us, on 27 acres of good rich land, prepared with as much care as is usually bestowed upon wheat land. The seed, he says, was planted in rows one foot apart one way, and two feet the other. The crop was well worked during the season, and when near ripe was cut with sickles, laid on sheets or wagon covers, hauled to the barn in the sheets, and there thrashed out and fanned.

He has delivered to us as a part of the product of 27 acres of land, 114 barrels, containing 382 bushels 45 lbs. of brown mustard seed, weighing 52½ lbs. per bushel, making 20,100 lbs., for which we paid him 8 cts. per lb., making \$1608.00 and he has, he says 100 bushels of tailings, which he estimates will clean up 75 bushels, say 50 lbs. per bu., making 3,750 lbs. at 8 cts. 300.00

Product of 27 acres of brown mustard seed, \$1908.00
or \$70.66 per acre.

The time is not far distant, if not already at hand, when the interests of the American farmers will be best promoted by devoting a

portion of their time and land to the raising of many crops which are now imported from countries refusing (except when their own crops fail) the surplus of the American farms, and thus not only raise the prices of their grain crops by diminishing their quantity, but secure to themselves a large amount of money which is annually sent out of the country to purchase these crops; mustard seed is one of them, which can be raised here to a profit, and for which, if the seed is delivered clean and in good order, the demand will be found very active and certain.

Respectfully,

• C. J. FELL & BROTHER,
Mustard Manufacturers, 64 S. Front Street,
Philadelphia, 9th mo. 28, 1844.

The Indian Summer.

By BRAINARD.

What is there saddening in the autumn leaves?
Have they that "green and yellow melancholy"
That the sweet poet spake of?—Had he seen
Our variegated woods when first the frost
Turns into beauty all October's charms—
When the dread fever quits us—when the storms
Of the wild equinox, with all its wet,
Has left the land, as the first deluge left it,
With a bright bow of many colours hung
Upon the forest tops—he had not sighed.

The moon stays longest for the hunter now:
The trees cast down their fruitage, and the blithe
And busy squirrel hoards his winter store:
While man enjoys the breeze that sweeps along
The bright, blue sky above him, and that bends
Magnificently all the forest's pride,
Or whispers through the evergreens, and asks,
"What is there saddening in the autumn leaves?"

Gathering Potatoes.

Irish potatoes, if it is desirable to have them in all their excellence, should never have the sun shine on them after they are dug, and should be exposed to the air and light as little as may be. Potatoes pitted or buried in holes in the field, retain their freshness and good qualities much later than those put in open bins in the cellar; and the farmer will always do well to have a few pitted for spring use. The necessity for this may in a great measure be obviated, by lining the bottom and sides of a bin with turf, and when it is filled, covering it in the same manner. Potatoes will keep perfectly sound and good for years, if placed so low in the earth as to have a temperature too low for vegetation. Experiments made in a compact soil, on the north side of buildings or walls, show that four or five feet will usually be sufficient; in a lighter or more porous soil, a greater depth is requisite. No water in any case

should stand on potatoes, as it will soon destroy them. If potatoes are dug and pitted early, there should be an opening made at the apex of the heap, and filled with a wisp of straw, to keep out the rain, but at the same time to allow the heated air to pass off.—*American Farmer.*

EXPERIMENTS WITH GUANO.—At a late meeting of the Isle of Man Agricultural Society, the following statement was read of some experiments which had been made with guano by Mr. Lyle, of the Kirk Onchan Nursery. On a light and poor soil were two plats of grass; one of Stickney's rye grass, mixed with small quantities of *holcus lanatus* and *poa trivialis*; the other of Italian rye-grass. A space was measured off from each of these patches, and on the 12th of May last, both the spaces were top-dressed with guano, at the rate of three cwt. per acre. On the 20th of June, one square yard of the dressed and undressed spaces, taken as fairly as possible, was cut and carefully weighed when the following were the results: The produce from one square yard of Stickney's rye grass, dressed with guano at the above rate, weighed $7\frac{1}{2}$ lbs.; while that which had not been so treated weighed but $2\frac{3}{4}$ lbs. The Italian rye-grass dressed with guano, weighed $10\frac{1}{2}$ lbs.; whereas that which had not received any, weighed only $4\frac{3}{4}$ lbs. Guano was also applied on the 12th of May, at the same rate, to a row of young elms; and on the 20th of June, this row could be distinguished, even at a considerable distance, from the others, by its deep and healthy green, and more vigorous growth. A row of larches was dressed in like manner with precisely similar effects, the neighbouring rows decidedly partaking of the benefits of the application: On a row of strawberries, and upon those adjoining, effects similar to the last were produced.—*Liverpool Times.*

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, TENTH MONTH, 1844.

THE sixteenth Exhibition of the Pennsylvania Horticultural Society, took place in the two grand saloons of the Museum building on the 18th, 19th, and 20th ult.

The weather was clear and fine, and particularly calculated to call out for enjoyment, all who delight in the profuse display of fruit, flower and vegetable, for which our vicinity has deservedly so high a character. Every one felt and acknowledged the superior arrange-

ment of the present season over the preceding, when our readers will recollect but one of the rooms was occupied. Notwithstanding the crowds that gathered there from day to day, and in the evenings particularly, there was ample room for all to move with tolerable comfort; and though at times you were obliged to float along with the mass, without being at all able to look to the ostensible objects of your visit, yet the *jam* was by no means so suffocating as we have sometimes known it in previous years, when there was much less room.

The Society and Committee of arrangement, certainly manifested great taste in the distribution of the articles so liberally poured in upon them. The lower room was occupied with numerous bouquets and tasteful designs formed of cut flowers, some of which, reaching to the ceiling at a height of 21 feet, were in size well adapted to the spaciousness of the saloon. The fountain too, which was playing in the centre, not only seemed appropriate to the general character of the exhibition, but pleased the ear with its murmuring, and gave health and pleasantness and freshness to an atmosphere which might otherwise have been rather too confined. Tables up the centre and whole length of the sides, were filled with flowers and plants of all descriptions, and natives of all climes. Ample space and opportunity were afforded for the *amateur* to exhibit from his green-house specimens of his success, and thus indulge his liberality of feeling, by throwing open to general inspection and enjoyment, the rare and curious plants which all are pleased to examine, and which but few can cultivate for themselves.

In the upper room, more extensive still than the lower, the display of fruits and vegetables was really very fine. The latter, we thought, had never been exceeded; such melons, such beets, such pumpkins, &c., every one would take a pride in raising. It is, as we all know, a general fruit season, and it would seem in almost all the samples before us, as if nature had done her best. Finer grapes in appearance, have perhaps been shown in previous years, but never in greater variety. Indeed it may be said, the fruit had but one solitary failing—it was *forbidden*.

There was ample room for the distribution of premiums, and we have been glad to observe they were spread far and wide around the city. Our Jersey friends were well in the field, and contributed their full share to the richness of the show. However they may be charged with hailing from the land of pine knots and blowing sand, they can proudly point to their products of the field, the garden and the orchard, and say, *beat us if you can*.

Something short of \$2,500 were taken at the door, and from twelve to fifteen thousand persons visited the rooms. During a part of the second evening, we concluded there could scarcely be fewer than 3500 persons in attendance: in the upper saloon alone, it was estimated that 2500 were crowded at once. To view them from the galleries above, was a beautiful spectacle, and to the editor, one of no ordinary interest. The youth, and the beauty, and the animation, and the hope of the city and country, were floating below; and though, as we leaned over the railing and contemplated the crowd, we could not but acknowledge the question asked by a friend at our side—"where

will all these be fifty years hence?"—was both natural and full of meaning;—and though we could scarcely restrain a tear, kindred to that which Xerxes dropped at Abydos, when the reflection was forced upon him, that the days were numbered of all the mighty host before him—yet the hope and the elasticity of feeling which every surrounding object was calculated to inspire, expelled the threatening *shade*, and as we withdrew the eye from the moving thousands beneath, and the abundant proofs presented on every hand, of nature's exuberant bounty and loveliness, the exclamation of the dying girl was remembered, "what a beautiful world is this we live in!"

During a part of the last evening, the audience was rather taken by surprise, by an exhibition of skill in music. The question was asked by several whom we met—is this appropriate to a horticultural exhibition? is it not rather foreign to the purpose? will it not deter many from the rooms? and if it should draw any thither, will they not be of a class different from that select one, which no doubt the Society wishes to see on its floors? The objects the Society has in view in these annual displays, are, we apprehend, to incite by competition, to a multiplication of the comforts of life—to diffuse a taste for the elegancies of the greenhouse and the garden; and to afford to an intelligent and well cultivated public, a chaste and unexceptionable amusement, in which all can freely, and without hesitation, participate.

It is stated, and no doubt truly, that on the 7th ult., the locomotive *United States*, built by Baldwin & Whitney of this city, brought from Pottsville to Richmond, the depot of the Reading rail-road, on the Delaware, a little above Kensington, a train of one hundred and fifty cars, containing five hundred and sixty-four tons of coal. The cars themselves, weighed three hundred and forty tons: total weight, nine hundred and four tons. This is probably the greatest performance ever made by a locomotive, either in this country or Europe.

On pages 63 and 382, of last volume, references will be found to the *Etrurian* wheat, introduced by Commodore Stewart, of Bordentown, N. J. H. M. Zollicoffer, of this city, left at the office two or three weeks since, a beautiful sample of this wheat, grown by his brother Daniel, of Carroll co., Maryland. It is a white variety, said to be *fly* proof, and scarcely subject to *rust*.

We have just learned that the ploughing match of the Newcastle County Agricultural Society will take place in a field near Brandywine Village, on the 18th inst. The rules to be observed in the match, and the list of premiums will be made known on the ground.

The Bucks County Agricultural Society will hold its Exhibition and Cattle Show on the 24th inst. They had made arrangements to hold it on the 17th, but it was postponed on account of our own commencing on that day.

The exhibition of our Agricultural Society is now at hand. To-morrow and the day following, will be lively days at the *Rising Sun*. On the 18th will be the trial of ploughs.

ATTENTION is invited to the communication of C. J. Fell & Brother, on page 100, in relation to Mustard—*sinapis nigra*. A crop that will yield upwards of \$70 an acre, is certainly worth inquiring into; especially where wheat is precarious and expensive, and where new articles of culture are felt to be wanting. The Mustard plant is said to flourish best in a fine rich mould, that is not easily affected by the drought, and which rather inclines to lightness than tenacity. It requires to be carefully tended, the ground being kept mellow, and entirely free from weeds. We are informed that the American seed is generally superior to the foreign. The sample left with us is remarkably fine and plump.

C. J. Fell & Brother, will reserve a few barrels uncrushed, in order to supply those who may be disposed to try the experiment of growing it next spring.

OUR friends of Burlington, had on the 25th and 26th of last month, an animated time in the Annual Exhibition of the New Jersey Horticultural Society. Many persons, both their own citizens and strangers, visited the Lyceum, and greatly admired the taste displayed in the arrangements. The fruit, vegetables and flowers, were pronounced very fine, and many rare plants gave increased interest to the room. New Jersey has long been known for the superiority of many of the articles which make up an exhibition of this kind: and we have no doubt of the truth of all we hear in relation to her having done herself credit, on the late occasion.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DAN'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half bound, 8 vols.	6 50
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
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As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

THE quantity of rain which fell during the Ninth month, (September,) 1844, was a little more than four inches. 4.03 inches.

Penn. Hospital, 10th mo., 1st.

THE Corresponding Secretary of the Philadelphia Society for promoting Agriculture, informs us that at the monthly meeting held on the 2nd inst., upon the suggestion of S. C. Ford, a committee was appointed to inquire into and collect facts, as to the disease which has attacked the potatoe in different parts of the country. The committee consists of S. C. Ford, James Gowen, Dr. Elwyn, and ——— Kennedy. They have agreed upon the following questions:

What variety of the potatoe seems most exposed to the disease?

What was the mode of cultivation?

Had the seed been lately changed?

What was the character of the soil?

What was the nature of the season?

As this is a subject of deep general interest, as well as to those more particularly engaged in agriculture, it is very desirable that as thorough an investigation as possible should be made, and as great a number of facts collected, as will serve to give some idea of the cause of this disease. It is always difficult to examine matters whose operations depend on some obscure action of nature: but as to collect and collate facts is the only possible mode of getting a remote idea of a cause, it is hoped that sufficient interest will be shown to lead all who have it in their power, to examine and make known their investigation. Communications may be addressed to the editor of the Farmers' Cabinet, or to any one of the Committee. Will the Eastern Agricultural papers be pleased to notice the above subject of inquiry, as well as the appointment of the Committee?

We had the pleasure of attending the Fall Exhibition of the Agricultural Society of Newcastle co., Del., on the 11th ult. In a vacant square east of the town, we found ourselves in the midst of interested groups of spectators, all enjoying the fine appearance of lots of cattle, horses, pigs, sheep, &c., that did credit to the county. The working oxen were noble fellows, looking as if they lived on the fat of the land, and showing by their good training, that they were willing to earn their bread. The lower room of the Town Hall was occupied by the Horticultural Society—and when we say that its arrangements were planned and carried out by the skill and taste of the Wilmington fair, we have conclusively settled it that all was well done. The articles exhibited, were in themselves such as it would give any one pleasure to assist in arranging. In the upper room were shown numerous manufactured articles of excellent workmanship, admirably sustaining the high reputation of Newcastle county as a manufacturing district. The plain substantial dinner at Hall's, was every way suited to the occasion, and full justice was done to it in its discussion. Dr. Thomson, president of the Agricultural Society, presided on the occasion, and was assisted by Chauncey P. Holcomb, one of the vice presidents. They had around them at either end of the table, numerous invited guests; among whom were Dr. Mease, J. S. Skinner, the orator of the day, Dr. Darlington, Peter A. Browne, M. B. Bateham, of the New Genesee Farmer, &c. The Address was such as would be looked for from such a man—practical, with the useful kept steadily in view. We shall hereafter be able to lay it before our readers. A copy has not yet come to hand.

Cattle Sale at Rising-Sun Village.

The sale of James Gowen's cattle on the 26th of last month, was, we are sorry to say, not as successful as was to be expected. The many superior animals offered, and the reputation of the owner as a breeder of fine stock, led us to anticipate a large company, and much competition among the enterprising agriculturists of the country, for the fine cattle brought out on the occasion. But when we reflect upon the absorbing interest that pervades all classes, at this advanced stage of the pending elections, and the great drought, which on the part of many, forbid the idea of increasing their stocks, while they can barely support those already on hand, we can in some measure account for the paucity of bidders at this sale; besides, the appearance of the weather the day previous, was of itself, sufficient to keep many back, who otherwise might have attended from a distance.

The owner was not disposed to submit to the prices offered, and he accordingly stopped the sale, stating at the same time, that his object was to sell the cattle at fair and reasonable prices, and if any persons wished to treat with him, for any animal on the catalogue, he was ready to receive their offers. In this way, as we understand, some sales were made, and the residue held in like manner, at private sale. Those, therefore, who could not attend the public sale, may still have an opportunity of procuring some of this fine stock, by applying to the owner at Philadelphia, or Mount Airy. They will also be offered again at public sale this week, at the time of the Agricultural Exhibition.

THE CULTIVATOR gives a wholesome hint to its readers,—which will just as well apply to our own—not to suffer their horse-rake, hand-rakes, wagon rack, and whatever else may have been used in the hay harvest recently finished, to lay out in the fields exposed to the weather, but to have them carefully housed, to be ready and in good order for another season. This care is certainly cheaper than to buy new tools. The admonition may be properly extended to the care of ploughs, harrows, and all the farmer's other implements which are not needed through the winter. Great loss is sustained by many in suffering these things to remain out of doors. The winter's exposure is often more injurious than the summer's service.

EDWARD HARRIS, of Moorestown, N. J., advertises his stock of Norman horses for sale. A cut of his imported DILIGENCE, with a description of him, may be seen page 251, Vol. VI. Farmers' Cabinet.

THE bottle of Tomato catsup from a fair friend, with the note accompanying it, came duly to hand. Both are highly seasoned. While the spice of the one is relished at the family board, that of the other will be excused under the plea of a too partial friendship. There is good logic however in the argument, that the man who labours for the general good, should not himself be shut out from the general benefit.

IN answer to the frequent inquiries which are made for *Colman's Agricultural Tour*, we may say that the second number, as we are advised, is now in press by his publisher in Boston, and may shortly be looked for.

Two months ago, we adverted to the great profusion of apples to be found in all our orchards throughout this district of country, and urged upon our readers to ensure to themselves and for a market, plenty of good vinegar. Reference is again made to the subject, because it is deemed well worthy of another paragraph. Let every farmer remember that he can place on his table no substitute for good cider vinegar, that can at all be compared with it. The trash we buy may have virtue enough to pucker the mouth and distort a placid countenance into a sour one, but the sound substantial article which the mower will relish on his pork and cabbage, and which the housewife will be pleased to have in her pickle jars, is only to be obtained from well managed, unadulterated cider. The days for whiskey making, we trust, are pretty much gone by, but good vinegar is perhaps not less saleable, or less profitable; and with proper care there need be no difficulty in always having the first-rate article. See page 39, current volume of the Cabinet.

THE Highland Agricultural Society held its annual meeting at Glasgow, in the Eighth month last. The Duke of Sutherland sent some of his West Highland cattle to it from a distance of 350 miles; and a pair of oxen of this breed belonging to A. Sterling, took the first premium, as superior to any others of any breed. Several hundred cattle were on the ground, and not fewer than 150 horses. The sale of tickets for admission, brought in about £1,500.

PROFESSOR EMMONS, of Albany, and Dr. Prime, of Newburgh, propose the publication of an *American Quarterly Journal of Agriculture and Science*. "It will contain original Essays, both scientific and practical, on the various branches of husbandry—animal and vegetable physiology—chemistry—botany—geology, and all the branches of science connected with farming—notices and reviews of agricultural and scientific works—agricultural news, both foreign and domestic—details of accurately conducted experiments and their results, and all discoveries in science or art, which offer advantages to the farmer." We have heard this announcement with pleasure. A work of the kind, conducted with ability and candor, cannot fail to promote essentially the great agricultural interests of the country. Professor Emmons is favourably known by his labours in the geological corps of the State of New York, and we trust the editors may have no difficulty in drawing to their aid an amount of talent and industry that shall give to our *Agricultural Quarterly*, a high standing among those of similar purpose in other countries. We are an agricultural people, and upon the successful prosecution of this leading branch of our pursuits, must depend the steady advancement of national prosperity. We have Liebig for authority, that "perfect agriculture is the true foundation of all trade and industry."

SHORT ADVERTISEMENTS, &c.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844.

tf.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail, a complete assortment of Farming tools, among which may be found *Horse-powers and Threshing Machines, Grain and Seed Fans* of various patterns. *Corn-shellers* in variety. Hay, Straw, and Corn-stalk Cutters, eight different patterns, from \$1 50 to \$30. Corn-stalk Cutters and Grinders—Churns—Cheese-presses, &c. *Centre-draught Ploughs* of eight sizes. Bill-hooks—Pramble Scythes—Grabbing Hoes—Axes and handles—Hatchets—Potatoe Hooks—complete sets of instruments for making capons.

Garden, Grass, Flower and Field seeds, warranted fresh and true to name. D. O. PROUZY.

POUDRETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the **FARMERS' CABINET**, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portorage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. Farmers to the South, and in the interior, both of this State and New Jersey, are invited to try the article. As a manure for turnips, buckwheat, &c., it has been used to great advantage. The season for applying it to the wheat crop, is now at hand. Those who contemplate using it this fall, would do well to secure it early.

JOSIAH TATUM.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

Sept. 5th, 1844.

☞ **A FARM FOR SALE, CHEAP.**

SITUATED in Newcastle county, Delaware, nine miles west of Delaware City, in a healthy and rapidly improving neighbourhood, and convenient to a landing on the canal. It contains about 109 acres. For further particulars inquire in Philadelphia, Parrishstreet, third door below Seventh street.

CONTENTS OF THIS NUMBER.

New York State Fair, &c., at Poughkeepsie,	PAGE 73
When, where, and how to get a drove of sheep.	75
Cultivation of the Peach—Ripe Fruit and Dysentery.	77
Wheat tr ruing into Cheat or Bromus.	78
Electricity.	80
Management of Fruit Trees.—Guano.	81
Sheep-nose worms.—Agriculture and its improvements.	82
Dr. Beekman's Address.	84
Dr. Gardner's History of Guano.	85
Productive Farms.—Rust, Blight, and Mildew of Wheat.	87
Shell Fish as a Manure.—Mending a Tree.	88
Report on Indian Corn.	89
Philadelphia Butter.—The Toad.	90
Successful Cultivation of Madder.	91
Drummond Light.	93
Guano as a Manure.	94, 96
Disease of Potatoes.	95
Lightning Rods.	97
Marl underlying Charleston.	98
Madder.—Mustard a profitable crop	99
Indian Summer.—Potatoes.—Guano.—Editorial Notices.	100

THE FARMERS' CABINET,

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It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

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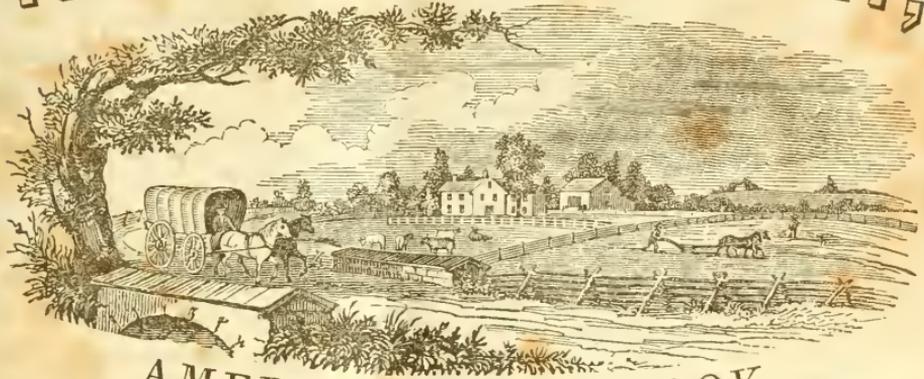
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volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly half-bound and lettered. Copies returned to the office of publication, will also be bound upon the same terms.

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THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 4.]

11th mo. (November) 15th, 1844.

[Whole No. 118.]

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,
PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Broadcast and Drilled Wheat.

TO THE EDITOR,—At the present period, when the price of agricultural produce of every description is so reduced, it becomes of great importance to the farmer to look around and see whether he can not increase the produce of his soil without increasing his expenses.

This is particularly needful in raising wheat; from some causes, perhaps not well understood, the wheat crop has become in the Eastern or Atlantic States exceedingly precarious. Our wheat, even when not attacked by enemies, such as rust or fly, has been gradually diminishing in the amount raised to the acre: the Report of the Farmers' Club of New York, states that the quantity has decreased there from 30 to 10 or 15 bushels per acre. This diminution is probably owing to the land being gradually robbed of the chemical constituents of the wheat, by sending the grain away, while we retain

CAR.—VOL. IX.—No. 4.

the straw to make food to supply succeeding crops; hence if we put on enough of this kind of manure, we may raise large crops of straw, but not grain in proportion. And further, as if we thought we had yet too much grain, we have our manure yards so planned that the saline parts, which are the most important in the formation of the grain, and which are soluble in water, have every facility to enable them to be washed away by repeated showers.

But is our present method of planting or sowing wheat, the most likely to insure the largest yield? This is what I now wish to speak of. In the work of Jethro Tull, the father of thorough tillage, printed about one hundred years ago, he states, that while other farmers were sowing two and three bushels of wheat to the acre, and reaping only 15 or 20 bushels, he drilled about half a bushel in three rows, about eight inches apart, in the middle of six feet wide lands, and usually obtained about 40 or 50 bushels per acre; and this without the aid of much or any manure: this success he attributed to tilling the land while the wheat was growing; he turned the furrow with what he called his hoe-plough, alternately from and to the rows of wheat, like many who use the plough are in the habit of tilling their corn; in the spaces of eight inches between the rows, the ground was loosened by hand hoeing.

This plan, though not adapted to American farming, for the reason, that generally

(105)

we wish grass to follow our wheat crop, was yet deemed sufficiently plausible to determine us to give a fair trial to the drilling, in comparison with the broadcast plan. Accordingly, in the fall of 1843, our field, the clover being all ploughed under, and a light dressing of manure, about 10 one-horse cart-loads to the acre, being spread on the surface, was nicely harrowed. We commenced at one side—sowed broadcast about six acres, with two bushels of seed to the acre; in about one week afterwards, we were furnished with a drill, by our enterprising neighbour, John Jones, of Bohemia Manor, who owned the only wheat drill in the State of Delaware; commencing on the 20th of Ninth month, we drilled about 27 acres, putting in about 10 acres a day, with one bushel and one peck of seed to the acre—the cost of the drill, including the services of one man and one horse, was 50 cents an acre, though two horses were required to work the drill. All the wheat, both drilled and broadcast, stood the winter well; to appearance, the broadcast looked best; it appeared thicker, both in the fall and in the spring; the drilled wheat, by our neighbours generally, was pronounced too thin and was considered by them a failure.

In the Fourth month the weather was very dry and warm, which seemed unfavourable for wheat; it appeared to stop it from stooling sufficiently, causing it to shoot up prematurely and too thinly; but when the heads were formed, there was a manifest difference between the length of the drilled and broadcast, those on the drilled wheat being decidedly longer. The whole crop was free from rust or fly, excepting along one headland, which had been eaten off by cattle when about one foot or 18 inches in height, where we found the fly in abundance; showing certainly, that insects are most likely to attack those plants whose powers have been impaired; thus teaching farmers that the most likely way to avoid the fly and even rust, is to keep their plants by all known means, in as healthy a condition as they possibly can, for where one field of healthy vigorous wheat will be destroyed by the fly or rust, ten will be, which are either put in badly or are too poor.

Previous to harvest, we had five acres carefully measured with the chain and compass, by W. Penington, the surveyor of the neighbourhood, assisted by John Jones.

The surveyor was present when the wheat was cradled, and saw that each acre had its due share; it was put away in separate mows, and threshed separately, and the grain all measured.

- Nos. 1 and 2.—Two acres of the broadcast surveyed together.
 2 Bushels of seed to the acre.
 75 Shocks.
 55 Bushels of wheat, or 27½ bushels to the acre.
- No. 3.—One acre drilled, adjoining the above, the land if any different, rather inferior, treated exactly alike.
 1 Bushel and 1 peck of seed to the acre.
 42 Shocks.
 35 Bushels.
- No. 4.—One acre drilled, a little distant from No. 3.
 1 Bushel and 1 peck of seed.
 42 Shocks.
 35 Bushels.
- No. 5.—One acre drilled, a little distant from No. 4.
 1 Bushel and 1 peck of seed.
 50 Shocks.
 40 Bushels to the acre.

Here we see that by the use of the drill alone, the soil being in the same or perhaps in an inferior condition, that the crop was increased seven and a half bushels per acre, and adding the amount saved in the seed,—three pecks—make eight bushels and one peck to the acre. And further, that the amount of straw on the drilled acre, with a smaller quantity of seed sown, increased 12 per cent., and the amount of grain on the same acre was increased more than 27 per cent.

It may be proper here to state that the whole field, between 30 and 40 acres, was manured and treated alike; although from causes existing previously in the soil, some parts of the land being naked and barren, was more denuded than others, the surface soil being washed away, did not yield as well as other parts. I suppose that without the clover and manure, the field would not have averaged more than three bushels, certainly not five bushels to the acre.

The drill used, was invented and made by M. Pennock & Sons, of Kennet Square, Chester county, Pa., the inventors of the revolving horse-rake. Seven rows, about eight inches apart, are planted by it at one time, about three inches in depth; the planters stand perpendicular, their points projecting forward, produce small furrows, similar in shape, but deeper than those made by the teeth of the Cultivator. The wheat thus growing in the bottom of the furrow, is protected from the bleak winds of winter, and the fine earth pulverized by the frosts, fills up the furrows by spring and nourishes the young plants.

Our own convictions have been sufficiently strong upon the above experiment, to cause us to purchase a Drill, or as it should be called, a Wheat and Corn-planter—for it plants either equally well—for our own use,

with which we have put in this fall, the entire field of wheat containing about 40 acres.

Respectfully,

CHARLES NOBLE.

Philadelphia, Tenth mo., 1844.

P. S. The acre yielding 40 bushels of wheat, it will be seen I have not compared with the broadcast, in their per centage yield, because of their distance apart, supposing that the difference of yield might have been owing to some difference in soil.

Age of Apple-trees--Do natural trees outlive the Grafted?

A *Long Island Farmer* writes the following to the *New York Observer*: it is not there only, but through the country generally, that the lingering of the large old apple trees can be remembered. These were, perhaps, all raised from the seed, and show that while we improve our fruit by the grafting, we pay for the luxury in the frequency with which we must renew our orchards. The editor well remembers the cutting down in his own orchard, from year to year, of straggling trees which towered up above the more recent ones that surrounded them, and which were doubtless from one hundred to one hundred and twenty-five years old. The remedy which is frequently urged, will, we trust, not be neglected. There is no question we must keep up our stock of good fruit by obtaining it from seedlings.—Ed.

“APPLE trees live to a great age. There is a tree on Peak’s Island, in Portland harbour, that has been known to bear fruit every season, for more than a hundred years.”

The above paragraph was in your summary of last week; and as I observe you have a small agricultural department in your paper, I take the liberty of submitting a few remarks suggested by the above extract.

The fact stated is unquestionable. I can well remember when it was a common thing to see apple trees not only of vast age, but of immense stature. When I was but a child, I can distinctly recollect the remains of an orchard, on my father’s farm, the principal part of which the British had cut down for fuel. Eight or ten trees only remained, a venerable cluster in one corner of the field. Almost every tree was not far from two feet in diameter, and in form more like the lofty and wide-spread oak, than our present apple trees. Some of them were from forty to fifty feet high, and of proportional breadth. I can well recollect, also, the gradual decay of these early tenants of the virgin soil, and the remarkable tenacity with which they cling to life. As one large limb after another decayed and fell, new and vigorous young shoots would spring forth and grow

with astonishing rapidity. I recollect one tree in particular, whose limbs had all decayed and fell off, one after another, till nothing but a hollow trunk, reduced to a perfect shell, about eight feet high remained. And yet this apparently lifeless cylinder sent forth strong shoots near its top, which grew and bore fruit for many years. And it is now but a few years since the last remains of this ancient orchard were eradicated from the soil.

What rendered the longevity of these venerable trees more striking was, that on this same farm there was another orchard of *ten acres*, that had been set out with great care, only a few years before the revolutionary war, and was then too small to tempt the depredations of the enemy, and these trees long ago put on the appearance of premature old age; and now scarcely a solitary tree remains to remind one that the ground was once an orchard. In fact, it is many years since it lost that name. This orchard, I may add, had been grafted with great care, with a choice variety of fruit, and when I first knew it, was flourishing and productive.

I have stated these facts with some particularity, for the sake of suggesting some inquiries, as the following:

Is it common, now-a-days, to meet with very large and aged apple trees, except where they were set out on the virgin soil of the country? And if not, as I suspect will be found to be the fact, to what cause is the decay of our later planted orchards to be ascribed? We know, by sad experience, that many other kinds of trees, which once grew, in all these regions, almost spontaneously, and bore fruit abundantly, as the peach and plum, for instance, now require to be cultivated with the greatest care, and even then are exceedingly short lived. Many a time, when I was a boy, have I, after eating a fine peach, said to my companions, I will now plant this stone, and if my life is spared, in three years I will eat of its fruit; and as often have I realized the fulfilment of the prediction. In those days, our hedges were loaded with peaches, which, from their mere abundance, the very hogs disdained to eat, except to crack the stone and eat the pit! This fact I have witnessed with my own eyes. Why then has it become so difficult to raise peaches? Is it to be imputed to any change in the climate? or to the exhaustion of some particular property of the soil? And does not the same cause operate on our apple orchards?

But there is another inquiry which I wish to submit. Are not all these large and aged apple trees the production of *the natural*

fruit? Can any man point me to an apple tree one hundred, or even seventy five years old, that was grafted, as our present method is, on the stock, or that was grafted in any way? Every man knows that a grafted tree is merely a continuation of the old one; and, therefore, though its existence be prolonged by insertion into a new stock, it will, notwithstanding, in a few years, put on all the appearances of premature old age; and the sooner, as the process of grafting has been the more frequently performed with the same variety. We have become so fond of grafting and budding, that most men disdain a natural tree, however vigorous, except for a stock to be tortured and murdered; or if success attends the transformation, to be consigned to an early death. But is this extreme, wise? Where did our delicious, grafted fruit come from at first? And although the seed will not all produce the same variety, yet some of it will, or others still more excellent.

I will venture then to suggest, in conclusion, that if we would cultivate more natural trees, of all kinds of fruit, and let them stand till "by their fruits ye can know them," and then preserve the good and destroy the bad, we shall not only obtain new and improved varieties, but greatly prolong the life of our trees. On the present procedure, one thing is certain as the course of nature—our finest fruits must soon fail. Of this we have striking evidence in the general failure of the Newton Pippin, which was once as universally fair as oranges, and of a large size, but now often small and knotty. Other examples might be given, but I must stop.

Premiums for the best managed Farms.

WE are greatly in error if our readers do not relish the lively statements of the following letter. It is well sometimes to see how it strikes a stranger.—Ed.

To the Editor of the Marlborough Gazette:

HAVING already received notice from two gentlemen, competitors, addressed to me as first named of a committee to award the premium offered for the best managed farm in the county, it seems proper that I should state, in this, the most convenient form to all parties, that it will not be in my power to undertake the trust with which the Agricultural Society of Prince George's has honoured me. I am not the less grateful for the compliment which such an appointment conveys, for it assuredly implies a belief that the persons so delegated have not only taken a deep interest in the general subject of agriculture, but that their fondness for it and conviction of its paramount importance, have

led them to inquire into and reflect upon, what constitutes good management, both as to principles and practical details.

It is not easy to imagine any duty that requires better judgment or more unyielding impartiality, than that of awarding such a premium! How many things are to be considered! The extent of the farm to be compared, not only with others, but with the resources at the command of the proprietor—such as capital in money, in labour, in natural fertilizers, and in elements requisite for compounding manures, &c. The time the farm has been in possession of its present proprietor, with its original and present condition, and in that connexion, what have been his extraneous aids and facilities; and how far improvements have resulted from his own sagacity and forethought, or from the knowledge and experience of his manager; for the manager sometimes makes heavy crops under an improving system of husbandry, not by the directions, but *in spite of the owner*.

All these and many other things are to be taken into the account, and after all, there will be liability to error, as well from overlooking important facts, as from giving undue weight to minor considerations; still, with such colleagues as were on that committee, I would, if my duties here would permit, most gladly have joined in the inspection of the farms to which they are invited, expecting to derive, not only peculiar pleasure in visiting their proprietors, but much information from observing their practice, and from being associated with gentlemen of so much experience and judgment. Indeed, it is difficult to conceive any thing more agreeable and recreating to a passionate amateur of the country, and all that belongs to country life, than would be a comparison of the claims of competitors for such premiums. The thorough sifting that should be given to the candidate, would be a caution to all indolent and *unthinking* planters! The catechism should be begun, by a close examination of his personal agency in the concern, to know how much of the results were the fruits of his own *thoughts* and directions. But that agency is not always to be measured by the time of a man's rising, or the constancy of his presence on the farm. There are some men who have things so *systematised*, that they can manage better when sick, or occasionally from home, than others who rise before day and are "fretting and fuming" from morning to night. The gentleman, Col. N. Bosley, of Hayfields, who took the premium "presented by the hands of General Lafayette," for the best managed farm of that

year, was half his time bed-ridden, and had no overseer; but he knew, every day, what was doing—where it was doing—how it was doing—and *why*—yes, and that's the great point, *why* that particular thing was being done at that particular time. He made an independent fortune with *hay*, as his staple, on a very hilly, stony farm, 16 miles from Baltimore.

I had lately, by special invitation, and by the kind permission of my *boss*, the satisfaction to dine, on Indian Hill, the premium farm of Massachusetts, to the proprietor of which the premium was awarded, not only for the *best managed farm*, but for the best specimen of *under draining*, and the best system of *keeping farm accounts*. Who might not be prouder of such premiums than of military achievements, and sometimes negative service, without achievements, for which our wise, thoughtful, republican government, representing two-thirds farmers, awards the *highest honours, the largest life salaries, hospitals, pensions, &c.*

The proprietor of that farm, where I met some of the most accomplished agriculturists of Massachusetts, is half the year absent in the South. But he has things so set down and systematised, that he is constantly and exactly informed of what is going on. Every man is *numbered*—and every job of work to be done is *numbered*—and he knows, that on a given day, number so and so, was at work on job No. 7, or 3, or 2, as the case may be. His people all rise at 5, A. M., by the *ringing of a bell*, as in a ship or a factory; and breakfast by candle light; he taking his seat when at home, at the head of their *breakfast table*, just to see that all are there, and that *all is right*. After all is fairly under way, he is ready for his own family breakfast table, where, as well as throughout the house, you find a neatness, good order and abundance, corresponding with, if not even excelling the out doors management. In fact the neighbours do hint that “two heads are better than one.” Certain^{ly} it is, that I never saw a more unique, antique, venerable looking mansion outside—nor one *in* which reigns a more charming air of quiet, order, good management, and domestic taste and harmony.

To economise time, even the kindling is in the kitchen “the overnight.” The hash is ready only to be “warmed up,” and breakfast, with coffee, is all ready for the labourers in the “twinkling of an eye,” after the bell rings at five.

The labourers—willing, steady and constant—are all white men, generally Scotch, sometimes Irish, hired by the month. On

that point, I refer to his answers to questions propounded by the Society. When all is going on, as it goes every day, as smooth as clock work, *Mr. Poor*, rich “in all the qualities that give assurance of a man,” is then ready to take his family or his guest, as he did me, in his coach and “four in hand,” and that in his own hand, of preference, any where over delightful roads and a magnificent country, at the rate of eight miles an hour! I only mention it to show, that “best management” does not imply continual drudgery. At Indian Hill farm, as on almost every farm in New England, there is *a place for everything, and everything is in its place*. You don't see a bridle on the ground here, and a swingle-tree in another place. Sheep skins eaten up by dogs, and harness lying out in the weather—axes scattered here and hoes everywhere—carts broken, and doors and gates off the hinges—negroes hunting here and there for the spade, or for him that had it last, to know where he left it. Galled horses with clogs on their feet and yokes on their necks; and oxen, as I this morning actually saw a yoke in Washington, one pulling one way and the other the other way, with all his might—with a negro on each side, armed with a bludgeon, to drive them from one side to the other. There—in New England—one yoke does at least as much as three do here. They are all fat enough for beef the year round, and are driven rather by *signs*, and with very light whips, rather than by violence. One must go to New England, to have an idea of the power, the docility, and the great usefulness of a single yoke of oxen.

At Poughkeepsie, in the ploughing match, there were seven single span of oxen, and two of horses, started for the premium—each managed by a ploughman, without a driver—the prize was taken by a span of *oxen*! The whip of the ploughman was lighter than the *beech switches*, which I remember well, and to my great terror, were kept standing in the corner of a log-cabin school-house, in Calvert county, under the dread government of the never to be forgotten Robert Spicknall.

How much I should have been gratified could our committee, with the estimable and efficient Recording Secretary of the Society, have been with me to witness many things that I saw on an almost literally flying visit to Massachusetts and New York. I could “spin a yarn” worth hearing, out of it, if I had time; one that might make the wool and the web of an address, for which I see “by the papers,” I have been “set down” for your next meeting—but close confine-

ment here, and the disordered state of my health, will not allow me to comply with the wishes of the Society in that respect.

Among other places, I made a visit to *Marshfield*, and there ate *chouder*, made chiefly of codfish, taken in the "deep waters of the dark blue sea," by the hand, hook and line of the great American commoner himself.

Arriving before dinner, he took us first through his corn-field, by way of an *appetizer*—and what with the thickness of the corn and the number of the pumpkins on the ground, you might as well have been dragged through a *Mississippi cane brake*. I could not help thinking what glorious music a good pack would make in it, in pursuit of a grey fox or a wild cat. A large portion of the field would undoubtedly yield eighty bushels of corn to the acre, and yet corn of the same *height* with us, would not produce twelve bushels. He was proud, and had reason to be, of his large field of "*swedes*"—his twelve beautiful heifers, of the stock he selected in England, and of his Southdown sheep; of which he generously tendered as many as I would accept, which was a buck and two ewes, to go into Prince George's. But of all things he seemed to be fondest of and most familiar, with his *noble oxen*!—some six or eight yoke, that would average, in the shambles, at least twelve hundred. He seemed, too, to felicitate himself particularly in the shade of a venerable and *magnificent elm*, near his house, "*Religione patrum multos servata per annos*," its graceful branches extending over a diameter of a hundred feet.

Respectfully,
J. S. SKINNER.

Washington, D. C.

Checking Horses.

A COMMUNICATION was made a year ago, to the Academy of Sciences, at Paris, respecting a new, and, as it is stated, perfectly efficacious mode of preventing horses from taking fright and running away in harness. Hitherto several means, all of them imperfect, have been devised to prevent accidents of this nature. One most in favour is a mechanism for detaching horses from the traces, and setting them suddenly free, but the mechanism is not always certain in its action; and it can be easily comprehended that, if the horses take fright on a descent, the sudden detaching of the carriage may be attended with very great danger. The author of the paper before the Academy, proposes a very simple remedy. Having remarked that horses rarely take fright at

night,—the paper says *never*, but this is a mistake, for there have been instances of the kind—the author imagined that all that was necessary in order to check a horse when running away, was to cause him to be visited with temporal blindness; and in order to do this, he contrived by means of a spring connected with the reins, to cover the eyes suddenly. This was done when the animals were at the top of their speed, and the result was their instantaneous stopping; for the light being suddenly excluded, horses no more rush forwards, he says, without seeing their way, than would a man afflicted with blindness. The theory of the invention is so reasonable, that we are strongly disposed to believe in the utility of it, and we sincerely trust that we may not be disappointed. How many calamities may be prevented by the adoption of this simple means of checking horses, if the inventor be correct in his assertions; and, while we hail this discovery as a blessing, we cannot but regret that to the absence of some efficacious means of arriving at the result, France owes the loss of one of her most amiable princes. If such contrivance as that spoken of in the paper before the Academy, had been under the control of the postilion who drove the Duke of Orleans, and had been so effective as the inventor says such a check must be, the Prince would have been spared to his country and his family.—*Burlington Gazette*.

MILK.—Milk is a perfect food for a growing animal, containing the curd which is to form the muscles, the butter which is to supply the fat, the phosphates which are to build up the bones, and the sugar which is to feed the respiration. Nothing is wanting in it. The mother selects all the ingredients of this perfect food from among the useless substances which are mingled in her own stomach with the food she eats—she changes these ingredients chemically in such a degree, as to present them to the young animal in a state in which it can most easily, and with least labour, employ them for sustaining its body—and all this she begins to do at a given and appointed moment of time. How beautiful, how wonderful, how kindly provident is all this!—*Johnston*.

FEED the earth, and she will feed you:—act liberally towards her, and she will liberally reward you. It is vain, as the *New England Farmer* says, to try to cheat her. If you give her little, you need not look for much; she will yield but little.

Statistics of Fruit.

As there seems to be at this time a general awakening on the subject of fruits, their culture, &c., all statistics on that subject will probably have an interest for your readers, and I therefore append the following calculation of the value of fruit, *per individual*, raised in each state. The data upon which this is based, is Mr. Ellworth's report of population and production for 1840. Leaving out fractions, the calculations stand thus:

	Per person.
New Jersey, - - - -	\$1 24
Connecticut, - - - -	96
New Hampshire, - - - -	84
Vermont, - - - -	73
New York, - - - -	70
Virginia, - - - -	57
Kentucky, - - - -	56
Massachusetts, - - - -	53
North Carolina, - - - -	51
Tennessee, - - - -	44
Pennsylvania, - - - -	36
Delaware, - - - -	36
Ohio, - - - -	31
Maine, - - - -	29
Illinois, - - - -	27
Rhode Island, - - - -	26
Missouri, - - - -	24
Georgia, - - - -	23
Maryland, - - - -	22
Indiana, - - - -	16
Arkansas, - - - -	12
S. Carolina, - - - -	09
Alabama, - - - -	09
Michigan, - - - -	08
Dist. Columbia, - - - -	08
Mississippi, - - - -	04
Louisiana, - - - -	03
Florida, - - - -	02
Wisconsin and Iowa, each one-tenth of 1 ct.	

Average in all the States, 45 cents each person.

It might be a curious subject for investigation, for some one fond of such inquiries, to see if some connection could not be traced between the quantity of fruit raised in each State, and its general healthfulness. That good fruit is a great promoter of health there is now no question; the respected opinions of our grand-parents to the contrary notwithstanding. It would seem, from present indications, the day is not far distant when we shall have a much more bountiful supply of fine fruits than at present, and as a consequence, *purer blood and less feverish brains!*

In evidence of this increasing interest, on inquiring the other day at one of your large agricultural ware-houses for a tree-scraper, I was informed that an instrument for the

purpose was formerly made at the eastward, but its manufacture had been discontinued, for the best of all reasons, the want of demand; but that there had been more inquiries for the article within the last year, than in all the ten years previously. A ship-scraper, with one of the points rounded on the grindstone, so as the better to get into the crotches of the tree, answers every purpose.—*Southern Agriculturist.*

For the Farmers' Cabinet.

Keeping Cattle Warm.

If we look abroad at the habits or necessities of people, we find that as we advance from south to north, the consumption of animal food increases. In hot climates, under the tropics, for instance, the diet is almost exclusively a vegetable one. Under a latitude of forty or fifty degrees, we require considerable animal food—if we advance to the frozen regions of the north, whale oil and bears' fat, are found among the luxuries of the board. These gross materials, almost to the exclusion of vegetables, are there found indispensable to keep up the necessary supply of nutrition and warmth. It has been long known both to chemists and observing men, that a cold atmosphere requires an extra quantity of food to sustain life and health; and this observation is just as applicable to the cattle and horses whose home is at our barns, as it is to our own species. If they are kept warm—housed from the storm, and shielded from unnecessary exposure, they will need less food than if left unprotected through the winter in the open yard. In point of economy then, as well as from kindness of feeling, it is our interest to look to the comfort of our stock. The winter profit to be realised from milch cows, is unquestionably much affected by their treatment in this respect, and every one who would make the most of his cattle in this latitude, must carefully attend to their comfort. I copy the following remarks from the fourth part of Johnston's Agricultural Lectures, as particularly in point. These Lectures have been much spoken of and much read, and fault has been found with them on account of their scientific character. There is, however, abundance of practical matter in them, that may be made available by every intelligent farmer. The extracts now forwarded for the Cabinet, will, I think, do something towards confirming this assertion. N. S.

Burlington co., N. J.

“The degree of warmth in which the animal is kept, or the temperature of the atmosphere in which it lives, affects the

quantity of food which the animal requires to eat. The heat of the animal is inseparably connected with its respiration. The more frequently it breathes, the warmer it becomes, and the more carbon it throws off from its lungs. It is believed, indeed, by many, that the main purpose of respiration is to keep up the heat of the body, and that this heat is produced very much in the same way as in a common fire, by a slow combustion of that carbon which escapes in the form of carbonic acid from the lungs. Place a man in a cold situation, and he will either starve or he will adopt some means of warming himself. He will probably take exercise, and by this means cause himself to breathe quicker. But to do this for a length of time, he must be supplied with more food. For not only does he give off more carbon from his lungs, but the exercise he takes causes a greater natural waste also of the substance of his body.

“So it is with all animals. The greater the difference between the temperature of the body and that of the atmosphere in which they live, the more food they require to “feed the lamp of life,”—to keep them warm, that is, and to supply the natural waste. Hence the importance of plantations as a shelter from cold winds, to grazing stock—of open sheds, to protect fattening stock from the nightly dews and colds—and even of closer covering to quiet and gentle breeds of cattle or sheep, which feed without restlessness, and quickly fatten.

“A proper attention to the warmth of his cattle or sheep, therefore, is of great practical consequence to the feeder of stock. By keeping them warm, he diminishes the quantity of food which is necessary to sustain them, and leaves a larger proportion for the production of beef or mutton.

“Various experiments have been lately published, which confirm the opinions above deduced from theoretical considerations. Of these I shall only mention one by Mr. Childers, in which twenty sheep were folded in the open field, and twenty of nearly equal weight, were placed under a shed in a yard. Both lots were fed for three months—January, February, and March—upon turnips, as many as they chose to eat, half a pound of linseed cake, and half a pint of barley each sheep, per day, with a little hay and salt.

The sheep in the field consumed the same quantity of food, all the barley and oil-cake, and about 19 lbs. of turnips per day, from the first to last, and increased on the whole 36 stone 8 lbs. Those under the shed consumed at first as much food as the others, but after the third week they eat 2 lbs. of turnips each less in the day, and in the ninth week, again 2 lbs. less, or only 15 lbs. a day. Of the linseed-cake, they also eat about one-third less than the other lot, and yet they increased in weight 56 stone 6 lbs., or 20 stone, more than the others.

“Thus the cold and exercise in the field caused the one lot to convert more of their food into dung, the other, more of it into mutton.

“The absence of light has also a material influence upon the effects of food in increasing the size of animals. Whatever excites attention in an animal, awakens, disturbs, or makes it restless, appears to increase the natural waste, and to diminish the effect of food in rapidly enlarging the body. The rapidity with which fowls are fattened in the dark, is well known to rearers of poultry. In India, the habit prevails of sewing up the eyelids of the wild hog-deer, the spotted deer, and other wild animals, when netted in the jungles, with the view of taming and speedily fattening them. The absence of light indeed, however produced, seems to soothe and quiet all animals, to dispose them to rest, to make less food necessary, and to induce them to store up more of what they eat, in the form of fat and muscle.

“An experiment made by Mr. Morton, on the feeding of sheep, shows the effect at once of shelter, of quiet, and of the absence of light upon the quantity of food eaten, and of mutton produced from it.

“Five sheep of nearly equal weights, were fed each with a pound of oats a day, and as much turnips as they chose to eat. One was fed in the open air, two in an open shed—one of them being confined in a crib—two more were fed in a close shed in the dark, and one of these also was confined in a crib, so as to lessen as much as possible the quantity of exercise it should take. The increase of live weight in each of the five, and the quantity of turnips they respectively consumed, appear in the following table:

	Live weight.		Increase	Turnips eaten.	Increase for each 100 lbs. of turnips.
	Nov. 18	Mar. 9.			
	lbs.	lbs.	lbs.	lbs.	lbs.
Unsheltered.	108	131.7	23.7	1912	1.2
In open sheds.	102	129.8	27.8	1394	2.0
Do. but confined in cribs,	108	130.2	22.2	1238	1.8
In a close shed in the dark,	104	132.4	28.4	886	3.1
Do. but confined in cribs,	111	131.3	20.3	886	2.4

“From this table it appears, as we should have expected:—

“That much less—one-third less—turnips were eaten by the animal which was sheltered by the open shed, than by that which was without shelter, while in live weight it gained four pounds more.

“That in the dark the quantity of turnips eaten was one half less, and the increase of weight a little greater still. But that when confined in cribs—though the food eaten might be a little less—the increase in weight was not so great. The animal, in fact, was fretful and restless in confinement, and whatever produces this effect upon an animal, prevents or retards its fattening.

“That the most profitable return of mutton from the food consumed, is when the animal is kept under shelter and in the dark.

“Such a mode of keeping animals however, must not be entered upon hastily, or without due consideration. The habits of the breed must be taken into account; the effect of confinement upon their health must be frequently attended to, and above all, the ready admission of fresh air and a good ventilation must not be forgotten. By a neglect of the proper precautions, unfortunate results have frequently been obtained, and a sound practice brought into disrepute.”

Improvement of the Quality of Potatoes.

It is well known that in some soils, and in most seasons, the produce of potatoes is abundant, and their quality excellent; while in others the quantity is not deficient, but the quality is inferior; and there are situations so unfavourable, that the crop is always bad in every respect. Occasionally, indeed, cold, wet seasons deteriorate this important crop, even in the best soil, on which the most skilful cultivation has been bestowed.

Supposing, however, that all has been done that could possibly be effected, in the way of good cultivation, yet when the crop is fit for taking up, its proper after-management is a most important consideration.

People think that if they guard their crop from frost, they have done all that can be needed: but this is a mistake of the worst kind. By improper management after taking up, potatoes of the finest quality are easily spoiled; and, on the contrary, by judicious treatment, even such as are watery may be much improved.

It is of the first consequence that *light*, as well as frost should be guarded against, for light renders the tubers unwholesome.

The stems, and in fact all the parts of the potatoe plant above ground, are more or less

poisonous. Tubers are occasionally formed along the stem, but they are, as we all know, green and bad. This is entirely owing to their exposure to light.

Having pointed out one of the sources of deterioration, it may be as well to name a means of improvement. Always dry the tubers before cooking them. If a potatoe is weighed when fresh taken up, then laid in a dry, warm place for some time, and again weighed, it will be found to have become lighter, in consequence of the evaporation of a portion of its water; and it will then in cooking be more mealy. In Ireland, with this in view, potatoes, when watery, are often taken out of the caves and kept in a dry place for a few weeks, and a great improvement is the consequence. The French are aware of this fact. A writer in the *Revue Horticole*, says—“In unfavourable seasons potatoes are often found to be watery and without flavour, although cooked with the greatest care. In this case, the mode of effecting an amelioration is easy: it consists in placing them near a stove or oven for about a week previously to their being used. At the end of that time they will be found mealy and of good flavour.”—*London Gardeners' Chronicle*.

The Otter in India.

We passed, to my surprise, a row of no less than nine or ten large and very beautiful Otters, tethered with straw collars and long strings to bamboo stakes on the bank. Some were swimming about to the full extent of their strings, or lying half in and half out of the water; others were rolling themselves in the sun on the sand banks, uttering a shrill, whistling noise, as if in play. I was told that most of the fishermen in this neighbourhood kept one or more of these animals, who were almost as tame as dogs, and of great use in fishing, sometimes driving the shoals into the nets, sometimes bringing out the larger fish with their teeth. I was much pleased and interested in the sight. It has always been a fancy of mine, that the poor creatures whom we waste and persecute to death, for no cause but the gratification of our cruelty, might, by reasonable treatment, be made sources of abundant amusement and advantage to us. The simple Hindoo shows here a better taste and judgment, than half the Otter-hunting and badger-baiting gentry of England.

BISHOP HEBER.

TAKE an Agricultural paper, and some good family paper, and pay for them in advance.

Insects injurious to Domestic Animals.

By WILLIS GAYLORD.

It must be considered a singular circumstance, that scarcely an animal of any kind can be named, which is not made the prey in some form of animals parasitical or otherwise, lower in the scale of being than themselves. Even man himself suffers in this way, and the animals domesticated by him, not unfrequently fall victims to some of the various insects that seek their food, and provide for their offspring by preying on the living. The hair, the skin, the flesh, the intestines, all have their injurious insects, and even the vital parts are not always exempt. Lice multiply in the hair and feathers; grubs infest the nostrils, skin and stomach; the entozoa are found in the flesh of the living and *apparently* healthy beasts; and one species, the filaria, has in more instances than one taken up its abode in the eye itself; worms of numerous varieties harbour in the intestines, and in many ways cause irritation, disease and death. Where the field is so large, it cannot be expected that every part of it shall have been fully explored; but much useful information has been gleaned, which, if spread before the farmer, can scarcely fail of being beneficial to him.

The horse is one of the most valuable of our domestic animals, and perhaps the one most liable to danger from the attacks of insects. Many good horses are lost every year from bots, or diseases connected with, or produced by them. Some of the best writers on the horse and the insects injurious to the animal, divide the horse-bot into three kinds, all the progeny of a species of *Æstrus* or horse-fly. The first and the one most common, is the parent of the bot commonly observed in the stomach of the horse. The name of this fly is the *Gasterophilus equi*. This fly deposits its eggs on the legs of the horse, and when the horse bites or licks the spot covered by the nits, the young larvæ adhere to the tongue and are carried into the stomach, where they fasten themselves to its coat, and remain until ready to assume the pupa state, when they cease to adhere to the coat of the stomach, are expelled with the dung, pass into the earth and through the chrysalis state, and finally emerge perfect insects. This bot-fly is too well known to need description. Any person may satisfy himself of the manner in which this worm is produced from the egg, by scraping some fresh deposited ones from the hair, and placing them in his closed hand, first moistening it with saliva; or he may place his hand thus moistened on the

leg of the animal, so as to cover a quantity of the nits, and in either case he will soon find his moistened hand covered with living larvæ.

Another bot-fly, the *Gasterophilus hæmorrhoidalis*, deposits its egg on the lip of the horse, whence the larvæ are taken to the stomach. It also, and perhaps more frequently, deposits its eggs, during the evacuation of the dung, and the subsequent protrusion of the intestine. These bots are frequently found within the verge of the anus, whence their name. They are less injurious to the horse than the other kind, but sometimes occasion no little itching or irritation, when an injection of the linseed oil may be used to dislodge them.

A third bot-fly is the *Gasterophilus veterinus*. The horse, while feeding or standing in the harness, will at times be observed to fling up his head suddenly, as if hurt or alarmed; and frequently, if at liberty, will run off to some other place. The trouble is occasioned by this fly, which, poisoning itself under the belly of the animal for a moment, darts between the fore-legs and strikes the throat of the horse immediately between and above the upper curve of the jaw, depositing an egg at each blow. This is done by a sharp-pointed ovipositor, and hard swellings are sometimes caused at that point, from the repeated stings inflicted. It is supposed the red bot, found occasionally in the stomach of the horse, proceeds from this fly; but in what manner the larvæ makes its way into the stomach, after the egg is deposited in this way, is not very obvious. We have found bathing the stung part or the swelling, with spirits of turpentine, to act favourably, either by allaying the irritation, or, perhaps from its penetrating qualities, destroying the young larvæ.

In what manner the bot in the stomach of a horse causes its death, does not seem to be well understood; and from the fact that horses in perfect health, when accidentally killed, have had their stomachs found filled with bots, some have denied that they ever do injure the horse or cause death. It is a law of nature, however, that all parasites, whether on plants or animals, do inflict injury and may occasion death; and the bot does not seem to form an exception to this law. And from the facts that they do sometimes fix themselves in the upper part of the windpipe and produce a fatal irritation and cough; that they sometimes collect in such masses in the first intestine as completely to choke it up and fatally obstruct it; and that when death attributed to bots has happened, the stomach immediately on death has been found perforated in a multitude of places, it

seems scarcely possible they should not occasion death. The bot may not be guilty of all the mischief charged upon it, but enough will remain to justify us in considering it the most formidable insect enemy of the horse. Little can be said in favour of any of the thousand remedies prescribed for the bot, as skilfully conducted experiments have shown that no agent sufficiently powerful to kill the bot can be brought to act upon them, that would not be equally fatal to the horse. Prevention, in this case, is better than cure. If, while the season of the bot-fly lasts, the legs be wiped down carefully once a day, with a cloth moistened in warm water, or where this is not convenient, if the eggs are scraped from the hair with a sharp knife as often as they are deposited, there will be little danger of enough getting into the stomach to produce injury.

There are two other kinds of worms that are sometimes injurious to the horse. One of these is the long round worm, *Lumbricus teres*, found in the stomach and small intestines. A smart dose of physic will usually expel these; but Youatt recommends, as not interfering with the feeding or work of the horse, emetic tartar with ginger, made into a ball with linseed oil and molasses, and given every morning half an hour before the horse is fed. The other worm is the needle-worm or *Ascaris*—small, and found principally in the rectum or large intestines. They are discovered by the irritation they cause about the anus, and in that case an injection of oil will generally prove an effectual remedy.

The sheep has several insect enemies, that at times cause great losses of this valuable part of the farmer's domestic stock. Of these, one of the worst is the sheep-bot, *Estrus ovis*. During the summer months, flocks of sheep may be observed in a state of great agitation, their noses close to the ground, stamping violently occasionally, and seeming to listen as if for some enemy. The cause of this disturbance is the presence of the fly of this worm, one of which is sufficient to alarm a whole flock. The fly is smaller than the horse bot-fly—of an ash-grey appearance, owing to white spots on a dark ground, and glistening wings. It makes its attack on the nostril of the sheep, in the mucous covering of which it deposits an egg, the young larva from which crawls up the nostril and makes its way into some of the sinuses of the upper part of the nose. Here it remains till the next year, when it quits its hold, descends to the nostril, and is usually expelled by sneezing. It penetrates the earth in which it passes the pupa state, and emerges a perfect insect in June or

July. The irritation the worm occasions as it works its way up the nose, is maddening to the animal: the inflammation caused, sometimes extends to the brain, and the animal dies in convulsions. Unless more than one is present, the sheep is not in much danger after the irritation is over; but where a number of them are found, they are very injurious in all their stages. Many remedies have been prescribed for this worm in the head of sheep, but unfortunately, as in the case of the horse-bot, with little success. Injections of soap-suds, or of animal oils mixed with water, or of spirits of turpentine reduced with water, have sometimes been successful, when the larva was accessible; as have fumigations of burned leather or horn, causing the animal to sneeze violently. In some extreme cases, or where the animal was of great value, trepanning has been resorted to with success; but unless done skilfully, the remedy would be more fatal than the insect. As preventives, we have found troughs to which the sheep could have access at all times, the bottoms to be smeared with tar over which salt was to be strewn, to be one of the readiest and best; but on no account should an occasional tarring of the nose be omitted during the summer months, on those farms on which the fly is found. Furrows should occasionally be opened in sheep pastures, as instinct teaches the animal, when attacked, to fly to these or some other place where dry earth or dust can be found, as his best security against this enemy.

Another enemy of the sheep, which operates most injuriously to the health of the animal, and on its wool, is the well-known sheep tick, *Hippobosca ovina*. This animal lays only one egg, which is the nymph or pupa; is first white, and then brown, and fastened to the wool of the sheep. The sheep tick is found most commonly on poorly fed sheep in the spring; and all that are not taken off in the wool at shearing, seek refuge on the lambs, and bite and irritate them at pleasure. Our remedy for the tick, has been, at the time of washing, to rub a handful of soap on the animal before putting it in the vat; and as, in the process of washing one or two hundred, the water will become a strong suds, dipping the lambs in it will free the whole flock. In England, a common wash "is a pound of arsenic, boiled with a pound of soft soap and a pound of purified potash, in four gallons of water. When the arsenic is dissolved, the solution is thrown into a dipping tub, and forty gallons of water added, into which the sheep are plunged; care being taken to allow none of the fluid to enter the mouth

of the animal." A German writer, Bock, advises that sheep infested with ticks, be dipped in a decoction of the leaves of the common maple.

Sheep are exposed to the attack of a flesh-fly, *Musca carnaria*, which deposits its young in any offensive matter collected in the wool on any part of the animal; and these attack the flesh with such voracity, that unless speedy relief is afforded, the poor creature may be said to be literally eaten alive. It is remarkable with what instinctive certainty these flesh-flies will collect around an animal already "struck," prepared to contribute their part to its destruction. Occasionally the effects of this fly are severely felt in this country, but in a slight degree compared with those experienced in Europe. When a sheep is discovered to be infested with maggots, it should at once be removed from the flock, which should be taken from the field to another, as a partial preventive from the fly. The diseased animal should be thoroughly washed in strong soap-suds—the wool and all filth carefully removed, to show the extent of the evil; all the insects visible picked out of the lacerated flesh, and the wounded parts completely washed in spirits of turpentine. In the few cases that have occurred in our flocks, this course has proved entirely successful; a single application of the turpentine, if the wounded parts are thoroughly penetrated by it, bringing out the insects that may be concealed from sight. It may here be remarked, that we have found this application of turpentine the best remedy in all cases where sores or wounds in animals have been attacked by flies, and if used previous to the attack, it is one of the most certain preventives.—*Transactions of the N. Y. State Agricultural Society.*

Bancroft's Address.

Delivered at the N. Y. State Agricultural Fair, Poughkeepsie, on the 19th of 9th mo.

WE are indebted to the Poughkeepsie Telegraph of the 25th, for a copy of this Address. We have read it with much pleasure, and regret that it was not our privilege to hear it. The following extracts will serve to show, that although it was not so matter-of-fact and thoroughly practical, as might seem best adapted to an audience of working-men, it was yet such as every intelligent farmer would listen to with delight. There is a debt we owe to the great pioneers in enterprises, which, at the time seemed ahead of their age, and from which we are every day deriving profit and comfort, that can scarcely be better paid, than by infusing into the public mind a disposition to appreciate the benefit; and when we justly award to others the high character of benefactors, we only show

that we are not unworthy gatherers of a harvest for which they had laboured while we slept, or before we entered on the field of action.—Ed.

I WOULD not limit the achievements of the farmers of New York to the subjection and beautiful adornment of its soil. The great works of internal communication, making this State a wonder to the world, were commenced by the enterprise of yourselves, and undertaken when farmers held power. Call to mind the immense structures which make this State the astonishment of the world; its channels for inward communication carried upwards to the waters of the St. Lawrence, stepping aside to the Ontario, and united at the north-west with the illimitable wilderness of our inland seas; and then join me in paying tribute to those who were the servants of the public mind in commencing this gigantic system. To De Witt Clinton, whose capacious mind grasped in advance, the sum of its infinite benefits—whose energetic, vehement and commanding will, was to the enterprise like a powerful mill-stream, as it dashes on an overshot wheel of vast dimensions. To Van Buren, who, when the bill for the construction of the canal had almost been abandoned by its earliest friends, put forth those noble-spirited, well-remembered exertions, which resuscitated it when all seemed lost, and restored it to the approbation of your legislature. Well might those chiefs in the world of opinions, embrace each other in the hours of their success. If in action they were often divided, in this great service they share a common glory.

But the farmers of New York are not content with improvements in the material world alone. From their generous impulses springs your system of free schools. They have proved themselves the liberal benefactors of academies and colleges. They, too, have been careful for the means of their own special culture, and have founded and nurtured societies for promoting agriculture. For an example of the virtues of private life, I name to you the farmer of Westchester county, the pure and spotless Jay, who assisted to frame our first treaty of peace, which added Ohio and the lovely West to our agriculture. Side by side with him, I name the friend of his youth, Robert R. Livingston, the younger, the enlightened statesman of our Revolution, whose expansive mind succeeded in negotiating for our country a world beyond the Mississippi, and gained access for our flag to the gulf of Mexico. Here, on the banks of the Hudson, he is celebrated as it were by every steamboat, and remembered on your farms

through his experimental zeal. On this day be remembered the virtues of Stephen Van Rensselaer, who first brought Durham cattle in this State, and liberally diffused the breed.

Join with me also in a tribute to Mitchell, the faithful advocate, and perhaps institutor, of one of the earliest agricultural societies; to Jesse Buel, who connected science with fact, taught how the most barren soil may be made vastly productive, diffused his acquisitions by the press, and by life and by precept was the farmer's friend; to Willis Gaylord, whose agricultural essays are standard authorities, honourable to the man and to the State; to Le Ray de Chaumont, who kept alive an agricultural society in Jefferson county, when all others had expired, and gave the impulse to the formation of the State Society, of which he was the first president; to James Wadsworth, for his skill as a cultivator, and still more for his liberal exertions, pouring out thousands after thousands, at the impulse of a generous mind, as if from a well-spring of good will, to promote agricultural science in primary schools. And I should be wanting on the occasion, did I not tender the expression of your regard to the present president of the State Society; to the influence of that institution of which he is the honoured head; to its Journal of Agriculture, to its annual fairs. But let me also entreat its friendly wishes to its purpose of establishing an agricultural school; and to that other more diffusive design of introducing, through its secretary, scientific works on agriculture, into school libraries. I am happy also to announce that efforts are now making to constitute agriculture, as it deserves to be, a branch of instruction in one, at least, of your Universities.

I have named to you some of the benefactors of agriculture in New York. Their benefits endure. The pursuits of the farmer bind him to home. Others may cross continents and vex oceans; the farmer must dwell near the soil which he subdues and fertilizes. His fortunes are fixed and immovable. The scene of his youthful labours is the scene of his declining years; he enjoys his own plantations, and takes his rest beneath his contemporary trees.

But the farmer is not limited to the narrow circumference of his own domain; he stands in relation with all ages and all climes. Your society has done wisely to urge on those who bear the Gospel to untaught nations; to study their agriculture, and report for comparison every variety of tillage. All ages and all climes contribute to your improvement. For you are gathered the fruits and seeds which centuries of the

existence of the human race have discovered and rendered useful. Tell me if you can, in what age and in what land the cereal grasses were first found to produce bread? Who taught to employ the useful cow to furnish food for man? When was the horse first tamed to proud obedience? The pear, the apple, the cherry—where were these first improved from their wildness in the original fruit? And whose efforts led the way in changing the rough skin of the almond to the luscious sweetness of the peach? All ages have paid their tribute to your pursuit. And for you, the sons of science are now scouring every heath, and prairie, and wilderness, to see if some new grass lies hidden in an unexplored glade; if some rude stock of the forest can offer a new fruit to the hand of culture. For you the earth reveals the innumerable beds of marl: its mineral wealth, the gypsum and the lime, have remained in store for your use from the days of creation. For you, Africa and the isles of the Pacific open their magazines of guano; for you old Ocean heaves up its fertilizing weeds.

New York State Agricultural Society.

Annual Meeting—January, 1845.

To Agricultural writers and Farmers generally.

THE Annual Convention of the New York State Agricultural Society, which will continue in session for several days about the middle of January proximo, will be occupied with the examination of many subjects highly important to the Agricultural community, and to citizens generally. The range of investigation (in the Reports from committees, in the Essays prepared by various writers, and in the remarks from sundry speakers,) is designed to embrace all topics of leading interest, in reference to such improvements as may better enable the farming community of this State, to sustain itself under the competition generated by the fertile and cheap lands of the West—such as improvement in the character and management of stock—in the introduction or promotion of new branches of farming industry—in the application of Science as a profitable auxiliary in various departments of rural industry, as well as in the composition of manures, and the cultivation of the soil—including, not least though last, the diffusion of Agricultural and Horticultural knowledge through the instrumentality of the Public Libraries and Common School Organization. Sufficient is now known, from consultation with gentlemen most conversant with these matters in different sections, to warrant the

undersigned in expressing a belief that the approaching Annual Convention will concentrate the efforts of the friends of Agriculture in a manner eminently conducive to the great objects for which Agricultural Organization is desirable. The mornings and afternoons will be devoted to business, at the Agricultural Hall in the Old State House, at Albany; and the evenings to sociable intercourse among the members of the State and County Societies, and other friends of Agriculture and Horticulture from all sections of the State of New York, and from several neighboring States. The courtesy of the friends of the cause in and around Albany, the undersigned also feels warranted in saying, will be manifested liberally in promoting the comfort of gentlemen attending the Convention on this interesting occasion. The multiplicity of business and the immense crowds at the State Fairs and Cattle Shows, render it impracticable on those occasions to convene the friends of Agriculture as fully as desirable for deliberation, discussion, and sociability; and it is hoped and believed that the *January Convention* will furnish opportunities for promoting these objects, to the satisfaction of Agriculturists and friends who may honor the convention with their presence from this and other states.

It may be added that the Agricultural meetings, commenced satisfactorily last winter, will be continued on each Thursday evening of the approaching winter; and friends of the cause generally are invited to attend, at the Society's Hall.

Among the business which will employ the time of the State Society at the Annual Meeting, will be an examination and decision on the merits of the *Reports* and *Essays* and *Books* on the various subjects embodied in the following schedule, adopted by the Executive Committee—John P. Beekman, President, in the chair—several of the premiums, on important subjects, (as stated when Premiums were first offered months ago,) being open to competition from citizens of other States as well as New York.

PREMIUMS OFFERED—

To be awarded at the Annual State Agricultural Convention in January, 1845.

For the best series of Essays on the importance of Scientific Knowledge in prosecuting successfully the ordinary pursuits of Agriculture and Horticulture, (copy right reserved to the author,) \$100.

For the best Text-book on Agriculture and Horticulture, for the use of schools, (copy-right reserved as before,) \$100.

For the best Essay on Farm Management, including details connected with the successful management of a farm, a gold medal worth \$20.

For the best Essay on the Rotation of Crops adapted to the climate of this State, a gold medal worth \$20.

For the best Essay on Subsoil Ploughing, with results of actual experiments in the State of New York, a gold medal or \$20.

For the best Essay on the Culture and Manufacture of Silk, briefly stating results already attained in the United States, a gold medal worth \$20.

For the best Essay on the Cultivation of the Apple, for exportation as well as domestic use, a gold medal worth \$20.

For the best Essay, detailing observations made on the Culture and Diseases of the Potatoe, with special reference to the phenomena of the extraordinary visitation which has largely desolated the Potatoe Crop in the United States, and embracing suggestions for counteracting the difficulty in the future cultivation of that crop—a gold medal worth \$20.

For the best Essay on the means of diffusing Scientific Knowledge in connexion with Agricultural and Horticultural Information, through the instrumentality of the Public Libraries and Schools, with a catalogue of books suitable for the purpose—a gold medal, worth \$20.

For the best managed Farm, considering the land, stock and produce, with details exemplifying accurately the management of said Farm, showing the expense and profit of cultivation, a gold medal, worth \$20.

For the most satisfactory Report of Experiments in turning under green crops as manure, on not less than one acre of land, \$10.

Second best, 2 vols. of the Transactions.

For the best experiment in the preparation and application of manures, with details of the expense and all matters connected therewith, \$10.

For the most satisfactory experiment on a stock of cattle not less than four in number, in ascertaining the relative value of the different kinds of food used, as compared with hay—with a detailed account of the fodder used, and the expense of raising and feeding the same—the experiments to be made in three winter months, or whenever satisfactory experiments can be made, \$20.

Second best, 2 vols. Transactions.

Third best, Diploma.

For the best experiment in flooding and irrigating lands, \$10.

For the best managed flock of sheep, including particular statements of the breed,

expense of keeping, increase, amount of wool and value—a gold medal, worth \$12.

For a Report of the best managed Dairy, with a detailed statement of expense, and particulars concerning the management as well as the profits of the said Dairy, a gold medal, worth \$20.

For the greatest quantity and best quality of Butter produced on any farm, from a given number of cows, in thirty days the present year, with a particular statement of the method of making and preserving the same—including a satisfactory account of the manner in which the cows have been fed, and the general management of the milk and butter, a Silver Medal.

For the best report of experiments in the cultivation of Indian corn, on not less than one acre of ground—a gold medal, worth \$25.

Second best—a medal, worth \$15.

Third best—a medal worth, \$10,—the reports to be made with a view of determining what are the peculiar laws relating to that crop—particularly how thick it should be planted—how the plants should be distributed on the ground—whether in hills, drills or otherwise; what kind of manure, and how it should be applied—the manner of cultivation and the kind of corn planted, to be particularly stated; also the cost of each process, the amount of corn raised by each of the different modes of culture, and the relative profits.

Persons wishing further information on any subject connected with the operations of the Society, will be answered on application to Henry O'Reilly, Recording Secretary, Albany.

Competitors for any of the numerous premiums offered above, are required to transmit their manuscripts to the Recording Secretary, at Albany, previous to the 1st of January—the awards on which will be declared during the session of the Annual Convention. In behalf of the Executive Committee,

HENRY O'REILLY, *Rec. Sec'ry,*

Agricultural Hall Old State-House, Albany.

The premiums offered in the above extracts from a Circular just received, are in relation to objects of such general and permanent interest, that it affords particular pleasure to throw them before our readers.—ED.

Minutes of the Philadelphia Agricultural Society.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held on the 6th inst., JAMES GOWEN, Esq., Vice-president, in the chair; present fifteen members.

Mr. Stephen R. Crawford, of Philadelphia county, was elected a resident member.

Letters were read from Commodores Stewart, Read, and Connor.

A committee of five persons were appointed to inquire into the provisions of the law against the trespasses of *gunners*, on farms in the neighbourhood of the city and adjoining counties.

Dr. Emerson informed the meeting of his determination to erect a Machine for crushing bones, on his farm, for manure; and would request the appointment of a committee to examine and report on its efficacy when completed.

A committee of four persons was appointed, consisting of Messrs. Kennedy, Clement, Richie and Newton, to consult with farmers who attend market, and others, on the subject of establishing a Reading Room in a central part of the city, where the leading Agricultural Journals and papers may be perused; the room to be kept open on certain evenings in the week.

A. CLEMENT, *Rec. Sec'ry.*

Philadelphia, Nov. 9th, 1844.

ALABAMA WHEAT.—Several farmers in the neighbourhood of Cincinnati, have cultivated a new variety of wheat for a year or two past, with great satisfaction. It is called Alabama wheat, from the fact that about half a pint was brought here from that State in 1839, by an observing farmer. After finding that it succeeded well in this climate, he disseminated it for seed, and it is computed that this year 2000 bushels have been raised, chiefly in the White-water Valley. It takes the preference, by far, over all other kinds of wheat brought to the Cincinnati market, weighing from 64 to 68 pounds to the bushel. Its yield has averaged about thirty bushels to the acre this season.—*Saturday Post.*

THE ripening of the Tomatoes, says the Kitchen Garden Calendar, is of secondary importance, as that may be accomplished by cutting them off before frost injures them, and hanging them up in a warm kitchen, where they will ripen in due time, and be as good for use as if matured on the plant.

It is astonishing with what rapidity fowls increase when well fed, kept in confined cribs, and in a darkened room. Fed on a mixture of 4 lbs. of oatmeal, 1 lb. of suet, and half a lb. of sugar, with milk for drink, five or six times a day, in summer, a dorking will add to its weight 2 lbs. in a week, sometimes 1½ lbs. in four days. A young turkey will lay on 3 lbs. a week, under the same treatment.—*Johnston.*

MORSE'S TELEGRAPH WORKED BY LIGHTNING FROM THE CLOUDS.—During a thunder storm at Baltimore, the superintendents of Morse's Magnetic Telegraph, removed the galvanic batteries and suspended the operations of the telegraph, to avoid being injured by the electrical discharges from the clouds; the lightning having been attracted by the wires, counteracted the effects of the discharges from the batteries, and interrupted the operation of the telegraph. On the withdrawal of the batteries, the wires were operated upon by each successive flash of lightning, the telegraph working precisely in the same way as when in operation for the transmission of intelligence; thus proving (what few doubt) that the electricity of the atmosphere, and that generated by the galvanic battery are identical, or alike in their operation upon conducting substances.—*Exchange paper.*

Manufacturing Establishments of Philadelphia and its vicinity.

THE following remarks and table by C. G. Childs, of the *North American*, are taken from that paper of the 21st ult. The latter very plainly exhibits the strong interest which our farmers have in the prosperity of the woollen manufactories. If \$4,500 lbs. of wool are needed weekly, more than 4,200,000 lbs. would be annually required to supply the establishments in this vicinity. If further, we suppose one acre of land to produce ten lbs. of wool, 420,000 acres would be requisite to supply the yearly demand of our own immediate neighbourhood. This is equal to a district of 656 square miles.—*Ed.*

THE extent and variety of the manufactures carried on in Philadelphia and its vicinity, are little understood, even by the best informed of its citizens. The absence of any statistical information, either local or national, of an authentic character, has hitherto kept the public in ignorance in reference to all the leading branches of agriculture and manufactures, which it is desirable that every business man should possess, and without which legislation proceeds blindfold.

In Massachusetts information of this kind is easily obtained, regular statistical reports being made to the legislature at stated periods. From these some excellent reports have been published by the State. In New York a State census taken between those by the United States, furnishes a vast amount of useful information. In this State, notwithstanding its great importance, no measure of this kind has been carried into effect.

We have for a long period felt the importance of ascertaining and making known the

share which Philadelphia and the surrounding districts of our State, dependent upon her for a market, contribute to the aggregate wealth and credit of the country, in the various departments of manufactures.

In order properly to estimate our present position, let us look back and see the great increase which has taken place in our manufactures. In 1810, in the city and county of Philadelphia, there were 30,666 yards of woollen cloth manufactured in factories, valued at 273,979 dollars. In Delaware, Chester, and Montgomery counties, there were no factories. In Philadelphia city and county 16,168 yards of woollen cloths were made in private families. In Delaware county, none. Of carpets and coverlets, there were manufactured in the city and county of Philadelphia, 7,500 yards, valued at \$7,500. In Chester, Delaware, and Montgomery counties, none. There were in the city and county of Philadelphia, 273 looms and 23 carding machines of all descriptions.

These figures become very interesting in contrast with the present statistics of woollen manufactures in this neighbourhood. The business has increased steadily and rapidly, and we look confidently to a vast extension of it from our central position and the advantages possessed in our proximity to coal and iron. On the latter point considerable stress might be laid. Not confining our view to a single district, but regarding the whole country, we find that capital is more generally employed in this than in any other material and manufacture, if we include the work done in families. The culture of cotton is limited to a particular soil and climate, but sheep are found everywhere throughout our country. The superiority of wool for most of the purposes of clothing, for carpets and other domestic uses, causes a steady demand for the article, which more or less every agricultural district may profitably supply. The wealth of England, so far as it is derived from manufactures, depends to a great extent upon this branch. McCulloch estimated the total annual value of the woollen manufactures of Great Britain at about one hundred millions of dollars in 1830. It must be now much greater. We may learn from this fact how important to our own growing country is the encouragement of the same branch of art. In the general progress of manufactures, Philadelphia may take the lead.

Philadelphia is destined to become the great centre of manufactures in the United States. Let every citizen therefore, contribute his quota of information in making her actual condition and prosperity known.

The following table shows the different persons engaged in the Manufacture of Wool-
len Fabrics, the number of sets of Carding Machines in use, the number of pounds of
Wool consumed weekly, and the number of Looms in operation, in Philadelphia and its
vicinity, in 1844.

NAMES.	LOCATION.	Kinds of Goods Manufactured.	Sets of Carding Machines.	Pounds of Wool.	No. of Looms.
Thomas Drake,	Philadelphia,	Kentucky Jeans,	6	3000	70
William Devine,	"	"	4	2000	50
W. & D. Watt,	"	"	2	1000	22
McFadden & Preston,	Manayunk,	"	4	2000	44
J. & R. Wetherel,	"	"	5	3500	50
Joseph Donnelly,	"	"	2	1000	22
A. McFee,	"	"	1	500	10
Flat Rock Mills,	"	"	—	—	40
James Crawford,	Wissahickon,	"	2	1000	22
Kitchen & Maxwell,	"	"	3	1500	35
Augustus Newman,	"	"	2	1000	22
Bethell Moore, (2 mills.)	Falls of Schuylkill,	"	7	3500	80
S. Moore & Co.	Conshahocken,	Jeans & Satinets,	6	3000	70
George McFarland,	Newtown, Del. Co.	Kentucky Jeans,	4	2000	40
John Waters,	Gulf,	"	2	1000	22
J. & D. Erving,	Haddington,	"	2	1000	20
Benjamin Gartside,	"	"	2	1000	22
Joseph Dean,	Blockley,	"	2	1000	10
Simeon Lord,	"	Yarn,	3	1500	30
Joseph Johnson,	Mill Creek,	Kentucky Jeans,	2	1000	22
William Crosby,	"	"	3	1500	32
Jabez Jenkins,	Newtown, Del. Co.	K'y Jeans & Satinets	2	1000	20
Messrs. Hey,	Darby Creek,	Kentucky Jeans,	3	1500	—
Samuel Bancroft,	"	"	2	1000	22
Deunis Kelly,	Delaware County,	"	3	1500	30
Daniel Sharpless,	"	K'y Jeans & Satinets,	1	500	6
Abraham Bond,	"	Kentucky Jeans,	3	1500	22
Joseph Fisher,	Chester County,	"	2	1000	22
Robert Wilkinson,	"	K'y Jeans & Satinets,	1	500	10
George Bromly,	Valley Forge,	Kentucky Jeans,	2	1000	20
John Berry,	"	"	1	500	12
George W. Richards,	Valley Creek,	"	3	1500	24
	Near Bordentown,	"			

CLOTHS, CASSIMERES AND KERSEYS.

George M. Callmeal,	Contentville,	Cloths & Kersseys,	7	3500	30
Erben & Shaw,	Manayunk,	Cloths,	4	2000	30
John Winepeny & Brother	"	"	5	2500	30
Joseph Solms,	"	" and Jeans,	5	2500	48
C. J. Dupont,	Brandywine,	" and Cassimeres	10	5000	58
Haslet & Co.	Montgomery Co.	" and Jeans,	4	2000	40
Livermore & Cooper,	Good Intent, N. J.	" and Satinets,	4	2000	30

BRUSSELS, VENITIAN AND INGRAIN CARPETS.

J. Rosencrantz,	Philadelphia,	Carpets,	4	3500	50
Andrew McCallem & Co.	Chestnut Hill,	"	5	4500	80
George Malthous,	"	"	4	3500	48
Wentworth & Smith,	Philadelphia,	"	2	1800	20
John McFee,	Philad. & Camden,	"	3	2700	50
James McDevitt,	Philadelphia,	carpets, sheetings &c.	—	—	50
Samuel Scott,	"	Carpets,	—	—	18
D. Scott & Brother,	"	"	—	—	14
John Scott,	"	"	—	—	13
Clement & McCune,	"	"	—	—	16
Ralston & Hucks,	"	"	—	—	9
W. H. Chestham,	"	"	—	—	8
W. Haslett,	"	"	—	—	8
— Murphy,	"	"	—	—	8
David Moffit,	"	"	—	—	7
— Hutchinson,	"	"	—	—	7
J. Hill,	"	"	—	—	6
James S. Bellbrough,	"	"	—	—	6
J. Hudson,	"	"	—	—	8
— McCauley,	"	"	—	—	12
W. Hull,	"	"	—	—	12

Totals, 144 8000 1639

MISCELLANEOUS.

		<i>Brought forward,</i>	144	80000	1639
J. & J. Dearie	Philadelphia	Plaid Shawls	8	4000	150
Thomas H. Dickson	"	Linseys, K. Jeans &c	—	—	250
Wm. T. Crook, two mills	Providence, Del. Co.	Flannels & Blankets	8	2000	168
D. Milne & Son	Philadelphia	Linseys & Checks	—	—	250
Thomas R. Fisher	Germantown	Stockings, &c.	3	1500	100
Buten & Smith	"	"	—	—	—
Craige, Holmes & Co.	Philadelphia	Yarn,	3	1500	—
Thomas Simpson	Near Bordentown	"	2	1000	—
W. Hogg	"	Carpets & Shawls	—	—	100
— Armstrong	Germantown	"	3	500	—
TOTALS.			171	90500	2657

For the Farmers' Cabinet.

On the Geology of Soils.

MR. EDITOR,—Dana in his Muck Manual, has given us a great number of oracular propositions on this subject, wherein he lays it down as the first principle in agricultural chemistry, that "there is one rock, and consequently one soil;" as a second, "that rocks do not affect the vegetation which covers them." And his third principle is, "that rocks *have not* formed the soil which covers them." He also states, though I believe, not as a fundamental principle, that "to the agriculturist, the terms *primary* and *secondary* are useless. Equally so are all distinctions of soil based on these terms;" and afterwards adds, "to the farmer all soil is primary." He adduces in support of his principles some facts and a goodly quantity of positive assertion, among which I shall at present only notice the following. "*Every where* with the exception of the tops of some mountains, the rocks of the globe are covered, from a few inches, to some hundred feet in depth, with gravel, sand, clay, rolled stones, sometimes alternately with each other, and sometimes in confused heaps." "With a few exceptions the soil which now covers rocks, has been derived from places distant, and from rocks distinct from those on which it now reposes;" and that "it is in *limited patches only*, that soil partakes decidedly of the character of the underlying rocks."

"The plants used for food are cultivated on every variety of rock foundation which the earth presents. Their cultivation is limited neither by granitic nor trappean—by fossiliferous nor non-fossiliferous rocks. Every where—over every variety of rock, the cultivation of the food bearing plants, repays the labour of the farmer."

"In Massachusetts *all* the various formations which the earth presents, except the modern volcanic rocks are found, yet no difference in the quality or quantity of the crops of rye, oats, barley, wheat or Indian corn is found which can be attributed to different geological tracts."

What a great scale we do things on in this country. Just see how easy it is for a man to sit in his closet, or mount the rostrum of a lecture room, and farm land and fix its value—on paper. "There is but one rock and one soil, and that one rock does not affect the vegetation which covers it." "The food bearing plants will grow on every soil and repay the labour of the farmer." Ergo, the soil on every part of the earth's surface is equally good, and if it does not produce equally good crops, it is owing to the laziness, ignorance or stupidity of its occupiers. Let all those—as well the lazy loafer as the industrious farmer, who have had the misfortune to inherit or purchase a farm, which they and their neighbours in the simplicity of their hearts have called naturally poor land—cheer up—light is breaking in on us—a wise man of the east has undertaken to prove that their land is naturally as good as that called the best, and we may reasonably expect that he will next show us how, by the use of some of his new fangled mucks, it can be made to produce as well as the best, without extra expense—or even better and cheaper, than by using cow dung or other old fashioned and vulgar manures.

But seriously, although I have no idea that the author meant to advocate any such doctrine, yet I appeal to every intelligent reader if the above is not the fair—the legitimate, and irresistible inference, which every man of common sense would draw from such principles as are laid down in his propositions. When he tells us that chemical analyses show that all soils are substantially the same, being mainly composed of silex, and in another place, that there is but one soil; and that crops are not affected in *quantity* or *quality* by the geological tracts on which they grow; what inference can be drawn, but that all soil is equally good for the production of vegetables, therefore that all the difference must be in the climate and management. And as a further consequence, that all land within the same distance of any specified market is equally valuable,—ought

to sell for the same price and bring as much rent.

But do his positions, and the inferences which may be fairly drawn from them, accord with facts as they exist in nature? are the drifting sands of the sea shore, equal in permanent fertility to the fat clays and loams of a limestone valley? or the most sterile hill of New England to the rich prairies of the West? That is, can each be made and kept productive, at the same expense—because after all we can say on the subject, that is the test—the point which most concerns the practical farmer, and until this can be shown, it will be in vain to attempt to prove by any other test, that all soils are equally good and valuable. On the contrary, is there not a regular gradation from the most fertile and easily managed soil, to that which will scarcely repay the expense of manuring and cultivation. And does not the experience of every practical farmer enable him, in some measure, to make the distinction, although the mysterious something which causes the difference, cannot be detected by the analysis of agricultural chemistry.

Our author seems to be aware that the principles he lays down are contrary to the geological doctrines of the times, and well he may be; but he does not seem to be aware that in the broad way in which they are stated, they are also contrary to facts—a matter of much greater consequence. That they are so, or at least that they are inapplicable to large portions of our country, I shall hereafter attempt to show. S. LEWIS.

Pottsville, Sep. 23d, 1844.

Improvement in South Carolina.

The following extract is from an Address, delivered by J. B. O'Neal, before the South Carolina State Agricultural Society, in the 9th month last.—Ed.

Look calmly on the things around you. Your cotton is becoming annually a less valuable crop. Something in the cotton growing country must in part supply its place. May not economy stand us in great stead in this point of view? And will not the cultivation of provision crops, for which the rice growing country and the towns of the seaboard will furnish a ready market, further eke out our wants? I have not a doubt, if all of South Carolina above the first falls in our great rivers, would become essentially a farming and manufacturing country, we might, in a few years, vie with even New England. To accomplish this, it is necessary that the whole resources of our State should be understood, as well as her industry properly applied. The Geological and Agricul-

tural Survey has in part, and will, I hope, fully develope them. All the region of country covered by York, Spartanburg, Union, Laurens, Greenville, Pickens, Anderson and the upper part of Abbeville, might be essentially improved by the lime which can be obtained from the immense quarries of limestone to be found in York, Spatanburg and Laurens. To the farmers of the beautiful section of Carolina to which allusion has been made, the lime will afford incalculable riches, when its application to soils and crops comes to be properly understood. Through the Agricultural Survey and the Agricultural Societies, this information will be obtained and disseminated. My belief is, that in the section of country to which I have alluded, the limestone existing within it, is more than enough to restore its original fertility, and probably to increase it tenfold. To you, then, brother farmers of the Mountain Districts of South Carolina, there seems to be no ordinary stimulant to excite your industry and direct your efforts to improvement. The earth points to her own bosom, and tells you from it to obtain that which will clothe your fields with abundance, and fill yours coffers with a more certain wealth than the mines of Mexico or Peru.

A Receipt for making Coffee.

“Make a strong infusion of Mocha, or Bourbon coffee; put it in a porcelain bowl, sugar it properly, and add to it an equal portion of boiled milk, or one third the quantity of a rich cream. Surround the bowl with pounded ice.” Doctor Bonafous, of Perpignan, recommended this beverage to such persons as had lost their appetite, or who experienced general debility. This agreeable epicurean, one day said to a patient, Dr. Roques, who was himself in the profession, “study, my friend, that which is good, that which pleases your palate. Try to become a little *friend*, commence a series of gastronomic experiments without infringing a regimen. You will be the better for it, and in certain circumstances you will exercise on sickly people inclined to *gourmandize*, an unlimited power. Breakfast, during July, August, and a part of September, on iced coffee, and, in winter, on woodcock soup. This is a regimen with which I restored to health and sense an aged canon who had nearly lost all appetite, and who was disgusted with life.”—*Frazer's Magazine*.

We should do quickly that which does not press, in order to do slowly that which does press.

Address,

Delivered by Dr. William Darlington, of Westchester, before the Philadelphia Agricultural Society, at its Annual Exhibition, on the 17th ult., at the Rising Sun Tavern, Germantown.

It is with much pleasure we lay before our readers the following Address. It was listened to by a large and respectable audience, whose close attention to every word, was sufficient proof that the sound sentiments inculcated, were recognised and appreciated. We are entirely of the mind that the discourses which we hear in various places, at the Annual Cattle Shows, are many of them calculated to be of lasting benefit to the community; and those who give their time and labour to so good a cause, are entitled to our thanks, and have doubtless, the satisfaction of reflecting that they have done the State some service.—Ed.

Mr. President and Gentlemen of the Society,—

In accepting the invitation to address this Society, at the present anniversary, I was not ignorant of the character of those discourses which, heretofore, have made each annual gathering an intellectual festival—rich with the treasures of science, and resplendent with the beauties of eloquence; nor was I unconscious of my inability to produce anything suited to the occasion, or worthy of the position with which I have been honoured. But, as a lover of agriculture, and an admirer of the efforts of those who are striving to elevate the profession to its just rank in the scale of human pursuits, I knew not how to evade the call, or refuse an attempt to co-operate in the generous purpose. I come before you, then, with no other title to your indulgence, than a hearty good will in the cause; and I must rely exclusively upon your good nature, to endure the trespass which I am about to inflict upon your attention.

On subjects so trite—and so well understood, in Eastern Pennsylvania—as are the selections of *Stock*, and the management of *Crops*, it would seem to be idle presumption in me, to pretend to treat. The importance of introducing the best breeds of cattle—of superseding, as fast as possible, the ill-favoured races which, hitherto, have been permitted to browse in our pastures, and to consume our forage—is now acknowledged by every farmer who understands his own interests. The advantages of a judicious *rotation*, or alternation, of cultivated crops, have also been long apparent to the intelligent agriculturist: but it may be doubted whether the evils of *over-stocking* and of *over-working*, or ploughing more land than can be thoroughly manured—are sufficiently understood, or regarded, by a large portion of our Pennsylvania farmers. These are

kindred errors—induced by a mistaken ambition to seem to be doing a large business: but the practice, in each case, is a fallacious one, and has a direct tendency at once to impair the character of the stock, as well as to impoverish the land and its owner. I am satisfied, both from observation and experience, that if the cultivator of thin, or exhausted soils, would be content to plough just so much ground as he could adequately manure, he would find the products not only increased in quantity, but enhanced in quality; while the amount of labour, or cost of production would be diminished, and the condition of the whole farm speedily and permanently improved. In confirmation of this, we have the fact, that within the last fifty years, in Eastern Pennsylvania, many of our farms and fields have been reduced, by division and sub-division, to one-half and even one-third of their former dimensions; and yet, by skilful management, and the faithful application of manure and lime, each of those fractional portions of the ancient domain is often made to yield a greater, and a richer product, than was afforded by the entire tract, when in the hands of our ancestors. Indeed, it may be considered a fortunate circumstance for the promotion of a high and perfect culture, that we have been compelled, by the reduced size of our farms, to resort to more effectual methods of improving their condition, and thus compensating ourselves, by an augmented fertility of the soil, for the gradual contraction of its boundaries. This is the surest way to advance the science of agriculture; it is the true, and only mode, in which we of Eastern Pennsylvania, can *hold our own* in the great struggle of life,—or compete, successfully, with our brethren in newer and remoter districts. The eminent characteristic of the American people, is the vigor with which they *go ahead*, in all their pursuits. They are distinguished throughout the wide world for the ingenuity and the energy with which they devise, and prosecute improved methods of advancing their interests: and that portion of our population which may be content to remain stationary—while all the rest are pressing onward with strides of generous emulation—will assuredly soon be lost in the distance;—or if occasional stragglers shall be found loitering in view, they will only be regarded as objects of compassion, or as examples to be shunned. In these our ancient, densely peopled counties, where our possessions become more costly as they are diminished in size, we can only expect a fair return for capital expended, by an increased fertility in the soil, and an enhanced skill in the management.

The labour bestowed, in working a given portion of ground, must be rewarded with a better and more abundant crop. Our only resource is to have neat, tidy little farms—with small fields made in the highest degree productive—as a set off against the expanded agriculture of the distant west; while our markets must be multiplied by the permanent establishment and encouragement of all the useful branches of mechanical and manufacturing industry. These various pursuits placed harmoniously side by side, have a salutary reaction upon each other, and diffuse reciprocal blessings over the entire community.

The farmer, then, must go earnestly to work, to perform the duties of his department. The first step is to enrich his land: and this, as I have intimated, is best accomplished by ploughing no more ground than he can thoroughly manure. To accumulate manure must, therefore, be a leading object. The chief element of manure being vegetable matter, the production of that material, on exhausted soils, is necessarily slow and tedious; but we have found a powerful and valuable auxiliary, in that process, in the application of *lime*. This mineral, judiciously applied, is known to be highly favourable to the growth of the natural family of *grasses*, and especially of the more valuable species of that family. By an increase of those grasses, we are enabled to keep a more numerous *stock*, and thereby to augment the quantity of barn-yard manure. This increase of manure enhances the beneficial influence of the lime; for lime has ever the best effects in conjunction with manure,—and the dose of that mineral may be gradually heavier, as the soil becomes richer. Thus these important agents may be made to co-operate with augmented efficacy, as the work of improvement advances. The calcareous dressings promote the increase of vegetable matter; and by that very increase, their agency is rendered still more effective and salutary: so that what the Roman poet says of the progress of rumor, or *fame*, may be literally applied to the use of *lime*, in agriculture—

"vires acquirit eundo."

The application of lime for the improvement of land is, perhaps, more universal—and its advantages better appreciated among the farmers of *Chester county*, than in any other district of our country. The practice there, for many years, has been to apply quick lime—slacked so as to reduce it to a powder—on the grounds which have been prepared for Indian corn. This was long supposed to be the most appropriate

time for applying it,—and it is still generally observed; but experience has demonstrated, that the application *never* comes amiss,—that it is beneficial at *all times*; and the maxim now is, to *be sure and put it on*, some time in the year. Of latter years, some of our best farmers have adopted the practice of using lime as a *top dressing*, on their meadows and pasture grounds—for every field, in its turn, becomes a *meadow*, after the wheat crop:—and I am strongly inclined to the opinion that this will be found the most advantageous mode of applying it. It mingles directly with the dead vegetable matter on the surface, and thus, as I suppose, improves the quality of that refuse herbage, as a manure. It moreover exerts a salutary influence upon the *turf*, or sod, in stiff clay soils, by mellowing it—and otherwise improving its condition. Another advantage attending top dressings of lime on grass lands, is, that they can be applied at the seasons of greatest leisure and convenience to the farmer. On the whole, therefore, I believe this method entitled to the preference; or, at least, is worthy of the consideration of practical agriculturists. Indeed, there is reason to believe that *top dressing*—even of the driest and lightest manures, or of straw, itself, produces a more signal effect upon the growth of the valuable grasses, than results from the same materials when buried by the plough; and the subject deserves further investigation.

The *quantity of lime* employed in agriculture, on a given surface, should be regulated by the *quality of the soil*. On sterile, or exhausted lands, where the vegetation is scant, the dressing should at first be light, yet gradually increased, as the soil improves. Thirty bushels to the acre, equally distributed, may be sufficient at the commencement: but, as vegetable matter accumulates, the quantity of lime may be enlarged, by degrees, to sixty or eighty bushels to the acre. Some of the best *Chester county* farms will bear even one hundred bushels per acre, with advantage; and it is remarkable, that the very soil which overlies the limestone rock, will bear the heaviest dressings of that mineral.

If I might here venture at a *Chester county prescription*, for the treatment of an exhausted farm, I would say to its occupant, make your fields small, or at least, plough only so much as you can manure well, when it comes to be laid down with wheat, timothy and clover: give your Indian corn-field a moderate dressing of lime, preparatory to planting. The intermediate crop, between the Indian corn and wheat, may be oats, or barley, as the quality of the land may war-

rant; and when the wheat crop comes off, apply a top dressing of lime on the young herbage—of clover and artificial grasses—among the stubble. Proceed in this manner with each small field—or so much of each field as you can do justice to—in succession: and in the mean time, as ability permits, apply a top dressing of lime to such other fields as are to remain a few years undisturbed by the plough. Let your *stock* be of the most valuable kinds—and if they are not so, go on selecting the best, until they all become of that description;—but keep no more than can be *well kept*: and so manage your stock and the vegetable products of the farm, as to make the greatest possible quantity of manure. These are, in brief, the directions which have been found to answer upon the worn-out lands of *Chester*; and I presume they will prove equally successful in all cases, of similar soil and climate.

To enrich the land, and thereby to enhance the value of its products, is, of course, the leading object of the agriculturist. To this end, his studies and his labours are mainly and properly directed. But there are other objects demanding the attention of the American farmer, which are scarcely inferior in importance—whether considered as auxiliaries to his prosperity, or as tending to elevate his character as an intellectual being, and to fit him for the station and duties of a freeman. A farmer *may* be an ignorant, slovenly boor—with little moral endowments than the oxen he drives: or he may be—and he *ought* to be—a gentleman of enlarged views, correct intelligence and cultivated taste. He should understand, not only the great leading interests of his profession, but also the economical details which pertain to thrift and contribute to success. He should, likewise, combine with an accurate knowledge of the objects of his care, a correct perception of all that is calculated to enhance the symmetry and beauty of his possessions. In reference to *economy*, in agricultural management, I would here notice a matter of considerable importance, though surprisingly neglected by many farmers: I mean the preservation of agricultural implements. These should never be left exposed to the weather when not in use. Some careless farmers are in the habit of leaving their ploughs, harrows, rollers, and other utensils, on the grounds where they were last employed—bleaching by the field side, or thrown into the corners of the fence—where they lie rusting and rotting, until required for the labours of the ensuing year. The inevitable result of such negligence, is a set of imperfect, rickety

tools, and the necessity of speedily replacing them at an inconvenient expense. The man who thus manages, is sure to go behind hand: his unthrift is soon remarked. His more vigilant neighbours find him a troublesome borrower—first of implements, and then of money—which last, his impaired credit renders it difficult for him to obtain. Such has ever been the career—and such will ever be the destiny of the sloven and the slyggard. By carefully sheltering a good set of farming utensils, I am satisfied, from observation and experience, they will endure, in good order, five times longer than when exposed to all the destructive vicissitudes of our climate. The *economy* of the measure is, therefore, of no mean importance. The saving of capital, as well as the satisfaction of using perfect implements, is worthy the attention of every agriculturist. Every vehicle, tool and implement, employed on a farm, should be put under cover the moment we have done with it. There should be a suitable place for everything, and everything should be in its place, so that we may certainly lay our hands on it when it is wanted, by day or by night.

Another important consideration which I have often urged, but which I believe cannot be too frequently pressed upon the notice of the farmer, is the careful extirpation of pernicious and worthless plants, and a vigilant attention to the encroachments of all weeds, having a strange or sinister aspect. These cannot be too closely watched on their first appearance: for a season or two of neglect may allow them to gain such possession of the soil, as to cause a vexatious amount of unproductive labour, or a serious depreciation in the value of the farm. All worthless weeds should be kept in subjection as completely as possible; and especially those of a pernicious character. But in order to direct his efforts with effect, the farmer should be able to distinguish the most injurious,—and not, as I have sometimes seen him, be wasting his energies on those which are comparatively harmless; while far greater nuisances were flourishing around him, unnoticed and unknown. It would be well to know the vilest intruders *by name*, in order that he might make himself intelligible to his brother farmers; and I think every one will admit, that when he goes forth to wage war with vegetable pests, there would be a decided advantage in knowing them *by sight!* The mere clodpoll, who rejoices exclusively in the vigor of his *muscles*, may possibly object, that such knowledge implies an exercise of *brain*, and therefore comes not within his province.

It is true, that some degree of observation, some portion of the faculties of perception and comparison, is requisite for the purpose in question: but I would fain hope that such an objection will not be offered by any one who occupies the position and appreciates the responsibilities of an *American farmer*. Sure I am, it will never proceed from such as are worthy of that high calling. Let us, then, while we are enriching our lands, and striving to improve the management of our crops, let us resolve to become acquainted with *all* the objects which demand our care and attention. Let us study the history and the character of every product which affects our interests, and learn to distinguish, with intelligence and skill, between those which deserve to be fostered, and those which ought to be excluded or expelled. I would furthermore add, that while the farmer is devoting his efforts to the primary objects of fertilising the soil, and ascertaining the best systems of culture, he should never disregard the injunctions of *good taste*, in planning his fields, planting his trees, and otherwise beautifying his premises. Beauty and profit are by no means incompatible in agriculture: they, in fact, go hand in hand. The farm which is laid out with the most skill—which is under the highest culture, and the clearest of weeds, is not only the handsomest, but, at the same time, the most valuable and productive: its products are the purest, and most sought after in the market. As the best *stock* should be selected for feeding, so should the best *plants* be cultivated, to feed that stock. The worthless, or less valuable portion, both of animal and vegetable products, should be made to give place to the most valuable. This should be the constant aim and object of the agriculturist; and, like every other earthly good, it is only to be secured by continued vigilance. It must, of course, be *gradually* attained; but, by perseverance, can certainly be accomplished. The best managed farm, as I have said, will ever be the handsomest. The amount of indispensable *labour*, on farms of a given size, and in similar circumstances, is nearly equal: the difference in their condition and appearance, is the result of skill and taste in the occupants. Our incessant study, then, should be to acquire skill, and to discipline our taste. Every field, when under culture, should look like a garden; and when in grass, should be as clean as a meadow. No worthless weed should be permitted to rear its head—or at least, to mature its blossoms—not even in the lanes, the way-side, or the corners of the fences. The skilful *rotation of crops*, while it is most favourable to the production of useful plants, aids powerfully

in the extirpation of pernicious intruders. It is by this system that the agriculture of *Chester county* has attained its character for neatness and productiveness. Much, however, remains yet to be done—even in that county, and throughout Eastern Pennsylvania—in carrying out and perfecting the system of neat and tidy farming. Slovens are still to be found in every district, where trashy weeds are permitted to usurp the place of useful vegetation: but there can be no doubt, that if the example of their thrifty neighbours do not shame them into better management, the march of improvement will soon dislodge them from their incongruous position in a prosperous community. They will of necessity be compelled to conform to the spirit of the age, or to give place to those who feel the impetus of the times. Where society is advancing, and a generous competition pervades the mass, no man can long sustain himself, who is content to be a laggard in the race.

When the best system of culture is ascertained and established, the next thing is, to adorn the premises with trees and shrubbery: but all these improvements may, and should, proceed *pari passu*. They do not interfere,—and ought to commence together. Moderate sized *orchards*, of the choicest fruit, only, should be planted without delay; and situations may often be advantageously occupied by fruit trees, which are not so well adapted to agricultural purposes. It is one of the grievances of the present day, that the few who take the pains to cultivate good fruit, are annoyed by the marauding incursions of the idle and improvident: whereas, with a little attention at the proper season, every family in the land might have an ample supply at their own doors, of those tempting delicacies which now incite the rude and thoughtless to trespass on their neighbours. The correction of this evil would be found to be an important guard and outpost, to the minor morals of the community; and it can only be effectually accomplished by universal planting.

The first leisure of the young farmer—especially when he has erected a new residence—should be employed in laying out a neat yard and garden, and in planting his fruit and shade trees with appropriate care and taste. That being done, the trees and shrubs will be coming on with annual increase of beauty, shade and produce, to enhance the comforts of his rural home and solace the languid hours of age and infirmity. This is a duty which has been sadly neglected, hitherto, in Pennsylvania. It is really distressing to the eye of taste, to witness the number of farm-houses in our

ancient commonwealth, which stand exposed, as it were, in the open fields, without a shrub or a grass-plot to cheer the inmates, or even so much as a friendly tree to protect them from the glare of the summer's sun. No resident of our naked villages, who has enjoyed a promenade beneath the arching elms which adorn the avenues of New-Haven and other eastern towns, can fail to be humbled by the contrast—and to lament the tasteless, cruel negligence, the melancholy want of forecast which has prevailed among our own people. This repulsive feature of barbarism should be no longer tolerated. Every farm should be made a beautiful country seat. Such ornamental seats instead of interfering with the essential duties of agriculture, tend rather to animate and cheer the labours of every farmer who has a soul susceptible of true enjoyment. The beautiful shade trees which surround the dwelling, as they grow old, become associated with pleasant reminiscences in the family, and exert a delightful moral influence. The children, who have grown up and disported beneath their spreading boughs, become fondly attached to them, and strongly disposed to guard and preserve them. The touching song of our countryman, Morris, owes its popularity no less to a deep seated principle in our nature, than to the engaging simplicity and pathos of its numbers. Every one who has spent the summer days of youth under the lovely shade around the paternal domicil, will be as ready as the poet, to exclaim

“Woodman! Spare that tree!”

Every descendant of the patriarch who planted it, will interpose to save the venerable tree which sheltered the home of his childhood; and will remonstrate with the *Vandal* who may threaten it, in the earnest and moving accents of the bard:

“’Twas my forefather’s hand
That placed it near his cot;
There, woodman! let it stand—
Thy axe shall harm it not.

When but an idle boy,
I sought its grateful shade:
In all their gushing joy,
Here, too, my sisters play’d.

My mother kiss’d me here;
My father press’d my hand.
Forgive this foolish tear—
But let that old tree stand!”

Such reminiscences of our purer days deserve to be fondly cherished; and should never be obliterated by the sterner pursuits of after life. The tasteful arrangement of trees and shrubbery, on a farm, not only

conduces to real comfort, but is the surest indication of a gentle, cultivated and truly civilized people. It demonstrates that boorish rudeness has been superseded by refined feelings, and a just appreciation of the beauties of Nature. How delightful to the toil-worn farmer, in the evening of life, to repose in the shade of the trees which he has planted with his own hands! How grateful to the heir of the paternal mansion, to enjoy the umbrageous shelter provided by the care and taste of his revered progenitor! The shade tree, thus planted, becomes, as it were, a cherished member of an affectionate family. Its longevity renders it an abiding friend of succeeding generations—a silent but most interesting witness of the advent and departure of children, and of children’s children—while its aged trunk remains an emblem and a precious memorial of a long line of venerated ancestry.

Such are a few of the thoughts which occurred to me in reference to our noble profession, while endeavouring to comply with your flattering invitation. Crude and superficial as they are, I have nothing better to offer; and can only hope that some of the ideas suggested may be deemed worthy of attention, and of a more appropriate notice. But I will tax your indulgence no longer. If I have been so fortunate as to get through with my rambling *Agricultural homily*, without entirely exhausting your patience, I shall esteem myself happy in the opportunity of attempting to cast my poor mite into that treasury of useful knowledge, which this Society has so long fostered by its care and enriched by its munificence.

Annual Exhibition of the Philadelphia Agricultural Society.

WE lay before our readers the Reports of the respective committees, to whom were referred the claims of competitors, at the late animated Exhibition at the *Rising-Sun* tavern. According to public notice given, the stock, implements of husbandry, &c., were open to examination on the 16th and 17th ult., and the trial of ploughs and ploughmen took place on the succeeding day, the 18th. Much of the stock on the ground was certainly of a very superior character, and did credit to the enterprise and sound judgment of the owners. Our friends Chandler and Prouty, too, by their fine displays of tools, showed pretty plainly that if our farmers were not furnished with first-rate articles to work with, the fault would not be theirs. There was a good attendance on the ground; and the emulation excited, and the interest manifested in every department, might convince every farmer, that however vigilant he was in his course, the tread of his competitor was close at his heels. The awards were announced by James Gowen from the stand, immediately after the close of the Address of Dr. Darlington. It

is quite a gratification to find that New Jersey contends successfully with this State in the article of butter. Our friend S. S. J., is correct in his opinion expressed in last number, that we are furnished here with the very best of butter—but we must again say, that there is abundantly too much of an indifferent character finds its way to our market. A great fault in relation to it is, that it will not keep. It tastes well for two or three days—after that, the butter-milk not being thoroughly worked out, it becomes stale and rancid. Next season, instead of the second premium, let our Jersey friends aim at the first.—Ed.

REPORT ON HORSES.

The committee appointed by "The Philadelphia Society for promoting Agriculture," to award the premiums offered for horses, respectfully report, that they have awarded to—

Thomas Thurlow, for his horse Harkaway, out of a mare by Johnson's Medley, by Monmouth Eclipse, the premium for the best thorough-bred Stud-horse, (there being no competitor,) \$12.

To Dr. A. Foulke, of Montgomery county, for his grey horse Messenger, for the best stud-horse, adapted to the field and road, \$10.

To William Blackburne, for his Canadian horse Sir John, for the next best stud-horse adapted to the field and road, \$5.

To William Blackburne, for his mare Polly Baker, 14 years old, by Pacolet, for the best thorough-bred brood mare, \$10.

To Owen Sheridan, for his bay mare, for the best mare adapted to the field or road, \$10.

To John Sharpless, for his bay mare, Lady Lightfoot, for the next best mare adapted to the field or road, \$5.

To Dennis Kelly, for his bay horse Langford, 3 years old, by Langford, out of a Membrino mare, for the best horse colt, between 2 and 4 years old, \$8.

To Dr. A. Mellor, for a bay colt, by Bursiris, out of Spot, 4 years old, for the next best horse colt, between 2 and 4 years old, \$4.

To William Nice, for a grey filley, for the best filly or mare colt, between 2 and 4 years, \$6.

To Francis Blackburne, for a dark grey filly, for the next best filly or mare colt, between 2 and 4 years old, \$4.

To John Sharpless, for a bay colt, one year old, for the best horse colt, between 1 and 2 years old, \$4.

For five of the premiums offered, there were either no competitors, or such as were not in the opinion of the committee, entitled to distinction.

The special premium for such animals as have received the first premium of this or any other Agricultural Society, accompa-

nied with a certificate or satisfactory evidence thereof, to William Robinson, for his black horse, Washington, by young Bashaw, out of a full sister to Sally Miller, for the best stud-horse, the premium of \$20.

GEORGE CADWALADER,
OWEN SHERIDAN,
THOMAS PENN GASKILL,
AUSTIN MELLOR,
A. L. ELWYN,
JACOB STADELMAN.

Rising Sun, October 16th, 1844.

REPORT ON CATTLE OVER TWO YEARS OLD.

The committee on cattle over two years old, report that after a careful examination of the character and quality of the different animals presented to their view, they award the following premiums, to wit:

For the best Durham bull, over 4 years old, to Joseph Burton, for Gladhow, by Yorkshireman, \$12.

For the next best, to John Hunter, for Duke of Wellington, by Prince of Wales, \$6.

For the best Durham bull, between 2 and 3 years old, to John Hunter, for Bruce, by Prince of Wales, \$10.

For the best Ayrshire bull, to R. L. Armsted, for Sir William Wallace, \$8.

For the next best, to John Struthers, for Rob Roy, \$4.

For the best Alderney bull, to Philip Physick, for George the 4th, \$8.

For the best bull of other improved breed, to William Blackburne, for his bull, Martin, \$8.

For the next best, to E. Boudinot, for Gilderoy, \$4.

For the best Durham cow, over 4 years old, to Dennis Kelley, for Cinderella, \$10.

For the next best, to Owen Sheridan, for Sarah Kirby, \$5.

For the best cow between 2 and 4 years old, to James Gowen, for Miss Model, \$10.

For the next best, to Isaac W. Roberts, for Jessie, \$5.

For the best Durham heifer, between 2 and 3 years old, to James Gowen, for young Nell, \$6.

For the next best do. to do., for Victoria, \$3.

For the best heifer of improved breed, between 2 and 3 years old, to Samuel Cooper, for Fair Helen, \$4.

For the next best, to A. Clement, for Rowan, by Leander, \$2.

For the best cow of Devon breed, to Morris Longstreth, for Lucy, \$8.

For the next best, to do., for Devon, \$4.

For the best Ayrshire cow, to John Struthers, for Flora M'Donald, \$8.

For the next do., to do., for Jeanie Dean, \$4.

For the best Alderney cow, to Philip Physick, \$8.

For the next best do., to do., \$4.

For the best cow of mixed blood, to Michael Daley, for his red cow, \$6.

For the next best, to David Martin, for Red Lady, \$3.

For the best yoke of working oxen, to Isaac W. Roberts, \$10.

For the best fat heifer, over 3 years old, to James Gowen, for Darby Kate, \$8.

SPECIAL PREMIUMS.

For such animals as have received the first premium from this or any other Agricultural Society, the committee award to James Gowen, the plate premium, of the value of \$20, for his Durham bull, Leander.

And likewise to James Gowen, the plate premium of the value of \$20, for his Durham cow, Cleopatra.

The committee on cattle over two years old, have had an arduous and responsible duty to perform. Their list embraced a great number of animals of various breeds. To assort and class them properly, required much time, labour, and close observation. It often happens that several animals of the same class may approach each other in points and qualities so closely, as to produce great embarrassment with the judges in coming to a decision as to their merits. Such, in this instance, was the case, in regard to the Durham cows over four years old. Where all were so good, it was difficult to make a choice.

The committee noticed with pleasure, some veterans who have earned prizes on this and other fields, and are now reposing on their well-earned honours, being prohibited by the rules, from entering again for competition. Among them we noticed Mr. Kelley's Prince of Wales, Mr. Struthers' Geordie, and also Mr. Gowen's Dairy Maid.

Some fine Durham stock were sent from the farms of Mrs. Dr. Barton, and also from Mr. Helmbold. Mr. C. S. Smith had some very good mixed blood heifers on the ground, and Mr. John Hill exhibited two large cows, bearing the marks of being highly useful for the dairy. In conclusion, the committee beg leave to offer their thanks to those spirited farmers and others who have lent a helping hand, in order to get up so good an exhibition.

AARON CLEMENT,
BENJAMIN SERRILL,
ISAAC ROBERTS,
DAVID GEORGE.

Rising-Sun, Oct. 17th, 1844.

REPORT ON CATTLE UNDER TWO YEARS OLD.

The committee report, that they have attended to the object of their appointment, and award the following premiums, viz:

To J. Rhea Barton, for the best Durham bull, between one and two years old, Woodbine, \$8.

To Jacob Serrill, for the next best bull, Carbow, \$4.

To John Struthers, for his Ayrshire bull, Henry Clay, \$6.

To James Esray, for the next best Ayrshire bull, Young Geordie, \$3.

To A. Robinson, for his bull, Sir Henry, \$6.

To James Gowen, for his bull calf, Chorley, \$3.

To James Gowen, for his heifer, Bessy Bell, \$6.

To Isaac W. Roberts, for do., Miss Merion, \$3.

To Samuel Overn, for do., Lucy, \$4.

To James Gowen, do., Buttercup, \$2.

To Morris Longstreth, for his bull, Doctor, \$4.

To Cornelius S. Smith, for his Durham heifer, Fanny, \$6.

To James Gowen, for do., Fairy, \$3.

To Cornelius S. Smith, for his Ayrshire heifer, \$4.

JAMES ANDREWS,
WM. P. SERRILL,
CHARLES GARRETT,
PHILIP GARRETT.

Rising-Sun, Tenth mo. 16th, 1844.

A good number of animals of this class were on the ground, and the quality and condition were very creditable to the owners.

REPORT ON SHEEP AND SWINE.

The committee on sheep and swine, report, that after careful examination, they award the following premiums, to wit:

For the best Bakewell or Leicester buck, over one year old, to Aaron Clement, \$4.

For the next best do., do., to do., \$2.

For the four best Bakewell or Leicester ewes, over one year old, to Aaron Clement, \$4.

For the four next best do., to John Johnson, \$2.

For the best Southdown buck, over one year old, to John Johnson, \$4.

For the four best Southdown ewes, over one year old, to John Johnson, \$4.

For the best buck, Southdown and Irish cross, to Isaac Newton, \$4.

For the four best Bakewell and Southdown ewes, cross, to John W. Bartram, \$4.

For the best Berkshire boar, to George Martin, \$4.

For the next best do., to E. Boudinot, \$2.

For the best Berkshire sow, to James Gowen, \$4.

For the next best do., to H. J. Helmbold, \$2.

For the best boar of other breed, to Benjamin Hickman, \$4.

For the next best do., to Philip Garrett, \$2.

For the best litter of pigs, to James Gowen, \$4.

The committee recommend that a complimentary premium of \$4 be awarded to Benjamin Hickman, for the superior lot of 17 pigs brought from Chester county, and bred by him.

JAMES MEASE,
ISAAC NEWTON,
AARON JOHNSON,
WM. W. ROBERTS.

Rising-Sun, October 17th, 1844.

REPORT ON POULTRY.

The committee on poultry, award the following premiums:

For the best pair of fowls of improved breed, to S. S. Richie, \$2.

For the next best, to H. Cooper, \$1.

For the best pair of capons, to S. S. Richie, \$2.

A. L. ELWYN,
G. EMERSON.

Rising-Sun, October 18th, 1844.

AGRICULTURAL IMPLEMENTS AND PRODUCE.

The judges of agricultural implements and produce, report that they award the following premiums:

AGRICULTURAL IMPLEMENTS.

For the best Drilling Machine, Bachelor's patent, to D. O. Prouty, \$4.

For the next best do. do., to E. Chandler, \$2.

For the best Straw Cutter, to D. O. Prouty, for Conklin's patent, \$4.

For the next best do., do., a large and strong apparatus, to E. Chandler, \$2.

For the best Corn Sheller, being one adapted to horse-power, to E. Chandler, \$4.

For the next best do., do., to D. O. Prouty, \$2.

For the best display of agricultural implements, to D. O. Prouty, \$3.

For the next best do., to E. Chandler, \$4.

The committee examined with care, and thought favourably, of the Bone-Crushing

Machine exhibited by Dr. Gouverneur Emerson, but deemed it inexpedient to form a conclusion on the merits of so important an implement, without seeing it in actual use. They recommend that the premium remain open to him until practical demonstration can be had of its utility.

AGRICULTURAL PRODUCE.

For the best bushel of wheat,—Mediterranean—to S. C. Ford, \$3.

For the best bushel of rye, to Samuel Cooper, \$2.

For the next best do., to Wm. Thornton, \$1.

For the best bushel of corn, in ears, to W. D. Rapp, \$2.

For the next best do., to Isaac Newton, \$1.

For the best bushel of oats, to William Thornton, \$2.

For the next best do., to Samuel C. Ford, \$1.

For the best bushel of potatoes, to Samuel Cooper, \$2.

For the next best do., to S. C. Ford, \$1.

For the best display of agricultural produce, generally, to H. E. Lutz, \$4.

For the next best do., to S. S. Richie, \$2.

The committee also report with much satisfaction, that the general display of agricultural implements and produce, was highly creditable, and they particularly note as worthy of commendation, the Grain Winnow, from John Bamborough, of Lancaster, Pa.; a Compound Centre-draught Harrow, and a box of farmers' tools, including a very neat Meat Chopper and a Sausage Stuffer, from Mr. Prouty; a Cider Press from J. Amey, of Rising-Sun; a Machine for crushing and grinding corn-stalks, from E. Chandler; a great variety of ploughs were deposited by W. Beach, J. & S. Pawling, M. Smith, Garrett & Son, E. Chandler, D. O. Prouty, and John Struthers. They were neat in construction, and most of them apparently well adapted to their important purpose; but their merits must undergo the test of trial by another committee on the 18th inst. There was also on the ground, an apparatus from Mr. Dutton, for making ice rapidly in the winter season, which in some locations may be useful. Besides the produce for which premiums were awarded, the committee recommended to notice, apples in great variety, from W. Foulke and S. S. Richie.

Sugar beets, ruta-baga, carrots, corn, potatoes, and other productions from Messrs. S. C. Ford, J. Turner, B. Cooper, S. Wil-

liams, J. Struthers, I. Newton, and others. The attention of the committee was also called to a set of harness, mounted with Beverly's patent Pincer buckle, a neat and apparently good invention.

A basket of very superior Mercer potatoes, at least equal to any on the ground, were exhibited by Bernard Carr, of Kingessing, on the second day, but too late for competition.

ALGERNON S. ROBERTS,
JESSE GEORGE,
JAMES THORNTON,
PAUL JONES,
HENRY DULL.

Rising-Sun, Oct. 17th, 1844.

REPORT ON BUTTER.

The committee on butter respectfully report, that they have carefully examined the samples offered for competition; and that they award the first premium, of a silver butter knife, valued at \$5, to William Foulke, for his fine and superior butter.

To David Whitall, they award the second premium, of a silver knife, valued at \$3.

The committee report that the sample of butter sent by Mr. Physick, arrived too late for competition, the premiums having been awarded. His butter they consider so very fine, that they award an honorary premium of \$3 to the dairy maid.

GEORGE BLIGHT,

On behalf of the committee.

Rising-Sun, Oct. 17th, 1844.

TRIAL OF PLOUGHS.

This interesting affair came off by appointment, on the third day of the exhibition. The weather proved very unfavourable, it having rained the whole of the forenoon, yet this could not damp the ardor of the competitors, nor abate the interest of the spectators, who had assembled in spite of wind and weather, to witness the trial. Two of the judges, owing no doubt to the state of the weather, were absent, which induced the chairman of the committee of Superintendence, to suggest a postponement of the match, but the owners of the ploughs, and the ambitious ploughmen, who had been in waiting two days, insisted upon exhibiting their respective merits at once, upon the day set apart for the occasion; whereupon the two vacancies in the committee of judges, were then filled from the gentlemen present, by the appointment of Mr. David Whitall and Mr. Edwin Moore. The committee then stood—Aaron Johnson, of Delaware county; John Hunter, Blockley, Philadelphia county; Lewis R. Willard, Montgomery county; David Whitall, Gloucester

county, New Jersey; and Edwin Moore, of Montgomery county, Pa.

The field allotted for the trial—generously offered for the occasion by Miss Smith—was an old sod which, had it not been for the rain of the previous night, its condition would have been stiff and stubborn, the soil being a clay loam. The ground was laid off and staked in equal portions of less than a quarter of an acre; the ploughmen drawing lots for choice of lands, which resulted as follows:

No. 1. The Garret plough—John Earl, ploughman.

No. 2. D. O. Prouty's Flat Furrow plough—John Newlove, ploughman.

No. 3. Pawling's plough—James Bell, ploughman.

No. 4. Dickinson's plough—Justus Donat, ploughman.

No. 5. Mahlon Smith's plough—Crosdale Warner, ploughman.

No. 6. Moore's, Luzerne county—E. D. Cartwright, ploughman.

No. 7. D. O. Prouty's Centre Draught plough—Wm. Banks, ploughman.

No. 8. William Beach's—John Young, ploughman.

No. 9. John Struthers' Scotch Iron plough—Hugh Young, ploughman.

These nine ploughs, when arranged on their respective lands, ready for the word to start, was truly an interesting sight. Before starting, the judges admonished the ploughmen not to hurry, though good time would be looked for. They then started, cutting a furrow not less than six inches deep, nor less than 12 inches broad. The excellence of the work in general, was the theme of every spectator. The oldest and most experienced on the ground, declared they had never seen before such ploughmen and such work, and thanked their stars they had not to decide who was the best. The judges, it is true, had a difficult task, but they brought to bear upon it great experience, unquestioned disinterestedness and impartiality.

REPORT.

The committee on ploughs and ploughing, respectfully report, that they attended to the duty assigned them, and after the most particular attention to the implements and minute examination of the work, award as follows:

To D. O. Prouty, of Philadelphia, the first premium of \$10, for his Flat Furrow Centre-draught plough.

To Mahlon Smith, of Bucks county, the second premium of \$5, for his plough, known by the name of "Smith's Plough."

To Crosdale Warner, of Bucks county, the first premium of \$5, as the best ploughman.

To Hugh Young, the second premium of \$3, as the next best ploughman.

The committee regret that they had not premiums to distribute to all the ploughmen, for all were highly deserving; so much so, that they found it difficult to discriminate. They would make favourable mention of others besides those distinguished by premiums, but did they begin, they would be at a loss to know where to leave off. They can only repeat the satisfaction their several performances afforded to your committee, and all who witnessed their skillful efforts.

AARON JOHNSON,
JOHN HUNTER,
LEWIS R. WILLARD,
DAVID WHITALL,
EDWIN MOORE.

Rising-Sun, Oct. 18th, 1844.

For the Farmers' Cabinet.

St. George's Ploughing Match.

DEAR SIR,—Your readers may remember, that in the Cabinet for January last, page 183, I complain of an undue prejudice that had been manifested for some years past against the Centre-draught plough, in the matches of the St. George's Agricultural Society of Delaware, and express a determination to be present at their next meeting, to wipe off the disgrace that had been inflicted, by bringing forward for competition an old, rusty and worn-out implement, that did, however, take a premium after all.

The ploughing match the present year, was advertised to come off at Cantwell's Bridge, on the 26th of October; the terms offered were, in the first class, three premiums of \$3, \$2, and \$1, for farmers' sons under 21 years of age. Second class—"free to all good workmen of any age or nation—that beautifully finished plough, which cost the Society, \$20." I accordingly attended the meeting, with several Centre-draught ploughs, prepared to put their qualifications to the test of fair competition; when, immediately, "the beautifully finished plough, which cost the Society \$20," was withdrawn, and the young men's three premiums, of \$3, \$2, and \$1, were thrown open for competition, "free to all good workmen of any age or nation." A proposal was, however, soon after made, to relinquish the ploughing match altogether; and this would have been carried, but for the determined and strenuous exertions of that indefatigable friend to agricultural improvement, Ma-

JOR JOHN JONES, whose untiring devotion to the good cause is far above all praise. This difficulty overcome, the ploughs were permitted to adjourn to the field, where it was proposed by the plough-makers present, that one only of the Centre-draught ploughs should be permitted to start. This was acceded to, provided that one only of the several Concave ploughs present, should be permitted to contend; but this not meeting their views, two of the Centre-draught ploughs were at length permitted to start, and the work commenced.

During the progress of the trial, another of the Centre-draught ploughs was put to work on an extra land, for the purpose of affording an opportunity to those who were desirous of testing its qualifications with their own hands; and here she won "golden opinions,"—the son of Major Jones, a fine lad 10 years of age, and not much taller than the handles of the plough, following her through several rounds without the least difficulty, and making excellent work. At length she was set to go completely alone, without the aid of any one to guide, to the admiration and astonishment of every beholder.

At the conclusion of the trial, Major Jones reported as follows: "The ploughing committee find it impossible to award the first premium to the Centre-draught ploughs of Prouty & Mears, seeing that the premiums are intended for the *ploughmen*, and not for the *ploughs*; the Centre-draught ploughs being so perfect in themselves as not to require either holder or guide, but going quite alone, without the aid of either. They award the second premium to William Banks, Centre-draught plough, No. 5½, as the second-best ploughman on the ground. The Farmers' Cabinet for one year, being awarded to every competitor." Now, although there were not two opinions on the subject, as to the best *ploughing*—in which term the character of the plough certainly comes in for a very large share of the credit due, but which seems to have been overlooked by most of the societies offering premiums "for the best *ploughing*,"—yet as it was the duty of every competitor to bow to the decision of the committee, this was done accordingly, and thus terminated the ploughing match of the St. George's Society, Delaware.

Thus, within a few days, the Boston Centre-draught ploughs, of Prouty & Mears, have contended at three matches, and been declared victorious in all; the last triumph, however, being considered the most brilliant, and affording abundant proof "that the trial of last year, at the St. George's

meeting, was by far the strongest recommendation the plough had ever before enjoyed." The results of the three trials were as follow:

Newcastle county, Del., October 12th, 1844.—First premium, \$20, best edge furrowing, awarded to William Banks, Prouty & Mears' Centre-draught plough, No. 5½. First premium, \$10, best flat furrowing, awarded to John Newlove, Prouty & Mears' Centre-draught plough, No. 23. Premium \$10, and Farmers' Cabinet for one year, awarded to William Banks, as the best ploughman. Prouty & Mears' Centre-draught plough, No. 5½.

Philadelphia Agricultural Society, Oct. 18th, 1844.—First premium, \$10, for the best plough after trial, Prouty & Mears' Centre-draught plough, No. 23, John Newlove, ploughman.

St. George's Society, Delaware, October 26th, 1844.—Second premium, \$2, for the second best ploughing, awarded to William Banks, Prouty & Mears' Centre-draught plough, No. 5½. It being impossible for the committee to award the first premium to a plough so perfect in all its parts, as to go without guiding; the premiums being intended for the ploughmen, and not for the ploughs.

JAMES PEDDER.

October 24th, 1844.

PUBLIC BATHS.—It is proposed to establish at London, four public baths, three on the Middlesex and one on the Surrey side of the river, at an expense of £30,000. The annual charge to be met by those who use them; one penny for a cold, and two pence for a warm bath, towel inclusive, being the rates for the bathers, while at the wash-house all means for six hours' washing, scrubbing, and ironing, are supplied for two pence. It is expected that an establishment of this kind would soon support itself. It has already stood the test of experiment at Liverpool.—*London Spectator.*

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, ELEVENTH MONTH, 1844.

The Annual Exhibition of articles of American manufacture by the Franklin Institute, continued from the 14th to the 30th ult. It was held in the large rooms of the Chinese Museum, which were both well filled and well arranged. Thousands of our citizens were gratified with these evidences of skill, and we suppose hardly an individual passed among them, but

congratulated himself upon the high state which the mechanic arts have attained among us. Only one hundred and sixty years ago, the founder of this Commonwealth landed at New Castle, and the only evidence of civilization that was at that time to be found on the bank where our noble city now stands, was afforded by a Swedish or Danish hovel, here and there, scattered along. The onward march of our country since that period—a very recent one, compared with the dynasties of Europe—has, under the Divine blessing, been one of almost uninterrupted prosperity. We have now only to look abroad, and watch the operations of our workshops, to perceive that in all the useful productions of art, we can not only supply our own wants, but can enter into competition with the finest productions of foreign labour. From among several thousand articles exhibited, the committee selected *fifty-nine*, which after careful examination, appeared to be the most deserving, and awarded to them *silver medals*. To *one hundred and fifty-four* others, *certificates of honourable mention* were given.

THE Agricultural Society of Hamilton County, Ohio has appointed A. Randall, editor of the *Plough Boy*, and Charles Whittlesey, formerly one of the Geological Surveyors of the State, to make an Agricultural Survey of that county, and they have been for some weeks engaged in the undertaking. They propose to give the practice of different farmers and the result of their management, with something also of the natural history of insects, &c., injurious to the grain and fruits of the county. Remuneration for the labour will be partly looked for in the sale of the Report.

THE editor of the *Cultivator* will accept thanks for his Almanac, for 1845. In addition to what is usually found in these Annuals, we have several pages of valuable matter for the farmer.

We have on our shelves for sale, "DR. DARLINGTON'S FLORA CESTRICA: an attempt to enumerate and describe the Flowering and Filicoid Plants of Chester county, in the State of Pennsylvania; with brief notices of their properties and uses, in Medicine, Domestic and rural Economy, and the Arts." It contains an extensive Glossary of the principal botanical terms used in the work. To every lover of botany in this vicinity, this volume will be found highly interesting.

We have also, compiled by the same author, "*Reliquiæ Baldwinianæ*: Selections from the correspondence of the late William Baldwin, M. D., Surgeon in the U. S. Navy." We have heretofore spoken of this work. Dr. Baldwin was passionately fond of Natural History, and his correspondence gives one a lively picture of his pursuits.

AMERICAN apples, it is said, make quite a display on the fruit stalls of London and Liverpool.

WE learn from the *New England Farmer*, of the 6th inst., that the 2nd number of Colman's *Agricultural Tour*, has made its appearance in Boston. We shall soon be able to supply our subscribers.

A YEAR ago, we suggested to our country friends the superior convenience of a coal fire, to one of wood, in the farmer's kitchen. Our convictions are so strong upon this subject, that we recur to it again, and earnestly recommend to every one, to make inquiry in relation to it. We are satisfied there is scarcely any arrangement that would so much add to the comfort of the domestic department, as a change in the kitchen from wood to coal. The room would be kept warm all night, and would consequently be found warm in the morning; and the part of the family which rises very early, instead of going into a room to shiver and shake with cold, would find one already warm, and could go about their business in good humor and good spirits.

"A Treatise on the Theory and Practice of Landscape Gardening, adapted to North America; with a view to the improvement of Country Residences, comprising Historical Notices and general Principles of the Art, directions for laying out Grounds and arranging Plantations, the description and cultivation of hardy Trees, decorative accompaniments to the House and Grounds, the formation of pieces of artificial water, Flower Gardens, &c., with remarks on Rural Architecture; by A. I. DOWNING.

Wiley & Putnam, of New York, have lately published a second edition of this splendid work. On its first appearance it met with a flattering reception. The author has in this edition re-written a considerable portion of the first part, and some modification of the principles of the Art has been introduced. A remarkable share of good taste and sound judgment runs all through it, and we know not so necessary a volume to the gentleman who would go advisedly to work, in the improvement and embellishment of his grounds and buildings. Numerous views of well known places in this vicinity are given: among them, is that of the late Nathan Dunn, at Mount Holly, N. J. It is for sale at this office, and also by J. W. Moore, Chesnut street.

An error in the fifth line from the bottom, first column, page 92, in last number of the Cabinet, article *Madder*, has been pointed out by the writer, who considers it of importance. For "within," read "with." The error was not ours: it was in the copy from which we printed.

In the communication on the *GAD-FLY*, on page 82, of our last Number, wherever *astrus bovis* occurs, read *astrus ovis*.

THE *Constitution* printed at Woodbury, N. J., speaks of an apple, *New York Glory*, raised by Samuel Spicer, of that vicinity, which measured sixteen inches around it, and weighed thirty ounces. This was larger than one lately exhibited by Joseph Fox, at the Horticultural rooms in this city; it weighed one and three-quarter pounds.

THE Bucks County Agricultural Society held its first Annual Exhibition at Newtown, on the 24th of last month. The result appears to have given general satisfaction to the friends of agriculture, as well as an assurance that the strong interest manifested on the

occasion, would operate greatly to the advantage of the county. The Committee on Stock, were gratified in being able to state, that "the display of domestic animals was unexpectedly fine, and of cattle especially, quite extensive." A huge stalk of corn fifteen feet eight inches high, was exhibited, grown by Wilson Evans, of Solebury, from a grain found in a bag of Java coffee: a large ear set eleven feet from the ground. The display of agricultural implements was very respectable; and the competition in ploughs was between Smith's and Prouty's. A majority of the committee decided in favour of the latter, "in consequence of its leaving the furrow loose and mellow, and susceptible of being put in complete order, with but little harrowing." The ploughmen were so nearly perfect masters of their art, that the committee could not decide between them. From Samuel D. Ingham's excellent Address, delivered on the occasion, we shall endeavour to make extracts in our next number.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestriæ,	3 00
RELIQUIÆ BALDWINIANÆ,	1 00
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

It is said there are eighteen public Gas establishments in London, to supply the great metropolis with light; a capital of \$14,000,000 is employed, yielding a net income of more than \$2,000,000, per annum. One hundred and eighty thousand tons of coal are used, producing nearly 1500,000,000 of cubic feet of gas.

☞ SHORT ADVERTISEMENTS, ☞

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844. tf.

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No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail, a complete assortment of Farming tools, among which may be found *Horse-powers and Threshing Machines, Grain and Seed Fans* of various patterns. *Corn-shellers* in variety. Hay, Straw, and Corn-stalk Cutters, eight different patterns, from \$4 50 to \$30. Corn-stalk Cutters and Grinders—Churns—Cheese-presses, &c. *Centre-draught Ploughs* of eight sizes. Bill-hooks—Bramble Scythes—Grubbing Hoes—Axes and handles—Hatchets—Potatoe Hooks—complete sets of instruments for making capons.

Garden, Grass, Flower and Field seeds, warranted fresh and true to name. D. O. PROUTY.

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☞ A FARM FOR SALE, CHEAP.

SITUATED in Newcastle county, Delaware, nine miles west of Delaware City, in a healthy and rapidly improving neighbourhood, and convenient to a landing on the canal. It contains about 109 acres. For further particulars inquire in Philadelphia, Parrish street, third door below Seventh street.

THE communication of Dr. Noble, on the first page, in relation to drilled wheat, claims the notice of every grower of this great staple. The land on which the experiments were tried, is located in the State of Delaware, north of the Chesapeake and Delaware Canal, on the road leading from Wilmington to the Summit-bridge. The wheat was of the Mediterranean variety.

THE quantity of rain which fell in the the Tenth month, (October,) 1844, was a very little more than five inches. 5.025 inches.
Penn. Hospital, 11th mo. 1st. 1844.

CONTENTS OF THIS NUMBER.

Broadcast and Drilled Wheat.	PAGE 105
Age of Apple trees—Do natural trees outlive grafted?	107
Premiums for the best managed Farms.	108
Checking Horses.—Milk.	110
Statistics of Fruit.—Keeping Cattle Warm.	111
Improvement of the quality of Potatoes—Otter in India.	113
Insects injurious to Domestic Animals.	114
Bancroft's Address, N. Y. State Ag. Fair.	116
N. Y. State Agricultural Society.	117
Minutes of the Philadelphia Ag. Society.—Alabama Wheat.	119
Manufacturing Establishments in Philadelphia and its vicinity.	120
Geology of Soils.	122
Improvements in South Carolina.—Receipt for making Coffee.	123
Dr. Darlington's Address.	124
Reports of Philadelphia Ag. Society.	128
St. George's Ploughing Match.	133
Editorial Notices.	134

THE FARMERS' CABINET,

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JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

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THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Geology of Soils.

Continued from page 123.

Mr. Editor,—Of the geology of Massachusetts I know nothing personally, and but little from reading; and although I have strong doubts about the correctness of Mr. Dana's description of it, yet I shall take it for granted for the present, that her soil is generally made up of "gravel, sand, clay, and rolled stones, sometimes alternately with each other, and sometimes in confused heaps; which have been derived from *places distant*, and from rocks distinct from those on which they now repose;" and that our author's doctrine, that "rocks do not influence the soil overlying them," may be true as respects that State. But while admitting this, we must remember that Massachusetts is but a small place compared with the American continent, and a very minute place as compared with the whole earth,

and that what might be true there, might be wholly untrue and inapplicable elsewhere, and ought not therefore to be laid down as a general rule, but ought rather in fact to be considered as the exception, and not the rule.

That this doctrine of a general diluvial covering, "from a few inches to several hundred feet in depth," wholly influenced by the rocks which it covers, is not applicable to large districts of our country; I will now proceed to show, and also that if rocks have *not formed* the soil which covers them, they have exerted some agency, and in some instances not a slight one in determining its fertility. Or at least, that differences of soil do so certainly attend changes in the underlying rock formation, as to warrant us in assuming this to be the cause, until some more rational explanation, and one more consonant to common sense shall have been offered: and that this difference, plainly perceptible to any one who will take the trouble to make the necessary observations, may, if properly used, become an important index to the farmer in selecting land for purchase or rent. In doing this, I will in the first place describe a section of our Pennsylvania rocks, extending from the tide water region, by the way of West Chester, Reading and Pottsville, to the Alleghany mountain, which will embrace, on a line nearly at right angles with their general direction, all, or very nearly all the rock formations that are found in Pennsyl-

vania; while its easily accessible situation will enable many of your readers to verify the correctness of my observations. Instead of commencing at one extremity of this section, I shall, in order to make the contrast between the soils overlying different rocks more striking, begin at a well known and easily defined line in it; that is, the limestone valley which passes through the counties of Montgomery and Chester, and generally known as the "Great Valley of Chester county." The rock of this valley is generally a stratified primary limestone, and the soil which covers it, has always been held in high estimation for its fertility since the first settlement of the country. There are to be found in it occasionally ridges of other varieties of rock, the soil over which is generally of an inferior quality. Immediately adjoining this valley on the south, is a range of talcose-slate hills, the soil on which has been as long noted for its inferiority; this soil is made up in a great measure of very minute particles of the slate, and so unfavourable are they to fertility, that lying more elevated than the limestone, they are carried over it by torrents of water and other means, and just so far as they reach, and in proportion to the quantity transported, do they impair the fertility of the soil covering the limestone. South of the talcose-slate, there extends for several miles, in the neighbourhood of West Chester, a ledge of a variety of serpentine rock, the soil over which is so notoriously unproductive, and so incorrigibly refractory, as to have obtained the local name of the *barrens*, and the rock, that of the *barren* rock. The same kind of soil covers this rock wherever it is observed near the surface in that part of the State. Immediately south of this serpentine ledge, we come to hornblende and gneiss rocks of several varieties, many of them in a disintegrating state, the soil over which is highly productive, and the change from one to the other is so sudden, that in many places it is not 100 yards from deplorably sterile, to highly fertile land. And this too, under a very similar general management, the whole being occupied by as industrious, intelligent and enterprising a set of farmers as can be found in any other part of the Union. Continuing our examinations southwardly, the same class of primary rocks, in all the Proterean shapes for which they are so remarkable, appear to form the underlying rock of the country until they disappear under the tertiary and diluvial series of the tide-water region. Changes of soil, accompanying every important change in the underlying rock over this district, can be readily per-

ceived by an attentive observer, although owing to the numerous windings, changes and alternations of the different varieties of these rocks with each other, these changes of soil cannot be pointed out on paper without a minute and voluminous description of the country. But over them all, except the limestone, the soil will be found to be made up in great measure of very minute fragments of the rock immediately underlying it, or of those in its vicinity; or of such substances as it is known these rocks are converted into by decomposition.

Commencing our examinations again at the limestone valley of Chester county, and pursuing a northwardly course, we first come to a hill of sandstone, considered by Professor Rogers as the lowest in our secondary series, and denominated by him No. 1. The soil on this is of a lightish colour, and is considered of an inferior quality for agricultural purposes. It is mostly kept in wood for the supply of the neighbouring farms. Next comes, in the county of Chester, a strip of primary rocks, a principal ingredient of which is feldspar. The remains of this rock, particularly the quartz parts of it, are found plentifully distributed through the soil, which is generally held in good estimation by farmers. We next pass over a formation of red shale, sandstones and conglomerates, extending to the primary rocks of the South Mountain, near Reading. The soil over these shales and sandstones, partake of the colour and materials of the underlying rock; in some places it is very fertile, in others it rises into poor, rugged and stony hills. Opposite to these, on the eastern side of Schuylkill, we find an extensive deposit of red, or rather reddish brown, shaly sandstones, belonging to the upper secondary series, they overlay and hide from view the strip of primary rocks above mentioned. They are also protruded through in many places by hills of greenstone-trap. The soil over these shales partakes of the colour and materials of the rocks below, and is moderately fertile, while the soil covering the greenstone-trap, and immediately around it, and apparently derived from it, is so poor as not to repay the labour of cultivation, without first incurring a heavy expense in manuring and reclaiming it. Over these shales, and apparently forming the highest member of the series, a deposit of calcareous brescia is found; this is the same formation, which further westward, is called Potomac marble, and from which the pillars in the Capitol at Washington, were procured. This rock, from its heterogeneous composition, is familiarly termed *all sorts*. Adjoining this, but lying unconformably with it, is

a strip of limestone, and next succeed the primary rocks of the South mountain range, a principal ingredient in which is hornblende, in a variety of forms, from hornblende gneiss to trap. These rocks frequently rise into rugged and precipitous hills, and the country they compose is from this circumstance mostly unfit, or at least unfavourable for cultivation. I believe that the soil where tried, has generally been found poor and unproductive, although in some instances, owing no doubt to local causes, the reverse is the case. While the soil covering the adjoining strips of limestone and breccia above mentioned, is so noted for its fertility as to call forth the remarks of every passer by.

We have now passed over one division of the rocks and soils of Pennsylvania, and before entering on the next, it may be well to observe, that within it no such thing as a soil composed wholly of sand, clay, gravel, and rolled stones, brought from a great distance and dissimilar to the neighbouring rocks, exists to any great extent. Small patches may be found in the neighbourhood of streams, and of torrents from the neighbouring hills, but they are only the exception to the general rule, that the soil partakes of the nature of the underlying rock. The same remark will apply to the same range of country, if traced into the neighbouring States of New Jersey, Maryland and Virginia. Whenever we get beyond the influence of these local causes, we find the soil to partake of the colour and materials of the underlying or neighbouring rock, and changing with it. We find very fertile and very poor land lying in the same vicinity, but overlying different kinds of rock—appearances perfectly unaccountable by our author's theory, of the sameness and unity of soils.

I wish your readers, and particularly your farming readers, to bear in mind the principle I have been endeavouring to illustrate. Let them verify it by their own observations—this will require no great amount of skill or scientific knowledge, while it will yield them ample stores of amusement and information.

S. LEWIS.

Pottsville, October, 1844.

The Massachusetts Premium Farm.

IN 1843, the Massachusetts State Agricultural Society awarded a premium of \$200 to Mr. Benjamin Poore, of West Newbury, for "the best cultivated farm" within the State. We condense the following from Mr. Poore's account of his farm, as published in the *New England Farmer*.

The farm is known as the "Indian Hill Farm."

Number of acres.—Exclusive of woodland, salt marsh, &c., there are 121 $\frac{3}{4}$ acres, three of which are enclosed as a garden and nursery, and between six and seven acres planted with forest trees. There are six acres of mowing land which have not been drained, because his neighbour, through whose land the drain would have to pass, prefers to keep his meadow in *natural grass*—leaving 86 acres, which are about equally divided into upland and meadow; the latter all reclaimed in the most permanent manner, and divided into fields, numbered from 1 to 14, which is found very convenient for reference in the journal always kept on the farm.

Nature of the soil.—The highlands are gravelly loam, resting on a clay pan, and crops are seldom injured by wet or dry weather. Of the meadows, some portion is a strong clay that would make bricks—others rich, black, alluvial soil. These were of no value till drained. It was first fenced to keep off the cattle, that they might not get mired in going on it to feed on the coarse wild grass which grew there. It is now so hard that a team may be driven over it without any difficulty. About sixteen years ago, Mr. Poore employed a Scotch farmer, whose knowledge and experience in draining, proved of much advantage.

Depth of ploughing.—The precise depth is not mentioned, and we are left a little to conjecture *how deep* Mr. Poore means when he says, "we always plough deep, and are well satisfied deep ploughing never injured our lands."

Kinds of crops cultivated.—About 10 acres of Indian corn and potatoes. Corn produces 72 bushels per acre. Mr. Poore thinks rye should be sown early, say in August, or late, say in October. Two bushels of rye are sown to the acre. Corn and potatoes are cultivated entirely in drills. The arguments in favour of this mode are, that less manual labour will produce a crop. A double mould board plough is used in digging potatoes. Ploughing in autumn is preferred—the earlier the better. The long barn-yard manure is used in a green state, put in the drills where the corn and potatoes are planted. When the crops are removed in autumn, the land is thrown into ridges by the double mould board plough. Spring crops are oats and barley. Wheat was formerly sown, but latter years has not produced well. The manure is chiefly used with the corn and potatoe crop, and not much on laying the land down with small

grains and grass, as it tends to produce too rank a growth of straw. If *top dressings* are used, compost is preferred. The fields are cultivated as near as possible in rotation. Made last year 363 loads, 30 cubic feet to the load, of compost manure.

Number of acres mowed for hay.—Mr. Poore mows 86 acres, commencing early in the season, as the horses are kept up all the year, and the oxen at least three quarters of the year—therefore a portion of the grass is used for soiling. Estimating the hay on hand first of August, at 500 cubic feet to the ton, at which rate it is often sold, there was on hand 157 tons.

Flooding grass lands.—Twenty acres of Timothy meadow were flooded in the winter of 1842-3. The result was an injury to the grass. The water, it is supposed, laid on too long. The experiment will be repeated—letting the water remain on only two or three days at a time.

Oats and barley.—The Scotch two rowed barley, and the Scotch potatoe oat are preferred. Three bushels of oats, and three to three and a half of barley, are sown per acre.

Laying down meadow lands to grass.—After the hay crop is taken off the land is ploughed, laying the furrows flat, and rye and grass seed sown, with a liberal top-dressing, and then rolled. A bushel, and in some cases, a bushel and a half of grass seed—kind not mentioned—is sown per acre.

Saving and making manure.—Manure is saved in every way that it can be obtained. Compost is made from the parings of the ditches, leaves, meadow-muck, &c. In addition to the ordinary means of saving the manure of the stock, a cistern for saving the urine has been constructed, and is thus described. "It is 13 feet in diameter and 15 feet deep, constructed of stone and cement; into this run the stale from the stable, ox house, cow house, and all the liquid from the cow yard, the suds and wash from the dwelling; over are the water closets of the dwelling, two in the basement, two on the ground floor, and two in the chamber; these are connected by covered passages to the dwelling; in the second story is a place for putting down loam or any material wished for compost, which we do weekly; back of the building and under the basement, is a convenient place to throw out the compost, which we do semi-annually. There is nothing offensive in the smell, and we think too high an estimate cannot be placed upon this appendage to the farm."

Live stock.—The stock kept on the farm, are six oxen, ten cows, and from four to six

horses. The cattle are Durhams, "which," says Mr. Poore, "for *our* farm we think have no equal." The calves are shipped south and west when six months old, except such as are necessary to keep the stock good. The calves are generally put to drink as soon as dropped. Sometimes, when a very fine one is dropped out of season, it is allowed to run with the cow. Mr. Poore considers this an expensive mode of rearing calves, but says the prices he has often obtained, fully justify it.

No cheese is made of late years—the milk being sold, except what is wanted for family butter at the house.

Swine.—From six to fifteen, at different seasons, are kept. They are mainly supported by wash from the house and unsaleable vegetables. The manure of the horses and cattle in summer, is thrown into their yards, and they are kept well supplied with turf-parings, sods, young weeds, &c., which are often removed to the compost heap, and a fresh supply given in return.

Orchards, &c.—There are 347 apple trees, from which there were formerly made 75 barrels of cider. Recently the trees have been headed down. Of pear, peach, plum, apricot, and cherry-trees, there are 1,200 planted out at different times within the last ten years.

Labourers.—There are three departments. The farmer and three assistants, and two boys—the gardener and one assistant, and the machinist's department, which is composed of one blacksmith, one stone mason and wall builder, one wheel-wright and carpenter. They all keep separate accounts, and when one exchanges time it is repaid the same as if with a neighbour. Since 1826, Mr. Poore has had a Scotchman as foreman, and with the exception of one Dutchman and one Welchman, the labourers have all been Scotch, English, or Irish. Foreigners cannot do as much work in one day, as the Americans, but they do more work in one month, and infinitely more in a year. They are not afraid of wet or cold, and having been raised to labour, are content to labour. The foreman being a foreigner, can manage them better. They also prefer him, as they can work as they have been accustomed. Mr. Poore says, "having made a rule that when they were deserving, to provide better situations for them after they had become accustomed to the climate and manner of farming here, I can at any time, from the neighbourhoods of those who have faithfully served me, supply myself, at sixty days notice, with any number of farmers or mechanics, at the old country wages, which do not exceed upon

the average £12 per annum, for farm servants, or £20 per annum, for mechanics. In addition, board, washing, and lodging, if single—and use of cottage and garden, and one quart of milk per day, and board themselves, if married. I wish no better men than I obtain at these prices.”

Barns.—The main barn is 120 feet long and 42 wide. In the basement or cellar—though mostly above ground—are horse stables, ox-house, threshing mill, cider press, hay press, and vegetable cellars, which are filled by rising hatches in the floor above. There are also two wings, 80 feet each, one of which is a cow house and a wood house in the basement or cellar—the other a pig-gery, and over it a carriage house, workshop, hen-house, &c. The barn is devoted to hay and straw, and all the cattle are fed, by putting hay down in the racks. The cattle are tied by chains. The floor of the cow house, ox house and stables, is of paved stone, and gutters cut from stone, lead to the cistern. The entire barn, stables, cistern, &c., were erected at an expense of \$2,000. The basement is constructed entirely of stone. Split stone is used for door posts, supports in cellar, &c. The roofs are covered with tin, which Mr. Poore says costs in the first instance, one-third more than good shingles; but it has been on eleven years, and shows no signs of rust or decay.

The cow-yard, or barn-yard, is filled with mud, earth, leaves, &c., in the fall, which are put into heaps in spring, when the yard is again filled—the droppings of the cows and manure from the stables in summer, is daily put in with the hogs under cover, and removed to the compost heap every convenient opportunity, when properly worked.—*Cultivator.*

A Dog Show.

FROM the “Philosophy of London Life,” contributed to Bently’s Miscellany, we copy the following account of a singular exhibition: “A friend of ours is a dog fancier, and we accompanied him to—of all things in the world—a dog show. We have heard of agricultural shows, horticultural shows, tulip shows, dahlia shows, and fifty other shows, but we never dreamt of a dog show. However, there it was on a printed paper, pulled by our friend out of his waistcoat pocket, in black and white, with a long list of presidents, vice-presidents, secretaries, treasurer, committee men, judges, conditions, prizes, &c. On entering the show room, whose proximity was audibly made known to us by the reiterated barking of the competitors,

and the howling which followed the application of the whips of their owners, we could hardly avoid laughing, not less at the assembled bipeds who filled the room to a crowd, than at their quadrupedal friends upon the table. One old gentleman, with a white waistcoat and black silk smalls, relieved by a huge bunch of gold seals depending from the most prominent part of his person, held a pug under each arm, whilst he criticised the points of a remarkably beautiful little terrier then upon the table. A tall thin, sickly-looking man, who, as I was informed, was a peer of the realm, was busily engaged in discussing the comparative beauties of a black and tan, and a red and white spaniel of the King Charles’ breed, who to do them no less than justice, appeared to enter completely into the spirit of the thing, and growled, and barked, and flashed fire at each other from their large, round, antelope eyes, with all the apparent jealousy of two contending beauties at an assize ball. Running about our feet were all sorts and sizes of the canine race; blood-hounds, Irish grey-hounds, terriers, wiry and short-haired, silky-legged spaniels, but not a cur of low degree; all had their pedigrees, and well attested certificates approved their honourable birth.

Notwithstanding the ludicrous nature—to us, at least—of the exhibition, not a muscle, either of the dogs or their generous protectors, was discomposed! all was conducted in a business-like English manner, with true John Bullish gravity and decorum; nor, when a very fat man, with a red carbuncled nose, discovering a quart pot, which he had hitherto concealed with a silk handkerchief, placed on the table, with a little stunted dog peering out, was there a single countenance in the room irresistibly disposed to laughter, save our own. The little stunted dog himself, to all appearance a puppy of three weeks old, but who was, in fact, arrived at the respectable age of two years, having recovered his liberty, scrambled over the edge of the quart pot, and with great gravity waddled round the table, paying his respects as he went to other little stunted dogs, who, however, not being quite so stunted as himself, appeared to regard him with no great cordiality.—*Temperance Advocate.*

SORE BACKS OR GALLS ON HORSES.—Rub white lead in sweet oil until a good paint is made, and apply a coating of this to the injured place. Milk will do where no oil is to be had. It is one of the most effective applications. Some for the same difficulty use a solution of vitriol in water; but in most cases, the white lead is preferred.

Landlord and Tenant.

THE holdings of many of the Scotch farmers are very large; and their farms are generally held under leases of nineteen and twenty-one years.

I shall perhaps excite some surprise in stating my belief, that the manner in which farms are held here on hire for a year, or on lease for a term of years, rather than being owned by the occupants, is itself a powerful instrument or incentive to agricultural improvement. In the United States, where farms are owned by the occupant, the farmer seldom keeps any account, and it matters not much to him what is the result of the year's management. The effect of this is to render a man negligent and indifferent to success or loss. But when at the end of every six months, the rent must be paid, it is not a matter of indifference whether his farming turns out well or ill; for not only the labour employed is to be paid for, but the rent of the farm must be punctually discharged. This consequently compels him to make every exertion by which he may be assisted to meet his obligations, he finds no room for idleness or neglect; and the continuance of his possession depends upon his good management and the punctual payment of the rent. This prompts to watchfulness, skill, experiment, and improvement; and especially it gives to farming a commercial or mercantile character, and obliges the farmer to keep accounts, and so to learn the exact pecuniary result of his operations—a matter in which the farmers of the United States, as far as my observation goes, who are the owners of the farms which they occupy, are almost universally deficient. The strict responsibility to which the farmers are here held by their landlords, is undoubtedly a material element in their success. At the same time, where the occupation is from year to year, and leases are refused on the part of the landlords, as is generally the case in England—though in Scotland leases are almost universal—the effect must be to prevent or discourage substantial improvements, as few persons will be inclined to make such improvements with an uncertainty of continuance. It is a fact, however, which may create some surprise, that many farmers are unwilling to take leases when landlords would be willing to grant them. But this happens only when there is a perfect confidence on both sides; the tenant has entire reliance upon the honour and liberality of the landlord, and the landlord is equally confident of the good conduct and management of his tenant. An excellent landlord in Lincolnshire, says he considers

himself bound to continue his old tenants and their children in possession, in preference to any other tenant, as long as they choose to remain, unless some extraordinary contingency presents itself; and virtually admits on their part a property in the soil. The great length of time during which families on his estates have held their possessions from father to son, shows that he acts upon the most liberal principles; and the condition of his tenants and their great improvements, evince that his honourable conduct secures their entire confidence. It cannot be doubted, however, that the uncertainty of continuance, the absolute power of discharge on the part of the landlord, the risk of his caprice, and the possibility of a new one coming in possession, must have some effect in preventing or discouraging improvements.—*Colman's Tour.*

Hints to Young Men.

“Who aims at excellence will be above mediocrity; who aims at mediocrity will fall short of it.”

Be industrious. We do not mean here the industry of the hands alone; but that perseverance in whatever we undertake, that is the secure precursor of ultimate success. Never allow the mind or the body to stagnate; activity is necessary to the health of both. Always have some worthy end in view, in whatever you undertake; remembering that to fail with good intentions, is more honourable than success in an evil cause.

Cultivate your mind. It is of more importance to the young, that their reading should be select, rather than extensive. One volume well understood, on any important topic, is better than half a dozen merely skimmed. There are many subjects of general utility, with which every man should have a partial knowledge at least; but it is one of the great faults of modern education to spend too much time on studies that rather burden and clog the mind, than strengthen and inform it for life's practical duties. Reading, or studying without some definite aim, is likely to lead to few useful results. How many men there are who have spent a large part of their lives over books, of whom it may be said, “they remember a mass of things, but nothing distinctly.” It is possible to cram the mind with masses of indigestible materials, destructive alike to a healthy and a vigorous action of the intellectual powers. Such is not the cultivation of the mind required by a young American farmer.

Be economical. No matter if your pa-

rents are worth millions, it is not the less proper that you should understand the value of money, and the honest, honourable means of acquiring it. What multitudes of young men, particularly in our cities, make fatal shipwreck of reputation, health, and eventually of property, by a neglect of this simple maxim. They are aware that their fathers obtained their wealth by habits of industry, but they are ashamed of the very name. They forget that wealth in this country passes rapidly from one to another, and that he who is rich to-day may be poor to-morrow; or that he who relies on wealth amassed by his father, may end his days in a poor-house. It is for the young here to say whether by industry and economy he will secure competence and respectability, or by extravagance and idleness become a worthless beggar and sponging outcast.

Shun avarice. One of the most disagreeable characters on earth, is that of the grasping, avaricious, penurious man. Generosity is perfectly compatible with economy; and the means which enable some of our most noble hearted, generous men, to do so much to benefit and bless mankind, are obtained, not by closefisted penuriousness, but by economy. The distance is not greater between the zenith and the nadir, than between the covetous and economical man: the first banishes every just and honourable feeling from the heart, the other fosters and ministers to them all.

Determine to be useful. No matter what may be your condition in life, you have an influence, and that influence should always be exerted in a proper way. The young have no right to fold up their arms, bury their talent, and become the drones of the social hive. Aim high, but with prudence; act with determination and perseverance; let no obstacle drive you from the path of honour and duty, and you may be sure of eventual success. Riches are not within the reach of all: competence is; and the latter condition is preferable in every respect to the first. Remember the Deity helps those who help themselves, and that utility is the great end of human exertion.

Boston Cultivator.

For the Farmers' Cabinet.

Drilling Wheat.

TO THE EDITOR,—I am aware that the period for putting in wheat is for this season gone by, and with it, apparently, the proper time for a discussion of its manner: but let it be remembered, that general principles

may at any time be inculcated, and the observant man will not suffer the subject to pass so transiently over his mind, as to leave no impression to be recalled when the moment for action may have arrived. I was particularly interested in the statements of Dr. Noble in the last Cabinet, respecting his experiments in drilling wheat. If by this process the crop may be increased 27 per cent., it appears to me it would be well to inquire, if it does not behove us to leave the old track and adopt another.

My main object in asking a nook in the Cabinet at present, was to refer to a paragraph or two in Colman's second Report, on European Agriculture, now lately published, part of which has reference to the putting in of wheat by the drill. In passing, suffer me to express an opinion that one cannot read these Reports, so far as they have been given to the public, without feeling sensible of their great value and practical importance, and I trust many readers of the Cabinet will possess themselves of them. He gives several statements drawn from Parliamentary reports, of persons who, from three or four, or five acres of land, for which too they pay a rent of £4 or £5 per acre, manage to support their families of five or six persons, comfortably, and lay by a little for a rainy day.

The example of J. Piper, of Sussex, "shows the extraordinary results of minute and exact cultivation, and the value of economy in husbanding with extreme care, all the resources for manure." From four acres in 1842, he obtained produce valued at more than £61, or say \$300. To wit:

42 bush. of wheat, at 7s. 6d. per bush.	£15 15s 0d
250 do. potatoes, at 15d. per bush.	15 12 6
Food for 2 cows, which gave each 4 lbs. butter per week, at 1s. per lb.	20 0 0
Food for 3 pigs, at 20 stone each, and at 3s 6d per stone,	10 10 0
	£61 17s 6d

One of the peculiarities in this man's management is, that he works one of his cows in his cart, and estimates that her labour saves him an expense of £5 a year. "She is milked in the morning before she is put to work, and although worked, she makes eight lbs. of butter a week, besides furnishing some milk for the family." And why, pray, should she not be worked? As our author justly observes, "it would not be easy to find a reason why the female of one class of animals should be exempted from labour rather than another."

A second person, J. Dumbrell, from three acres and a quarter, in 1841, gathered,

Wheat, 21½ bushels, at 8s per bushel,	£8	12s	0d
Oats, 44 bushels, at 2s 9d per do.	6	1	0
Potatoes, 80 bushels, at 1s per do.	4	0	0
Two calves, sold for	5	10	0
Butter, 42¾ lbs. at 1s per lb.	21	3	3
Milk sold and given to the pigs,	10	0	0
	£55	6s	3d

Or about \$265: on this he maintained his family of five persons. His stock consisted of two cows and a heifer, and from two to three pigs. "If," says he, "you are surprised at my keeping two cows on this quantity of land, I must tell you that one crop a year will not do it: but my plan is to take second crops; that is, rye is the first thing I cut green in the spring; then I dig the land and manure it with the liquid manure, as far as it will go; then finish with rotten dung, and plant mangel-wurzel and turnips; and the part that I manure with the *liquid* is always the *best*. The next thing I cut is winter barley and turnips, and plant some cabbages for winter: by this time I cut the grass and clover, which grows again in a short time, with a little of the liquid manure as soon as it is cut. Last summer I cut the Italian rye-grass and clover three times; and this year I have nearly cut it twice already, and there were really two good crops of the Italian rye-grass, and I think there will be two more this summer, with a little manuring. My early cabbages I always let stand to grow again all the summer, and they bring a great deal of food. I plant again in November, and put the liquid manure to them as far as it will go; but to the rest I use dung or ashes, which are not so good as the liquid, which any body may tell in the spring by looking at the bed of cabbages; so I hope it now appears how the cows are maintained in winter as well as in summer. During last winter, I had no hay, only turnips, mangel-wurzel, and straw, and they did very well."

We may all do well to remember, that the utmost productiveness "of an acre of land in any crop, has not yet been fully determined. The amounts attained frequently surprise us," but where is the farmer who can say, my land will yield no more!

H. Colman says, that his attention was strongly attracted in Sussex, by two small pieces of wheat in a garden by the road side, exhibiting an extraordinary luxuriance, and on inquiring minutely into the mode of culture, yield, &c., he found that "the seed was brought from Australia, being the product of some wheat which had been sent there two or three years before. The quantity of land sown, in one of the pieces, was thirty-four square yards. The wheat was dropped in rows nine inches apart, and in

holes six inches apart, and only one grain in a place. The number of corns planted was 682, out of which 33 failed to germinate. The cultivator obtained four gallons of good wheat from the land, exclusive of several of the finest plants, which he saved. The usual number of stems from each seed was 18 to 20; a considerable number gave 30 to 35, and one was counted which had 40 full sized stems, and three of a smaller size. The straw from the 34 yards weighed 72 pounds, which would be 284 trusses of 36 pounds to the acre. The weight of the 682 corns planted was 17 drachms. This being multiplied by 142, the land being the 1-142d part of an acre, gave about 9¼ pounds as seed for the acre; consequently one bushel of wheat, at 63 pounds per bushel, would plant more than six acres. The produce of 4 gallons, multiplied, as above, by 142, gives the great quantity of 71 bushels, or 17 sacks 3 bushels, to the acre. The ground had borne potatoes the previous year, and had received no top-dressing, nor been in any way manured for the wheat."

"These," it may well be said, "are remarkable facts. What has been done can be done again." "Onward is the watchword of the present day, in every department of science and art; why should agriculture form an exception?" But I must close my rambling. The cases given, will, I think, not only create a desire to read the excellent work which furnishes them, but go a great way toward showing the superior excellency of the *spade* and *drill* husbandry.

P. R.

Extracts from the Address of Samuel D. Ingham,

Delivered at the Stated meeting of the Bucks County Agricultural Society, at Newtown, the 24th of Tenth month last.

AGRICULTURAL industry lies at the foundation, and is in fact, the main instrument by which the whole structure of civilized society is erected.

In this pursuit, so essential to human existence, a great variety of auxiliary arts are necessarily sought out, which lead on from one invention to another, until the three great pillars of the social fabric—agriculture, manufactures and commerce—are indissolubly united together in one common bond of interest.

Hence it is, that our theme presents such a formidable array of matter, so difficult to comprehend and so impossible to condense into any reasonable compass for an Address. By your permission I will take the occasion

to suggest what appears to be a desirable plan for collecting information. It is in this as in every department of human occupation, power is vastly increased by a division of labour. Every person engaged in farming for a few years only, must have ascertained many facts worthy of being promulgated, and where each member of a numerous Society may bring the experience and observation of his whole life into the common stock, the collection will be more valuable than a thousand general addresses, gliding, as they necessarily must, over the surface.

The essential business of such a Society, is for each member to impart and receive information—and if each would voluntarily or in conformity with some regulation to that effect,—communicate such facts and observations as may have attracted his notice as worthy of attention; the mass of valuable instruction thus obtained, would not only be highly beneficial to us individually, but excite a deep interest in our labours wherever they were known. In an association of farmers, there is of course a variety of knowledge; few topics can be suggested appertaining to agriculture, in which more or less information is not possessed by some of them, and nothing is wanting but the disposition of each individual to impart freely whatever he may deem useful; and to appreciate fairly the contributions of others. There are also other sources from which valuable essays may be prepared. A variety of books have been written on agriculture, which, including the popular periodicals of the present day, contain extensive collections of useful matter; many of these works have no doubt come under your notice; the experience of a practical farmer will enable him to separate the chaff from the wheat, and he may render as valuable a service to the Society by pointing out the errors, as by establishing and circulating the truths contained in such works. I would therefore, like to see an Address at least once a year, if not oftener, from some member specially appointed, for which he might select the general subject or some particular branch of it, and also a communication from each member, on any topic he might deem most useful or feel best able to throw light upon. The field which may be thus cultivated is virtually of unlimited extent. It includes the whole theory and practice of husbandry, and all the auxiliary arts, not only the preparation of the earth for the various crops—the manufacture and composition of manures—the adaptation of the crops to their appropriate soils—the proper season for planting—the introduction of new varieties of seeds—their acclimation in differ-

ent latitudes—the implements for tilling the earth, harvesting its productions, and their preparation for provender—feeding and fattening animals—the selection of the best breeds of horses, cattle, sheep, swine and poultry—the management of the dairy, and all matters immediately belonging to the farmer's cares and duties. But there is a great variety of incidental subjects, which are scarcely less important; among these are the diseases and treatment of domestic animals—the nature and habits of all the vermin and insects which infest either animal or vegetable life. Those of the birds and reptiles which prey upon these noxious insects and aid us in their destruction; the character of all the plants of the earth, suited for the use of man or beast, and also of those which are noxious. In short, we want to know the best means of increasing, improving and protecting all the productions of nature, best suited to supply the wants and promote the comfort and happiness of man. There is no limit to such investigations, and our progress will be very slow, unless each one of us will come forward and contribute from his store of experience to the common stock. In pressing this subject on your attention, I am aware of the only real obstacle to its favourable consideration. There are many good farmers who are little accustomed to putting their thoughts on paper, for the public eye. As it will be a serious loss to be deprived of all the experiments of such persons, let us endeavour to remove this obstacle. The object we are in pursuit of is information. The dress or style in which it may be communicated is of no importance; many wise men and profound thinkers have been obliged to employ their amanuenses to put their ideas in form; and on the other hand there are not a few very correct writers, who seldom compose from their own thoughts. It is no disparagement to the understanding of any person that he cannot write well; none should therefore be deterred from contributing whatever he considers useful, on account of his unpractised pen.

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It is worthy of experiment to ascertain from what climate and soil we might most advantageously procure seed wheat for the best change, also other grains. So much has been accomplished in the vegetable and animal kingdoms, by breeding from the best, that it would be well worth our attention to select every year a number of the best and ripest heads of wheat, most free from rust, and continue the propagation from these and the like, for the supply of our entire seed. Most of you have heard of the remarkable

success of Mr. Baden, in Maryland, who commenced his improvement in corn, by planting only from the stalks which bore two or more ears: he states that he scarcely perceived any difference for the first four or five years; but afterwards it increased rapidly, until his corn averaged throughout more than two ears to the stalk, some bearing many more. I saw two stalks from his farm, at the Patent Office in Washington, in 1837, one of which had seven, the other ten ears; they were not large, but well filled. I bought some seed, but it was acclimated too far South for this latitude; there were two or more ears on most of the stalks, but they did not ripen well. The valuable labours of Mr. Baden were lost to Pennsylvania, but his corn is extensively cultivated in the West. How easy would it be for every farmer to follow his example? Potatoes may be improved by the same means. The largest potatoes have attained their growth quickest, and should be used for seed; we might thus obtain not only a larger but an earlier potatoe; instead of suffering the degeneracy, which must follow from using the smallest, latest, and most imperfect roots for seed.

After the conclusion of the Address, the following Resolutions, as we learn from the *Newtown Journal*, was offered, and unanimously adopted.

That the members of this Society will for their mutual benefit, strive to avail themselves as far as practicable, of the advantage of each others experience in relation to all matters appertaining to the business of farming, by presenting from time to time, statements in detail of their individual practice and its results—embracing the time and depth of ploughing, carefully noting the quality and condition of the soil. The effects of lime in comparison with the quantities used, the time and manner of its application, and all other conditions which may have combined to produce any particular result—the preservation, preparation, and application of barn-yard manure. The effects of poudrette, guano, ashes, bone-dust, &c., relative advantage of different systems of rotation in cropping. The management of orchards, and the cultivation of all kinds of fruit. The arrangement of buildings, with an eye to economy and convenience. Loss or gain in dividing the farm into small enclosures, for the purpose of grazing in comparison with soiling or confining the stock to one lot. Plans of preserving fences and the relative expense and value of different kinds of fencing. The comparative importance of different agricultural implements. The productiveness of different kinds of

grain, grass, fruits, roots, and stock—management and improvement of stock, selections of seeds and management of crops. Including in short, every observation and experiment which may promise to introduce any improvement in the management of any branch of agricultural industry and economy.

Application of Steam to Agriculture.

THERE is, indeed, one giant power, of comparatively modern invention, which, it is thought, has not been as successfully or extensively applied in agriculture, as in some other departments of the arts. Every one knows, at once, that I refer to the power of steam, which seems, wherever introduced, to defy all competition; and every day's experience appears to demonstrate that its extent is yet hardly conceived, and its application only begun. The experiments, which have been made in the application of steam power to the movement of ploughs, have not, as far as I can learn, been attended with success. It will not be safe to assert that this cannot be done to advantage; but certainly that is not the only application of steam to the purposes of agriculture, which is to be looked for. Indeed, besides the impossibility of an art, so intimately associated as agriculture is with almost all the practical arts of life, escaping its share of the general advantages which the community is enjoying from this mighty agent, it has already received many direct contributions from it. In the Lothians of Scotland, those beautifully cultivated grain districts, which, when seen in the season of their glory, with their green and their golden crops, so rich and delightful as to make the heart of an enthusiastic agriculturist beat as though he himself had a steam engine under his waistcoat, a steam engine is to be found on every principal farm, for threshing out all the grain, and for other economical purposes, to which, on a great farm, these engines are capable of being applied. The average size of these engines for threshing, is from a six to an eight horse power, and the cost, which was formerly more than £120, or \$600, is now greatly reduced.

The advantage of steam, as a motive power, must be obvious. It is always available, at all seasons, and without reference to the weather. Its movements are uniform; whereas horse power is, to a degree, capricious and unsteady, and horses often suffer a great deal, both from too constant and long continued pulls, and likewise from frequent stops and starts. The steam power never tires, and its operation may be con-

tinued to any length of time or quantity. These are all great advantages, especially when a farmer, from any sudden advance, wishes to bring his grain at once into the market. It is obvious, at the same time, what advantages he has in having his horses saved from the severe work of threshing, and fresh for other farm work. The saving of a pair of horses, on a farm, is estimated at £100 per year,—very much more, indeed, than it would be with us; and intelligent farmers assert “that, with steam power, they save one-fourth of the horse power on large farms.”

The usual quantity of grain threshed by a six-horse steam power, is at the rate of from 30 to 40 bushels per hour; though the quantity must vary with the condition of the grain and the straw. The average work of a threshing mill, driven by horse power, is 150 bushels per day, and by steam power may be reckoned at 250 bushels per day, which is certainly a great preponderance in favour of the steam power. The wear and deterioration of the horses, and the expenses of keeping them, are most important considerations to a farmer. Indeed, so far as my observation goes, there is no single source of expense, none which abstracts so much from the profits of farming, and none of which the farmers in general are so little aware, as that of horse teams.

In the great experiment, or rather improvement, going on at Hatfield Chase, in Yorkshire, of emptying the deserted bed of a river, and spreading this rich alluvion over a peat bog, the earth carts are moved on a temporary railway by a steam engine, and carried to their place of deposit, so that, as I have before remarked, five acres can be covered in a day, eight inches deep; and that which it would be perfectly in vain for any inferior power to have attempted, is accomplished with perfect ease by this willing but mighty agent. The fens in Lincolnshire, where the uncertain and capricious power of the wind was formerly depended on, and, of course, with little confidence and uncertain results, are now relieved, at pleasure, of their surplus water, by two steam engines, one of 60 and one of 80 horse power; and the quantity of water removed, the time required, and the expense incurred for doing it, are all matters of exact calculation. The workmanship of these engines—for I have had the pleasure of visiting the spot—is extremely beautiful; and the advantages of the whole arrangement can hardly be overstated. I can easily believe that the same machinery, on a small scale, may be applied in many other similar cases; and a very intelligent and spirited farmer con-

sulted me on the subject of his determination to erect a small steam engine, at his own expense, for the purpose of draining a part of his own premises. At the show at Derby, there was exhibited a movable steam engine, intended to be carried to a farmer's premises, as it might be wanted, for furnishing a threshing power, and other purposes. I have not yet learnt how it succeeds; but if success is not attained at a first attempt, it is ultimately certain. These machines are made of two, four, and six-horse power. The cost of the two-horse power is £80, or \$400, and a three-horse power, £110. This does not include the threshing machine. A fixed steam power must have many advantages over a movable steam machine. It is never safe to calculate upon doing a great many things with any single machine. A self-directing machine would be a great discovery; but, short of man himself, we can hardly look for that, though it seems sometimes to be nearly approached. A great difficulty, in many cases, is, that the machinery must be trusted to the hands of the stupid, careless, and sometimes malignant.—*Colman's Agricultural Tour.*

Extracts from an Address

Delivered before the Housatonic Agricultural Society, Mass., on the 26th of Ninth month last, by Caleb N. Bement, editor of the New York Farmer.

To be successful in farming, the mind should be devoted to the business. That man who is above his business is in danger of soon finding that he has got below it. The farmer who devotes his mind and his energies to his farm, till it is so far improved that it elevates him above the necessity of constant labour, is the most independent and enviable character in our country; free from the responsibility of office and the toils and cares of a profession, he eats the fruits he has reared with more zest than can be realised by any other class. A good farm, covered with flocks and herds, and fruits, is a truly enviable possession, and like Selkirk, the farmer is often “Monarch of what he surveys.”

The well cultivated field is the field of the farmer's glory; his highest ambition to improve it; if he has doubled the produce of his farm, he feels that he has achieved a nobler victory than if he had conquered armies or subdued empires.

Some experience and much observation have convinced me, that one of the most common errors in which our farmers have fallen, is in neglecting their young stock. Many farmers are in the practice of turning

off their young stock on the poorest food. This is not right; for if ever animals require the best of food and plenty of it, it is when they are young and growing. They will not grow into good shape or size if half starved or stinted of their food. I have heard some farmers boast of the small quantity of food on which they have carried their stock through the winter. Our pride would be to see how well we could carry them through the winter. "An animal well wintered is half summered." One good cow full fed, is worth more than three half starved ones; I am aware that high feeding of milk cows on grain, is not generally believed to be profitable, but I am satisfied that by feeding them on roots in the winter, the cows would give milk nearly the whole year, and their calves would be much more valuable.

If cows are ever allowed to fall very low during winter, in vain shall we hope to obtain an abundant supply of milk by bringing them into high condition in the summer; for if a cow be lean at the time of calving, no management afterwards will ever bring her to yield for that season, any thing like the quantity of milk that she would have done, had she been all the winter in a high condition.

The immense importance of providing for cows a full supply of rich and succulent food, and such as they relish, to the extent of their appetite, has been demonstrated by many examples of very large products of milk, butter and cheese, from cows so supplied. The following statement from an English publication, is a further illustration of the fact. "A farmer some years since, kept *eighteen* cows upon a *common*, and was often obliged to buy butter for his family. The common was *enclosed*,—which deprived the farmer of his pasture—and the same person supplied his family amply with milk and butter from *four* cows well kept."

Draining, Irrigation and Warping.

MUCH of what has been done is entirely out of sight; whole fields, thousands and thousands of acres of land, have been underdrained by pipes and channels, spreading themselves like beautiful net-work under the surface, taking off all the surplus moisture, and converting cold, unfruitful, and unsightly morasses into productive and beautiful fields. It would be curious, if it were possible, to approximate the amount of this work which has been done; but there are no means even of framing a reasonable conjecture. It undoubtedly embraces hundreds of thousands of acres, and much more is in

progress, since, important and indispensable as moisture is to vegetation, nothing can be more prejudicial than a superabundance of water, and especially stagnant water. Of the different modes of draining I shall speak hereafter at large. It is a subject of great importance and utility, and requires to be treated in the fullest and most exact manner. The next great improvement that I have witnessed in England, is in the fen-country of Lincolnshire and Cambridgeshire, where vast territories, embracing many thousands of acres, have been, it may almost be said, created, that is, redeemed from the sea, fortified by strong and extensive embankments, and now rendered as fertile and productive as any lands which can be found upon the island. These lands, likewise, are kept drained by immense steam engines, which move with an untiring power, and accomplish this mighty work with ease. In other cases, in Lincolnshire, another process is going on, here denominated *warping*, by which, on the banks of the Humber, immense tracts are enclosed, the tide shut in, and compelled to leave its rich deposit, thus forming, likewise, the richest meadows. Still another process is in progress, by which the crooked course of a river is straightened, its channel deepened by its own new current, and rendered navigable, and, by the erection of artificial banks, the soil within them continually raised, and hundreds of acres, where so recently the fish, at high water, sported with impunity, are rescued from the sea, and covered with thriving flocks of cattle and sheep. In Yorkshire, not only are various processes of redeeming and improving land going on, but the curious process of removing, by the aid of steam machinery, the rich deposit from the bed of a river, whose current has been diverted from its natural course; and this deposit, after being taken out, is laid, at not an inordinate expense, on a peat bog hitherto unproductive and worthless. By judicious management, it is spread on the land to the depth of eight inches, and the covering proceeds at the rate of five acres per day. In Nottinghamshire, a most splendid improvement has been effected in turning the course of a small river, so as at pleasure to irrigate several hundred acres of land, which were formerly poor and comparatively unproductive, but now yield the most abundant crops; and in Staffordshire, the same results have been reached, not by a river, but by collecting the springs, and forming a grand reservoir, from which the water is carried over extensive fields, which are thus irrigated at pleasure.—*Colman's Agricultural Tour.*

Extracts from J. S. Skinner's Address,

Delivered before the Agricultural Society of New Castle Co., Del., at the annual meeting, held Sept. 11th, 1844.

THE journals especially dedicated to the subject, have so thoroughly aroused the public mind, that it were worse than idle to dwell on the dignity or usefulness of a pursuit, which yields to civilized nations their chief means of subsistence. The estimation of its importance everywhere rises with the progress of intellectual and social improvement. So may it rise higher and yet higher! For, talk as we may of advances in other departments of art and industry—of rail-roads over mountain and valley—of steam to traverse the “deep waters of the dark blue sea”—of telegraphic correspondence as quick as thought itself—what would be the practical value of all these, were it not for the strong arm and skill of the husbandman, to bring forth the resources which lie dormant in the bosom of the earth, or appear upon its surface, inviting the meliorating influence of his ingenuity and diligence? In lieu then of asserting the self-evident claim of agriculturists to precedence in the scale of social and political influence, rather let the inquiry be, why they have been content, as well in the States as in the General Government, to leave the great business of legislation, on the wisdom of which the morals and the happiness of States so much depend, almost exclusively in the hands of different, if not antagonist classes?

If “the husbandman that laboreth shall be the first partaker of the fruit,” should not his class, which constitutes the main strength of the nation, assert its right to a proportionate share in the direction of the Government? On this subject we may aptly remember the account of the great historian of antiquity, who relates how the Ionians were once visited with new calamities from Miletus and from Naxos. Of all the islands Naxos was the happiest, but Miletus was at that time in the height of its prosperity. In the two preceding ages it had been considerably weakened by internal factions, but its tranquillity was finally restored by the interposition of Parians, whom the Milesians had preferred on this occasion to all others, and who, being called on for their good offices, applied the following remedy: They sent as ambassadors men of the highest distinction, who, perceiving on their arrival at Miletus, that the whole State was involved in extreme confusion, desired permission to examine the internal condition of their territories; and whenever, in their progress

through this desolate country, they observed a farm well cultivated, they wrote down the name of the owner. In the whole district, however, they found but few estates so managed. Returning to Miletus, they called an assembly of the people, and placed the direction of affairs in the hands of those who had best cultivated their lands, for they concluded that they would be most watchful of the public interest who had taken the best care of their own. They enjoined all the Milesians who had before been turbulent and factions to obey these successful farmers, and the general tranquillity was speedily restored.

These, my friends, were in all probability educated men, who, disgusted with the corruption of trading politicians and the sway of impious men, had withdrawn from public affairs to find quiet, if not consolation on their own well managed farms. But look at our legislative assemblies, and all our public trusts, and mark in what small proportion those who fill them are usually taken from the ranks of practical husbandmen, and this is more especially the case where education is the least diffused. Is it not time then to look at the effects on the landed interest, of neglecting the mental culture of those who are designed for the cultivation of the soil? Understand me not as meaning to derogate from the character of other classes. On the contrary, there seems to be something in the moral training of learned professions, which at once enlightens and liberalizes the mind and the heart. It is indeed the natural influence of knowledge to extinguish all the meaner passions of the soul, and to animate it with noble purposes, just as thorough draining and good tillage sweeten wet and sour land; and thus it is, that among the most enlightened citizens of all classes, liberty has, in all her struggles, found her most ardent, though too often ill-fated defenders. I would even invite you, farmers of Delaware, to unite with me in denouncing that overweening jealousy, the growth of narrow and vulgar minds, which too often leads the tiller of the soil to look on the manufacturing and mercantile classes as on hostile sects, ever on the watch to overreach and betray the farmer. Far different are the ends and offices of domestic manufactures and commerce, in respect of the landed interest, when all their relations are fairly appreciated. It is the interest of the farmer that these other communities should become in his vicinity as numerous as the sands on the sea-shore. Dense populations naturally lead to the division of labour, and thereby, under the protection of wise and stable legislation, to the multipli-

cation of trade, the perfection of the arts, the creation of wealth, and with it, innumerable artificial wants, which it is the business and the benefit of your pursuit to supply. "To fix the happiness and virtue of a nation on a solid foundation," says a celebrated philosopher, "they must rest on a reciprocal dependence between all the orders of citizens." While then every farmer should himself take especial care that as far as it may be practicable, he is not encumbered with a single idle mouth—of man, woman, or child, bird or beast—with not one consuming non-producer on his own estate—while, as with some economical people, even every cow should be kept at the yoke or the pail, let him rejoice that the consumers beyond his estate should prosper beyond measure in variety of employments, in numbers and in wealth. Yet there are moral incendiaries, from which no country is exempt, whose business it is to inflame one class against another—the farmer against the merchant, the artizan against the man of science, the poor against the rich; not stopping or caring to reflect, that when, by the base arts of the demagogue, the honest avails of diligence and talents shall have been put in continual jeopardy, the mainspring of all social melioration will have been broken, and society turned back on that dreadful march, which leads again to all the crime and anarchy which invariably follow in the train of unrestrained ignorance and selfishness. But, essential to the common prosperity of a people as are the existence and the success of the numerous classes to which the industry, the wealth, and the wants of dense populations give rise, it does not follow that any one of the classes, and especially the most numerous and productive, as is the agricultural in our country, should surrender to lawyers and men of other professions, its own right and obligation to take their full share in the enactment and execution of the laws. Far be it from me to encourage among farmers a grævellung thirst for office, either to gratify a vain ambition for a little brief authority, or as the precarious means of livelihood, so little to be coveted in comparison with the humblest subsistence acquired by the independent exercise of individual abilities; but what I do mean to insist on is, that until we have "angels in the shape of men to govern us," farmers should never rest satisfied, until they shall have established a system of education which shall qualify their sons to prosecute their particular avocation with a knowledge of the *principles* that essentially belong to it; and that shall at the same time endow them with capacity to perform that most import-

ant of all duties, the making of their own laws. Let it not be said or supposed, that this subject has no connexion with practical agriculture, and that no real evil has resulted from this ignoble surrender to other classes of all the business of government; for it never yet happened, where classes or individuals habitually resigned to the hands of agents the entire management of their own concerns, that the principal did not suffer sooner or later. That it should be so is in fact but the merited reward of indolence and overweening credulity.

Take care then, I repeat, that if you would have your children taught to *think* and to act for themselves, or by the agency of those whose interests are in all respects identical with their own, that you have them instructed in the sciences kindred to agriculture and necessary to its success, and to the pursuit of it as a delightful exercise of the mind as well as of the body; and my life for it, if these studies in early life do not of themselves qualify them for the various public trusts in the performance of which their property and liberties are involved, the very pursuit of them will generate a fondness for books and for intellectual discovery and enjoyment, that will speedily distinguish and raise them in the public esteem to an intellectual level with the most favoured classes, and cause them to be sought for and delegated, like the good farmers of Miletus, referred to by Herodotus, to the highest public trusts in times of great emergency. Besides, my friends, I need not tell you, that the very love of books on natural history and the physical sciences, connected with agriculture, which is sure to follow the early use of them, is in itself one of the most invaluable and honourable of all possessions—the cheapest and the most accessible—one which may be enjoyed in sickness and in health—in a prison as in a palace. Thus was it truly said by a celebrated statesman and scholar, every advance into knowledge opens a new scene of delight, and the joy that we feel in the actual possession of one, will be heightened by that which we expect to find in another, so that, before we can exhaust this fund of successive pleasures, death will come to end our pleasures and our pains at once.

Let those who doubt the comparative neglect of the landed interest, which may be said to result in a great measure from yielding up the government to those whose welfare is less intimately blended with agriculture, contemplate for a moment the spirit and tendency of our laws, as a *code*, since the formation of the Government, and observe how studiously, and by millions or

millions, they create and provide for other institutions, and how few have been enacted with express reference to the claims of the plough, either by means of establishments to diffuse agricultural science, or by the construction of public works and facilities to enhance the quantity and value of its products. True, after appropriating many hundred millions for the support of particular establishments, Congress, whose constituents are agriculturists in the proportion of more than three to one, has at last set aside for the collection of agricultural statistics, the prodigious amount of \$1000! Even the magnificent bequest of a noble minded foreigner is locked up or wasted, instead of being put in trust with those who would fulfil his dying wish, to benefit *our* country by the "diffusion of useful knowledge among men." Can such laws and proceedings be regarded as the embodiment of the will of an enlightened agricultural community, composing at least three-fourths of our population, and animated, as such a community if well instructed would be, by a clear understanding of its own rights and interests—of the principles of public justice and the true guarantees of national prosperity? Even since the war in 1815, in the mere apprehension of, or it may be wisely to prevent the recurrence of war, that pastime of despots and scourge of the human race, there have been levied chiefly on landholders and expended out of the public finances, more than \$300,000,000 on account of our two military departments. Now who shall estimate the great results of any sum approaching that amount, to further improvements in all sorts of knowledge and machinery, and works connected with American husbandry, such as roads, bridges, canals, harbours, and other facilities for external and internal trade and manufactures, the great helps and handmaids of the plough: works which, while they bring interior and remote regions within reach of sustaining markets, constitute in themselves the best of all military defences, and, what is better, the surest cement of the Union; in proof of which, note the recent declaration of a British Quarter Master General, that an *army* could be taken from London to Manchester in nine hours by railway, while to march there would require seventeen days! Bring your sons up then to frame their legislation on the wiser and more benevolent theory, that the true glory and safety of a country of boundless resources, and far removed from contact with dangerous rivals, consists in *knowledge* diffused among the *masses*, and especially among those who live by rural labour—in clear, well instructed *minds*, as

well as strong arms, to discern and cultivate our unequalled natural advantages. For after all—

What constitutes a State?
 Not high rais'd battlement or labour'd mound,
 Thick wall or moted gate;
 Not cities proud with spires and turrets crown'd,
 Not bays and broad-armed ports,
 Where laughing at the storm, rich navies ride;
 Not star'd and spangled courts,
 Where low-brow'd baseness wafts perfumes to pride:
 No! MEN, high minded MEN;
 Men who their duties know,
 But know their rights, and knowing dare maintain:
 These constitute a State.

PICKLED EGGS.—Among the numerous pickles in common use, it very rarely occurs that pickled eggs are to be witnessed, either in oil-shops or upon the table. Nevertheless in the counties of Hants and Dorset pickled eggs constitute a very prominent feature in the farm-house store-rooms, inasmuch that the latter would be considered, by the industrious house-wife, unfurnished without them. The mode in which the good dames pickle the eggs is simply thus:—At the season of the year when their stock of eggs is plentiful, they cause some four or six dozen to be boiled in a capacious saucepan until they become quite hard. They then, after removing the shells, lay them carefully in large mouthed jars, and pour over them scalding vinegar, well seasoned with whole pepper, allspice, a few races of ginger, and a few cloves of garlic. They then, when cold, bung them down close. In a month they will be fit for use. Where eggs are plentiful the above pickle is by no means expensive, and, as an acetic accompaniment to cold meat, it cannot be outrivalled for piquancy and *gout* by the generality of pickles made in this country.

EXTRAORDINARY CALF.—Mr. W. W. Ballard, of Southport, Chemung county, N. Y., has a Durham bull calf, named "Victor," aged four months and 29 days, which, for weight, beauty of limbs, and symmetry of form, is an object of great curiosity. His length from his horns to the but of tail, is

	6 feet.
Girt behind fore legs,	5 " 2 inches.
Around brisket,	6 " 1 "
Breadth across shoulders,	1 " 6 "
" " hips,	1 " 7 "

His weight is 553 pounds, being only 12 less than 600 pounds. His weight six hours after he was calved, was 93 pounds. His weight now shows a gain, on an average, of three and a quarter pounds per day since his birth. His food has been milk and grass. Beat this who can.

The dam of "Victor" is the finest cow, probably, in this vicinity.—*Elmira Rep.*

Raising Potatoes.

THE editor of the Farmer's Monthly Visitor has this season raised between twelve and thirteen hundred bushels of potatoes on about six acres of sward land. The ground was prepared in the following manner:—After the corn planting had been finished, about the 25th of May, manure, on about one acre compost, and upon the other five acres clear manure from a stable, made during the preceding summer and winter, was laid out in piles and spread over the grass which had then already started green from the ground. In furrows of about 12 inches in width, the whole flat was completely turned over, these shutting into each other so close as to leave no vacuum between. With the sod thus inverted and the manure all covered to the depth of about six inches, the potatoes were planted between every third furrow, at the distance in the rows of about three feet from each other. A hole or crevice was made from two to three inches below the surface, with a sharpened stick, and at the distance of eighteen inches a single potatoe of the common size placed in it and covered up with a kick of the heel, generally, where the soil would admit of it. Care was taken that the seed potatoe should not enter so deep as to go below the upturned sward. In this way the potatoes grew above the sod, while the roots drew sufficient sustenance from the decomposed manure and decaying turf at the bottom. During the whole season there was no difficulty from weeds: the witch-grass in some parts of the field where it had taken root, did, indeed, late in the summer, spring through the inverted turf. The whole process of hoeing the six acres twice, cost only twenty-two days' work of one man; the planting was done with great expedition. In twice hoeing and going over with the cultivator and the subsequent digging of the potatoes, neither the bottom turf nor the manure overlaid by it has as yet been disturbed. The crop of Indian corn intended for the same land next year, according to our present year's experience of a field last year cultivated in the same way, will derive a greater advantage from the manure than the potatoe crop of the present year.

One advantage of raising potatoes in this manner, we believe to have been the entire freedom of the crop from the disease and rot which have been so generally complained of. The ground was the ordinary interval of Merrimack river, which had laid so long to grass, as to give not much over half a ton of hay to the acre—it was good land, but was much in want of stimulating manure.

The crop of potatoes was probably not quite as large as it might have been, if the same manure had been mixed in the same depth of soil actually pulverized; neither was the labour of making the crop more than half as much; but the manure is left in the ground to do much the most effective service hereafter. On a diligent inquiry of our potatoe diggers, we have not been able to learn that any of the new potatoes were infected with the rot. The earliest kind were taken from the field before the warm weather of September, and those laid in the common cellar, have as yet discovered none of those offensive qualities which have been so much a matter of complaint. One hundred and fifty barrels of the first dug were sent and sold in the Boston market, averaging, after paying the price of transport, twenty-five cents the bushel. Of the long-zeds, we have between five and six hundred bushels in the ground under a hemlock cover, which in the market next spring, may be worth fifty cents the bushel: at half that price, after paying all expenses of cultivation and manure, this crop will give us a clear gain of about twenty dollars to the acre.

On about one acre of the potatoe ground manured with the stable dung, after the first hoeing, was placed some eight hundred pounds of ground plaster. Where this was applied the tops of the potatoe were more luxuriant—the potatoes seemed to be fewer in number, but all of a larger size. The effect of the plaster was to make the crop at least one-fourth better.—*Farmers' Monthly Visitor.*

HINTS TO LOVERS OF FLOWERS.—A most beautiful and easily attained show of evergreens in winter may be had by a very simple plan, which has been found to answer remarkably well on a small scale. If geranium branches taken from healthy and luxuriant trees just before the winter sets in, cut as for slips, and immersed in soap and water, they will, after drooping for a few days, shed their leaves, put forth fresh ones, and continue in the finest vigor all the winter. By placing a number of bottles filled in flower baskets, with moss to conceal the bottles, a show of evergreens is easily insured for a whole season. They require no fresh water.—*Dollar Farmer.*

THE true way of enriching ourselves is by cutting off our wants.

IT is better to fill our barns than our chests.

Labour.

THE following extract is made from an address lately delivered by Horace Greely, before the literary societies of Hamilton College, on "The Discipline and Duties of the Scholar." How numerous are the instances of enthusiastic students consuming the best part of life in their favourite pursuits, and when the goal of their ambition is gained, the melancholy truth, for almost the first time is learned, that *consumption* or *dyspepsia* must be the perpetual and irremediable drawback upon its enjoyment: with the tardy reflection too, that exercise and bodily labour would not only have averted these evils, but have given a continual freshness to life and its objects, which the listlessness, attendant on sedentary pursuits prevented them from being acquainted with.—Ed.

Labour! blessed boon of heaven, to alleviate the horrors and purify the tendencies of our fallen state! When shall its benefits and its joys be brought home to each and to all! We make it a curse and a burthen by so regarding it, as we may any other blessing; but the truth is irrepressible, that only he who is familiar with labour, and loves it, can either improve or enjoy life. The man whose only stimulant to exertion in any field is the hope of individual gain, can hardly have risen above the condition of a slave. We must learn to be true workers—our frames need it—our unperverted impulses demand it—our very souls, if unstified, cry out for it. Most earnestly, then, do I record my protest against the all but universal proscription which divorces entirely, profound study from manual labour—which, in its attention to the intellectual and moral nature of the student, forgets that he has also a physical frame to be developed and invigorated. Of course, you will not understand me as assuming, that the usual routine of student life forgets or disregards the necessity of physical exercise—I know better. I will not doubt that wherever thoughtful, conscientious and cultivated men have charge of the education of youth, there are, there must be, abundant inculcations of the necessity of exercise, and the value of health; also of the danger of losing the latter through neglect of the former. I will not doubt that abundant opportunities and facilities for exercise are everywhere afforded. Yet what is the result? Do the mass of our young men finish their studies with stronger constitutions, sturdier frames, more athletic limbs, than they brought away from their parental firesides? Not within the sphere of my observation—far otherwise. I have known many dyspepsias, consumptions, debilities, which traced their origin to the seminaries: I do not remember any that were cured there; I have known the stout lad in the

district school, who graduated a feeble invalid from the university. My conviction is, that the physical department of education has decidedly retrograded since the days of Greek freedom and glory. Our prevalent error is not one of method and detail—it is fundamental. We have lost the true basis ordained for the harmonious and healthful development of the whole human being, in separating the education of the head from the education of the hands. We have dared to disregard that divine fiat, first of punishments, and therefore first also of mercies—'In the sweat of thy face shalt thou eat bread!' Shunning this appointed path, we have sought out inventions, which we term exercise, recreation, relaxation. Heaven placidly, but inexorably disallows them. I do not say that for the cramped, soul-dwarfed, undeveloped miner, delving for six days of each week in some stunted Egyptian labyrinth in the bowels of the earth, there may not be appropriate recreation in the free air and sunshine. Malign circumstance has grudged him a full development—his class are significantly advertised for as 'Hands wanted'—not men. But to the true and whole man each successive duty is the proper relief from the preceding, and in the regular alternation of labours—now those which tax mainly the intellect, next those which appeal mainly to the sinews—is the needed relaxation best attained. Thus only shall life be rendered consistent and harmonious; thus shall each hour be dignified and rendered heroic.

Take care of your Woodlands.

There are very few things which farmers in general exhibit such gross waste and want of forethought, as in their treatment of their woodlands. Dependent as the great majority must always be on these for fuel; diminishing rapidly as they must be in our climate annually; a large proportion timbered with trees that do not readily shoot up, and will not grow again without some protection; we still see the noble trees of our original forest as carelessly and as uselessly felled as though they were not the growth of centuries, and like Jonah's gourd, would spring up again in a night. In the management of our woodlands some things are deserving of notice, that are too generally entirely overlooked.

The first thing, and it is an indispensable one, is, that the woodlands should be well fenced. We can never have a growth of young timber, particularly on lands originally covered with beech and maple, and their kindred trees, unless this is done. It is true,

thousands of young trees will germinate, but so fond are cattle and sheep of their young foliage, that none to which these animals can have access, will be permitted to grow. It is only after a thick growth of underwood, sufficiently tall to be beyond the reach of cattle, has been secured, that any animal should be admitted to the wood lots. We have seen a beautiful wood lot on which thousands of thrifty young trees from three to five feet in height were growing, reduced in a year or two to the condition of an open wood, and the young growth entirely destroyed, by being carelessly thrown into a cattle range; and there is scarcely any wood lot, however destitute of young trees it may now be, that will not be covered with them in a short time, if kept safe from the intrusions of animals.

The second thing to be remembered is, never to cut a tree needlessly. There are many who, when they want a piece of timber, no matter how small it may be, instead first seeing whether the want cannot be supplied from some already fallen, or timber already on hand, take their axe and improvidently prostrate any tree they can make subserve their present purpose, without reference to future value or use. Never fell a tree until you have ascertained its value for general purposes, for fuel, and not till you have found it absolutely necessary.

Another thing not to be forgotten in the treatment of woodlands is, always to select those trees which have arrived at maturity, are the slowest in their growth, or have begun to decay. In a thrifty woodland, the greatest amount of growth is usually with the younger timber; for though there will be some large trees that will increase as fast as smaller ones, and consequently give a much greater annual increase of wood from their greater diameter, yet there will also be many with no perceptible growth, or on which the process of decay has actually commenced. Such are the trees that should be selected for timber or fuel; and a double advantage will result from this course, thrifty timber will be saved, and the younger growth benefited by more ample exposure to the sun and air.

It will be found of essential service in the preservation of woodlands, and in increasing their value, to keep all vacancies that may occur, either naturally, or by the falling of trees, filled by transplanting. We know of some farmers who keep a nursery of locusts for the express purpose of increasing the value of their wood lots by transplanting this excellent timber tree wherever an opening offers. Others use those kinds of young trees which are readiest at command, or to

which the soil seems most congenial. The kind of tree transplanted is of comparatively little consequence, provided it is of sure and quick growth, and is fit when grown, for either timber or for fuel. By attention to the points we have here indicated, the value of our wood lots might not only be greatly increased, but the scarcity of wood with which so many of our farmers are already severely threatened, be averted.—*Cultivator.*

AUTUMN.

BY LYDIA H. SIGOURNEY.

"Has it come, the time to fade?"

And with a murmuring sigh
The Maple, in his motley robe,
Was the first to make reply;
And the queenly Dahlias drooped
Upon their thrones of state,
For the frost king with his baleful kiss,
Had well forestalled their fate.

Hydrangia, on her telegraph,
A hurried signal traced
Of treason dark, that fain would lay
Bright summer's region waste;
Then quick the proud exotic peers
In consternation fled,
And refuge in their greenhouse sought,
Before the day of dread.

The Vine that o'er my casement climbed,
And clustered day by day,
I count its leaflets every morn;
See how they fade away;
And as they, withering, one by one,
Forsake their parent tree,
I call each sear and yellow leaf
A buried friend to me.

"Put on thy mourning," said my soul,
"And with a tearful eye,
Walk softly mid the many graves
Where thy companions lie;
The Violet, like a loving babe,
When the vernal suns were new,
That met thee with a soft, blue eye,
And lip all bathed in dew;

The Lily, as a timid bride,
While summer suns were fair,
That put her snowy hand in thine,
To bless thee for thy care;
The trim and proud Anemone;—
The Daisy from the Vale;—
The purple Lilac to'ring high,
To guard its sister pale;

The ripened Rose—where are they now?"
But from the rifed bow
There came a voice—"Take heed to note
Thine own receding hour;
And let the strange and silver hair,
That o'er thy temple strays,
Be as a monitor to tell
The Autumn of thy days."

The Disease in Potatoes.

TO THE EDITOR OF THE N. E. FARMER,—

NOT having seen any communication objecting to the views I have taken of the cause of the disease in the potatoe, and which subsequent examinations have only tended to confirm in my own mind, I resumed the investigation of the subject. The results I now offer to you for publication. I have first to notice the idea that this disease arises from worms which are found in the decayed potatoe—and remark,

1st, That the worms are the same which are found in all rotten potatoes, from whatever cause the decay may arise.

2nd, The potatoe decays previous to the worms appearing, for the worms are never found in the sound part of the potatoe, eating their way in or depositing their eggs, nor have I ever seen the worms in that part of the potatoe in which the fungus has already commenced vegetating: it is only in the most rotten part that the worms exist, after the fungus has caused this decay.

3rd, Salt instantly kills the worms, as any one may satisfy himself, with the assistance of the common compound microscope.

Under the full impression of the existence of the fungus in the potatoe, two questions present themselves.

1st, Is the fungus the cause of the decay, or merely a growth on the tuber already diseased from some other cause?—and

2nd, When and in what part of the plant the disease originates, and how is it propagated and disseminated?

The probability is that the fungus is the cause of the disease—for the fungus appears on the skin of the potatoe, and can be traced by its gradually dark colour penetrating from the outside by degrees into the sound inside, the outside fungus developing itself first, and producing slime and rottenness, while the inside yet remains firm and sound. If the fungus resulted from the potatoe first becoming rotten, and thus forming favourable circumstances for its vegetation, then the presumption is that we should occasionally, although perhaps rarely, find parts of the potatoe rotten *without* the fungus, which I, at least, have never yet seen. I have often seen heaps of rotten potatoes, without ever before observing this peculiar fungus, which, on account of its smell, cannot be mistaken. If this was therefore a disease merely affecting the rotten potatoe and not the sound one, it would have been long ago and much more often observed. Dr. Wallroth, an excellent German botanist, who appears to have closely studied the fungus family, observes in the *Linnea*, (a botanical

periodical, published in Germany,) vol. 16, for 1842, that he has ascertained the disease called there the *potatoe scab*, or *wart*—a kind of swelling or tumor, ending in rottenness—to be a species of subterranean fungus, which he calls *Erysibe subterranea*, and of which he gives a long scientific description. I am not sufficiently versed in this subject, to decide whether this description agrees exactly with the disease at present under discussion, but it appears to me to differ in several particulars.

The second question, as to the origin and propagation of this fungus, is one which presents great difficulties in its solution. These arise partly from the knowledge of the propagation of the fungus family being yet in its infancy, and partly from the want of means of pursuing the study of this microscopic subject properly. From the almost universal accounts of the tops of the plants having first died down, and thus indicated the disease, it has suggested itself to me, even if this fungus is really a subterranean species, whether it has not been propagated and disseminated by spores floating in the atmosphere and attaching themselves to the *stalk* of the potatoe, on that vegetating and extending themselves downwards until they reached the point of junction with the tuber, there producing decay, and the death of the upper part of the vegetable, and afterwards disseminating themselves through the tuber.

A parallel to this probably exists in the *mushroom*, a fungus which is naturally produced from horse droppings, when by being kept dry for a considerable time, they have arrived at a favourable state for the development of the spores. These spores have probably attached themselves to the stems of the hay which has been eaten by the horse, have passed through its stomach and remained in an inert state, until favourable circumstances have produced their development in the droppings.

I regret that I had not commenced this investigation early enough to have examined the stalk and its junction with the tuber, with the microscope, on the first appearance of its drooping, as all the proof now to be expected from experiments, can only be of a negative character: however, here are such results as I have obtained:

1st. One of these much diseased potatoes was cut in halves; each half was placed on half a sound potatoe, in perfect contact, placed under a bell glass in a damp, dark atmosphere, temperature 57° to 62°. In five days the sound potatoe was not in the slightest degree contaminated with the fungus or the worms.

2nd. A whole diseased potatoe, covered

with black spots, was placed under a glass, in the same circumstances as experiment No. 1, in contact with a whole sound potatoe. The fifth day the sound potatoe remained uncontaminated and without worms.

3rd. A whole and much diseased potatoe was buried two inches below the soil, which was damp but not wet. A sound potatoe was buried in the same soil, two and a half inches distant from it, the temperature kept as before—57° to 62°. In five days this latter remained quite sound.

It is possible that five days is not long enough; I have therefore left them all in the same state, and shall not touch them for three or four weeks.

As I do not seek to establish any favourite theory, I trust my remarks may incite to observation and provoke discussion, and provided the practical and useful truth on this subject be discovered, I do not care much whether it be by myself or by others.

J. E. TESCHEMACHER.

Report on Crops of New Castle County Agricultural Society, Del.

THE committee on crops, beg leave to state, that although but few farmers have intimated an intention to put in their claims for the premium on either wheat, oats, potatoes or hay—the only crops that have been gathered this season, that can come under the notice of this committee at this time—enough is known to satisfy them that the wheat has yielded an average crop, particularly where the Mediterranean variety has been sown. It is known to many of the members of this committee, that a crop of ten to fifteen, and even twenty bushels, has been gathered from land, that seven years ago, would not, under the same circumstances, have averaged half that quantity. The cause of this happy result, may be mainly attributed to the use of lime, clover and plaster—and for their use we are much indebted to the enterprise and industry of a few individuals. It is within the recollection of some of the members of this committee, that there were but two well cultivated farms in the county, south of the court-house at New Castle; one of those farms, called Whitehall, at that time owned by Capt. William Frazier, and now owned by Augustine Maily; the other was in the same neighbourhood, both in St. George's Hundred, and was owned by Christopher Vandegrift, and now owned by Eli Biddle. It was upon these two farms that clover was first used; and although great improvement was made there by the use of the clover, but few farmers availed themselves of the benefit of the example set them, but con-

tinued to adhere to the old system of cultivating in three fields, until about 20 years ago a few other enterprising farmers, the most prominent among whom were Philip Reybold and William J. Hurlock, of Red Lion Hundred, and David Wilson and others, of St. George's Hundred, and some in New Castle and other Hundreds, adopted the plan of seeding wheat on clover lay, &c.

Notwithstanding the good example set by these few enterprising farmers, it was but slowly and reluctantly followed by others, until a new era was brought about by the introduction of *lime* as a manure. And thanks be to our worthy fellow-citizen, Dr. James N. Sutton, of St. George's, who with a commendable zeal for the improvement of his native State, was induced to erect extensive lime-kilns at St. George's, on the canal, in the year 1831—at which period there had been no lime used as a manure in that part, or any where south of it in Delaware. The farmers appeared to be perfectly ignorant of its fertilizing properties; and so incredulous were they, that it was with much persuasion, argument and explanation, by writing and other means, for two or three years before he could induce them even to try it with a few bushels. All at once, however, the spell was broken—the few that were induced to try a few bushels began to see that their crops were doubled, and like magic the mist was removed—and from that time a new epoch dawned upon the agricultural interests of our own worn out and much neglected lands of New Castle county.* It was found by repeated experiments that the additional yield from a single course of crops—say corn, oats, wheat and clover—would amply reimburse *by extra produce*, not only the cost of a dressing of 40 bushels of lime to the acre, but in many cases, leave a balance equal to what had been the selling price of the same land—ten dollars per acre.

After the value of lime became fairly established, so great was the demand for it at 20 and 22 cents per bushel, that the writer of this article recollects in the month of May, 1835, he had an occasion for some for building purposes, and sent early in the morning to Dr. Sutton's kilns, and he found twenty teams at the kilns at sun-rise in the morning, awaiting their turn to load. Since then, lime has become of such general use, that the farmers of New Castle county would as soon think of starting upon a day's journey without their breakfast, as to think of planting corn on land that had not received a dressing of lime.

* This refers to the Hundreds before alluded to. Lime as a manure, was freely used in the upper part of New Castle county long previous.

The result is that our lands have increased in productiveness and intrinsic value, at a rate unprecedented in the improvement of lands in this or any other country. Actual sales go to confirm this; and notwithstanding the low price of grain, several farms in Red Lion and St. George's hundreds, within the last year or two, have brought 60 or 70 dollars per acre, where the same lands, 20 years ago, would not have brought more than 15 or 20 dollars at most.

We must not only give to lime the credit of renovating our exhausted lands wherever it has been used, but to it may be attributed the impulse given to our farmers to seek other aids in the great work. Seeing the good effects of lime, they were led to give a trial to *marl*, which so abundantly exists in the St. George's and Appoquinimink creeks and ravines merging from them—and which although known to exist there 20 years ago, was never considered worthy of use until within the last eight or ten years. The marl on the St. George's creek and inlets, consist entirely of the shell variety, and is now extensively used in the vicinity of the beds—in some cases they are hauling it three miles, and the farms around St. George's are now equal, and perhaps superior to any other body of land of the same extent in the State. On the Appoquinimink and its tributaries the green sand marl exists, and is extensively used by many of the farmers there. George W. Karsner, the pioneer, in the use of this variety of marl, has raised this year, 30 bushels of red chaff bearded wheat to the acre; he has improved his land entirely by the use of it. The marl is generally of easy access, and is in many places found within a foot or two of the surface. With these inexhaustible beds of *marl*—the facilities by water of procuring lime on the various landings, at the low price of 12½ cents per bushel for quick lime; and the same facilities for conveying his produce to market—a market, thanks to the eastern manufacturers, within a few miles, to the most remote farmers—for their corn and oats, at about Philadelphia prices, are some of the many advantages possessed by Delaware farmers.

It is a mystery to us that the citizens of Delaware, not of New Castle county alone, but of Kent and Sussex, should have so long remained blind to their own interest; but we trust that the film is now removed from the eyes of the landholders of New Castle county; and we have no doubt that Kent and Sussex will follow the good example. Already do the people of Kent show a determination to arouse from their lethargy. The introduction of lime, by kilns erected

near Smyrna, by George W. Cummins, and by kilns erected at Forest Landing, on Jones' creek, has been instrumental in bringing about a new state of things there.

Much, however, is yet to be done there. The large landholders of Kent, have not yet taken the matter fairly in hand. A continued disposition upon the part of their tenantry and others to migrate to the West, is an evidence that the right spirit does not prevail with the landholders. Inducements must be held out by them to this class of their population to remain—and no stronger inducements can be offered than by improving their lands and offering worthy tenants better chances than they have heretofore had; and convince them by various means that it is their interest to remain in their native State, and by a new system of proceeding reclaim the lands left to them by their imprudent ancestors.

The soil of Delaware has proved itself, originally, equal to any other, or it would not have stood the use and abuse of ages—and to its susceptibility to improvement there is now evidence enough, not only in New Castle county, but in Kent and Sussex, that it can be reclaimed and made as productive as any other lands. Why then the necessity for seeking land in the West, when it can be purchased in many parts of Delaware, for six, eight, and ten dollars per acre, in locations where the best lime can be purchased for 12½ to 16 cents per bushel—and a market for produce of all kinds can be had at a trifle less than the Philadelphia price.

There are other advantages in Delaware over most other sections. Our convenience to the seaboard gives us an advantage of the Eastern markets; those great manufacturing depots of the U. S., our natural and only sure market now, and perhaps will so remain, probably, for all time to come, the year round, and foreign markets, where there is any demand; and especially is this advantage realized in the winter season, over Philadelphia, and other places up the Delaware river, or from N. Jersey. Vessels can load at and depart from New Castle, Delaware City, and Port Penn, and our Southern ports, during the winter season, when it is hazardous, and even impossible to get to Philadelphia. And as an evidence, there was shipped last winter, from the three little ports of New Castle, Delaware City, and Port Penn, from the 20th of December to the 10th of February, in the dead of winter, 150,000 bushels of grain, principally corn of the new crop.

There are advantages also of our location, in the time required to get our produce into the Eastern market, as well as getting it there at a season when there is no competi-

finding it very difficult to get his corn to stand on a grass sward, on account of worms or insects, tried the experiment of sowing oats on a sward to clear the land of insects, and the following year he planted corn on the oats stubble, and he remarked to me afterwards, that his corn did *stand*—it stood too well—it was stationary—for it did not grow at all. And I have often heard it spoken of by other persons, as the poorest corn they had ever seen—and produced on harvesting, if my memory serves me, only five two-horse loads, of forty bushels of nubbins, nearly all soft, off of eighteen acres. The oats being very light too.

In the spring of 1835, I set out a young orchard of apple and peach trees, and thinking it would be advantageous to the trees not to disturb them the first year, while they were putting forth new roots, I sowed oats among them—the consequence was the loss of several trees, and a loss to the remainder of nearly a year's growth.

I have had five fair crops of the peaches and two small ones, or partial failures, from my trees. And each succeeding year they rot more than the former; on which account for the last two years, and particularly the last one, many of the trees have become altogether worthless, which leads me to the conclusion, that the soil needs some addition to or subtraction from it, to enable the trees to perfect their fruit. The peaches have grown fair and to a good size, until about the time they swell, or in other words, until saccharine fermentation should commence, and expand them. It cannot be on account of acids in the soil, because I covered the land two years ago with lime in the state of a carbonate—which is known to be a corrector of acids—to the amount of three hundred bushels per acre. The question arises with me, whether there could be a crop grown among them that would enable the trees again to perfect their fruit, and whether white clover is that crop, as it is almost impossible to eradicate it from the land. I have almost ventured the belief, that creative power has been at work, or that the earth has turned to seeds, as it is utterly impossible for seeds to vegetate and grow nearer together than the white clover has done among my trees year after year. The ground has been well stirred several times every year, since my trees were transplanted.

The above hints I have thrown together. If they may be thought of any worth to the cause of agriculture, they are at the disposal of the editor.

D. PETIT.

Mannington, Salem co., N. J.

In Farming, Manure is the principal thing.

To the Editor of the *Marlboro' Gazette*:

THERE are so many good hints in the enclosed extract from the last number of the *New England Farmer*, and there are so many of my acquaintances who ought to be ready to take them, that I cannot forbear asking you to give them a place in the *Gazette*.

The chief, the grand, I was going to say, almost the sole object, with every farmer, should be the accumulation of manure, from one year's end to another, day in and day out, and from every possible resource. Not a single pound of feathers, or of hair—of horn, or of hoof—not a single pint of ashes, or of soap suds, or of urine—not a weed if it were possible to prevent it, should be lost; all—all should be saved and converted into manure. Of one thing every farmer is certain—that cultivation exhausts his land—something, of course, must be done to restore that of which it is exhausted. How long will a horse work if he gets no feed? How long will the best cow give milk if she gets nothing to eat? Neither can a farm be worked and milked without being fed.

Instead of looking only to the stable, or the cow-pen, or barn-yard for manure, and managing them carelessly and unskilfully, the thinking farmer will reflect, that there is nothing which will rot, but that it may be converted into good fattening food for his farm. If a horse dies on the farm, let him be covered with cart loads of earth, and the very gasses that escape in the course of putrefaction, will impregnate and make good manure of the whole mass. Let nothing be lost—not even the offal of poultry or the pigeon-house.

I. S. S.

Gleanings on the farm.—The first lesson in true economy is, to take care of small matters. When one has made a fixed principle of action, he will be very sure not to suffer more important matters to be neglected. There are many things scattered over the farm that are worth saving, and may be turned to profitable use, if taken care of now, but which will lose their value if neglected much longer. Of this character, are substances for manure and litter—such as vines, potatoe-tops, leaves, bog herbage, &c. The collection of leaves for manure is particularly deserving attention. "For many years (says one who has practised this,) I have been in the habit of collecting in the fall, leaves in my wood lot, and to use them as litter for my cattle through the winter. When the floor is cleared in the morning,

the leaves and dung are turned over and chopped together, before they are thrown out. This kind of manure for potatoes, I find superior to any other I ever used; it unites the richness of animal matter with the sweetness of a woodland soil; and I feel confident that it not only contributes to the abundance of the crop, but that it ensures a superior quality. From the repeated benefits I have derived from the practice, my estimation of leaves has gradually increased, and they have become such an essential article in the cultivation of my small farm, that I should now be at a loss how to do without them. They pack better if collected when somewhat damp, and when mixed and chopped with the dung, will more readily ferment."

Perhaps there is a good deal of small stuff scattered over the farm that will serve for fuel, which may as well as not, and a good deal better, be picked up now, before it is hidden by the snow—which latter, may come without warning, and when little anticipated. At any rate, it is wisdom to prepare for emergencies.

Let every thing be saved for winter fodder that is eatable by your animals. "We hear it foretold by our veteran farmers, (says the American Agriculturist,) that the coming winter will be a tolerably severe one. They say that they have never seen a season of great abundance, especially in fruit, that was not followed by a hard winter." Though little faith is to be had in such signs, it is best to prepare for the worst, and save every thing to lengthen out your stock of food, that can be saved. Some vegetable substances which cattle will not eat alone if they can get more palatable food, they will freely devour in winter, if mixed and chopped with a portion of eatable hay.

Turnip and cabbage leaves, and corn husks, should all be husbanded for fodder. They are superior as food for cattle, to hay of common quality.

We have seen pumpkins left in the fields to rot, the farmer having, seemingly, grown more than he knew how to dispose of with profit. At one of the meetings of the New York Farmers' Club last summer, a gentleman presented some sound pumpkins of the growth of the previous year, which had been preserved by placing them in one of his out-buildings on rails laid in courses, so that the pumpkins did not rest on each other. This plan seems worthy of trial: for stock—cows in milk especially—would be much benefited, by a meal a day of pumpkins, in the last of winter, or beginning of spring—more especially if their owners do not provide other condiments for them in the shape of carrots,

turnips, or beets; and it is yet true—"and pity 'tis true"—that many a stock of unfortunate animals have to live through, or rather get through, the winter, without having a taste of a root—kept upon the low diet system—the *Graham* system in an aggravated form; that is, a few cornstalks, a very little good hay, and a great deal of—straw. Pity that the poor brutes thus cheated of their dues, had not the faculty to persuade their owners that both self-interest and humanity dictate that they should keep no more stock than they can keep well.

Your sheep will thank you for saving them your bean vines for a bite in the winter; and in this connection we introduce the following, thinking it may impart information from which some may profit:

If you have any beans on hand which are unfit for culinary purposes, in consequence of being mouldy or rancid, wash them carefully, and give them to your sheep. A gill a day will be of more benefit to them than a pint of corn. Beans, for sheep, even in this condition, we consider equal to the best corn in any state.

Upon the above, Dr. Lee, of Buffalo, remarks: Why is a gill of beans better for sheep than a pint of corn? This is an important problem, and one that not one flock-master in a thousand can answer. If the object be to form fat sheep, then the remark that beans are worth more than corn, is not true—for corn contains more of the fat-forming elements than beans. But if the object be to form muscle and wool, then the remark is true. Beans contain more of the elements of wool than any other cultivated plant. Hence nature, ever true to herself, has endowed the sheep with a taste for the plant which is denied to the pig.

SHOE BLACKING.—The Southern Planter says, he had been watching the boots of persons passing his office for some time, to find out, whose did most credit to the brush. At length he pitched upon one man, who always looked well to his *understanding*, and on inquiry where he got his blacking, was informed that he made it himself, from the following receipt, to wit:

3 ounces ivory black,
2 " coarse brown sugar,
 $\frac{1}{2}$ " oil of vitriol,
 $\frac{1}{2}$ " muriatic acid,
1 table spoonful of sweet oil,
1 pint of good vinegar.

Mix the ivory black, oil, sugar and vinegar, and then add the oil of vitriol and muriatic acid mixed together.

Corn Crop.

Our Indian corn is the pride of our agriculture, as well as the great staple of the country. Nearly five hundred millions of bushels are reported as the crop of 1843: but what would this have swelled to, had the average, instead of twenty bushels per acre, been the half of what is given below as the produce of our friend Wadsworth's four acres! Let us not be alarmed at such an increase of grain as this would throw into our garners. We need not fear but that with increased facilities of living, an increased population will be prepared to sweep off all that the earth will yield. To multiply the means of living, is to multiply life itself, as well as to augment its comforts. We take the following statements from the *American Farmer*, which credits it to the *Connecticut Farmer*.—Ed.

If there is any spot in the Universe where more corn can be raised upon an acre of ground, than has been produced upon the farm of Mr. Wadsworth, of Durham, Middlesex county, in *old Connecticut*, we should like to know where the spot can be found.

The following extract from the Report of the Middlesex County Agricultural Society's Committee on Field Crops, is perfectly astonishing. Read it, you who are in the habit of skinning *seven acres* to obtain the product of one, under proper culture.

The Indian corn, entered by Mr. Wadsworth for premium, was one quarter of an acre, selected from near the middle of a field of four acres. The field was planted with the "Improved Dutton Corn," about the first of May, in hills, three feet apart, each way. The land on which it was planted was "sward ground," manured with common yard manure, at the rate of 20 to 30 cart-loads to the acre, turned over flat, and rolled, and the corn planted on the furrows. It was hoed four times without hilling, or turning up the furrows between the rows. The seed with which it was planted, appeared to be a mixture of the common Dutton corn, and a very large kind of eight rowed corn, and the whole crop was comprised of a mixture of the two varieties, in about equal proportions; a bushel of each kind of which was laid before your committee for inspection. The ears of both kinds were very large and long, many of them measuring nearly, or quite 14 inches in length. The kernels upon the eight rowed were very large, and the cob small. The kernels on the twelve rowed were also much larger than the common Dutton corn. And your Committee are of the opinion, that if Mr. Wadsworth will continue this cross mixture for a few years, he will have a kind of corn far superior to any now in use. On this field of corn, the *suckers* were allowed to remain until the customary time for cut-

ting the stalks. The product of that portion of the field entered for premium, was at the rate of *one hundred and fifty-one bushels and eighteen quarts to the acre!* Your Committee are aware that it hardly seems possible that so large a quantity could be raised from an acre, in this old hide-bound State of Connecticut, yet, from the certificate of the town Committee of Durham, and from the statement of Mr. Wadsworth, under oath, such was proved to be the fact. Think of this, ye farmers of Middlesex county! *One hundred and fifty-one bushels and eighteen quarts of shelled corn from one acre!* This eclipses even the far famed corn regions of the great valley of the West. With facts like this before their eyes, our young farmers, we think, will hardly feel disposed to quit the healthful home of their sires, to seek a fortune among the Wolvrecens and Hoosiers of the western prairies; but be content to settle down amid the hills and dales, where dwell the lovely lasses of our own dear Yankee land.

In competition with the foregoing, was a quarter of an acre of eight rowed corn, entered by Joel M. Clark, Esq., of the Society of Westfield, in Middletown. This corn was raised on green sward land, ploughed plain, and rolled. Two coats of hog-pen manure were applied. One coat being coarse, was put upon the land and ploughed in. The other was fine manure, placed upon the top, after the field had been ploughed and harrowed in. The whole amount of manure used was about sixty-five "cart buck loads" to the acre. It was planted about the 20th of May—four kernels in a hill—hills three and a half feet, by two and a half apart. The soil is a gravelly loam. The seed was rolled in plaster of Paris, before planting. And, if your committee are not mistaken, the *suckers* were all removed from the hills about the time of the last hoeing. The product of that portion of the crop which was entered for premium, was at the rate of *one hundred and eight bushels and four quarts to an acre*; which every one must admit to be a very extraordinary yield; and the Committee regret, exceedingly, that the rules of the Society will not admit of a premium being awarded. The *quality* of this corn was superior, in the opinion of your Committee, to any exhibited. The kernels were large, and the ears well filled, but too short to be productive, under ordinary circumstances.

In cleaning out horse stables, where there is no floor, every body notices the rising of a great steam—sprinkle plaster of Paris, and retain it.

Raising Wheat.

We make the following extracts from a Report of the Committee on Agriculture, made last spring to the New York Legislature. It is found in the Transactions of the N. Y. State Agricultural Society.—Ed.

SUPPOSE a farmer now cultivates six acres of land in wheat, to harvest 100 bushels, how is he to manage so as to grow 133 bushels at the same expense? If he can raise 33½ bushels per acre on four acres, that will give him the amount desired and save the whole cost of cultivating two acres of land. This saving may be set down at \$8 per acre, which will give \$16 surplus to be expended in purchasing the raw material to produce the extra 66 bushels of wheat on the four acres to be cultivated by a new process. As about 94 per cent of ripe wheat plants consist of carbon and water, charcoal must be an important element in fertilizing the soil. Of the other 6 per cent about one-half is nitrogen, and the other moiety is made up of silica, potash, soda, magnesia, alumina, phosphorus, sulphur, chlorine, and a trace of iron. Let the wheat grower take 100 bushels of charcoal, grind it fine in a bark mill or pulverise it well with flails on a threshing floor, and add thereto five bushels of ground plaster. This would not cost in most farming districts in this State over \$7, and if the coal and gypsum be placed in a vat or large tub and saturated with the urine of cattle, or partly moistened with the liquid excretions of the human species, and have five bushels of leached ashes mixed with the mass, it will contain all the elements of 133 bushels of good wheat. In case the urine cannot be had, the addition of four bushels of salt will give all the soda and chlorine that are needed, while the ashes will furnish all the potash, silica and magnesia required. The plaster will yield the sulphur and lime, and a bushel of bone dust will give the phosphorus. A little copperas will supply the necessary iron, and the charcoal will not only yield carbon, but it will also absorb ammonia, always found in rain water when it comes from the clouds.

All these constituents of wheat can be best applied to the soil before sowing the seed, but a top dressing of a compound of coal, plaster, ashes and salt, moistened with whatever urine can be collected, may be applied to winter or spring wheat in April or May, with signal benefit to the crop. Deep ploughing and thorough draining are important aids in wheat culture, for reasons which your committee will not stop to explain.

The liberal use of freshly burned lime is very beneficial by the way of correcting any acidity of soil; and also by absorbing carbo-

nic acid from the air, to be given up to the roots of plants, and thereby promote their growth. A pint of human urine contains ammonia enough to supply a bushel of wheat with all the nitrogen it needs. And it is worthy of remark, that wheat well supplied with nitrogen in ammonia, will contain from ten to twenty per cent more gluten than it would if it lacked that element, while the wheat that abounds in gluten will make from seven to fifteen per cent more good bread than the same quantity of flour composed almost entirely of starch.

In Flanders farmers pay forty shillings, or nearly ten dollars a year for the urine of a single cow for that length of time, to be used in the culture of wheat and other crops. Common sense would seem to teach every agriculturalist that he should restore to his fields every particle of the liquid and solid excretions of all animals that feed upon his crops.

SAGACITY OF THE CAT.—Passing by the back window of a neighbour's house a short time since, I saw a favourite Tom-cat seated on a table near the window, beside a narrow necked cream jug containing milk; no person was in the kitchen. He was smelling the milk, and endeavouring to reach it with his tongue, but could not; at last he inserted one of his fore-paws, and withdrew it, the fur saturated with milk; after he had licked it clean, he dipped again, and kept repeating the process as long as I remained observing him, which I did for several minutes, and then left him to his employment, for I thought his ingenuity well deserved his reward.—*The Zoologist*.

H. COLMAN in comparing the business of the farmer with that of others, says: "I am anxious to assist the dignity of a pursuit which I regard among the most honourable, as it is among the most innocent and useful in life; and I would, if possible, soften its aspect and multiply its attractions to a large class of persons who have been accustomed to look upon it with indifference or disdain, but who would be sure to find in it, if ardently and intelligently pursued, health for the body, and peace and satisfaction—nay more, the strongest and most delightful interest for the mind."

TO WASH WOOLLEN GOODS.—All descriptions of woollen goods should be washed in very hot water with soap, and, as soon as the article is cleansed, immerse it in cold water, let it then be wrung and hung up to dry. They will then not shrink.

Continuance of Milk in Cows.

It certainly would be a very great advantage to those who wish to keep a cow or cows, solely for their milk, if any feasible method could be adopted by which cows could be made permanent milkers, or their owners, particularly those who live in cities, be saved the trouble and inconvenience of their breeding. There are two ways in which this seems practicable. The first method is to keep the cow in milk, from the bull, by constantly stabling her, after her first and second calf, and in this state, milked regularly, and well fed, she will continue to give milk for two or more years. She usually ends, however, by becoming too fat for profit as a milker, her milk gradually failing, and she then goes to the butcher. The large dairies of London, have their cows treated in this manner, and in practice it is found far preferable to the old one, of having them "come in," annually.

There is another method of obtaining constant milkers, which has been extensively practiced in France, and known to some extent in this country. This is by spaying the cow some four or six weeks after calving, and thus by preventing impregnation, securing the cow in milk for several years. In the London Veterinarian may be found a paper by M. Rogere of Bordeaux, in France, who had, for many years, been engaged in a series of experiments on this subject, that had been eminently successful. The cows operated upon were of various ages, some quite old. The operation of spaying was followed with a restricted diet, to prevent the tendency to inflammation. This had the effect of reducing the quantity of milk for few days, but the flow soon returned, and continued unaffected for a long time. No danger was incurred by the operation when skilfully performed, and when from age or failure of milk, it became desirable to make beef of the animal, she was found altogether superior for that purpose to the unspayed ones.

In one of the earlier volumes of Ruffin's Farmer's Register, may be found a paper on spaying cows or heifers, not only for milk, but for feeding. Mr. Tabb of Virginia, under whose superintendence the operations were conducted, confirms the representations made of the value of milch cows so operated upon, but thinks it not less essential or important, where cows or heifers are to be fed. The following extract is from Mr. Tabb's paper: "The operation is performed on heifers not intended for milk, when they are about a year old, and with the single precaution of keeping them entirely from food or water

during twenty-four or thirty-six hours previous—is not attended with the least risk—is performed in the same way, and may be done by any person in the habit of spaying pigs. They go to their food immediately after, and require no attention. We select the most indifferent heifers to spay, which is one way to improve the stock. You increase the size amazingly. They gradually become as large as ordinary oxen—are easily kept—make the finest beef—and as they are not in perfection until six or seven years old, we work them after three or four, to make them gentle, and for that purpose, consider them superior to the ox."

The practice of working milch cows is common in Germany, as appears from the accounts of various travellers in that country; and teams of spayed heifers have carried off prizes at the ploughing matches of Agricultural Societies in England. The suggestion made above, by Mr. Tabb, as to the practice of spaying having a good effect in the improvements of stock, is an important one. If the breeders of stock could so far forego the hope of immediate profit, as to be willing to submit all inferior, or part blood bull calves to castration, and all inferior heifers to spaying, it is evident the chances of breeding inferior animals would diminish rapidly.

Mr. Winn, keeper of an extensive hotel at Natchez, communicated to Judge Peters, of Pa., the result of experiments made by him in spaying cows, for the purpose of securing permanent milkers. It appears from the paper as given in the Transactions of the Pennsylvania Agricultural Society, that he had two cows, which after being spayed, gave milk constantly for three years each. He preferred cows that had produced two or three calves, as the bags of such would be more capacious than if spayed after the first calf. It is hoped some of our breeders or farmers will try this experiment, since if successful there can be no doubt such cows would command greatly advanced prices in places where cows are kept for their milk alone.—*Cultivator*.

Hoven Cattle.

ONE of the most singular cases of hoove that we have on record, is contained in one of the French periodicals. A cow that had been turned into the pasture in perfect health, was found in the course of the morning, labouring under great excitation, making frequent and violent efforts to vomit, and then galloping over the field with her mouth half open, and the saliva running from it as if she were mad. The eyes were haggard and fixed, and starting from their

orbits, and the nostrils were unusually dilated. When she stood still her back was bowed, but presently she would stretch herself out and bound away over the field. Her paunch began speedily to swell, and she moaned dreadfully and could not be still for a moment.

The practitioner not having a trocar, punctured the rumen with a bistoury. A great quantity of gas rushed violently out; the enlargement of the abdomen subsided, and she appeared to be entirely at her ease; but presently the efforts to vomit recommenced, and the aperture into the paunch being accidentally closed, she began rapidly to swell again. The practitioner now suspected that the cause of all this mischief was concealed somewhere in the gullet, or the entrance into the first stomach. He carefully examined along the whole extent of gullet in the neck, but could not detect any obstruction. He then opened the mouth and raised the head, in order to introduce a flexible osier rod into the gullet, when the animal again making a sudden and more violent effort to vomit, he saw the tail of a snake in the posterior part of the mouth. He seized it immediately with his right hand, and steadying himself by laying firm hold of the horn with his left hand, he drew it out: it was dead, and measured three feet eleven inches in length. There was no appearance of bite or wound upon it, but it was covered with a greenish spume. The efforts to vomit immediately ceased, the hoove disappeared, and the cow began to ruminate, and steadily regained her appetite and spirits.—*Youatt on Cattle.*

Butter.

The Committee on Butter, of the Worcester County Cattle Show, Mass., make the following very judicious remarks in relation to this subject. It may be remarked in passing, that there were twenty seven pairs of working oxen entered for premium.—Ed.

The quantity of butter presented for exhibition this year was unusually small, there being only about half the number of lots exhibited that there have been in former years. The committee, while they are gratified to be able to state that all the butter exhibited was of a superior quality, greatly regret this diminution in quantity, for which they are not aware of any particular cause, but they trust that it was the result of accident, and that it will be only necessary to call the attention of the farmers to the fact, in order to have the exhibition of next not only equal, but surpass that of all former years.

The farmers of this county, the great agricultural county of the State, should feel a just pride in exhibiting the products of their

dairies; no source of pride can be more proper than this; one cannot look upon the beautiful yellow butter as it is presented in its neatly shaped cakes, without the least drop of buttermilk oozing through, and with the preserving salt so ingrained as to be undistinguishable, without thinking of the various stages it has passed through, and calling to mind the numerous other valuable acquisitions which must necessarily be connected with it.

Good butter bespeaks first a good cow, and a good cow a good pasture, and both together imply an intelligent farmer; and not less requisite is a good churner, and for a good churner give us a good farmer's daughter, one who never looks more blooming and bright than after the healthful exercise at the churn. No occupation is more befitting, none more honourable. No accomplishment should be more acceptable to the young husbandman, seeking a partner, than that the woman of his choice is well qualified to take the charge of his dairy, and excels in the difficult art of making good butter.

Gypsum as Manure.

The following statement made by J. H. Sheppard, of London, are taken from the *New England Farmer*.—Ed.

GYPSUM, or the real sulphate of lime, is considered by all scientific chemists and agriculturists a most powerful agent as manure. I beg to quote an extraordinary instance of its effects, on its first introduction into Norfolk, in 1816. When I was attending Mr. Coke's sheep-shearing, at Holkham House, and conversing with him in the park, he complained to me that a portion of his estate, near Wells, about six miles distant, was a very light sandy land; and, although he treated it in every respect like the rest of his farm, with plenty of manure, he was unable to produce more than six or eight bushels of grain per acre. I recommended him to apply gypsum, and he desired me to forward him ten tons, for a trial. When I again called on him, three years after, he said the land before mentioned, *by the application of gypsum*, instead of producing six to eight bushels of grain per acre, averaged 32 bushels of American barley, 36 of Chevalier barley, and 20 of wheat, per statute acre.

I beg further to observe, that gypsum, applied upon light or blow-away sands, in liberal quantities two or three times, turning over the soil and harrowing in, causes a body, and consequent adherence in the soil, which forms a basis or ground-work, so that it will ultimately retain manures bestowed upon it, which previously were washed into the bowels of the earth, without the least possible benefit to the crops. I can only re-

peat, that the application of gypsum to sandy land, if of genuine quality, and systematically worked into the land, would prove the greatest benefit to the agriculturist.

For Potatoes.—The following results of gypsum on potatoes, are furnished by the Rev. T. Skepworth, of Yorkshire:

“In a plot of land which had last spring been richly manured for early potatoes, we apportioned three rows for the following experiment: When the sets were cut, they were immediately dipped into powdered gypsum; they were then placed in the trenches, when a small portion of gypsum was sprinkled upon each set. The trenches were then filled up with earth, and a little more gypsum sprinkled the whole length of the rows, as a top-dressing. I am now convinced the top-dressing is much better applied when the tops are about two or three inches out of the ground, and very wet. This finished the process, in which, as nearly as we could calculate, we used about fifteen bushels of gypsum per acre. I must here state, that the gypsumed and ungysumed rows immediately adjoined each other; but that if, as to the precise position of each, in point of free exposure to sun and air, there was any difference, it was in favour of the ungysumed rows.

“On taking up, and carefully weighing off the produce of the gypsumed rows against the same number of ungysumed, we had an extra produce from the gypsum of full 24 sacks, of 12 pecks each, per sack.”

Second Experiment.—A plot of old swarth, was, last spring, broken up for potatoes. The greater part of the crop grew most luxuriantly; but the remainder, from being planted near the roots of some fruit trees, exhibited, in the spindled growth of their tops, a striking evidence of the exceeding poverty of the soil. The grower determined upon a trial of gypsum on this part, on which he applied a top-dressing. A gentle rain falling a few days afterwards, which put the gypsum into action, the effect was the astonishment of all who saw it—the gypsum seeming to impart an almost magic energy to these poor and puny tops; and in defiance of the extremely exhausted condition of that part of the soil upon which the experiment was tried, and the consequent backwardness of the crop, the gypsumed potatoes were amongst the finest in the plot.

The turnip fly.—A small farmer in my own parish, on whose statement I have the fullest reliance, sowed, this year, some rutabaga, upon a piece of rather strong land. No sooner had the plants arrived at their second leaf, than they were so voraciously attacked by the fly, that great numbers of

the plants seemed entirely destroyed, and the rest to be rapidly following. There seemed, in fact, no prospect of saving the crop. Having, however, been informed that it was my opinion gypsum would destroy the fly, this person immediately top-dressed the crop, at eight bushels per acre—more, perhaps, than needful—and the consequence was most striking—the sudden and entire disappearance of the insect, and a most vigorous growth of the plants.

N. B.—The top-dressing for the fly, and indeed all top-dressings, should be fine gypsum, and applied either between showers of rain or in the early dew of the morning.

Every one extols, and justly so, the manure of the farm-yard; yet how few attempt to husband it as they ought. “Far-fetched and dear-bought” as some of our manures are, the farmer continues to buy, whilst he daily witnesses under his own nose the loss of most valuable manure. Ammonia is constantly rising from the stalls and dung-heaps, which might be fixed by gypsum. The urine is allowed to run anywhere but into reservoirs or tanks, and is soon dried up and lost.

Philadelphia Agricultural Society.

At a Stated meeting of the Philadelphia Society for promoting Agriculture, held at their Room, on the 4th inst., Dr. MEASE, Presid't, in the Chair—16 members present.

Mr. Jacob Serrill, of Philadelphia County, was elected a resident member.

The Committee appointed at last meeting to inquire into the existing laws to restrain gunners from trespassing on farms, and destroying birds, in this county, &c., produced a paper, containing an abstract from the different acts passed by the Legislature in relation thereto, and were continued.

A Circular, and letter received by Mr. Gowen from Mr. O'Rielly, Secretary of the New York State Agricultural Society, was read, and referred to the Corresponding Secretary, Dr. Elwyn.

The Committee appointed to inquire into the causes of disease and rot in Potatoes, produced papers which were read, of a very interesting character on the subject.

On motion of K. Smith, Esq., a committee was appointed for the purpose of taking into consideration the propriety of offering premiums for the best Agricultural Essays, to be produced quarterly; and of publishing Memoirs of the Society.

Mr. Gowen read a paper, giving an account of a great yield of Wheat, in Cheshire England; the amount was 53 bushels of 70 lbs., on less than half a Cheshire acre; the ground had been planted with potatoes and

cabbage the year before, and had been trenched four feet deep. The same gentleman produced a large ear of white corn of singular appearance, bearing some resemblance to the Chinese corn; the grains were long and rather pointed at the top end: it was presented to him by Mr. J. Dupuy, who procured a few grains on board a ship at one of our wharves, supposed to be from South America, and had been cultivated by him for two or three years.

The Committee appointed to select a suitable room for a Reading Room for farmers, &c., made a report and were continued.

A white turnip weighing seven pounds was obtained by P. A. Browne, Esq., from Mr. Hoffner of this county, and presented by Dr. Mease.

A. CLEMENT, *Rec. Sec'y.*

Philadelphia, December, 1844.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, TWELFTH MONTH, 1844.

The second number of *Colman's Agricultural Tour* is well filled with matter of general interest to the farmer: we have used the freedom to transfer some of it to our pages, and should be glad if a greater number of the readers of the Cabinet were disposed to treat themselves to the whole of this valuable work. To the advantages of a thorough acquaintance with the details of agriculture, our traveller possesses a habit of close observation; and these render his remarks not only highly interesting to the curious inquirer, but practically instructive and useful. The continuation from last Report of the chapter on the *Allotment System*, will be read and pondered, both by the political economist of Great Britain, and the humane and considerate agriculturist of the United States. Much may unquestionably be done among ourselves to promote the comfort of the hired labourers on our farms. By putting under their care, at a moderate rent, an acre, or three-quarters, or a half, or even a quarter, of land, and showing them plainly how very productive their care and attention may make it, a benefit that will come directly home to the wife and the children, may be conferred, as well as one of a more general nature, indirectly felt by the neighbourhood.

The chapter on *Sleeping Seeds*, we deem of considerable importance. More extended details in relation to this subject than are given in the Report, will be found in our numbers for the 7th, 8th, and 9th months last.

The *Model Farm and Agricultural School*, established by government at Glasnevin, near Dublin, is spoken of in terms of high approbation. Connected with it, are 52 acres of land, to the cultivation of which the scholars give about six hours a day, and devote the rest to study. H. Colman visited the Institution, and by an examination of the accounts in detail, came to the conclusion that it was successfully and profitably managed. Since its establishment in 1838, it has sent out

seven hundred teachers. The potatoes are said to average eighteen tons, or about seven hundred bushels to the acre, and the oats eighty bushels. These crops certainly indicate superior culture. "Happy is it for a country," says our author, "and honourable to human nature, when instead of schemes of avarice and dreams of ambition, and visions of conquest, at the dreadful expense of the comfort and liberty, and lives of the powerless and unprotected, the attention of those who hold the destinies of their fellow-beings in their hands is turned to their improvement, their elevation, their comfort, and their substantial welfare."

THE CATTLE SHOW and *Exhibition of the Chester and Delaware County Agricultural Society*, was held at West Chester, on the 22nd of Tenth month last, and we have understood was well attended by the farmers of that rich and highly cultivated district. The stock on the ground was such as might be looked for in that neighbourhood, showing that where the land is well cultivated, and constantly urged to yield yet more and more, the cattle, the horses, and the sheep, will not be likely to be neglected, either as respects their *keep*, or their *breeds*. Numerous premiums were awarded, and these, with the lively interchange of sentiment, and comparison of results, incident to our agricultural gatherings of this kind, will add new impulses to the farmers of Chester and Delaware, who have already the credit of being behind no other district in the country, either as relates to their industry, their good land, or their good farming. Joseph Burton was there with his fine Durham Bull, *Gladhow*, and carried away the first premium, as he did a few weeks ago, at our own Cattle Show at Germantown.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestrica,	3 00
RELIQUÆ BALDWINIANÆ,	1 00
AMERICAN Poulterer's Companion,	1 25
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

It would have been particularly gratifying to throw before our readers the whole of the Address of our worthy friend J. S. Skinner, at Wilmington, in the Ninth month last. Its length, however, made that impracticable; and the fact of its having been published in neat pamphlet form, in connection with the proceedings of the Society before which it was delivered, renders our inability to give more than extracts, the less to be regretted. The paragraphs given in the present number, in relation to the education of farmers, are of more than ordinary interest, and it is hoped will draw to the subject due attention. The proper bringing up of our sons, and adapting their education to the position in life they will probably hereafter occupy, is a consideration of the gravest character for the parent.

THE NEW YORK STATE AGRICULTURAL SOCIETY, which has through its Recording Secretary, H. O'RIELLY, so politely forwarded to us the last volume of its Transactions, as well as other volumes of a similar character, will accept our due acknowledgments. The preparation of this volume, and of those which precede it, really do great credit, both to the agriculture of New York and to those who have been active in the matter; and its publication by the legislature, is strong evidence of a proper appreciation of the labours of those, upon whose calling rests the true foundation of trade and industry. It shows also, that the legislature, while it is consulting the good of all, feels very forcibly the truth, that this good is generally best promoted by liberal expenditures for objects from which all, without exception, draw unnumbered benefits.

"LIFE IN THE INSECT WORLD; OR CONVERSATIONS UPON INSECTS, between an Aunt and her Nieces." This is the title of a neat duodecimo, lately published by Lindsay & Blakiston, and we regret that the modesty of the author does not permit us to add her name. It is pleasantly written, and is well adapted to the information of children in this fascinating department of Natural History. Although apparently designed more particularly for the young, few of us who are older will read it without being agreeably instructed.

SAXTON & MILES, of New York, have lately published "THE AMERICAN POULTERER'S COMPANION: A practical Treatise on the Breeding, Rearing, Fattening, and general management of the various species of Domestic Poultry, with illustrations and portraits of Fowls taken from life: by C. N. BEMENT," one of the editors of the *Central New York Farmer*.

This volume, of nearly 400 pages, appears to contain almost every thing the poultry raiser need wish in his line; and the remarks and opinions of the writer are judicious and valuable: he shows himself to be no chicken in his business. We have heretofore expressed the opinion, that if properly attended to and managed, there is nothing to prevent poultry in this vicinity, from being among the most profitable stock of the farm. A couple of pairs of chickens will buy this book—and a single pair will buy the AMERICAN POULTRY BOOK. Every farmer should read them. They are for sale both at this office, and at Lindsay & Blakiston's.

In a notice of the Bucks County Agricultural Society, in our last number, a promise was made to give some extracts from the Address of Samuel D. Ingham, delivered on that occasion. They will be found on page 144. The Resolution at the foot of the extracts, shows a disposition to profit in earnest by the benefits of the Association.

ALL know that it is by little and little, the bird builds her nest, and the bee, her cell. Industry and perseverance will accomplish in time, far more than the unreflecting are apt to suspect. Farmers boys, for instance, who would spend a couple of hours these long winter evenings in some useful study, or in the reading of useful books, would accomplish in three or four months, what would surprise one who is accustomed to loitering away these quiet portions of the day without employment. Sixty hours in the month, saved from evenings, which might otherwise have been idly spent, would amount, in the course of a long winter, to as much time, and would enable a lad to accomplish as much as would several weeks' schooling. And the boy who will thus attend perseveringly to his own improvement, may rely upon it, that his increased intelligence will not only add to his respectability, but he will be all the better fitted for the active and responsible duties of life, towards which he is often impatiently looking.

In a note received from "A Constant Reader," inquiry is made respecting the cultivation of mustard seed for the manufacturer. The common black or brown variety—*Sinapis nigra*—is that which is commonly employed in the manufacture of mustard. It would afford much pleasure to throw all the light required upon this subject; for we regard it as one of considerable importance. We cannot, however, do much more than refer to the communication of C. J. Fell and Brother, on page 99, and to the editorial on page 102, of the current volume. He will there find allusion to the kind of soil best adapted to the growth of the plant—and where the seed may be procured. Well rotted stable manure, pretty liberally supplied, would doubtless make a good dressing, and we would suppose the ordinary time of putting in spring crops—say between oats and corn planting, would be seasonable for putting in the seed. The ground should of course be nicely prepared. What quantity of seed would be requisite for an acre, we can hardly form any definite opinion of. If put in drills a couple of feet apart—or as J. H. Parnlee's appears to have been,—in hills, two feet apart one way, and one foot the other, it will be found necessary to tend it with the hoe—if ground be plenty, and the rows be three feet apart, the labour of cultivation may be lessened by the plough. Persons having experience in this matter, are respectfully invited to communicate it for the Cabinet.

ROBERT HAMILTON, of Jersey Shore, left with us a small ear of remarkably beautiful white corn, which he raised from seed sent him from the Iowa mission, west of Missouri. Those who would like a few grains to plant, can have them by calling at the office.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844.

tf.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail, a complete assortment of Farming tools, among which may be found *Horse-powers and Threshing Machines, Grain and Seed Fans* of various patterns. *Corn-shellers* in variety. *Hay, Straw, and Corn-stalk Cutters*, eight different patterns, from \$4.50 to \$30. *Corn-stalk Cutters and Grinders—Churns—Cheese-presses, &c. Centre-draught Ploughs* of eight sizes. *Bill-hooks—Bramble Scythes—Grubbing Hoos—Axes and handles—Hatchets—Potatoe Hooks—complete sets of instruments* for making capons.

Garden, Grass, Flower and Field seeds, warranted fresh and true to name. D. O. PROUTY.

POUDRETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1.75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.

JOSIAH TATUM.

We stated in the Cabinet two months ago, that Professor Emmons, of Albany, and Dr. Prime, of Newburgh, N. Y., proposed publishing an *American Quarterly Journal of Agriculture and Science*. A prospectus is at our office, and we will receive subscriptions with pleasure.

SHORT ADVERTISEMENTS, &c.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

The quantity of rain which fell in the the Eleventh month, (November,) 1844, was nearly three inches.
2.95 inches.

Penn. Hospital, 12th mo. 1st.

CONTENTS OF THIS NUMBER.

Geology of Soils, concluded.	PAGE 137
Massachusetts Premium Farm.	139
A Dog Show.—Sore backs or Galls on Horses.	141
Landlord and Tenant.—Hints to Young Men.	142
Drilling Wheat.	143
S. D. Ingham's Agricultural Address.	144
Application of Steam to Agriculture.	146
C. N. Bement's Address before the Housatonic Agricultural Society.	147
Draining, Irrigation and Warping.	148
Extracts from J. S. Skinner's Ag. Address.	149
Pickled Eggs.—Extraordinary Calf.	151
Raising Potatoes.—Hints to lovers of Flowers.	152
Labour.—Take care of your Woodlands.	153
Autumn, by L. H. Sigourney.	154
Disease in Potatoes.	155
Report on Crops, Ag. Society Newcastle Co., Del.	156
Rotation of Crops.	158
In Farming, Manure is the principal thing.	159
Recipe to make Shoe-black.	160
Corn Crop.	161
Raising Wheat.—To wash Woollen Goods.	162
Continuance of Milk in Cows.—Hoven Cattle.	163
Butter.—Gypsum as Manure.	164
Editorial Notices.	166

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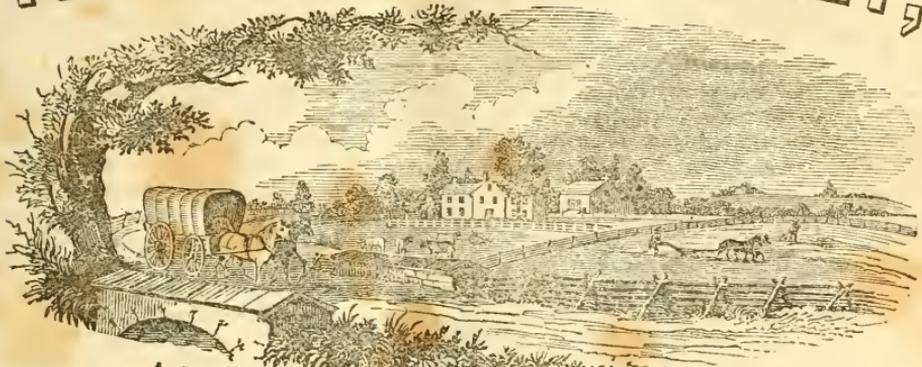
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Joseph Rakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 6.]

1st mo. (January) 15th, 1845.

[Whole No. 120.]

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

Report of Experiments on the varieties of Wheat cultivated in the State of New-York.

[For which experiments a premium has been awarded
by the N. Y. State Agricultural Society.]

BY RAWSON HARMON, Wheatland, Monroe Co.

We had intended, from month to month, to publish the following Report, &c., but have not till the present time, found the opportunity. The statements and observations are not only interesting to our agricultural readers generally, but practically valuable to wheat growers. To be able to make choice of the variety of wheat adapted to his location, soil, and mode of cultivation, is one of the important arts of the farmer, and gives room for the exercise of a good deal of judgment.—Ed.

THE culture of wheat has called forth the attention of the agriculturist in the temperate zones more extensively than any other grain.

The varieties have been extensively multiplied—each variety has its advocate. The varieties cultivated three thousand years

ago, appear to have been much inferior to some of the varieties of the present day. The quantity was probably greater than that obtained from some of the most valuable varieties of the present time; but the grain was coarse, containing much less of the essential qualities of good wheat—gluten and starch. The varieties cultivated at the present day, appear to have as great a difference in their quality, as there was between that cultivated before the Christian era and the present time.

White Flint.—The origin of this valuable variety is not certainly known. It is claimed that it was introduced into New Jersey from Spain, in 1814, and from thence spread through many of our wheat-growing districts. It is likewise claimed to have been brought from the Black Sea into New York, about the same time. The supposition that it originated in the town of Rome, Oneida county, in this state, where it was called Mud Flint, from having been found growing on muck soil, is not entitled to serious consideration. Its first appearance in Western New York was about twenty-five years since.

The strongest probability is, that it was first brought from the Black Sea into this State. Its origin is of less importance than the proper appreciation of its value to the cultivator. It is generally acknowledged to be one of the most valuable varieties that has been introduced to the wheat-growers of the Northern States.

Description.—The chaff is whiter than in most varieties. A few short and soft beards are found in the upper end of the heads, which are inclined to droop somewhat like the heads of barley. The straw may be said to be of medium length, and not as large as the straw of the common varieties. At the root it is more solid, and of a wiry appearance, being more stiff and not as subject to lodge as when it was first introduced. The heads are not long, but generally well filled, with thirty to forty kernels in each head. The kernel is of a white flinty appearance, and very solid, with a thin bran; the berry is of good size: the straw is very white and of a bright appearance; having less leaf on the straw than any other variety I have had under cultivation. There is one peculiarity about this variety not met with in any other with which I am acquainted: that is, the tenacity with which the berry adheres to the chaff in its chamber. It must be very ripe to waste by shelling when cut, and when threshed, but little of the chaff is separated from the straw. The only objection to this variety when first introduced, was, that it was difficult to tread it out with horses, or beat it out with the flail; and then the white caps adhered so closely to the kernel that it was frequently complained of by the millers. But on the introduction of threshing machines, this objection was entirely removed, for in passing through the machine, the chaff is completely torn from the berry. That which was formerly a strong objection, is now considered a decided advantage, as it does not suffer by standing until it is fully ripe, and gives the wheat-grower more time to secure his crop without loss.

When it was first introduced, it was mostly sought for to sow after corn, or on land not well prepared, and on thin and light soils—seldom being affected by the frost of winter, except on some bleak points where the snow is off most of the winter, or where the snow would blow on and remain in heavy drifts till late in the spring—where, in fact, no variety that we have introduced could succeed.

This variety has withstood the Hessian fly better than any other now cultivated. The solidness of the straw at the root, gives the fly less chance of destroying it, as it is not as easily eaten off when the berry is filling—the time when wheat is most injured by the fly. Some of the stalks of this variety will be so eaten as to fall down, yet mature the berry; while in other varieties, after it has fallen from the injury of the fly, the greater part of it fails to mature.

The hard and flinty berry is not easily

affected by the rains, and it is consequently less subject to grow from exposure in an unfavourable harvest than other varieties. I have never known it to grow while standing in the field, and seldom while standing in the shock; but when committed to the earth, it vegetates very readily. Some have supposed that by threshing it in a machine, many kernels are injured so that they will not vegetate. I have frequently threshed a few bushels with a flail, and sown it side by side with that threshed with the machine; and have not yet become satisfied that the threshing with the machine has proved injurious to wheat intended for seed.

The amount of seed and time of sowing.—There is some difference in opinion as to the quantity required to be sown to the acre: first, we must take into consideration the soil, its quality—for on that much depends—and the time of sowing—on clay loam soils, the first week in September is the best time for this section of the State. It is important to have it take a good root before winter, and if sown earlier, the fly is very apt to destroy some of it in the fall; and if it should be so large as nearly to cover the ground the last of October, it should be eaten off by cattle or sheep, as it is less liable to be injured by deep snows. Here one bushel of seed to the acre, is as good as more on soils in good condition; if sown ten days later, add one peck more seed per acre. On sandy, gravelly loams, the second week in September is the time most favourable for sowing: if earlier, the fly is very apt to affect it, so as to diminish the crop. Wheat, on such soils, appears to suffer more from the fly, than on clay soils. On these soils, one bushel per acre; and if the soil is not in good condition, one peck more should be sown. The White Flint spreads or tillers more than the common varieties; and when I have sown a bushel and a half the second week in September, it was too thick, the straw fine, the heads short, and the berry not as large and fine as it would have been, if one peck less had been sown to the acre. There is one advantage in sowing thick on soils where it is subject to be affected by rust; it will ripen two or three days earlier. That is an important consideration on soils unfavourable to the early ripening of wheat.

The yield per acre.—While this kind of wheat has been generally received with great favour, as one of the most productive varieties, the shortness of its head has by some been thought an objection. I believe the head is as large in proportion to the size of the straw, as the other varieties. The amount per acre here, on common soils, is

twenty to twenty-five bushels; it frequently exceeds that on strong soils, and in some instances has reached thirty, thirty-five and forty bushels per acre. In one instance in this town, twelve acres produced 648 bushels, being fifty-four bushels to the acre; and the greatest yield ever known in this county, 68 bushels 43 lbs. per acre, was from seed one half White Flint, the other half of Red-Chaff Bald.

Its quality.—This variety is held in high estimation wherever it has been introduced. The millers give it the preference over all others. Its white flinty character and heavy berry make it tell in the half bushel—the pure wheat weighing from 63 to 67 pounds to the bushel. When cut before fully ripe, it is from one to three pounds heavier per bushel, than when fully ripe.

The following appeared in the *Monroe Democrat*, of November 28th, 1843:

“SUPERIOR WHEAT.

“*Messrs. Strong & Dawson:*

“GENTLEMEN,—We do not recollect noticing in any of the newspapers in this section of the country, a word about the superior quality of wheat raised last season.

“We received at our mill, yesterday, a parcel of wheat raised by Moses Smith, of the town of Brighton, which was of so nice a quality that we were induced to weigh it, and found that a sealed bushel weighed 67 pounds. It was of the pure white flint species. We have, in a number of cases during the fall, received parcels which weighed 63, 64 and 65 pounds; but the parcel above named, was decidedly the best we have seen. We are well convinced, that in order to secure a plump and heavy berry, there is a particular time to cut wheat, which point is well deserving the attention of wheat-growers. We send you a sample of the wheat, which is well worthy of inspection.

“SMITH & ALLCOTT.

“Rochester, Nov. 23rd, 1843.”

The time of cutting.—To be the most valuable for the millers, wheat should be cut as soon as the berry has passed from its milky to its doughy state. Wheat cut then, contains more of the gluten and less starch; if suffered to stand till the berry becomes hard, the gluten is diminished, and the starch is increased, which reduces the quantity and quality of the flour; but for seed, it should never be cut till fully ripe. Starch is more valuable in its early vegetation than the gluten. One cause of the increase of smut, of late years, is the cutting of wheat intended for seed too green. Wheat cut before it is fully ripe, should not be sown.

If wheat-growers would adhere strictly to the sowing of no seed that is cut before it is fully ripe, they would find smut disappearing without the preparation of brine and lime. The farmer that neglects to brine and lime his seed wheat, does not look to his best interest. Smutty wheat is much improved by not cutting until fully ripe.

Quantity and quality of flour.—The White Flint wheat is the most valuable variety that has been introduced into Western New York, for the quantity and quality of its flour. Its soft mellow feel, and its richness, give it the preference over flour made from any other variety. Several of the New York papers have noticed the fancy brands in the seasons past. The *Journal of Commerce*, of Nov. 3rd, 1843, gives the following description of fancy brands:

“*Choice Brands.*—A few years ago there were several of the Genesee millers, whose flour, running a little above the inspection standard, was termed Fancy Brands, and sold at a York shilling above standard brands; but more recently that distinction has been surpassed by one much wider, and has ceased to be regarded. There are now several mills in the Genesee country, and in Ohio, which make flour quite above the standard brands. It commands four, and even six shillings, more in the market.

“This fancy flour is not often quoted in the price current, but is eagerly sought for by those acquainted with it, and ought to be by all Americans who would like to be conscious that their bread and pastry are rather better than any of the princes of the Old World can command. We have used several of these fancy brands, the best of which we see is marked on the head, Hiram Smith, Wheatland, Genesee. This brand took the first premium at the late fair, and the biscuit made of it testify that the committee made no mistake. The standard brands of Genesee, Ohio, and Michigan, are all excellent; but these fancies, for domestic use, we must think, surpass them more in quality than in price.”

The *New York Tribune* of November 13th, 1843, in noticing the market, says:—“the first premium of the American Institute has been awarded to the sample of Hiram Smith’s flour, exhibited at the late fair; and it well deserved it for its excellence in the two best characteristics of flour—colour and strength. It is manufactured with great care, in one of the best mills in the country, with a determination that it shall stand as well as the best in the consideration of the buyers of fine flour.” Mr. Smith being a practical miller, having one of the best mills in the country, with a new and supe-

rior snout-machine of his own construction, and being located in the vicinity where the White Flint wheat is most exclusively cultivated—with such materials, he could hardly fail of standing unrivalled in the market.

Improved White Flint.—This is claimed as a new variety. It was obtained by careful selection from the best White Flint, and sowing on a sandy, gravelly loam soil, intermixed with limestone. The seed has been prepared by brining and liming. The berry has become larger, of more uniformity in size, bran very thin, and the flour the same as the White Flint. My seed wheat weighs sixty-four to the bushel, and the yield of flour is superior to any other. Where I have sold for seed, it has universally been held in the highest estimation. The last three years, I have sold extensively for seed. The past year, I have had orders for it from seven different States, the District of Columbia and Canada: and where it has been tried, it has given the greatest satisfaction. In August, 1842, I sold J. Cook, of Byron, Genesee county, forty-seven bushels for seed. In a communication from him, dated October 28th, 1843, he says he commenced sowing his wheat the 7th of September. "The wheat came up quickly, looked well all the fall, stood the winter well, and grew well till harvest, and the product was 33 bushels per acre: the quality was very fine. I sold over six hundred bushels for seed, at one dollar per bushel; and had I been at home, I think I could have sold every bushel of it for seed, at that price—1254 bushels. We have had it ground for family use, and better flour I never saw. It has fully answered my expectations, and I am highly pleased with it. I think it would have given a greater product, had I not sown it so thick. I sowed five pecks to the acre, and it was much too thick. I sowed last year sixty-five acres with your Improved Flint, Indiana and Hutchinson wheat, and I shall get about two thousand bushels; the Flint yielded a little the most."

A wheat-grower on the east shore of the Chesapeake, Maryland, to whom I had sent sixty-three bushels of seed, says it had a better berry and gave a better yield than any other, and he had sold nearly every bushel of the product for seed.

I carried a bag of my Improved Flint to Hiram Smith's mill: he has ground it, and in a note he says: "The bag of wheat you left to be ground, contained two bushels and eighteen pounds. It has produced one hundred and six and a half pounds of flour, and thirty-one pounds of bran and middlings; loss half a pound. It was too small an

amount to give a fair test of its yield. From one hundred bushels of such wheat, I am confident I can make twenty-four and a half barrels of superfine flour. Yours, &c.,

"HIRAM SMITH.

"Wheatland, Dec. 12th, 1843."

We have made use of the flour, and find it equal, if not superior, to any flour that we have had this season; and we have had none but superfine, from two of the best mills in this vicinity.

White Provence, from France.—Heads, middling size and bald, chaff of a bluish cast; berry, very large and white, bran thin, yielding flour well, and of a good quality. This is one of the most beautiful samples that I have had under cultivation. From its first coming up, it comes forward faster than any other variety I have seen—so much so, that it can be distinguished from all the others. The blades are larger and longer, spread more rapidly, producing more straws from a root: it stands the winter well, is not injured by the insect, and ripens four or five days before the common varieties, yielding well. In one instance, one peck was sown in October, after corn, on less than one-fourth of an acre, and the product was eleven and a half bushels of most beautiful berry, at the rate of forty-eight bushels to the acre.

The only objection I have to this variety—it falls down more than any other. The straw is small, long and soft, with heads large in proportion to the size of the straw, and well filled.

Old Red-Chaff.—This variety was introduced into Western New York more than forty years ago, from the lower part of Pennsylvania, and for more than twenty years it was the favourite variety, and has produced some of the heaviest yields known in this vicinity. Red chaff, bald; straw, long, seldom lodging; berry of a good size, and weighing from 60 to 63 lbs. to the bushel—white, and bran thin, producing flour well, and of a superior quality. On new oak lands it is now one of the best varieties that is sown. On old lands, of late years, it appears to have lost some of its former qualities, being more subject to rust and mildew. The insect attacks it more freely than some others, and it has suffered by severe winters. At present it is not sown as much as formerly.

Kentucky White-bearded, better known in Western New York as Hutchinson, or bearded flint, or Canada flint—was introduced into Cayuga county by Mr. Hutchin-

son, and has been sown extensively the last five years, and now is the favourite variety with many. The two years that I have tried it, it has not equalled the improved flint. On clay soils, or where wheat is late in ripening, it may be valuable, as it is supposed to ripen earlier than other varieties.

With me, when sown on the same soils, and at the same time with my flint, it has not ripened any sooner.

This is a white-chaff bearded wheat, heads short and heavy,—it is called club wheat in some sections—and well filled, with a short white round berry, weighing from 60 to 65 to the bushel. The berry being short, packs close in the half bushel, yields flour of good quality, but will not come up to the improved flint. Bran is thicker and more brittle, and will not admit of being ground as close; if it is, the flour is more specky, exhibiting small particles of bran. If it is not cut before fully ripe, there is a loss in harvesting, for it shells very easily. Every touch of the long stiff beard shells it out. It stools or tillers out but little, requiring from one and a half to two bushels of seed per acre. The straw is stiff, and seldom lodges. On river flats and rich soils, when the common varieties would lodge, this will not get down. Insects affect it more readily than they do some other varieties. The heaviest yield of wheat that I have heard of this year, was from this kind. It is somewhat liable to smut, owing to its usually being cut green; this straw being thick, it matures more after it is cut than most kinds.

Indiana Wheat.—This variety was introduced from the State that bears its name. White chaff, bald; berry, white and large; bran thin; the berry not as flinty as the white flint, having more of the appearance of the improved flint; some of the best quality weighing sixty-four to the bushel, producing flour of superior quality and quantity; straw is larger and longer than the white flint; ripens about three days sooner, shells easy, so that there is considerable loss if it remains in the field till fully ripe. It is well adapted to strong soils. On the farm of J. Cook, of Byron, it has averaged thirty bushels per acre for ten years; but with me it has not proved as well as the flint. Its early ripening makes it valuable on late soils. This grain the insects have attacked more than the flint, and it is more liable to be winter-killed.

Velvet Beard, or Crate Wheat.—This is an English variety, and was introduced into Western New York about sixteen years since. This is a reddish chaff, bearded, with a large red berry. The straw is large and

long. Heads long and well filled; long and very stiff beards, producing well on strong soils. It requires to be sown one and a half bushels to the acre, as it does not spread as well as some other kinds. It is sown mostly on the strong soils of the Genesee flats; being very hardy, and straw stiff, it is not subject to be thrown out by the frosts of spring. With its stiff straw, it seldom gets down. The berry heavy, weighing from sixty to sixty-four to the bushel. It is fifteen per cent. inferior to the white wheat, in the quantity and quality of its flour. Flour made from this wheat is of a yellowish cast. It will admit of being sown the last of August, being seldom injured by the insects or strong soils.

(To be continued.)

Extracts from J. S. Skinner's Address,
Delivered before the Agricultural Society
of New Castle Co., Del., at the Annual
meeting, held in Wilmington, September
11th, 1844. See last No. p. 149.

I SHOULD not fulfil my duty were I not here to relate something of what I observed last week in old Massachusetts, where, short as my sojourn was, to meet my engagement here, so much occurred to fill me with admiration and personal gratitude. Not from any view to invidious comparison, but to stimulate you to inquiry and reflection, note was made of the progress of a single town whose situation is analogous in some striking respects to Wilmington, especially in local advantages, in vast water power, and in vicinity to a large city of enormous wealth like Boston, whose capitalists, with an enterprise and sagacity all their own, leave no resource neglected that art and opulence can make available. I was in that venerable State when Lowell was little more than a farm. The oldest of their manufactories was chartered in 1822, and on the 1st of January last, there had been consumed within the past year, of cotton, 22,880,000 pounds. The monthly wages distributed in cash, were \$150,000; one establishment alone, the Middlesex mills, manufactures the fleeces of 1200 sheep daily; and through the year, American wool of the finest quality, of the value of \$500,000. The same establishment consumes annually 15,000 gallons of American lard oil, besides 7000 gallons of sperm oil brought by American vessels—four millions of teazles of American growth—eight hundred tons of Pennsylvania coal, besides other articles of American production, and of the value of more than half a million—giving steady employment to 850

hands, who are paid monthly in cash. The machinery is all American in manufacture and principle. The capital embarked in this one establishment is \$750,000, and what constitutes the salutary distinction between American and English establishments of this character, the practical operatives who daily work in the Middlesex mills, own \$60,000 of the stock. Lowell, which, as I before said, was scarcely more than a farm when I was last in Massachusetts, now boasts a population of 25,000 people, and to crown the whole they levy on themselves, and pay without grumbling, a school tax amounting to \$24,000 a year. Note in all this, my friends, the mighty energies of an industrious, economical, educated people!

I was pleased to learn, from one of the accomplished and liberal proprietors of the works to which I have particularly referred, that the descendants of the fine-wooled Saxony sheep transplanted to Ohio, were supplying his mills with wool of longer staple, and equally fine as that of the original stock.

To return to the causes of your slow progress in population and the obstacles presented by it to a more general diffusion of the knowledge necessary to a high cultivation of the art of husbandry, to say nothing of one great drawback which cannot now be reasonably applied to Delaware or New Jersey, there are yet other causes of blight which seem to have stunted the growth of the old States on the Atlantic slope south of New England, sufficiently obvious and remediable to warrant me in referring to them. Among the most prominent is the inherited habit or prejudice of mistaking and going for *quantity* rather than quality of land, which pervades the region referred to, and which is said by some to be the monomania of the Saxon race. How many are there who own from 300 to 500, and even more acres of land, of which one-third, or at least one-sixth part, lies totally unproductive in useless brush-wood, in uncleared swamps, or in land rendered worse than profitless, for want of proper draining? the owner not seeming to remember, that for every such acre not yielding something in grass, in pasturage, in tillage, or in growing timber, he should charge himself, as with so much lost or thrown into the fire or the sea. Of how much more are men robbed by their own indolence and short-sightedness, than by thieves who break in and steal.

There is no mistake more common than that of supposing that the more land a man has, the greater must be his profits—forgetting that the profits arise not from the land itself, any more than from an idle mill or an empty ship, but from the skill and manner

of using it:—and so indispensable is capital in the business of farming, that in general it may be laid down as an axiom that money employed in agriculture, will yield an interest in an inverse ratio to the area to which it is applied. Thus, if \$100 be expended, and yield ten per cent. on ten acres, the probability is that it would yield much more if applied to half that area. In England, where this matter is so well understood, the land-steward of the Marquis of Stafford, a practical man, being asked the amount actually required to stock and carry on a farm, said that in Staffordshire, a farm of 250 acres medium quality land, bearing a proportionable quantity of good, fair, and inferior qualities, and one-fifth in permanent meadow, would require a cash capital of \$12,500 in an ordinary state of entering, and an additional capital in proportion to the estimated extent of any improvements to be effected in the way of road making, fences, and under-draining.

Numerous instances must be familiar to all who hear me, of the wonderful effects of *lime* and other manures, in enhancing the value of Delaware lands, especially since the establishment of this Society, and the excitement and rivalry produced by it—raising it in many cases from \$5 and \$10, up to \$50, and even \$100 an acre. I will detain you to mention but one instance of the efficacy of lime, and of the necessity of some chemical knowledge of the nature of manures, soils and crops, related to me on undoubted authority since I left home to meet this engagement.

Mr. Collins, residing on Scuppernong Lake, in North Carolina, a gentleman of large fortune, and, to his honour be it mentioned, as it does not *always* follow, of liberal temper, had a large field of rich black alluvial soil, which yielded heavy crops of Indian corn, but, as often happens, was ill suited to wheat, producing not over 13 bushels to the acre. He purchased and applied to this land 250 bushels of lime to the acre, and then reaped 47 bushels of wheat! For this lime, the refuse of kilns on the Hudson river, brought into Ocracock as return freight, by lumber vessels trading to New York, he gave 10 cents a bushel. This made, you will perceive, an outlay of \$25 capital to the acre, at a single dash; but mark the result! Deducting 13 bushels, the most that land of the same quality alongside of it produced, and there remained 34 bushels of wheat against \$25; the land being left permanently impregnated with an elemental and alimantal ingredient and food for that noble grain, of which, with all its capacity for producing other crops, it was

until then nearly destitute. Most of you are doubtless familiar with instances of the efficacy of capital applied in like manner.

When it is considered that labour becomes cheap, or what is the same thing, more productive, exactly in proportion to good tillage and the richness of the land combined, either naturally or by force of the manure applied, is it not self-evident that if the owner of unproductive land cannot otherwise command the requisite capital, he had better sell off one half for the means of improving the remainder, rather than retain the whole in a state of paralysis, that he may vainly boast, "I am monarch of all I survey," even though it be but a barren waste. No spider in the midst of his web, is more circumspect of whatever approaches, than is the capitalist in the midst of his strong boxes; and if the farmer, whose all is in land, cannot by force of his character for economy and intelligent management, command the requisite capital, and will not alienate, had he not better divide at once among his sons, giving to each if it be but 50 or 25 acres, with a set of centre-draught ploughs, together with a subsoiler, a pair of mules, or a span of New England-like oxen, and a *drag-log*; and thus instead of running riot for want of employment, or going to seek through a life of exposure and hardship a precarious livelihood on the frontiers, his children would cluster around him, constituting, as well in the vigor of manhood as in his declining years, his safest friends and most delightful companions. Not a week since, having the pleasure to pass a delightful day, in company with the enlightened, liberal, and zealous editor of the *New England Farmer*, and other gentlemen distinguished for intelligence and character, at Indian Hill Farm, the residence of Col. Benjamin Poore—Poore in name, but rich in all the qualities that "give assurance of a man"—I heard him remark that, as a young man, beginning life, to make his way by industry, and without capital, he would sooner commence on *one acre* than on one hundred. You may estimate the weight of his authority when I add, that he took the premium for not only the *best managed farm* in the State, but for the *best specimen of under draining* on a large scale, and for the *best system of keeping farm accounts!* There were among other proofs of uncommon energy and skill, about forty acres of originally worthless waste land, which he had so reclaimed as to produce two and a half tons of the finest hay to the acre, while his own flourishing plantation of forest trees, concealed and ornamented rocky precipices inaccessible to the plough.

Management of Hens.

THE Kennebec, Me., Agricultural Society having offered premiums for the best management of fowls, two competitors gave statements of their mode, and as they contain useful hints we copy that of Mr. Child, so far as relates to management.—*Boston Cultivator*.

From the statement of James L. Child:—

My hens laid nearly as well during the winter as in the warm weather. Their habitation was warm, and so constructed as to bring them to the ground, where they found at all times a good supply of old plastering, ashes, pulverized oyster shells, charcoal, fresh water, once or twice a week, beef liver, or some other kind of meat. I feed chiefly upon baked or boiled potatoes, giving their food to them warm in the morning and at night, occasionally dealing to them a little corn or oats, and giving them all the crumbs, and skins, and fragments of the cooked vegetables. To prevent their being infested with lice, about once a fortnight I mixed in dough, so as to discolour it, a quantity of flour of brimstone, which is a sure preventive as well as remedy, and may be safely given in small quantities to young chickens, for the same purpose.

It will be seen from my mode of keeping my hens, which average about twenty-five and three roosters, through the winter, that I cannot give the precise cost of keeping, but I am satisfied that potatoes may be given, as a general food, and fowls kept cheaper in this mode than in any other—and they will always be ready for the spit, if not stinted in quantity. I find my fowls fat at all seasons.

I estimate that my hens afford me from their eggs, without regard to their meat, a clear profit of 50 per cent. I confine them to their yard, hen-house, and barn cellar, during gardening, and to their house and cellar in the winter, and think with that degree of confinement, they lay better than they do when allowed to wander at large. Hen houses and roosts should be kept neat, and often whitewashed, and their nests should always have half an inch or more of ashes or lime on the bottom, under the hay. Broken or rotten eggs should never be allowed to remain in the nests. Dirty water should not be given them. To do well, they require pure water, and all their food fresh and uninjured from taint or fermentation. I estimate that during the year,—deducting the time of their moulting, and inclination to set,—I have got daily, one half as many eggs as I have had laying hens.

Every family can, with a very little trou-

ble, with their flock of a dozen hens, have fresh eggs in plenty, during the whole year, say in all, 2000, and 100 full grown chickens; and of all the animals domesticated for the use of man,—if such be the fact,—the hen is capable of yielding the greatest profit to the owner. It is a pleasant recreation to feed and tend a bevy of laying hens.

Care should be taken to change roosters often, as otherwise the best variety in the world will run out, and cease to be profitable from breeding in and in: and I feel great confidence that much improvement may be made by due attention to crossing, and in this way some of the evils from breeding be averted. I have stated that I give my fowls meat: this is indispensable, if they are not allowed to go at large. If corn is fed out, it should be soaked, and 15 bushels is a fair yearly allowance for 12 hens and a rooster. But they should always have food by them, and after they have become habituated to find enough at all times in the trough, they take but a few kernels at a time, except just before retiring to roost, when they will take nearly a spoonful into their crops; but if they are scantily or irregularly fed, they will greedily snatch up a whole crop full at a time, and stop laying, and not unfrequently engender some fatal disease.

From the Central New York Farmer.

Shepherd's Dog.

MESSRS. EDITORS,—According to promise, I send the description and character of my Shepherd's dog. He is of humble pedigree; his dam was of a poaching disposition, caught pheasants on their nests in the summer, and was shot by the game-keeper, after producing Boxer under a manger. His sire was of a similar kind, caught hares in their forms when out on duty, and although owned by the shepherd of a nobleman, even the influence of aristocracy could not save him; he was hung for his transgressions, although he procured his master many a luxurious meal, and he gave Boxer a good education.

Boxer's pliz is rather a remarkable one; though not beautiful, there is an animated and intellectual look in his eye, and appearance of quick imagination before action, that make him interesting; he is of medium size, a long curly coat, and without a tail, a good criterion of the true kind.

This dog is one of the most faithful and affectionate of the brute creation, and I should say knows as much as many of the human race. His temper is exceedingly docile, except when imposed upon, then

he will defend himself with true courage; going through the city, twenty dogs may run, bark and growl, but Boxer will turn, give a counter snarl, and bid defiance to all.

He will go round any lot on the farm, and fetch every sheep to you, and keep them together until you examine the whole flock, or take any number from it. He is generally very obedient, and a more industrious animal never stood on legs; he is more useful in driving a flock of sheep than three men. If his assistance is required among the cattle, he will take them to any point required, and he knows a strange animal equally well with myself. Boxer is no friend to hogs; if he sees one on the premises, out of the sty, he is off without orders. If the peacock, fowls, turkeys, or ducks, enter the garden, Boxer discovers them, or if a whistle is given, they take to their wings or legs immediately. Should the geese enter any of the lots, a whistle will soon bring them into the road. Once show Boxer the proper place for an animal, and he will always bear it in remembrance. Make him understand what you want him to do, and he will perform his work with great sagacity.

It is sometimes my practice to let my sheep in the road a few hours in the day, when the feed is good, and take them at night to very short pasture, to leave the manure they collect; one evening Boxer going to fetch them, brought all but one; as soon as they had entered the gate, he barked at the shepherd, and walked toward the lost sheep, the pastor followed him to a fence where a lamb was fastened; had he remained, he must have died before morning. Two flocks of sheep came to the washbrook at the same time, into one yard, Cotswold and Merino. Boxer kept the division equally well as a board fence, not a sheep escaped from either, the whole time of washing. The old dog did this with much judgment, and in a very quiet way, and the good acts he had done elsewhere, elicited many compliments from his friends and "acquaintances." Give Boxer a fair chance at a rat, and he is certain death. A "skunk" must die, notwithstanding its odor; a woodchuck must run, if he has far to get home; and a dog must fight,—and bravely too,—if Boxer catches him among the flock.

He comes to his meals as regularly as the cloth is laid, and if he is not noticed, he will put his paw on each at table, until he is fed. He fares as well as his master, who is perfectly aware of his partiality and sterling worth, and well compensated for every meal. He is a more interesting companion than many who call themselves men. Boxer

sleeps before the fire in the evening, and has nothing to disturb his tranquil repose, but the caresses of his friends—at night he guards the premises—not a thing moves without his knowledge—and a “thief” must take care of his “breeces”—the midnight solitude finds the old dog watching. He is a dog of all work, a general favourite, and never flinches from his duty, but manifests eagerness to do it. If the old dog could speak, he could tell a good tale on sheep. If he could flourish a pen with his paw, he could distinguish the *different breeds of cattle*, equally well with many writers who profess to know; therefore I shall bestow the praise and commendation, and to say the least, he is a great dog. I have been offered one hundred dollars for him, but my “*last shilling*” must go before we part; there is a tie between him and me, that even the power of money cannot sever.

WM. H. SOTHAM.

Hereford Hall, Nov. 10th, 1844.

Keep your best Stock.

MANY farmers are in the habit of selling their best animals, as they will bring the highest price. A greater mistake cannot be made. A difference of ten or even twenty per cent. in the price of a single animal, is a small affair compared with this difference in a whole herd. By keeping the very best to propagate from, the whole may be made of equal excellence, and in the course of a few years, numerous animals might be produced having the excellent properties that now distinguish some few of the best.

What should we say of a farmer who has several highly valuable varieties of potatoes, and other kinds that are inferior, and for the sake of ten cents extra a bushel, he sells for consumption all his best varieties, and plants those that are inferior, when in consequence of this imprudent measure, his next crop will fall short twenty-five per cent. Every one will condemn this course, and few, if any, are so wanting in discretion as to pursue it; yet many take a similar course in selling their best animals and propagating from the poor.

For the purpose of work, beef, and the dairy, there are probably no cattle superior to our native breed, where attention has been given to improve them, though some improvement for certain purposes may be made by a cross with foreign breeds, that excel in the qualities desired. There is a vast difference in our cattle in sections where much attention has been given to improvements by selecting the best, when contrasted with those where little or no attention has

been paid to the subject, and as a matter of course, the best have been sold, or eaten up, because they were the fattest. Every man that raises stock has it in his power to make improvements, and he should avail himself of all the advantages around him to turn this power to the benefit of himself and posterity.—*Boston Cultivator*.

American Provisions in England.

THE following condensed from a letter published in the Mark Lane Express, from J. & C. Kirkpatrick, of Liverpool, appears in a late number of the Cultivator.—Ed.

THE strong prejudice which at first existed against American provisions, and for which there was good reason, in the inferior quality of the earliest arrivals, has been gradually removed, as shippers have learned to conform their brands to the wants of the English market.

Beef.—Great difficulty has been experienced in securing a footing in the British markets for this article, owing to the prejudice which the inferior character of the first shipments naturally produced; but the imports have been latterly of better quality. The Americans may have the *exclusive* supply of this article, if they will avoid the faults in cutting and packing which have formerly attached even to their best brands. Complaint is made that some of the late parcels were very dark in colour, supposed to have been caused by a bad quality of salt, or badly seasoned casks. The casks have generally been made too large, allowing the meat to roll about; they should be made of such size as to admit the required quantity with tight packing, leaving room for a good heaving of salt. The meat too has often been most irregularly messed, the pieces being of very unequal sizes, whereas they should be cut as nearly as possible eight lbs., and should be cut square and compact.

Pork has had less difficulty in finding its way into the English market, and less care has consequently been taken by curers in properly packing it. The position of the trade is therefore about the same that it has been for two years past; but it is capable of great extension if due care is only taken to suit the market. *Prime mess pork* should consist of 50 pieces of four lbs. each, from hogs weighing 160 to 200 lbs., every part being packed except the head and legs. It is important that the meat be firm and well fed, and free from the oily character which American pork generally possesses. It should remain 36 hours after being killed, in order that it may become quite cold and firm, before it is packed.

Cheese.—The import of this article to Liverpool during the last twelve months, was somewhat over 1,400 tons; while the steady and progressive increase in the trade gives promise of a much extended import in coming years. The general quality of American cheese, shows that the soil of the United States is well suited for its production, and which makes it the more to be regretted that the very obvious defects of make, which have so much operated against its more extensive introduction into England, should not be remedied. This might easily be accomplished by the circulation of proper instructions on the subject, among the farmers in the cheese-making districts in America. Of these defects, the principal arise from a too hurried manufacture, and insufficient pressing, which, by leaving the whey in the cheese, not only injures the flavour, but renders it more liable to decay, while the same cause makes it open and porous, a fault particularly objectionable. The make of English cheese has never been equal to the demand of this country; and the home supplies have, consequently, been supplemented by large yearly imports of Dutch. There is now, however, every prospect of the required supplies being drawn largely, if not principally, from the United States instead of Holland; the diminishing import from the one, and the rapidly increasing import from the other, already indicating such a change. As regards the form of the cheese, it is desirable that they be made of less breadth and greater depth or thickness, which would both conform them nearly to the appearance of Cheshire, with which they have to compete, and would also fit them better for passing through the ordeal of a long sea voyage.

Wheat flour.—The result of the harvest is now pretty well ascertained, and it may be said with confidence, with regard to wheat, the great staple of England, there has never been a more abundant harvest reaped, while the excellence of the quality is fully equal to the abundance of the yield. Oats rank next, but are below an average. Barley and beans, in consequence of the drought, were a very short crop. The abundance of the wheat crop will, however, compensate for the deficiency in the other, and low rates for that article at least, may be looked for. The reduction in price has already advanced the duty to its highest point, 20 shillings per qr., and at which it is likely to remain through the winter, so that the stock of United States flour held in England, and which in Liverpool alone amounts to 140,000 barrels, must remain in bond till next summer at least, with the exception of

what may be required for export. The result, so far, of this season's importation from Canada, shows that the object contemplated by Peel's corn-bill of last year, has been fully secured, in drawing to the river St. Lawrence a considerable portion of the produce of the Western States of America. A late return shows that the exports from Canada, up to August this season, were 307,000 barrels of flour, 237,600 bushels of wheat—the exports to the same period of last season, having been 50,000 barrels of flour, and 15,000 bushels of wheat.

German and Brazilian Hens.

WE were pleased with seeing a pair of German hens the other day, which Mr. Eaton obtained from a friend in Massachusetts this fall. They are a large, stately fowl, of a greenish black colour, having little or no combs. Their heads are furnished with beaks more hooked than common hens—more of the crow form. They are reputed to be good layers. The Boston Mercantile Journal has the following relative to this breed of hens and their eggs:

"We have received from a subscriber, a couple of hen's eggs of immense size—being a specimen of the productions of a breed of hens brought into this country from Guilderland a few years since, by Capt. John Deveraux, of Marblehead. They weigh three ounces and three-quarters a piece, and measure seven and three-quarter inches in circumference one way, and six and a half the other. If any one has any larger hen's eggs, bring them along!

"We learn that these Dutch fowls are of a large size, some weighing seven pounds a piece; may be easily fattened, are delicate food, and first rate layers. Their eggs are usually one-third larger than those of our ordinary fowls. One of the hens which Capt. Deveraux brought home, laid 160 eggs in so many successive days!"

Mr. E. has also a pair of Brazilian hens, which are a large variety, mostly black, with their necks slightly streaked with white. We think these will be quite an acquisition to the hen department of this section of the country, and hope friend Eaton will succeed in raising an abundance of these "high Germans" and Brazilians to supply those of his friends who may wish to obtain the breeds.—*Maine Farmer.*

A FACT FOR FARMERS.—A writer in the Tennessee Agriculturist states, that chickens and fowls fed with corn ground coarse, as, for instance, hominy, will never have the gapes.

From the *New England Farmer*.

The Disease in Potatoes.

MR. BRECK,—Mr. James Brown having kindly brought me some of the potatoes infested with the disease which has this year committed such ravages on this vegetable, I proceeded at once to investigate the subject.

The peculiar smell, and the reputed poisonous qualities of this diseased potatoe, made me nearly certain that it was a species of fungus—a position which I think has been confirmed by my examination with the microscope.

The appearances which I examined were,

1st, A nearly black discolouration of the potatoe, just below the skin, penetrating about one-sixteenth to one-quarter of an inch into the substance, and apparently through the skin, in little black, indented tumefactions, like pustules. It is probable that in these holes the vegetation of the fungus first begins, and spreads underneath.

2nd, On the surface of the skin, where these pustules were enlarged, there had been produced a greyish, slimy substance, of a very offensive smell.

The black mass, divided in a drop of distilled water, exhibited under the microscope a number of long and oval, very irregularly shaped dark bodies, interspersed among the cells of the potatoe. Many of these cells appeared lacerated, but this might partly have been produced by the mechanical action of dividing, although I think not altogether. The greyish slimy mass was semi-transparent and indistinct, when mixed with distilled water, and exposed to the strongest light I could throw.

In order to discover a remedy for this disease, I decided on applying various substances to this fungus, with a view of effecting its decomposition, and examining their action under a microscope. The first application was salt, and the action of this was so instantaneous and decided, that I did not proceed to any other.

A portion of the dark substance was placed on a piece of glass, on the microscope-stand, in a drop of distilled water, and then thoroughly examined. A little salt, on the fine point of a penknife was then added; a nearly instantaneous change took place—the dark-coloured masses separated, much of them seemed to pass away, and instead appeared numerous dark slate-coloured bodies, which I easily recognized as the spores, or reproducing bodies of the fungus. With the grey, slimy substance, the effect was still more striking: all the indistinct slime disappeared—the mass became clear and transparent, and left nothing but these innumerable dark

globules floating about in the drop of water. It seemed to me, that the salt destroyed all the vegetation of the fungus, leaving nothing but the reproducing spores, which are indestructible by salt. The spores of fungi are the bodies by which they are reproduced and spread, and are analogous to the seeds of other vegetables, and these spores are generated in such enormous quantities, that many fungi, like this on the potatoe, spread with inconceivable rapidity; but in order to vegetate, they require certain favourable conditions and circumstances, which yet require much investigation. These favourable circumstances are, in my opinion, prevented by salt, as it destroys the fungus vegetation. Therefore, wherever the disease existed this year, I recommended a liberal supply of salt to be spread on the soil, and trust it will eradicate the evil. It is, at all events, a remedy which cannot do much injury, if it does not succeed.

During the examination of the black substance, I of course recognized the grains of starch, which appeared sound; but wishing to know whether the fungus had affected them, I added a little iodine. The grains immediately took the usual purple colour, and I think were not at all injured; indeed, it appears to me that the injury takes place by the rupturing of the cellular parts of the potatoe.

I am aware that it requires some practice to judge well of the appearances under the microscope; but I repeated these examinations six or seven times, and always with the same results; still, I should be very glad to have them repeated by others, whether their correctness be confirmed or not.

My microscope being made by myself, is of course very inferior to those now manufactured in London and Paris; and it would be very desirable that some of our scientific societies would import one of these, the cost of which is too high for persons of moderate incomes. It might be made accessible, under certain conditions, to those desirous of undertaking such investigations as these; for there are many cases where the action of various substances on the causes of animal and vegetable disease are examined to very great advantage under the microscope, and effects seen which cannot be observed in any other way.

Should any gentleman, possessed of one of these superior instruments, be desirous of examining this disease, I would request of him to look at the action of sulphate of iron, sulphate of soda, or of ammonia, or of any other substance which can be cheaply applied to the soil as a preventive, and to give notice of his observations either in your or

some other periodical, for I see with delight anything that can bring nearer to each other science and agriculture.

Yours, J. E. TESCHEMACHER.

Boston, Oct., 1844.

Culture of *Asparagus*.

ASPARAGUS, or Spearage, is a native of Great Britain, where it is found growing in its primitive state, of a small slender habit, not much larger than the spikes of meadow-grass; it derives its name, *Spearage*, from the spear-like appearance of the shoots when they first protrude from the ground: no vegetable that I am acquainted with, is more capable, by an excess of food and high cultivation, of being brought to so luxuriant a state: the great pains that have been by many cultivators bestowed on the culture of this esculent, renders it capable of the term Giant being applied to the most luxuriant variety. The term *Giant* applied to the vegetable kingdom, being synonymous to a redundancy in the animal, I think is incorrectly applied. I shall, therefore, propose a more applicable term to those vegetables that admit of such redundancy, viz: *Monstrous Asparagus*, *Monstrous Rhubarb*, and the like, "deviating from the common course of nature."

The use and manner of preparing this vegetable for the table, is too well known to require any comment from me; I shall, therefore, proceed to its culture. The old fantastic way of digging out the soil two or three feet deep, and paving with oyster shells, bricks, stones, and the like, I shall leave with the cultivators of old, and endeavour to point out a system that will bear the test of the present improved state of horticulture. However, in one thing I shall differ from the present mode of culture adopted by the general mass of cultivators,—and I believe not generally agreed to by many scientific gardeners at the present day—which is the planting the bed in the latter end of May or the beginning of June, when the plants are in a full state of growth. I have had many convincing proofs that the planting of *Asparagus* roots in the fall and early in the spring, is not the best method. The roots of *Asparagus* being fasciculate, which is spreading from a common centre or crown in the shape of a hand, or something in the form of a crab; the roots protruding from the centre are long and fleshy, subject to rot in too much moisture when transplanted, and to dry up if kept in too dry a situation, and to mould in the winter in either; hence the roots should never be disturbed in the fall. When new beds are planted in the fall,

many plants are liable to fail, and those that do not, have many of their roots much injured, and are thus much weakened before vegetation takes place.

The great advantage of the system of planting in June is, that it gives an opportunity to prepare the ground well in the spring, when the sun and air can penetrate, and operate on it to very good effect; there is also a certainty of planting, for if well done, there need not be any failure, the plants being in a good state to grow and cling to the soil.

Culture.—*Asparagus* is increased by seed, and may be sown in the autumn as soon as ripe, or early in the spring, in a rich piece of ground, in drills eighteen inches apart, and well cultivated during the summer. The plants should be thinned to an inch apart, in order to give them strength; for when allowed to grow too thickly together, the crowns will be weak, and injure one another.

The succeeding spring the plants may be transplanted into a well prepared nursery bed, fifteen inches apart between the rows, and three or four inches apart in the rows. The mode of planting is, to draw drills with a hoe three inches deep, and dividing the fibrous roots, they are to be laid into the rows crown upwards. The planting being done, all that is required during the season is good culture.

Transplanting into the Final Bed.—The bed for final planting being prepared as before directed, at the proper time it may be planted in the following manner: Lay it out into four feet beds, with two feet alleys—drive down cedar stumps three feet long, at the four corners of the bed, leaving one foot of the stumps above the surface; this done, draw drills eighteen inches apart in each bed, six or eight inches deep, and plant the plants as before directed, eight or ten inches apart in the rows, covering them slightly with soil or compost from the compost heap.

The bed will require to be hoed and well cultivated during the summer, and in the fall it should be covered with a quantity of good rotten manure; early in the spring, rake off part of the long manure, and as soon as the surface is dry, it may be broken up with a three pronged fork, to loosen the surface. During the summer, all kinds of weeds must be taken from the beds as they make their appearance, and everything should be done to facilitate the growth and vigor of the plants. In the fall, as soon as the stalks are ripe, they may be cut off close to the ground, and the bed may be replenished with manure, and the surface earth of the alleys may be skimmed off a few inches

deep and thrown over the bed. In the spring the surface of the bed may again be forked; and the same process followed every year.

Remarks.—The principal items in growing good Asparagus are, that a good, deep, rich piece of ground be chosen for the bed, in a location where it will be always tolerably moist; low, marshy ground, is a good situation. In order to succeed, and have good grass, it is necessary that the bed be replenished every fall with good rotten manure, and be kept perfectly clean from weeds, especially the perennials, as the couch-grass, &c. Care must be taken also that the bed is not exhausted by cutting the spears too late in the season; it should always be a rule *never* to cut Asparagus after green peas are in use, which are the following vegetable to it. No Asparagus should be used until the second or third year of planting.—*Western Farmer and Gardener.*

The Artichoke.

SEVERAL trials which we have known made with this root, indicate that it is one of the most valuable for stock, which can be cultivated. A few years ago, a gentleman of our acquaintance planted a small patch of rich ground with them. The produce was at the rate of 1,200 bushels per acre. They were principally harvested by hogs, which were turned in and allowed to root them up as their appetite prompted. They gained well, with no other food, while the artichokes lasted. A great advantage of this root is, that it will lie in the ground without injury all winter.

Mr. Thomas Noble, of Massillon, gave us a brief account of a trial with artichokes, made by him in the past season. In April, 1843, he planted two acres with this vegetable. The ground was of medium quality. The artichokes were planted in rows two and a half to three feet apart—using a little more seed than is commonly used in planting potatoes. As soon as the frost was out of the ground last spring, (1844,) the digging of them was begun and continued as the stock required. The produce of the two acres was 1,500 bushels. They were fed principally to sheep, though some were given to cattle, horses and hogs. All animals ate them well, seeming to prefer them to turnips. While the sheep were being fed with them, they were pastured on growing wheat and clover. The shepherd thought the wheat and clover were sufficient for them, as there was a full "bite," and he accordingly discontinued the artichokes. The ewes fell off in their milk, and the lambs soon

showed that they were not doing so well. The artichokes were again given, and they soon did as well as ever.

Mr. Noble also used the *tops* for fodder. He cut them in October, just before frost came, dried and housed them. They were fed to the stock in winter, and were evidently preferred to corn fodder.

Mr. N. is so well pleased with artichokes, that he is raising them this year on a larger scale. They require but little cultivation; it being only necessary to keep the ground clear of weeds till the artichokes get a good start.

Mr. T. M. Johnson, of Greensborough, Alabama, lately informed us, that he is this year growing 30 acres of artichokes. He considers them the most profitable vegetable he can raise. In that climate they can be dug any time in the winter.

There are several varieties of artichokes, but that called the Jerusalem artichoke—*Helianthus tuberosus*—is considered best. From the fibres of the tops or stems, a cordage is sometimes manufactured in some parts of Europe.—*Cultivator.*

How to preserve Meat fresh in any Climate.

MEAT will never spoil if it be excluded from the air, and it may be had in London, put up in air-tight cannisters, a plan by which it has been kept fresh in all climates for nearly thirty years, which is about as long as the plan has been practised. For household purposes the most convenient way will be to provide a number of earthenware jars, with ground covers and a small hole in each cover, like that in a tea-pot, which may be stopped easily. The meat may be first partly boiled and deprived of its bones, and be then put, with part of the liquor, into the jars, which must be set in a pan of warm water and gradually brought to a boil. When the steam is rising from the jars the covers must be put on them and fixed down air-tight, the steam generated in the meantime being suffered to escape from the orifices in the lids. Finally, the pan must be removed from the fire, the holes in the lids stopped with small corks, and these corks waxed over to make them more impenetrable. It may also be a good precaution to run a little melted wax round the edge of each cover, to obviate the leakage due to any imperfection of the surfaces in contact. Meat might also, we conceive, be preserved by boiling it in melted fat for a few minutes, or until it was effectually heated through, and then dipping it in the fat, repeated after the same fashion as dipping candles, until it had acquired a protecting coat of tallow which the

air could not penetrate. Vegetables may be preserved in the same jars, and by the same method as we have described for the preservation of meat.—*Nat. Gazette.*

From the *Western Farmer and Gardener.*

Cultivation of the Quince.

MESSRS. EDITORS,—The Quince is but little cultivated, as a useful fruit, in this country; and it is indeed, from some unknown cause to me, greatly neglected wherever it thrives, although the fruit is always in demand, and generally commands a good price. There is no fruit tree I am acquainted with, that requires more, and pays better for, pruning than the Quince; and there is none, I believe, that receives less, or is more neglected. The Pear, the Apple, the Peach, Cherry, and the many etceteras, are all cherished, dug around, pruned and trained by the amateur, but the Quince is often left "solitary and alone," by the side of a ditch, with its roots overgrown with grass or rank growing weeds and briars, unpruned and neglected, only when in fruit, and then the good lady of the house has a jealous eye for its golden load, and would sooner be deprived of her best set of China than the crop of Quinees to grace her table, as one of the best preserves; and then every one exclaims, What a fine preserve the Quince is—how very delicious! Now, sir, as I am always an advocate for the ladies, and have one present whilst writing, which gives credence to this assertion, I hope this much neglected tree will arrest the attention of the cultivators of fruit, and be pruned and cultivated in connection with other trees of the orchard.

The Quince thrives best in a rich loamy soil, and if planted by the side of a ditch, by the side of pig-pound, cow-house shed, or such location, it grows and bears well. The tree is increased and propagated by taking the suckers from the mother plant, by layering, and by putting out cuttings in the spring, precisely the same as the Gooseberry and Currant. Pruning, as I have said before, is essentially necessary, and should be done at the fall of the leaf; the method I adopt, is simply to cut out all the small old branches at the points, and leave all young shoots of the last year's wood, which will be the bearing branches next year; the small old twigs are always unfruitful, and take a portion of the sap from the fruitful ones, and hence the utility of pruning. The principal object to be kept in view by the pruner, is to cut out a portion of old-bearing wood every year, in order to bring in young shoots for fruiting the succeeding summer,

and to keep the tree in regular and uniform shape.

In addition to the usefulness of the Quince as a fine fruit, the tree answers as an excellent parent stock to graft or inoculate the Pear upon; and perhaps on giving it a fair trial, will evade some of the diseases the Pear stock is subject to, as the fire-blight, &c. The roots of the Quince do not penetrate so deep as the Pear tree into the subsoil, which perhaps will be traced as an evil to the growth of the Pear in wet weather, as the soil must certainly become cold and saturated at a certain depth, and consequently the root of the tree must be in a colder temperature than the branches.

Yours, E. SAYERS.

Report of the Sixteenth Exhibition

Of the Pennsylvania Horticultural Society, by the Recording Sec'y, T. P. James.

THE sixteenth Exhibition of the Society occurred on the 18th, 19th and 20th of September, 1844, and was held in the Philadelphia Museum. The Committee of Arrangement, consulting the comfort and convenience of visitors, as also of providing more ample accommodations for displaying the various increased products of a prolific season, very judiciously engaged for the occasion, in addition to the Chinese Saloon, the Grand Saloon of the Philadelphia Museum.

In the Chinese Saloon were shown the fine green-house plants and larger artificial designs; and in the Grand or Upper Saloon, the fruits, vegetables, &c.

The arrangements of the display in the former Saloon, were similar to those of previous exhibitions, having tables lining the North and South walls, ranges embracing the columns, and oval and circular forms running through the centre, which contained the choicest plants the city and vicinity could afford; many of which have grown to the size of trees, and become objects of interest for their fine condition. The designs shown on this occasion, although fewer in number, were of more admired construction and embellishment than usual. The beautiful model of the Scott Monument was decidedly a happy device; it was an imposing structure, towering to the full altitude of the Saloon, and embellished with much taste and skill. The English Rural Cottage was a neat piece of architecture and of beautiful finish. The smaller model of a jet d'eau, handsomely ornamented with indigenous flowers, was an exceedingly pretty and much admired design. The large evergreen Basket merited praise for the profusion of select Roses which

covered its lid. An Urn with the plants and flowers gracefully arranged, was a beautiful object. Stands of Dahlias and Roses, Baskets and Bouquets, were to be seen in various parts of this Saloon.

Facing the entrance to the vestibule, was suspended a design, very appropriately presenting in flowers, etc., the words: "Pennsylvania Horticultural Society's Sixteenth Exhibition."

In the Upper or Grand Saloon, which was made of easy access from the rear of the lower, was displayed on a table with an elevated centre, which extended through the middle, nearly the entire length of the Saloon, the great profusion of the various fruits and vegetables, honey and small designs, and bouquets. Of fruits there were about an hundred varieties of apples, very fine and free from blemish, many of large size, weighing from one to one and three-quarter pounds; upwards of sixty varieties of foreign and native grapes; one collection alone contained thirty-three kinds: twenty varieties of peaches, one half of which were seedlings: as many varieties of pears; and a number of kinds of plums: there were also displayed quinces, nectarines, strawberries, figs, oranges, lemons, citrons, cranberries, almonds, filberts, chesnuts, English walnuts, etc.

Of culinary vegetables, there was a profusion of all kinds and in the finest condition.

Of honey, there was one contribution consisting of seventeen glass vases of the purest—a beautiful sight. One contributor exhibited a hive with the bees, which were hived on the 19th of May last; it contained one hundred and thirty-four pounds of honey, the largest yield as yet presented: he also had another yield of this season's collection, in four boxes, which contained ninety-three pounds; another contributor exhibited four boxes containing one hundred pounds, collected by one swarm this season.

At the eastern extremity of this Saloon was erected a grape arbour, seven feet in height and six feet in length, having suspended from all parts of it two thousand bunches of grapes; a tempting display, and around it were cut specimens of select roses and dahlias; over the exit door was suspended a festoon with various fruits interwoven; and upon the long table, interspersed with the fruits, were seen the many beautiful vases, cones, baskets and bouquets.

This exhibition has proved a most successful test of the existing state of horticulture in this community, discovering no lack in filling two of the most extensive saloons in the country with the finest specimens of the various products of the green-house, garden,

orchard and field. These autumnal shows, together with the interesting monthly displays, and the great amount of awards given by the Society for the best cultivated objects, tend to advance the science of horticulture to an eminent and envied position.

The products exhibited from time to time before the Society, appear to be brought almost to a state of perfection, and while incentives should still be held out for their growth, it now becomes the Society to divert some of its energies into other channels. It has in some measure done so, but seemingly with little success. Nearly three years ago, there was originated the project of holding out inducements for the introduction and propagation of new plants, flowers, fruits and vegetables; and a committee with ample funds at its disposal for meritorious awards appointed; but from some inexplicable cause the results have not met expectations. It is still to be hoped, however, that propagators and amateurs will appreciate the advantages to themselves, and to the advancement of the science of horticulture, and by the means of introducing such new objects foster the taste for the rare, the curious, beautiful, scientific and useful.

And further, the Society offers inducements also for the originating of new fruits and vegetables, and doubtless will offer stronger. Of late there have been presented many very fine seedling peaches, strawberries and some gooseberries; but there are other species to which attention should be directed: grapes—cannot our native varieties be improved by hybridizing with the finer foreign to advantage? Also pears—cannot others, equal to the Sichel or the Pennsylvania be produced? And so of plums, apples, cherries and other fruits. And culinary vegetables—a new potatoe is much wanted: the old Mercer is in its decline; and many other products of the soil better known to the cultivator, might be improved, and will meet, in all probability, with due encouragement from the Society.

ABORIGINAL FRUITS.—It is a fact in the history of vegetables, to which I remember no exceptions, that, where the wild stock flourishes naturally, there the improved varieties succeed best. Examples occur in the English apples and the French pears; for in no country does the crab abound more than in England, nor the wild pear than in France.—*G. W. Johnson.*

SOME one has said that the first ingredient in conversation is truth, the next is good sense, the third good humor, and the last, wit.



THE ALPACA.

THE Alpaca is a native of Peru, where it was found by the early Spanish adventurers. It is of inestimable value to the Indians, both on account of its wool and flesh, and remarkable adaptation to the peculiarities of the country. It will readily pick up a subsistence from the mosses, the lichens or the buds of shrubbery which are to be found on the mountain ridges of the Andes, or it will be better pleased to revel in the fertile vallies with which that wild country is interspersed. Considerable efforts have been made within a few years, and with various success, to introduce the Alpaca into England, and on some parts of the continent. Dr. Emerson says in the Farmer's Encyclopedia, that "the demand for Alpaca wool in England, is rapidly increasing, and is well worthy the attention of North American farmers to make the experiment of raising Peruvian sheep. At a late meeting of the British Association for the Advancement of the Arts and Sciences, Mr. Dawson made a communication on the subject of the introduction into England, of a species of *Auchenia*, or Llama of South America, and presented specimens of Alpaca wool, in its natural and manufactured states, resembling silk, and without being dyed, as black as jet. Naturalists distinguish five species of the Llama, all of which afford wool. But the Alpaca alone has fine wool, from six to twelve inches long, and the Vicuna wool, like the fur of the beaver, at the base of its coarser hair. It is capable of the finest manufacture, and is especially adapted to such fabrics as the finest shawls. The yarns spun in England are mostly sold in France for the shawl trade, at \$1 50 to \$3 50 per pound, according to quality, the price of the wool in a natural state, being about 50 cents per pound. This wool is naturally free from grease, in which respect it differs materially from that of common sheep, and the animal requires no washing before shearing. Mr. Dawson remarked, that it was not certain whether the Alpaca could be made to thrive in Great Britain. The last remark might raise a doubt whether it could be raised to advantage in the United States. Should it be proved that the Alpaca was not adapted to any part of Great Britain, it would furnish no solid argument against its adaptation to the climate of the United States, especially the Northern States, and the mountainous districts everywhere." "Mr. Bennett, of Farindon, England, had a pair of Llamas sent to him from Peru 20 years ago, and fed them as sheep are usually fed, with hay and turnips in the winter. From his own experience he found that they are particularly hardy and very long-lived. He increased his stock, and has actually had six females at a time which have had young ones. Of these very few have died. The number of Peruvian sheep in the kingdom at present, July, 1841, is short of 100, chiefly distributed in parks. The existence of this number among us, supported by their healthy appearance, as reported from every quarter where inquiries have been instituted, is a better proof of the capacity of Andes sheep to adapt themselves to our climate, than any further arguments or elucidations which could be adduced."

For the Farmers' Cabinet.

A Warm Bed for Pigs.

TO THE EDITOR,—I very well remember a saying of an old gentleman, an excellent farmer, that if you would make a hog profitable, you should not let him ever see a winter: and I think I have satisfied myself, that spring pigs well kept and nursed, are far less expensive, and yield more in return for their keep than those which are fifteen or eighteen months old. But there is one thing quite certain; if we prefer our store hogs to come in the fall, we ought to be careful to keep them through our long cold winters, both warm and dry. Every observant farmer knows that if his cattle are not sheltered from the cold weather and storms, they will require much more food to keep them in tolerable order, than if they are kept warm and comfortable. Just so it is with pigs—if they are suffered to run over your premises in the snow and sleet, with their legs and snout as red as the gill of your gobbler, without a warm and dry bed of clean straw to resort to when they choose, they will not only, in all probability come out with *mange* in the spring, but every grunt they give will convince you that all the food they have devoured, has been thrown away; for shoats that have a cold, damp, comfortless bed, will get mangy, and *mangy* pigs can not grow. Let any one who has a mind to try the experiment, take two pigs of the same litter, suffering the one to run as above, and let the other be well housed, and well fed, and it will be found that the superior growth of the latter will pay for the care bestowed upon him, with good interest. Hogs that are confined, and cannot get to the earth, will frequently be benefited by having a little charcoal, soft brickbats, or soft wood thrown into them, and a trifling quantity of brimstone mixed in their food occasionally, is an excellent thing. The hog has the credit of being a dirty fellow—but we should remember that he likes to be dirty in his own way, and for his own pleasure: he neither prefers to live cold, nor in filth—still less does he choose to be half fed. Dr. Franklin's man said the hog was the only gentleman in England, because he alone was exonerated from labour. If this be so, surely he ought to be well fed and well housed in America. I entirely believe that the same amount of food that will barely carry a pig through the winter with bad management, will, with good, prudent treatment, keep him growing, and in the spring you have something to build upon, that will by and by make you a solid porker, who will do credit to your eye.

ESSEX.

Newark, N. J.

To Destroy Lice on Cattle.

GREASE, fat, lard, or any oily substance, if applied to neat cattle infested with pediculi, will have the desired effect; it must be applied by being well rubbed into the hair on those parts where the vermin are found, and repeated until they are destroyed. Insects have no lungs, but breathe by spiracles or minute holes in their bodies, and if these spiracles are clogged with grease or fat, they become suffocated and die. Goose grease, hogs' fat, pot-skin-mings, will all answer the purpose, and may be obtained in any farmer's family without cost. Tobacco, also, will kill these vermin on cattle, by its operation on them as poison. A simple infusion of tobacco, applied warm and rubbed into the neck or dew-laps, or wherever found, so as to completely wet the hairs, and repeated at an interval of a few days, will destroy the nits and lice in a short time and at a cheap rate. The curry-comb should be used after the application.—*Ex. Paper.*

MEDITERRANEAN WHEAT.—The very great advantages of this wheat, over any now used by our farmers, is becoming every year more apparent. Besides its superior yield, it is safer from the ravages of the fly and injury from rust, by its more vigorous and rapid growth.

We have received a statement from Mr. Mansfield B. Brown, of the yield of his last year's crop. The average yield from a field of 23 acres, was 35 bushels to the acre. The wheat weighed 64 lbs. to the bushel. From 158 lbs. which he took to the mill, he received 120 lbs. of superfine flour, after paying toll. If our recollection serves us right, the most of it was cut early, and before it was fully ripe.—*Pittsburg American.*

A FACT FOR THE CURIOUS.—A. W. Palmer, of Cheam, in Surrey, England, tried a very striking experiment respecting the production of wheat. In July, 1841, he put one grain of wheat into a common garden pot; in August he divided it into four plants, and in three weeks again divided these into twelve plants; in September, these twelve were divided into thirty-two, which in November were divided into fifty; and he then placed them in the open ground. In July, of 1842, twelve of them had failed, but the remainder of them were healthy. On the 19th of August they were cut down, and counted 1972 stems, with an average of 50 grains to the stem—giving thus the increase of 98,600 grains.—*South Western Farmer.*

Report of Experiments in the Manufacture of Corn-stalk Sugar.

[For which experiments a premium of one hundred dollars has been awarded by the New York State Agricultural Society.]

By M. ADAMS, of Ogden, Monroe co., N. Y.

It is now but three or four years since it was discovered that sugar could be made from the corn-stalk. Very little attention was given to the subject, until the appearance of a Report made to Congress by Mr. Ellsworth, Commissioner of Patents. The account given by him of experiments made the preceding year, which he had collected from the different parts of the United States; the great amount of practical information embraced in the Report, together with the very interesting and important character given to the subject, awakened public attention. The fact, too, that a new method of producing another almost indispensable article, discovered about the same time, and which had already been brought to considerable perfection, and proved so triumphantly successful, has perhaps had an influence in leading us to expect that soon sugar would be as easily produced from the corn-stalk, as oil now is from hogs'-lard. Indeed, so obvious is it to every considerate person, that the position once established that sugar can be produced in this way, it is no less than bringing an article almost indispensable as a part of our daily food, and a most healthful and harmless luxury, as much within reach of every family in the United States, as the very corn has been from which it is produced.

Viewing the subject in this light, perhaps, induced the Executive Committee of the New York State Agricultural Society, to offer the very liberal premium of one hundred dollars for the "best experiment" in testing the value of the crop, and the practicability of cultivating it. The thing was new—much expense must be incurred—a mill and other apparatus must be constructed—"the juice extracted by iron rollers, so as to obtain the maximum quantity of sugar"—one acre of northern corn, cultivated for the purpose, to be submitted to the test. With all the above requisitions I have endeavoured fully to comply; and now, the last, but not least, to make a "full report of the process and expense," remains to be done.

So great is the interest felt upon this subject, that it is presumed a very minute account of the process will be expected. In the performance of this duty I must claim the indulgence of the committee, for the writing of Reports is new business to me.

Raising the Corn.—One acre of ground was selected of a sandy loam, cultivated last year to ruta-baga; this was manured with thirty loads of the best stable manure, well mixed in with the soil by twice ploughing and harrowing. Corn planted the 13th of May, with eight-rowed northern corn; the rows three feet apart one way, and hills eighteen inches the other, with six to eight kernels in a hill. It came up finely, and was plastered the 31st of May; hoed the first time the 9th and 10th of June, the second time 24th of June. Cultivator run through it three times. The corn began to tassel the 15th of July, and was in full tassel the first of August.

Up to this time the crop had looked uncommonly well, but from the 1st of August a severe drought commenced, and continued until the crop was very materially injured. Some spots where the corn had grown most luxuriantly, withered and dried up; other parts of the field suffered less, so that on the whole there was some more than half of a good crop, or what there would have been if the season had continued favourable.

Cutting, Grinding, and Boiling.—Cut the first stalks, and made the first experiment at grinding and boiling, the 25th of August. The stalks at this time were quite green, but the produce was quite satisfactory, and appeared quite favourable for crystallizing. The juice was very abundant, of a greenish colour, very rich, thick and heavy, yet retaining all the flavour of the corn-stalk, until after cleansing and boiling.

August 30th, made the second batch. This was boiled in a shallow sheet-iron pan, clarified and strained according to the directions given in Mr. Ellsworth's Report. From this batch was taken the specimen of sugar exhibited to the committee at the State Fair in Rochester.

Other experiments were made the 4th and 7th of September.

The object of these successive experiments was mainly to determine at what time the saccharine matter was sufficiently matured to make crystallized sugar.

On the 11th of September the stalks appeared in the right stage, and the cutting, grinding and boiling were commenced, and continued with little intermission until the whole was completed. The method pursued in this operation, was to keep a sufficient number of hands in the field to strip the leaves or blades, and cut off the tops as fast as the stalks were wanted for use; this labour was generally performed by boys. The corn-field being at a little distance from the mill, the horse used for grinding was put before a light wagon, driven to the field, the

stalks were then cut and placed upon the wagon,—taking care to keep them straight and in order—driven to the mill and ground without delay. A load of this kind in a light wagon, with lumber box, will make a batch of fifteen to twenty gallons; this would be ground in about thirty minutes. Lime water was mixed with the juice while it was running from the mill. The juice is then strained through a flannel cloth into the pan, and heated, rather moderately, to the boiling point, when the scum is removed with a skimmer; then boiled rapidly for a few minutes. The syrup is then removed from the fire, and again passed through the flannel strainer, when the boiling is finished as rapidly as possible.

This process, from the cutting of the stalk to taking the sugar from the fire, could not possibly be performed in less than two hours; and if the batch was larger, would often exceed three. Five batches were made in one day, from which one hundred pounds of sugar were produced.

The Boiler.—The boiler or pan, I made of a sheet of Russian iron, turned up at the sides and ends, lapped and rivetted at the corners; would hold about twenty-five gallons, five and a half inches deep, but from fifteen to twenty gallons is as much as would boil to advantage. The pan is placed upon an arch of brick, so that the fire comes in contact with only the bottom.

Mill.—To construct this was a matter of much more difficulty. Some drawings and descriptions are given by Mr. Ellsworth, but little more could be known from them than that there must be three rollers, so placed and put in motion that the stalks in passing between them should receive two crushings.

To plan and construct a mill, with the proper dimensions and with the strength required, so that the work of crushing the stalks should be performed with certainty and despatch, was no easy task. I flatter myself that I have in this been tolerably successful. The rollers and iron-work, patterns, &c., for my mill, were made by A. J. Langworthy, of Rochester, at a cost of sixty-five dollars. The whole weight of iron is about nine hundred pounds.

About one half of the expense of the mill is in the horse-power. The iron rollers being placed horizontal, it was necessary to have a horse-power wheel and gearing in order to give them motion. If the more simple, and it would seem at first view, less expensive forms, given in Mr. Ellsworth's Report, had been adopted, placing the rollers perpendicular, the horse passing around them, the rollers must have been of large diameter in order to take through the length

of corn-stalk at one revolution of the horse. These large rollers, when made of iron, would have been very expensive, and probably not work as fast as the small ones I use, giving them a quicker motion by gearing. In my mill the circumference of the rollers has such a proportion to their motion, that their velocity is equal to about one-sixth the velocity of the horse; or in other words, a corn-stalk six feet long, will pass through between the rollers in the same time that the horse will walk thirty-six feet. The grinding is a beautiful operation, the amount of juice contained in the stalk is surprising to every one. The stalks in passing through the mill are crushed very fine, and the juice entirely separated from them by the pressure of the rollers.

Clarifying.—This has been to me a difficult, and to some extent an unsuccessful operation. All the various methods recommended by different persons who have made some experiments on corn-stalk sugar, and all that my own experience in clarifying maple sugar could suggest, failed of producing fully the desired effect. In all the failures which have been experienced to produce crystallized sugar, the cause should be sought here. Unless the juice of corn-stalks can be clarified, it is vain to expect a pure article of crystallized sugar. All the obstacles to the complete success of this enterprise are met at this point; but that they will be completely overcome, there cannot be the least doubt. Lime water applied to the juice as soon as it comes from the mill, one gill to fifteen gallons, was thought to produce the best effect. But experiments were made with various other things, such as milk, eggs, charcoal, &c.; these were used separately and combined, but nothing appeared to raise the scum as well and render the juice as clear and well-flavoured as the lime water. One experiment was made by filtering the juice through sand and charcoal. This rendered it very transparent and improved the taste, but there are very many objections to this process—the length of time required for the operation is a sufficient one.

Straining.—This operation is performed both before and after clarifying. The strainer used was a square yard of good new flannel, of fine texture; so great is the amount of mucilage, or very minute particles of the cornstalk contained in the juice, that the strainer has to be rinsed in water once or twice in straining a batch. The second time straining is rendered more difficult by the juice being hot, as the hands have to be used in forcing it through the cloth. As knowledge and experience are gained on the subject of clarifying, the straining will

be dispensed with, except to pass the juice through a coarse strainer to remove some of the larger impurities. Some method will be discovered by which all this foreign matter will be removed in the operation of skimming.

Boiling.—This operation requires care and close attention, particularly when about ready to skim, and when the juice is concentrated to about the point desired. The more rapidly this operation is performed, the more perfect will be the crystallization. But, however necessary it may be, it is scarcely possible, with any apparatus that I have any knowledge of, to perform the whole labour of cutting, grinding, straining, skimming, and boiling, in the short space of one hour, as recommended by Professor Mapes, of New York. If this is ever done, it must be in very small quantities, or some very improved method must be adopted.

In boiling, as soon as the scum begins to rise, the fire must be regulated with care, that time may be had for removing the scum before it shall be boiled in. If the operation of boiling and skimming be well performed, about one gallon of thick heavy scum will be obtained from a batch of fifteen gallons. The syrup, when it becomes thick and nearly done, has a very beautiful appearance, in every respect equalling the best of maple syrup. To boil to the crystallizing point,—which is a very uncertain one,—requires considerable care and discrimination. The same tests that are used for maple syrup are equally applicable to corn-stalk; as for instance, when it will flake off, breaking short, from a dipper or stick—or string out between the thumb and finger, from half an inch to an inch in length, is perhaps the safest test. Very great care is necessary here, that it be brought to the right point and no more; and also in managing the fire, as a little blaze, or too strong a heat, is most sure to scorch, and this is fatal to crystallization.

Crystallization.—Difficulty has been found here by all that have made experiments with corn-stalk sugar; but perhaps every one has obtained a sufficient quantity that was well grained, to satisfy him that the difficulty was somewhere in the process of manufacture.

From recent observation I am inclined to think that I have kept my sugar in too cool a place. Two small parcels, left partly by accident where they received the warmth of a fire, were found well grained. But there is another difficulty after it is well crystallized, to make the molasses separate, or drain, as it is called: although the crystal appears to be as fine as was ever formed, still the molasses will not separate by any common

methods used for maple sugar. As yet, I have not been able to procure any better specimen than that exhibited at the State Fair.

Amount from the acre.—Although the quantity of stalks was so much diminished by the drought, yet six hundred pounds were obtained; this, it should be understood, is weighed when taken from the fire and before graining has commenced. If it were all well grained and the molasses separated, the weight of sugar would probably not be more than five hundred, and molasses one hundred.

In order more fully to determine the amount that might be produced from an acre of good corn, I measured two square rods of the best corn I had; the stalks were then cut, and their weight was 195 pounds; after grinding, the juice weighed 69 pounds and measured nine gallons; from this I obtained twelve and a half pounds of sugar. By this it would appear, that had the whole acre been as good as the two rods submitted to the test, one thousand pounds would have been the produce. And it would seem that this must be a safe calculation, as the stalks on the two rods were not as large as would be grown in a good season.

An equal amount by weight of large stalks of rank growth, and small ones that were grown thick, were ground separately; but as no material difference was found in the produce, my opinion is that the corn should be cultivated so thick that no ears will be produced.

EXPENSE.

For the rent of land,	\$3 00
“ thirty loads of manure 1s. per load,	3 75
“ drawing thirty loads manure 10c. per load,	3 00
“ ploughing, harrowing and fitting ground,	2 34
“ planting, plastering, cultivating and hoeing,	5 87
“ seed-corn and plaster,	0 68
“ spreading manure,	0 88

The whole expense of raising 1 acre corn-stalk, \$19 52

There is no part of the business that is so tedious as plucking the ears, stripping the leaves and cutting off the tassel. A part of this labour was performed for the fodder that might be obtained from it, but it was not sufficient to pay; as the labour of plucking the ears was performed for this consideration, I am unable to say what it would cost; but this much is certain, it is needless for the most part, as no ears of any amount need be raised, if the corn is sufficiently thick. From the best estimate that I can make of the expense of stripping leaves and cutting the tassel, I think that a smart hand would perform the work on an acre in six days; therefore,

The amount brought forward,	\$19 52
To six days stripping leaves, &c.	4 50
<hr/>	
This is the whole expense up to the cutting of the stalks, }	\$24 02

It is somewhat difficult to come at the expense I was at in manufacturing the acre of stalks into sugar, so much was done by way of experiment. But as one hundred pounds were made one day, I shall take that as my guide, and call it a day's work for two hands to make one hundred weight.

The amount above brought down,	\$24 02
To 12 days' work making sugar at 6s. per diem, ..	9 00
To use of horse and wagon, 6 days at 3s. per diem, ..	2 25
To $\frac{3}{4}$ cord of wood at 12s. per cord,	1 12
<hr/>	
The whole expense of manufacturing 600 lbs., is	\$36 40

Or a fraction more than six cents per pound.

Some credit might be given for fodder, as a large amount of leaves or blades might be saved with a little extra labour while stripping them. The stalks, after being ground, are worth something; horses and cattle eat them very greedily when they are fresh from the mill.

Remarks and Suggestions, by way of Recapitulation.

1. If good crystallized sugar of pleasant flavour shall be produced from the cornstalk, I can see no good reason why its manufacture shall not become as universal as the raising of corn. Every neighbourhood can as easily be supplied with its apparatus to make sugar as to make cider.

2. Corn should be grown so thick as to produce no ears. Some variety of corn that grows very large, like the "Ohio" or "Rocky Mountain," might be best; this latter is well adapted in some respects, as it is very little inclined to ears or leaves; cutting the tassel will not prevent earing, unless they are all cut and kept cut. The cutting of the stalk may commence as soon as the tassel is ripe. If the weather is warm, grind immediately; but if cool, or early in the morning, a little delay is not thought to be injurious.

3. Lime water is perhaps the best for clarifying of anything yet discovered; but some agent that will more effectually cleanse from all deleterious or foreign matter, is necessary. Science, with persevering experiment, will no doubt produce this result.

4. The less time occupied in boiling, the more perfect is crystallization. This is true of the maple juice, and probably more so of the corn-stalk. To boil to advantage, two pans should be provided.

5. Any man of ordinary ingenuity, can make a pan in two hours, with no tools but

cold chissel, punch, hammer and six cents worth of rivets.

6. I make no doubt that a mill with wooden rollers would answer a good purpose for a small operation, and small operations are what is wanted; let no man go into this business *largely* until there is more knowledge on the subject.

A simple mill with two rollers, that might be built for five dollars, would crush the stalk and save most of the juice. No cog-wheels can be necessary; for if you turn one, the other must go. When experience has taught how to clarify, so that we may be sure of a good article, then will be time for more perfect and expensive machinery.

7. If the result of this enterprise depended on the amount of saccharine matter contained in the corn-stalk, its success would be certain. Estimates that have been made of the amount that might be made from an acre, have probably never been too high. Improvements in cultivation, and in finding the variety of corn best adapted, will no doubt greatly exceed these estimates.

8. The expense, as compared with maple, must be much in favour of corn-stalk. Of the expense of growing an acre of corn-stalks, every farmer may judge correctly; then compare the amount of fuel, the amount produced in a day, the expense of fixtures, and it is all vastly in favour of the corn-stalk. Only let the cornstalk sugar have the delicious flavor and the beautiful crystallization of the improved maple, and no longer will that pride of the forest be hacked and bored by "wicked hands," to obtain its sap.

May we not hope that Mr. Ellsworth's forthcoming report will throw much light on the subject! The collected experience of all that have been engaged in the business the past season, will soon be laid before Congress and the people. If Professor Mapes shall fulfil his pledge made in the last report, some scientific and practical information will no doubt be the result.

With these remarks I submit this report. I have endeavoured to give a faithful and full account of my experiment. I am aware that on some parts of this business I cannot speak as favourably as might be desired; but for myself, I have no fear of the result of the enterprise. I would beg leave to suggest, that a liberal premium be offered next year, for a given amount of corn-stalk sugar of the best quality. This might stimulate, not only a greater amount, but more careful experiment.—*N. Y. State Agricultural Society's Transactions.*

CONDEMN bad traits by practising good ones.

For the Farmers' Cabinet.

An account of the Grubb, or Grass-worm which appeared in parts of Salem co., N. J., in 1806 and 1811.

TO THE EDITOR,—In this vicinity it first appeared, so far as I can learn, on the 11th of Sixth month, 1806; it attacked all kinds of spear grass, such as Timothy, Herd, Blue and Orchard grass, but its ravages were mostly confined to the former, eating the leaves and heads, as appears from a memorandum made at the time by one of our most intelligent farmers of that day. He first thought this worm had been brought by the red chaff bearded wheat, as it was in 1806 that this variety was first introduced in this neighbourhood, but on further examination it was found to be in the higher parts of the tide-meadows, where Timothy grew; so that supposition was put to rest. On one farm, within a mile of Salem, by which I frequently passed, their ravages were most apparent. They took one fine field of Timothy: the owner thinking he would arrest their further depredations, dug a ditch, say one foot wide and one deep, which caught myriads of them, but before he had resorted to this expedient, they had made their way into an adjoining field of wheat, where they appeared to make great destruction by eating the leaves and beard. He thought his crop would be ruined, and he set two men at work with a line, say two rods long, and passed it over the heads of the wheat, the men walking in the furrows and holding the line tight; as the wheat would spring up from the line, the worm would fall to the ground. In that way he kept them off to a considerable degree, but those who did not resort to this plan, found after it was all over and the harvest arrived, that the crop was not materially lessened. It was not so with the grass; it being more in the sap, the worm had a greater effect on it; in some instances nearly destroying the crop, and what was left was of little value. They seemed to come all at once in the neighbourhood, and appeared mostly at full size, which was about as large as an ordinary grubb-worm—some were nearly black, others somewhat lighter in appearance, with lighter stripes on their sides and belly, much like the worm that is often seen inside of the husk of the upper end of an ear of corn. From the above date there had never been the same kind of worm in such quantities as to make them noticed, and by their long absence we had almost forgotten that we had ever had such visitors. On the same day of the same month, this present year, we were visited by the same kind of worm. The writer was

walking, towards evening, with two of his friends, to look at his fat cattle, and in approaching within six or eight rods of the pasture field, we noticed a great quantity of worms in the main road, migrating into the adjoining fields. The grazing field was principally in Timothy, with some red clover. The worms were making great ravages on the former, and were passing into the adjoining fields, both of which were in wheat. The main road passed between one field of wheat and the grazing field, and it was curious to observe the smallest species of ants attack the worms when they would attempt to cross that part of the road that was destitute of grass. The ants would sting them and then jump back, the worm appearing to be thrown into great agony; four or five stings would answer their purpose; they would then lay hold and take him off. On the other side of the pasture field there was nothing but a fence between it and the wheat; this was of the Mediterranean species, but it was so forward and the blades so nearly ripe, except the uppermost ones, that they did not like it. The uppermost ones and the beard they attacked in a manner similar to the attack in 1806. This piece of wheat was sowed after corn, and in every four or five rods there was a strip of oats about eight feet wide; this they attacked voraciously, as it was in full vigor and about coming out in head. It was thought for some time they would not go beyond this strip of oats, but finding they were passing through it, I ploughed a deep furrow and cut the land side down with a spade to make it smooth, and a little slanting under, to prevent them from getting further, which seemed to answer the purpose. This made them thicker in the piece of oats than they otherwise would have been, if nothing had interrupted their progress. The consequence was, that they stripped them completely, and the earth was almost covered with their excrements; still they did not entirely destroy the oats, for they shot up afterwards and produced, say half a crop. They would make their appearance in the afternoon, when the sun was about an hour high, and so continue their ravages until the next morning, say the sun an hour high; they would then disappear by going down under the dead grass or rubbish next to the earth, and there lie through the day. In the wheat field, where there was not any litter to hide under, they would work their way under the earth. The timothy in the pasture field, they eat up, leaving only the bare stalk. About two-thirds of the field had been top-dressed the fall before, viz: one acre with lime, say 100 bushels to the acre; one ditto,

with wood ashes, say 150 bushels per acre; the rest with stable manure. As far as the top-dressing of manure, lime, or ashes, was put, the worms were much thicker than where there was not any thing put. This was also noticed to be the case in some neighbouring fields. About the height of them, they were so thick I thought I could put my foot on at least one dozen at a time. As their appearance and habits were the same as those in 1806, so their time seemed to be as limited as their predecessors; about eleven days being the length of their course. There were very few to be seen after that period. They attacked more or less the grass fields in the neighbourhood where there was any timothy, but none so bad as the field and farm here described.

This, I think, is as far as I can recollect, a history of our long absent visitors; and from my knowledge of them, I hope they may be at least as long making their descent or ascent, or whatever other course they may take in getting round to us again, as their predecessors have been, and a little longer, for truly they are not welcome visitors.

CASPAR WISTAR.

Salem, N. J., Twelfth mo. 20th, 1844.

WE feel much obliged to our worthy friend, C. W., for his account of the singular visitations of the worm described above; and shall be gratified if any of the readers of the Cabinet have it in their power, and will please to throw further light on the subject through our columns. On looking into the Essay on *Insects injurious to Field Crops*, by the late Willis Gaylord, published in the Transactions of the N. York State Agricultural Society, for 1843, and which we mean to transfer to the Cabinet as soon as we can find room for it, no mention is made of any worm which seems identical with the above. These things are exceedingly curious, and every way worthy the attention and observation of those who have it in their power to bestow them.—Ed.

From the Western Cultivator.

Blight in Pear Trees.

Extracted from a paper read before the Indiana Horticultural Society.

THE Indiana Horticultural Society, early in the summer of 1844, appointed a committee to collect and investigate facts on the fire-blight. While serving on this committee, and inquiring in all the pear growing regions, I learned that Reuben Reagan, of Putnam county, Ind., was in possession of much information, and supposed himself to have discovered the cause of this evil; and to him I am indebted for a first suggestion of the cause. Mr. Reagan has for more than twelve years past, suspected that this

disease originated in the fall previous to the summer on which it declares itself. During the last winter Mr. Reagan predicted the blight, as will be remembered by some of his acquaintance in Wayne county; and in his pear orchards he marked the trees that would suffer and pointed to the spot which would be the seat of the disease; and his prognostications were strictly verified. After gathering from him all the information which a limited time would allow, I obtained from Aaron Alldredge, of this place, a nurseryman of great skill, and possessed of careful, cautious habits of observation, much corroborative information; and particularly a tabular account of the blight for nine years past in his nursery and orchard.

The spring of 1843 opened early, but was cold and wet, until the last of May. The summer was both dry and cool, and trees made very little growth of new wood. Toward autumn, however, the drought ceased, copious rains saturated the ground, and warm weather started all trees into vigorous, though late, growth. At this time, while we hoped for a long fall and late winter, on the contrary we were surprised by an early and sudden winter, and with unusual severity at the very beginning. In this region much corn was ruined and more damaged; and hundreds of bushels of apples were caught on the trees and spoiled; one cultivator alone losing five hundred bushels. Caught in this early winter, what was the condition of fruit trees? They were making rapid growth, every part in a state of excitement, the wood unripe, the passages of ascent and descent impleted with sap. In this condition, the fluids were suddenly frozen; the growth instantly checked; and the whole tree, from a state of great excitability, was, by one shock, rudely forced into a state of rest. Warm suns, for a time, followed severe nights. What would be the effect of this freezing and sudden thawing upon the fluids and their vessels? I have been able to find so little written upon vegetable morbid anatomy—probably from the want of access to books—that I can give but an imperfect account of the derangement produced upon the circulating fluids by congelation. We cannot state the specific changes produced by cold upon the ascending sap, or on the cambium, nor upon the elaborated descending current. There is reason to suppose that the two latter only suffer, and probably only the last. That freezing and thawing decompose the colouring matter of plants is known; but what other decomposition, if any, is effected, I know not. The effect of congelation upon the descending sap of pear and apple trees,

is to turn it to a viscid, unctuous state. It assumes a reddish, brown colour; becomes black by exposure to the air; is poisonous to vegetables, even when applied upon the leaf. Whether in some measure this follows all degrees of congelation, or only under certain conditions, I have no means of knowing.

The effect of freezing and thawing upon the tissues and sap vessels is better known. Congelation is accompanied with expansion; the tender vessels are either burst or lacerated; the excitability of the parts is impaired or destroyed; the air is expelled from the ariferous cavities, and forced into the passages for fluids; and lastly, the tubes for the conveyance of fluids are obstructed by a thickening of their sides.* The fruit trees in the fall of 1843, were then brought into a morbid state—the sap thickened and diseased; the passages lacerated, obstructed, and probably, in many instances, burst. The sap, elaborated, and now passing down in an injured state, would descend slowly, by reason of its inspissation, the torpidity of the parts, and the injured condition of the vessels. The grosser parts, naturally the most sluggish, would tend to lodge and gradually collect at the junction of fruit spurs, the forks of branches, or wherever the condition of the sap-vessels favoured a lodgement. In some cases the passages are wholly obstructed; in others, only in part.

At length the spring approaches. In early pruning, the cultivator will find in those trees which will ere long develop blight, that the knife is followed by an unctuous sap, and that the liber is of a greenish yellow colour. These will be the first signs, and the practised eye may detect them long before a leaf is put forth.

When the season is advanced sufficiently to excite the tree to action, the sap will, as usual, ascend by the alburnum, which has, probably, been but little injured; the leaf puts out, and no outward sign of disease appears; nor will it appear until the leaf prepares the downward current. May, June, and July, are the months when the growth is most rapid, and when the tree requires the most elaborated sap; and in these months the blight is fully developed. When the descending fluid reaches the point where, in the previous fall, a total obstruction had taken place, it is as effectually stopped as if the branch were girdled. For the sap which had lodged there, would, by the winds and sun, be entirely dried. This would not be the case if the sap was good and the vitality of the wood unimpaired; but where the sap

and vessels are both diseased, the sun affects the branch on the tree just as it would if severed and lying on the ground. There will, therefore, be found on the tree, branches with spots where the bark is dead and shrunk away below the level of the surrounding bark; and at these points the current downward is wholly stopped. Only the *outward* part, however, is dead, while the *alburnum*, or sap-wood, is but partially injured. Through the alburnum, then, the sap from the roots passes up, enters the leaf, and men are astonished to see a branch, seemingly dead in the middle, growing thriftily at its extremity. No insect-theory can account for this case; yet it is perfectly plain and simple, when we consider that there are two currents of sap, one of which may be destroyed—and the other, for a *limited time*, go on. The blight, under this aspect, is nothing but *ringing* or *decortication* effected by diseased sap, destroying the parts in which it lodges, and then itself drying up. The branch will grow, fruit will set, and frequently become larger and finer flavoured than usual.

But in a second class of cases, the downward current comes to a point where the diseased sap had effected only a partial lodgement. The vitality of the neighbouring parts was preserved, and the diseased fluids have been undried by wind or sun, and remain more or less inspissated. The descending current meets and takes up more or less of this diseased matter, according to the particular condition of the sap. Wherever the elaborated sap passes, after touching this diseased region, it will carry its poison along with it, down the trunk, and by the lateral vessels, in toward the pith. We may suppose that a violence, which would destroy the health of the outer parts, would, to some degree, rupture the inner sap vessels. By this, or by some unknown way, the diseased sap is taken into the inner, upward current, and goes into the general circulation. If it be in a diluted state, or in small quantities, languor and decline will be the result; if in large quantities, and concentrated, the branch will die suddenly, and the odor of it will be that of frostbitten vegetation. All the different degrees of mortality result from the quantity and quality of the diseased sap which is taken into circulation. In conclusion, then, where, in one class of cases, the feculent matter was, in the fall, so virulent as to destroy the parts where it lodged, and was then dried by exposure to wind and sun, the branch above will live, even through the summer, but perish the next winter; and the spring afterwards, standing bare amid green branches, the cultivator may suppose

* Lindley's Horticulture, 81, 82.

the branch to have blighted that spring, although the cause of death was seated 18 months before. When, in the other class of cases, the diseased sap is less virulent in the fall, but probably growing worse through the spring, a worse blight ensues, and a more sudden mortality.

I will mention some proofs of the truth of this explanation.

The two great blight years throughout this region, 1832 and 1844, were preceded by a summer and fall such as I have described. In the autumns of both 1831 and 1843, the orchards were overtaken by a sudden freeze while in a fresh growing state; and in both cases the consequence was excessive destruction the ensuing spring and summer.

In consequence of this diagnosis, it has been found practicable to predict the blight six months before its development. The statement of this fact, on paper, may seem a small measure of proof; but it would weigh much with any candid man to be told by an experienced nurseryman, this is such a fall as will make blight; to be taken during the winter into the orchard and told, this tree has been struck at the junction of these branches; that tree is not at all affected; this tree will die entirely the next season; this tree will go first on this side, &c., and to find afterwards the prediction verified.

This leads me to state separately the fact, that, after such a fall, blighted trees may be ascertained during the process of late winter or early spring pruning.

In pruning before the sap begins to rise freely, no sap should follow the knife in a healthy tree. But in trees which have been affected with blight, a sticky, viscid sap exudes from the wound.

Trees which ripen their wood and leaves early, are seldom affected. This ought to elicit careful observation; for, if found true, it will be an important element in determining the value of varieties of the pear in the middle and western States, where the late and warm autumns render orchards more liable to winter-blight than N. E. orchards. An Orange Bergamot, grafted upon an apple stock, had about run out; it made a small and feeble growth, and cast its leaves in the summer of 1843, long before frost. It escaped the blight entirely; while young trees, and of the same kind, I believe, standing about it, and growing vigorously till the freeze, perished the next season. I have before me a list of more than fifty varieties, growing in the orchard of Aaron Alldredge, of this place, and their history since 1836; and so far as it can be ascertained, late growing varieties are the ones

in every case subject to blight; and of those which have always escaped, the most part are known to ripen leaf and wood early.

Wherever artificial causes have either *produced* or *prevented* a growth so late as to be overtaken by a freeze, blight has, respectively, been *felt* or *avoided*. Out of 200 pear trees, only four escaped in 1832, in the orchard of Mr. Reagan. These four had, the previous spring, been *transplanted* and had made little or no growth during summer or fall. If however, they had recovered themselves during the summer so as to grow in the autumn, transplanting would have had just the other effect; as was the case in a row of pear trees transplanted by Mr. Alldredge, in 1843. They stood still through the summer and made growth in the fall, were frozen, and in 1844 manifested severe blight. Mr. Alldredge's orchard affords another instructive fact. Having a row of the St. Michael pear—of which any cultivator might have been proud—standing close by his stable, he was accustomed, in the summer of 1843, to throw out, now and then, manure about them, to force their growth. Under this stimulus they were making excessive growth, when winter-struck. Of all his orchard, they suffered the ensuing summer the most severely. Of twenty-two trees, *twelve* were affected by the blight, and *eight* entirely killed. Of seventeen trees of the Bell pear, eleven suffered, but none were killed. All in this region know the vigorous habit of this tree. Of eight Crassane Bergamot—a late grower—five were affected and two killed. In an orchard of 325 trees of 79 varieties, one in seven blighted, 25 were totally destroyed. Although a minute observation was not made on each tree, yet as a general fact, those which suffered were trees of a full habit and of a late growth.

Mr. White, a nurseryman, near Mooresville, Morgan county, Ia., in an orchard of 150 to 200 trees, had not a single case of the blight in the year 1844; though all around him its ravages were felt. What were the facts in this case? His orchard is planted on a mound-like piece of ground; is high, of a sandy, gravelly soil; earlier by a week, than nursery soils in this county; and in the summer of 1843, his trees grew through the summer; wound up and shed their leaves early in the fall, and during the warm spell made no *second growth*. The orchard, then, that escaped, was one on such a soil as ensured an *early* growth, so that the winter fell upon ripened wood.

It may be objected that if the blight *began* in the new and growing wood, it would appear there; whereas the seat of the

evil, i. e., the place where the bark is diseased or dead, is lower down and on old wood. Certainly, it should be; for the returning sap falls some ways down before it effects a lodgement.

It may be said that *spring frosts* might produce this disease. But in the spring of 1834, in the last of May, after the forest trees were in full leaf, there came frost so severe as to cut every leaf; and to this day the dead tops of the beech attest the power of the frost. But no *blight* occurred that year in orchard, garden, or nursery.

It may be asked why forest trees do not suffer. To some extent they do. But usually the dense shade preserves the moisture of the soil, and favours an equal growth during the spring and summer; so that the excitability of the tree is spent before autumn, and it is going to rest when frosts strike it.

It may be inquired why fall-growing shrubs are not always blighted, since many kinds are invariably caught by the frost in a growing state.

I reply, first, that we are not to say that *every* tree or shrub suffers from cold in the same manner. We assert it of fruit trees because it has been observed; it must be asserted of other trees only when ascertained.

I reply more particularly, that a *mere frost* is not supposed to do the injury. The conditions under which blight is supposed to originate are, a growing state of the tree, a sudden *freeze* and sudden thawing.

We would here add that many things are yet to be ascertained before this theory can be considered as settled; as, the actual state of the sap after congelation, ascertained by experiment; the condition of sap-vessels, as ascertained by dissection: whether the congelation, or the thawing, or both, produce the mischief; whether the character of the season *following* the fall-injury, may not materially modify the malignancy of the disease; seasons that are hot, moist and cloudy, propagating the evil; and others dry and cool, restraining growth and the disease. It is to be hoped that these points will be carefully investigated, not by conjecture, but by scientific processes.

We have heard it objected, that trees grafted in the spring, blight in the graft during the summer. If the *stock* had been affected in the fall, blight would arise from *it*; if the scion had, in common with the tree from which it was cut, been injured, blight must arise from *it*.

Blight is frequently caused in the nursery; and the cultivator, who has brought trees from a distance, and with much expense,

has scarcely planted them before they show blight and die.

It is objected, that while only a single branch is at first affected, the evil is imparted to the whole tree; not only to the wood of the last year, but to the old branches. I reply, that if a single branch only should be affected by fall-frost, and be so severely affected as to become a repository of much malignant fluid, it might gradually enter the system of the whole tree, through the circulation. This fact shows why *cutting* is a partial remedy; every diseased branch removed, removes so much poison; it shows also why cutting from *below* the seat of the disease—as if to fall below the haunt of a supposed insect—is beneficial. The further the cut is made from that point where the sap has clogged the passages, the less of it will remain to enter the circulation.

Trees of great vigor of constitution, in whose system but little poison exists, may succeed after a while in rejecting the evil, and recover. Where much enters the system, the tree must die: and with a suddenness proportioned to the amount of poison circulated.

A rich and *dry* soil would be likely to promote early growth, and the tree would finish its work in time; but a rich and *moist* soil, by forcing the growth, would prepare the tree for blight; so that rich soils may prevent or prepare for the blight, and the difference will be, the difference of the respective soils in producing an early instead of a late growth.

So long as the blight was believed to be of insect origin, it appeared totally irremediable. If the foregoing reasoning be found correct, it will be plain that the scourge can only be occasional; that it may be in a degree prevented, and to some extent remedied where it exists.

We should begin by selecting for pear orchards a warm, light, rich, dry and early soil. This will secure an early growth and ripe wood, before winter sets in.

So soon as observation has determined what kinds are naturally early growers and early ripeners of wood, such should be selected; as they will be least likely to come under those conditions in which blight occurs.

Wherever orchards are already planted, or where a choice in soils cannot be had, the cultivator may know by the last of August or September, whether a fall growth is to be expected. To prevent it, I suggest immediate *root-pruning*. This will benefit the tree, at any rate; and will probably, by immediately restraining growth, prevent blight.

Whenever blight has occurred, I know of no remedy but free and early *cutting*. In some cases it will remove all diseased matter; in some, it will alleviate only: but in bad blight, there is neither in this, nor in any thing else that I am aware of, any remedy.

There are two additional subjects with which I shall close this paper:

1. This blight is not to be confounded with *winter-killing*. In the winter of either 1837 or 1838, in March a deep snow fell in this region, and was immediately followed by brilliant sun. Thousands of nursery trees perished in consequence, but without putting out leaves, or lingering. It is a familiar fact to orchardists, that severe cold followed by warm suns, produces a bursting of the bark along the trunk; but usually at the surface of the ground.

2. I call the attention of cultivators to the disease of the peach tree, called "The Yellows." I have not spoken of it as the same disease as the *blight* in the pear and apple, only because I did not wish to embarrass this subject by too many issues. I will only say that it is the opinion of the most intelligent cultivators among us, that the yellows are nothing but the development of the blight according to the peculiar habits of the peach tree. I mention it that observation may be directed to the facts.

HENRY W. BEECHER.

Philadelphia Agricultural Society--Report, &c.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held on the 1st of January, the following gentlemen were elected officers for the ensuing year.

DR. JAMES MEASE, *President*.

JAMES GOWEN, }
KENDERTON SMITH, } *V. Pres.*

AARON CLEMENT, *Rec. Secretary*.

P. R. FREAS, *Assistant Rec. Sec.*

DR. A. L. ELWYN, *Cor. Sec'y*.

GEORGE BLIGHT, *Treasurer*,
In place of A. S. Roberts, declined.

ISAAC NEWTON, }
SAMUEL C. FORD, } *Curators*.

AARON CLEMENT, *Librarian*.

The following Report was read and adopted:

To the Philadelphia Society for promoting Agriculture.

The committee appointed to inquire into the existing laws to restrain gunners from trespassing upon farms and destroying birds

in the county of Philadelphia, respectfully report:—

That by the Act passed the 9th of April, 1760, section 6th, If any person or persons shall presume to carry any gun, or hunt on any enclosed or improved lands of any inhabitant of this province, other than his own, unless he shall have license or permission from the owner of such lands, or shall presume to fire a gun on or near any of the king's highways, and shall be thereof convicted, either upon view of any justice of the peace within this province, or by the oath or affirmation of any one or more witnesses before any justice of the peace, he shall for every such offence forfeit the sum of forty shillings.

The 8th section enacts, That if any person shall hunt or kill any kind of game on the sabbath-day, and shall be convicted thereof in manner last aforesaid, every such offender shall forfeit and pay the sum of forty shillings for every such offence.

By the Act passed the 7th of March, 1821, if any person or persons shall presume to hunt on any improved or enclosed lands of any of the inhabitants of the counties of Philadelphia or Delaware, unless he or they shall have permission from the owner, occupier, or tenant, of such lands, or shall presume to fire a gun thereon, after being warned off by the owner, or person in his employ, or shall wilfully commit any injury to the orchard, garden, nursery, ground crops, vegetables, plants, land, or other matter or thing, growing or being thereon, or to or upon real or personal property of any nature or kind soever, every person so offending being thereof convicted, shall be liable to a penalty not exceeding ten dollars and the costs of conviction; and in default of payment to be committed to jail for any time not exceeding ten days.

The 2nd section enacts, That it shall be lawful for any constable or constables of the county of Philadelphia, to apprehend the person or persons so offending within the said county, and take him, or them, without a warrant, before the nearest justice of the peace within the township or district where the offence may have been committed, for the purpose of being dealt with according to the provisions of the first section of this Act. The penalty to be for the use of the poor of the township where the offence was committed.

By the Act passed April 11th, 1844, it shall not be lawful for any person in the counties of Philadelphia, Luzerne, Northampton, Bucks, Lancaster and Dauphin, to shoot, kill, or otherwise destroy, during the months of March, April, May, June, July,

and August, in each and every year thereafter, any robin, flicker, blue bird, woodpecker, sapsucker, thrush, or other insectivorous bird, under a penalty of five dollars for each and every offence.

By section 2nd, no person shall shoot or otherwise kill in the said counties, any pheasant between the first days of February and September: nor any partridge between the first day of February and the 20th of September; nor any woodcock between the 1st of January and the 1st of July; nor any rabbit between the 1st of February and the 15th of October, in any year hereafter, under a penalty of \$10 for each and every offence; the sum or fine to be recovered before any alderman or justice of the peace, as debts of similar amount are by law recoverable, one half of the fine for the use of the informer, and the other half for the use of the county.

This Act shall not prevent any person or persons from shooting or otherwise killing game or insectivorous birds, on his, her, or their own property, at any season of the year.

This Act does not interfere with any existing law or laws, to prevent trespass or the firing of guns near public highways.

Farmers will see from these enactments of the legislature, that this body appreciates their wants in the matter before us, and most decidedly with equity, and even with stern severity, places its rebuke on the injuries done to them by lawless trespassers. Nothing appears wanting, as respects both the disposition and the action of the lawmakers of the State; they have done all that the agricultural community could ask, and more than enough to show how deep they conceive the wrongs to be, done by these persons to this large and respectable body of their fellow citizens, and how necessary they thought it to be to show their sense of the outrage, by the passage of strong penal enactments. That the laws are of no avail, that farmers still suffer and still complain, is no fault of the legislature; they have acted as if impelled by the healthiest public opinion, and no doubt did at the time of making these laws, as it is to be hoped they ever will, represent that portion of society which feels that it has rights of its own, and is in this way made to feel for those of others. The larger part of the State legislature are farmers, much the larger part of the remainder, men who represent agricultural districts; few are from large towns, and none perhaps, so far removed from the country, as not to be alive to its importance, or so far as to lose all sympathy with it. The agricultural community cannot then lose its authority, nor is

it probable that its action upon the public mind will ever be so far diminished, as that any assembly of men will ever meet in the State and dare openly to do anything which is opposed to their wishes or their will; why is it then, that where the immense majority of our people are of one mind, and no opposition is or can be offered to them—why is it that this large and intelligent class, strong enough to upheave the whole basis of State action, still almost like children, complain of these petty annoyances and wrongs, committed too, by a worthless class of men, for whose correction these enactments were especially made, and for whose punishment the law is especially anxious. It would perhaps be an injustice, in all probability an untruth, to say that these wrongs and these annoyances were the fault of the agricultural community itself; that they and none others were responsible for this defiance of the law of which they complain, as well as for the deep injury done to the cause of morals, to the character of the institutions they love and sustain, to the cause of justice and the general esteem and character of the country. It would be too daring a proceeding to bring the larger portion of our fellow citizens thus under the ban, and to hold them up to execration and contempt, by this seeming trifling with laws so judicious, and so expressly made for their benefit; which they themselves acknowledge as just, and which they may be considered as having themselves framed. On whom then, must the responsibility of all this mischief be thrown? It must rest somewhere; the complaint is general; the evil must therefore be common. It may appear to some a trifling matter, that birds are killed—that fences are broken down in their pursuit—that walls are thrown over—that poultry is shot—orchards robbed—sheep and cattle worried and destroyed—woods set on fire—barns burnt—the farmer who acts in self-defence or offers a reproach, insulted. All this may appear to many, and especially to those living in cities, as matter not worthy of complaint or reprobation, and as bringing no charge on the general good condition of public sentiment and public morals. But those who feel the evil, may be allowed to feel very differently. They know not how to draw the line between one kind of robbery and another, between one species of violation of individual rights and another—between the burning of a barn in the country, and the burning of a house in the city—between assault and battery on a farmer, and the same upon a member of any other profession; nor between the menace of death from a ruffian who holds a musket to your

body, on your own soil and in sight of your own house and family, and the assassin who threatens your life in the streets of a town. Barns, orchards, cattle, poultry, are the farmer's property—his plate and his furniture; rob him of these, and you beggar him as certainly, as theft or fraud, one of any other occupation. He began life probably, with no capital but a strong arm, a brave heart, and a determination to follow the path of honest industry:—strip him of the result of these—take from him these representatives of a life of toil, and you bring him at once to despair and ruin. All will then admit the necessity of protecting such a class in every right and privilege, and they themselves can but acknowledge that they are protected, amply and fully, so far as the law can do it. Still they complain of serious outrages committed on their property, by those whom they say they cannot control or reach. And they are anxious to know what they can do, to prevent and put an end to them. They are the majority, and therefore rule; and the feelings of the rest of society are with them—what can they ask more? We are afraid that if not their timidity, it is their want of combination, that exposes them to the nuisance, and will continue to do so, until they rise as one man, and put it down by a vigorous exercise of the authority they so amply possess, and only want the inclination or the resolution to wield. Let them once make the effort, and the evil will disappear at once. No man or set of men, can bear the concentrated indignation of society, or endure its frown and rebuke, more especially when backed, as it is here, with the whole force of the law. We would therefore say to farmers, and to all who value and honour them, stir yourselves—point the whole vigor of opinion and the whole vengeance of the law on those who invade your privileges and your property, and you will soon find that the foot of the vagrant and the desperate offender will leave your soil, and dare to tread it no more. To this it may be replied, that farmers in the neighbourhood of large towns, are particularly exposed to trespass and depredation, that men issue from and retreat to them, without any possibility of tracing them. This is no doubt true. But we see no other immediate remedy than the one we have recommended—combination among the farmers, for the purpose of prosecution and punishment, with perhaps, the additional assistance of a person whose business and duty it shall be, during the season when farmers are most exposed to trespass, to be always at hand for the arrest of such persons. Frequent arrests will soon force them away, and they will at length not intrude

upon another man's premises without first knowing his disposition, and whether they expose themselves to being dogged and brought to punishment by the law. Those who are so fortunate as to own valuable properties in the neighbourhood of large towns, are frequently obliged to endure the serious drawback of trespass and plunder. There is in all large towns, a class of lawless, idle, and desperate men, the very Ishmaels of society, who live by crime, and laugh at all the restraint the more orderly and better disposed impose in self-defence, and at all the law enacts. Whether there are more of this class in this country than in any other, or whether Philadelphia contains a more dangerous and vicious body of men than any other city, we are not prepared to say; but the fact is, that the people of our vicinity, farmers as well as others, complain loudly of robbery by day and night, and this committed by men from the city. There may be a defective moral sense and an inert public opinion, but legislatures and laws cannot meet these. In a country like ours, how can our legislative bodies be purer or better than those they represent? how can laws then be enacted, or if enacted, be enforced, when opinion does not uphold them, and our law-makers are themselves the law-breakers? If it be true that there is a large body of profligate and lawless villains existing among us, and at large, it is the fault of society, and society must take upon itself their punishment, or the consequences of its indulgence. The cause of this evil we believe to lie at our firesides and our homes. It comes from the want of good domestic training, from the want of proper parental control. The two chief elements of all good instruction, and the chief foundations of all moral education, the rod and the Bible, have been neglected or abused. They have failed in implanting good principles, in creating virtuous tendencies; and if in this condition of things, mild punishments are awarded to ferocious crimes, and the penitentiary and the halter are spared to open and undisguised villainy, society must expect outrage, violence, and in all probability, frequent commissions of crimes of a deeper and darker character. The committee would then respectfully say to farmers, and to all interested in the support of the rights of individuals—combine and act; and having as you no doubt have, the whole force of public opinion to back you, men would as soon enter on your premises with any evil intent, as they would make a voluntary incarceration within the walls of a jail or the cell of a penitentiary.

ALFRED L. ELWYN, *Chairman.*

ISAAC W. ROBERTS,

ISAAC EWTON.

Dec. 4th, 1844.

Change of Colour in Oleander.

EDITOR OF F. CABINET.—On Thursday last I came to the city, and on my way stopped at Shugart's tavern, in Flourtown, and was shown an *Oleander tree*, at present in his dining room, and bearing two pure *white* flowers, which are the first and only *white* flowers the tree ever produced—it is a very fine specimen of the *Oleander*, and has hitherto produced *red* flowers, and in great profusion. Is not this something remarkable, and will you or some of your numerous readers, favour a subscriber to the Cabinet, with the philosophy of this, which may prove also interesting to many of your readers, and amateurs in horticulture.

LEHIGH.

Philadelphia, Dec. 20th, 1844.

We suppose the plant mentioned above, must have been kept during the time of flowering, very much in the shade, and a good deal in the dark. This would have a tendency to whiten the flowers. We apprehend the next crop of flowers, if the plant be kept exposed to the light of the sun, will be of the usual red colour.—Ed.

CURE FOR THE DISTEMPER IN CATTLE.—I cannot resist giving a receipt for the treatment of beasts that may take the prevalent distemper. It showed itself last winter in one of my yard stock, by discharging abundant saliva from the mouth, with sore and inflamed tongue and gums, no appetite, confined bowels, and very hot horns. I desired the bailiff to give him one half-pint of the spirit of turpentine, with one pint of linseed oil, repeating the oil in twenty-four hours, and again repeating it according to the state of the evacuations. At the end of twenty-four hours more, the bowels not having been well moved, I repeated both turpentine and oil. In two days the beast showed symptoms of amendment, and in three or four took to his food again, and did perfectly well. All the yard beasts and two of the fattening beasts have had it, and all have been treated in the same manner, with perfect success. Little beside oatmeal gruel was given.—*Quarterly Journal of Agriculture.*

YOUNG TREES.—An excellent mode for preventing young fruit trees from becoming hide bound and mossy, and for promoting their health and growth, is to take a bucket of soft soap, and apply it with a brush or old cloth to the trunks from top to bottom; this cleanses the bark and destroys the worms or the eggs of insects, and the soap becoming dissolved by rains, descends to the roots and causes the tree to grow vigorously.

THE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK.

PHILADELPHIA, FIRST MONTH, 1845.

To a friend at Norristown, who wishes information as to where Cranberry bushes may be obtained for transplanting, we can only say, that they will probably not be procured short of the Cranberry regions of Burlington or Monmouth counties, in New Jersey, or in the New England States. This fruit is frequently propagated from the seed, though this method would require a year or two more to bring the bushes into bearing. The following from an Eastern paper, may throw some light on the subject:

"Mr. William Hall, who resides in the north part of this town, sent us last week, a box of Cranberries, as large and as fine as we ever saw. We understand that they grew on a little patch of hoggly land, which bore only weeds and rushes—and that a few years since, Mr. Hall having some Cranberries which were brought from the westward, sowed some of them in the spring, upon the snow and ice. The seed took well, and has entirely rooted out the weeds, and last year he gathered about six bushels of Cranberries from a patch of land about three rods square, which a few years since was entirely profitless.

"The Massachusetts Ploughman states that a man in that State, has sold the Cranberries on a piece of land not exceeding one-eighth of an acre, for fifty dollars, the purchaser to gather the fruit. We have long been aware that this berry was easy to cultivate, as well as profitable; but have never known an instance of their having been raised by sowing in the manner pursued by Mr. Hall—and we recommend to all who have such patches of ground, to make trial of it. The expense is little or nothing if it fails—the profit is great if it succeeds."

We perceive by the last number of the *Central New York Farmer*, heretofore published at Rome, Oneida co., New York, that it is about to be discontinued and united with the *Cultivator*, at Albany.

The *Washington County Post*, published at Salem, New York, of the 25th ult., gives a detailed account of the proceedings of the Agricultural Society, at its Annual Fair and Cattle Show, in the Ninth month last. From the large number of premiums awarded, both on account of crops and various kinds of stock, it is evident there is in Washington county, a lively interest in every thing pertaining to the thrift and welfare of the farmer. Eighty-three and a half bushels of corn—the large Dutton—and seventy-nine and a half bushels of oats, carried off the premiums for those crops. One of the committees makes some very judicious remarks in relation to the value of the cow, particularly to the poor man, who, if he is able to keep a good one, has every day manufactured, both morning and evening, for his own use and that of his family, one of the most nutritious substances afforded by animals or vegetables.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
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As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

FROM a late number of the *New England Farmer*, we perceive that our highly valued friend, J. S. SKINNER, of Washington, is about to take charge of the Agricultural and Horticultural department of the *New York Albion*. This is a paper of great respectability and wide circulation, both in this country and in England, and we have particular satisfaction in learning that the individual referred to, will thus have an opportunity, under the responsibilities of this connection, to throw before the public the results of his long experience and practice, and doubt not that the portion of his own enthusiasm, which he will be able to infuse into the public mind in relation to his favourite pursuit, will have a wholesome influence. When five and twenty years ago, he established the *American Farmer* in Baltimore, mainly for the public good, and as a medium for the outpourings of his own mind on agricultural matters, how meagre were the resources of the farmer, to which he could refer for information in any department of his business in which he felt that he needed instruction. What a change has been effected in the *Press* of the country—and what a still greater change has there been in the character of our agriculture. The steam engine has hardly infused more life into our workshops, or more wonderfully multiplied the conveniences which have been thrown within reach of every department of society, than the general diffusion of agricultural knowledge by our agricultural papers, has improved our modes of farming—increased the productiveness of our lands, and consequently added to the comforts of those who occupy them. These are facts which we are aware are occasionally brought forward by our agricultural papers,

but we fear they are too frequently passed over by their readers, with scarcely an acknowledgment of their truth. They are stubborn facts nevertheless, and should go far to convince every patriotic man that it is his duty to lend his support to a good Agricultural paper, even though he may neither get his living at the plough-tail, nor be directly interested in the management of a single acre.

To many of our subscribers who are in arrears, we this month send their bills. Attention is particularly invited to them; and they may be reminded that Post-masters are at liberty by law, to frank remittances to publishers in payment of subscriptions, as well as to receive new subscribers and remit payment. Our friends are invited to avail themselves of this mode of settling our numerous little demands. Our expenses are necessarily heavy, and continual. It is only asked of each of our subscribers, promptly to bear his *small* part in their payment, and to do all he can in adding to the number on our subscription list. It gives the editor much pleasure to avail himself of this opportunity to acknowledge his strong obligations to the kindness and courtesy of the Post-masters of the country, from Canada to Florida, and from New Jersey to the Cherokee Nation. He respectfully solicits a continuance of this kindness.

COLEMAN'S AGRICULTURAL TOUR IN EUROPE.

It will not be forgotten that subscriptions to this work, are received at the office of the FARMERS' CABINET; where every farmer in the country will be heartily welcome as a subscriber to both, or either of these publications. Single Numbers will be sold.

THE first number of a new volume, in neat quarto form, of the AMERICAN RAIL ROAD JOURNAL and General Advertiser for Rail Roads, Canals, Steamboats, Machinery and Mines, published in New York by D. K. MINOR, editor and proprietor, has been received. It will henceforth appear weekly, at three dollars a year. We have long been in the habit of looking over the numbers of this work as they have regularly appeared, for a record of all that is valuable in relation to the matters on which it professes to treat. The industry and business talent of its editor, aided as he is, by scientific and practical men, will enable him to make his Journal every way important to those who are connected with the great internal improvements of our country.

A NEW series of the *New York Farmer and Mechanic*, in newspaper form, to be published weekly in New York, has been commenced with the year. In addition to much agricultural and miscellaneous matter, it will be made the channel of communication for those interested in the silk cause.

☞ SHORT ADVERTISEMENTS, ☞

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds, Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844. tf.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail; a complete assortment of Farming tools, among which may be found *Horse-powers and Threshing Machines, Grain and Seed Fans* of various patterns, *Corn-shellers* in variety, Hay, Straw, and Corn-stalk Cutters, eight different patterns, from \$1 50 to \$30. Corn-stalk Cutters and Grinders—Churns—Cheese-presses, &c. *Centre-draught Ploughs* of eight sizes, Bill-hooks—Bramble Scythes—Grubbing Hoes—Axes and handles—Hatchets—Potatoe Hooks—complete sets of instruments for making capons.

Garden, Grass, Flower and Field seeds, warranted fresh and true to name. D. O. PROUTY.

POURETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the **FARMERS' CABINET**, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.

JOSIAH TATUM.

The quantity of rain which fell during the Twelfth month, 1844, was two and three-quarter inches. And the quantity which fell during each month of the past year, was as follows:

MONTHS.	INCHES.
1st,	4.052
2nd,	1.449
3rd,	4.430
4th,	1.354
5th,	3.004
6th,	3.351
7th,	5.284
8th,	3.400
9th,	4.030
10th,	5.025
11th,	2.950
12th,	2.750

Fell during the year 1844,	41.166
There fell in 1843,	46.912

And the average for the last twenty years, was 42.122 inches.

Penn. Hospital, 1st mo. 1st.

CONTENTS OF THIS NUMBER.

Harmon's varieties of wheat in New York,	PAGE 169
Extracts from J. S. Skinner's Address,	173
Management of Hens,	175
Sotham's Shepherd Dog,	176
Keep your best Stock.—American Provisions in England,	177
German and Brazilian Hens,	178
Disease in Potatoes,	179
Culture of Asparagus,	180
The Artichoke.—To Preserve Meat Fresh,	181
Cultivation of the Quince.—Report of Pennsylvania Horticultural Society,	182
Aboriginal Fruits,	183
The Alpaca,	184
Warm Bed for Pigs.—To destroy Lice on Cattle.—Mediterranean Wheat,	185
Experiments in making Corn-stalk sugar,	186
Grubb, or Grass-worm in Salem County, N. J.	190
Blight in Pear Trees,	191
Philadelphia Ag. Society—Report, &c.	195
Change of Colour in Oleander.—Editorial Notices,	198

THE FARMERS' CABINET,

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All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

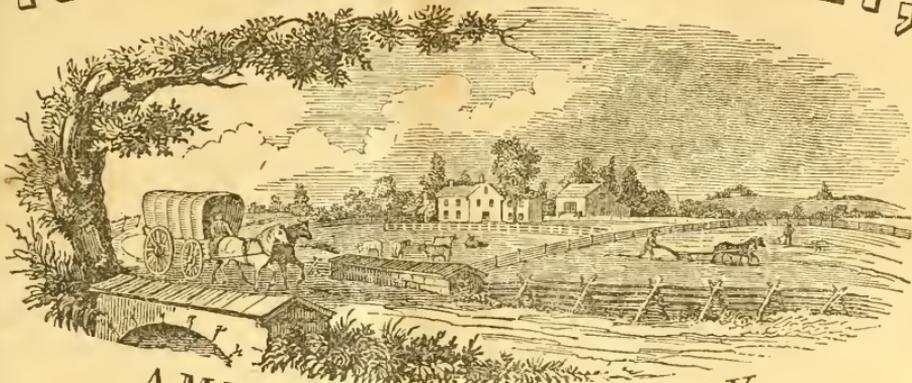
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volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly *half-bound and lettered*. Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 7.]

2nd mo. (February) 15th, 1845.

[Whole No. 121.]

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

The Gad-fly--Sheep-nose Worms.

EDITOR OF THE FARMERS' CABINET.—Under the above head, in the third No. of the current volume of the Cabinet, I observed an article which attracted my attention with peculiar interest at the time, inasmuch as a disease to which sheep are incident, sometimes called the "mad staggers," had a few years ago come under my observation, and which was at the time, as I believed, successfully treated, and which I have now no doubt, was occasioned by the sheep-nose worms, described by the above article. I had often thought of giving to the public the result of my experiment, but was as often deterred from the fear that I should be laying a tax upon the credulity of my readers, for I had never before heard of worms being found in the cavity of a sheep's head; and when I have mentioned the fact of my observation, I conceived that I was looked at rather doubtfully.

A few years ago, I had a small flock of

CAR.—VOL. IX.—No. 7.

very fine sheep; some time in the first month I discovered one of them lying down, while the rest of the flock were at some distance off feeding. I went to see what was the matter; when I had got nearly up to her, she jumped up and ran, as if to join the flock—but she appeared to be irresistibly impelled in a circular direction: this was continued as often as I attempted to approach her, until her strength was exhausted, and then I was permitted to get as close to her as I wished. I noticed that she kept her head inclined to one side, exhibiting a constant twitching of the eyes, with a strong convulsive, spasmodic affection of the muscles of the nose and face. I several times raised her upon her feet, and let her go—she would invariably run around and around, and at length fall to the ground. I had witnessed the same disease in sheep before, but knowing no remedy, I left her to take her chance: she continued growing gradually worse, for nearly a week; and moreover never knowing one to recover, I concluded, as it was evident the seat of the disease was in the head, that I would cut it off, and make an examination of it. I commenced by cutting across just above the nose—but there was nothing to remark. I then cut a cross immediately below the eyes; there was still nothing to arrest the attention—the next cut was just above the eyes; the instant the lower part of the skull fell off, I saw something like worms, receding further back into the cavity of the skull—the next

(201)

cut, a little higher up, revealed the whole secret. I did not count the worms, but there were probably from 20 to 30. I have not now a distinct recollection of the different length of the worms as described by "Octogenarian," but I felt entirely satisfied that these worms were the occasion of the disease. Within a few days after, I had another sheep affected precisely in the same way;—she was entirely unable to stand upon her feet. It occurred to me, that the worms in the head might in some way be affected, either by destroying or dislodging them, by an application of tar. I had the sheep caught and removed the thick wool from the back of the head, between the ears, and in the direction of the nose;—in the mean time the tar had been warmed into as thin a consistence as would admit of its application without burning, and then with the tar stick used for the wagon-wheels, it was laid on as thick as it could be done, without a danger of its getting into the eyes. It was with the stick literally rubbed *into the skin*. In the course of twenty-four hours the sheep was so much better as to be able to join the flock—and within a week had entirely recovered. I have never since had a case of the same disease, consequently have not had an opportunity of further testing the efficacy of the application. If it had really an agency in effecting the cure, were I to speculate upon the manner of its operating, I should premise, that in consequence of the increased and increasing bulk of the worms, in the cavity which should be naturally otherwise occupied by the glandular substances of the head; the constant irritation occasioned thereby, would produce an inflammation, and this being in such close proximity with the brain, the consequent sympathy of the parts would very naturally result in the spasmodic affection which has been noticed: supposing such to be the fact, the application of the tar acting as a blister, would draw the inflammation to the surface and produce relief. Another view of the agency of the tar in effecting the cure, might be inferred from the strong effluvia thrown out by the tar, and being inhaled by respiration, may have been so obnoxious to those worms, as either to dislodge or to destroy them: should the latter have been the effect of the application, I think it is highly probable that the fumes of either tobacco or sulphur inhaled by the sheep, might perhaps be more efficacious than the tar.

If the foregoing is deemed worth a place in the pages of the Cabinet, I am willing to throw into the general stock of useful matter, my small mite.

S. W.

Darlington, Harford co., Md., 1844.

Report of Experiments on the varieties of Wheat cultivated in the State of New-York.

(Concluded from page 173, last No.)

Soule's Wheat.—In the first volume of the New Genesee Farmer, this variety of wheat is noticed as being discovered, or a few heads being found, in a field of white flint, by Jonathan Soule, of Perrinton, in this county. From the best information I can obtain of its first introduction into this State, Judge Soule, of Onondaga county, obtained it at Washington.

It appears to be a mixed variety; about one-half is a red chaff, the other half white chaff bald; with me, some of it is red chaff bearded. This appears to be a valuable variety; the heads are large, five kernels abreast in a chamber; berry beautiful white, bran thin, yielding flour well, and of a good quality. This is claimed as an early variety: it has not proved so with me. It ripens the same as the white flint. In favourable seasons it will give heavy yields. It is not so hardy as some varieties: it is more subject to winter-kill. The straw is of a good size, and rather stiff, holding up its large and heavy heads well. It is not extensively cultivated, except in Wayne county. It has been considerably sought for the past season for seed. I believe it has not been sufficiently tested to admit it as the main crop.

Beaver-Dam.—This variety was first noticed in Western New-York about twenty years since. White chaff, bald, straw long and stiff, berry red, weighing from sixty to sixty-four, bran thick and tough; flour not in large quantities, and of a yellowish cast. This variety is considered a valuable one on strong rich soils, seldom lodging, rather slow in ripening. It has produced some heavy yields; in one instance, fifty-two bushels per acre. It has now wholly gone out of use in this vicinity.

Eclipse.—An English variety, much resembling the white flint in its growth and appearance; is not hardy. Our winters are too severe for it. I have discontinued it in my experiment field.

Virginia White-May.—I received this variety from Virginia, six years ago. It is a white chaff, bald, much resembling the white flint in its growth and straw; the heads are more clumped; the berry standing out more, and shells easier. The berry is not as white as when I received it, having more of a red, and very hard and flinty appearance; weighing from 63 to 66 to the bushel; bran of a medium thickness; producing flour of a good quality. The first two years I

had it under cultivation, it was equal to the white flint. Since then, in field culture, it has not succeeded as well. The last three years, I have sown it only in my experiment field. Its early maturing would make it valuable. It has not been affected with rust since I had it under cultivation, ripening six or eight days earlier than common varieties. For many years this favourite variety was extensively cultivated in Maryland and Virginia, and the high credit of their flour was established from this variety of wheat. It has now nearly disappeared there, having given way to more hardy varieties, producing flour of inferior quality.

Wheatland Red.—This is a new variety, which I originated from the Virginia May. It is a red chaff, bald, heads of medium length, and well filled with a red berry, weighing 66 to the bushel, and producing flour of good quality. This is a very hardy variety; straw of good size and very bright; it has the quality of the Virginia May in its early ripening. It has stood our severe winters as well as the most hardy variety that I have tested. I believe it is one of the most valuable kinds that can be introduced on soils where other varieties are subject to rust. The four years that I have tested it, it has had no appearance of rust. Its red berry is objectionable. I know of no red wheat that is equal to the white in quality or quantity of its flour; the bran being thicker, and will not admit of being ground as close.

Tuscan Bald.—This variety was brought from Tuscany to New York, in 1837. I first sowed it in 1839. This is a bald, white chaff, berry large and white. On the first introduction, it was supposed to be a valuable variety. If it had been sufficiently hardy to have withstood the hard winters, it might have proved so, as its large heads were well filled, and the wheat gave flour of a fine quality and fair quantity. Its being so liable to be winter-killed, caused it to be laid aside.

Tuscan Bearded.—This was from the same source as the above: it is a bearded wheat, heads very large, and beard stiff; the berry shorter than the bald Tuscan and larger, very white; a fair wheat for flour; straw very stiff, and of a blue shade; it is not as hardy as the bald: most of it was winter-killed. After a trial of three years, I have rejected it.

Yorkshire.—This variety was introduced from England into New York, about ten years since. I have cultivated it for several years. For some years it was held in high repute, but it has now nearly disappeared. It appeared to be a mixed variety of white

and red chaff; bald; straw long and stiff; heads long and well filled, with a beautiful white berry. Yielded flour well and of good quality. Ripened late, more subject to rust, and more injured by insects, than some other varieties. When it did well, the yield was heavy, but it was very subject to smut, and the only variety that ever produced the ergot with me.

Bellevire Talavera.—This I received direct from England, and have sown it four years. It is a white chaff, bald-headed; straw large and long, and very white and stiff. It has not lodged with me; spreads or tillers well; is not sufficiently hardy to stand severe winters; is more subject to the insect than common varieties.

This has been one of the varieties cultivated in England and Scotland, where it is said to be one of the earliest to ripen; while here it may be called a late ripening wheat. Its large, long, and well filled heads, with a most beautiful berry, would make it a valuable variety, if it could be acclimated. So far, it has not equalled some other varieties in quantity, owing to being thinned by insects and severe winters.

Pegglesham.—This is an English variety, introduced here in 1840, direct from England. White chaff, bald, straw short, and heads very large and clumped: the kernels set in very thick: the upper end of the head the largest; the berry medium size and white. With me it has not proved hardy; very subject to lodge, the heads appear too heavy for the straw. The winters are too hard for it. I have rejected it.

Golden Drop.—An English variety, red chaff, bald; long straw, large and stiff. This is more hardy than most of the English varieties. The berry being red, bran thick, not yielding flour equal to the common varieties, is a strong objection to its culture in this vicinity. I have given up its culture, believing it does not come up to many of the varieties I have had under cultivation.

Skinner Wheat.—This variety was obtained by selecting the heads from a single stool in a field in this town, by a man whose name it bears, about fifteen years since. It is a white chaff, bearded, straw short and very stiff; berry red, of good size, weighing 64 lbs. to the bushel: this is very hardy, and has been sought for to sow after corn, and on light soils. Its long stiff beards, and stiff straw, and late ripening, are objections to its culture. For a number of years it was considerably cultivated in this section, on good soils, and it has given some heavy yields; but it has latterly given way for more approved varieties.

Mediterranean.—This variety was intro-

duced into Maryland, from the Mediterranean Sea, six years since. It is a light red chaff, bearded, berry red and long, very flinty, bran thick, producing flour of an inferior quality. In a communication from a wheat-grower on the eastern shore of the Chesapeake Bay, dated September 6th, 1842, speaking of the wheat crop, he says, "the variety that has succeeded best here this season, is the Mediterranean. It is a bearded wheat, remarkably heavy, but the grain is about as dark as rye, and not plump. It ripens about ten days earlier than any other variety, and has escaped every disaster, for several years."

From another, from where it was first introduced: "It is a coarse red-bearded wheat, and makes inferior flour; its only merit, in my estimation, is that it ripens earlier, and is less liable to rust than any other variety."

This variety may prove valuable at the south, being seldom affected with the fly, and its early ripening is favourable on account of rust. Its long stiff beards, heads short, shelling very easy—so much so, that if it is not cut while in its doughy state, there will be a great loss—and the inferior quality of its flour, are strong objections to its culture, where wheat of superior quality succeeds well.

Hume's White Wheat.—This is a new variety, obtained by Major Hume, of Riga; it was selected from a field of flint, three years since; being larger in its growth, and ripening earlier; it is a beautiful white wheat, berry large, bran thin, much resembling the improved flint in every respect, except that it shells easier. It is hardy, and thus far appears to be a valuable variety. I shall give it a fair trial.

Blue Stem.—Has been cultivated in Virginia for about thirty-three years; white chaff, bald, berry white, weighs 64 lbs. to the bushel, bran thin, producing flour of superior quality. Formerly this was a red wheat, now it is changed to a beautiful white. Straw fair size, producing well; it is now one of the most productive varieties cultivated in Virginia. I am giving it a trial.

Valparaizo Wheat.—This is from Valparaizo, South America; white chaff, bald, berry white, bran thin, much like the white flint: it has the appearance of a valuable variety. The past season is the first that I have sown it. I am in hope to give a good account of it hereafter.

All the above varieties I have had under cultivation, are winter wheats, and the short descriptions of their qualities, are as they have proved with me thus far: also the Blue-Beard, a dwarf variety. I received this va-

riety from France, and cultivated it two years. Straw about two-thirds as large and long as the common varieties; grows thick, stools out well; heads about one and a half inches long; beards very long, adhering very close to the head, and of a bluish cast. The berry is in size, in proportion to the head—of a dark flinty appearance, and very solid; it is one of the earliest varieties to ripen, and is very hardy. There is a winter grain, and I am of the opinion that it would succeed where no other could. It is a small yielder and the flour of poor quality. I have rejected it.

Egyptian Wild-Goose, or California.—There is a winter and spring wheat bearing these names, both bearing the same appearance. The spring wheat has been the most cultivated; it has not met with general favour. This variety has a large head branching out so as to show six or seven short heads attached to the main head, and bearded; berry not large, bran thick, producing flour of a coarse and harsh feel, of a yellowish cast, resembling barley flour. With its large head, it has not been found very productive, ripening rather late, and very subject to rust. Some years since, the same variety was brought from California, as a new variety; it has been sown as a winter wheat, and has produced a better berry; it has not succeeded well so far, for it is not hardy. The straw is large and stiff. It is not likely to become acclimated so as to make it a valuable variety. The straw being large, it is late in ripening; it is cultivated more for its singular appearance than for profit. In the eighth volume of the Cultivator, page 183, is a fair account of this wheat.

Rock Wheat was introduced into this country from Spain, more than forty years ago: white chaff, bearded; berry red and long; bran thick; producing flour of fair quality. This is a very hardy variety; straw small and short, subject to lodge; grows very thick, stools well, is several days later in ripening than the common varieties. It is mostly grown in the southern tier of counties in this State. It is well adapted to new lands and late sowing, and on unfavourable soils, giving better returns than almost any other.

Black Bearded.—This variety was cultivated to considerable extent in the middle counties of this State, forty years ago. Straw large; heavy heads, well filled with a large red berry; beards very long and stiff. This was called one of the hardiest varieties; it sold well in the Albany market, producing flour well for red wheat. Its long stiff beards were strong objections to

its culture. I have seen but one field of this wheat growing in Western New York.

Red Bearded.—An English variety, and has been cultivated for many years in this section of the State: red chaff, bearded; beards standing out from the head, and when fully ripe a little bending down; berry white, weighing from 60 to 62 pounds to the bushel; yields flour well and of good quality; this is a hardy variety, succeeds well after corn, or on light soils. In one instance in Niagara county, when sown after corn, producing 44 bushels to the acre. It is mostly sown on clay loam soils—there it succeeds best. Straw not large or very stiff. This variety would be more extensively cultivated, if its beard were not objectionable.

Scotch Wheat.—This variety has been cultivated for several years in Western New York. Its origin is not known; it is a large white wheat, varies but little from the Indiana; berry some larger; does not shell as easy, straw large; it is mostly cultivated on the Tonawanda oak-openings, where it is held in high estimation.

Italian Spring Wheat was introduced by Mr. Hathaway, of Rome, Oneida county, and for several years was much sought for. For the last few years it has not succeeded as well as formerly, and is much less cultivated. This is a bearded wheat, white chaff, heads long, the chambers standing apart more than the common varieties; berry red, long, not very full; bran thick, flour of fair quality. Spring wheats are most valuable on soils where the winter varieties are thrown out by the frosts of spring.

Tea Wheat or Siberian Bald.—This is a spring wheat, one of the most valuable of the spring varieties. It is extensively cultivated in New England and in the north part of this State. Straw not long, very bright, the heads bald, and with a beautiful white berry producing flour of good quality. The straw is not so large as the Italian, ripening earlier; the berry sits more close in its chamber, not subject to rust. I have cultivated it for several years. I have, however, rejected all spring varieties.

Black Sea Wheat was first introduced into the State of Maine, and has been successfully cultivated there for several years, as well as in some of the other New England States. It has succeeded the best of any of the spring varieties in Vermont; being earlier in maturing, is less affected with the grain worm—seldom rusts or mildews. This is a white chaff, bearded; straw soft, very subject to get down, which does not injure it in filling; berry long and red, weighs well, bran thick, producing flour of

an inferior quality. Its early ripening gives it the preference to others.

I have received a description of several of the most valuable varieties of wheat cultivated in Virginia and the South, and had specimens of them forwarded to me, but they have been miscarried. If I had succeeded in getting them, I would have given a description of them here. I hope to be more successful at some other time.

This list might have been much extended, but I have confined myself to such varieties as I have had under cultivation, or those that have come under my own observation.

The Island of Ichaboe—Guano.

THIS island, which has caused so much commotion amongst ship-owners and speculators, and which has given rise to the employment of so much shipping from the principal ports both of England and Scotland, in this new branch of trade, is situated in 26° 13' 34" south latitude, about 22 miles north of Angra Pequena—a well determined position, which vessels bound for Ichaboe, generally try to make. The mainland, for several hundred miles on both sides of Angra Pequena, presents to the eye of the mariner a barren, inhospitable, and dangerous line of sea-coast, lying low, though backed with high land in the interior. The strong glare arising from the arid sand, and the density of the atmosphere, calls for the utmost vigilance and caution on the part of the master-mariner approaching it during the night; for, if he once gets deceived, and into the current which sets upon the shore, the destruction of his vessel is inevitable. Along this seaboard there is not the slightest symptom of vegetation; indeed it is much to be questioned whether vegetation would thrive, whatever might be the quality of the soil, as no rains fall in this region. True, there are heavy dews, occasionally falling both day and night; but the cold is so severe, for such a high latitude, during the fogs, and the sun, when it does break forth, is so powerful and scorching, that in all probability, between these alternating temperatures no vegetation could survive. The island itself is a barren, shelving rock, about a mile long from north to south, and half a mile across at its broadest part. It is bounded all round by reefs, except on its eastern side, where there is an anchorage from five to six fathoms. A portion of the island is in the form of a flat shelf, about 1100 feet long and 500 feet broad in the widest part. Upon this shelf, and about six feet above high water, is accumulated that deposit of guano which gives so much celebrity to the island,

and which varies in depth from 35 to 38 feet. Taking the average width of the deposit at 400 feet, and assuming the average depth to be 36 feet, the total quantity of guano will be about 158 millions of cubic feet. The climate of Ichaboe, notwithstanding the effluvia of the volatile ammoniacal gases emitted from the guano, is very healthy. As one proof of its salubrity, it is mentioned that at a period when thirty-five ships were lying off the island, their crews, comprising altogether not fewer than 700 men, most of whom were enduring exceedingly laborious employment in that hot region, there were only five cases of sickness, and these, complaints or affections of the lungs. As has been already remarked, there falls during the night a very heavy dew, attended with a piercing coldness of temperature; and even during the day, if the sun's rays be intercepted, a cold, disagreeable sensation is immediately experienced. On the sun again breaking forth, its rays speedily scorch the lips, and indeed the whole face and hands, of every person of fair complexion; and the lips of very few escape this tormenting annoyance. The only relief the sufferer can find, is by anointing the skin with hogs' lard, in imitation of the custom of the inhabitants of the mainland, who profusely lubricate their persons with palm oil.

With reference to the guano, our author expresses a decided opinion, that the substance is not, as has been generally supposed, exclusively composed of the soil of marine birds, which he believes to form only a comparatively small portion of the mass. He supposes it chiefly to consist of the decomposed bodies of marine birds and animals, together with the eggs of the former, and the excrementitious matter of both. He personally superintended the working of a pit of guano, 35 feet by 18 feet, and from all that came daily under his observation, he was inclined to the opinion that this barren rock had been a favourite place of resort for ages, for penguins and other aquatic birds; that myriads of them had successively deposited their eggs there, and had subsequently died on the island; and that it had also been a favourite haunt of seals and other marine animals. In working the pit, the men occasionally came to a stratum of a light brown colour, and of greater levity than the strata above and below it, and imbedded in this stratum they invariably found numerous skeletons of penguins, in the last stage of decomposition, and vast quantities of their eggs. Having worked through this, the men would probably come after a time to another stratum of a much darker brown, and much heavier description; and the sub-

stance composing the bulk of this stratum, when rubbed between the fingers, would dissolve like tallow, and exude much more oil or fat than the first. Throughout this dark coloured stratum, the men occasionally found many bones and skeletons of seals nearly decomposed, and but very rarely any remains of penguins. The appearance of the stratum suggested to him the idea of a great number of seals having been washed on shore, or having laid down in this spot to die. He adds, that the strata were not by any means regular in their alternations; but as a general rule, he did not find both the light and the dark coloured strata in close succession. The pit here referred to, was in the centre of the island.

With regard to the amount of guano existing on Ichaboe and the adjacent islands, another writer thus remarks: "I have been many times on this coast, and also on the continent, in search of guano and gold dust, and have found both; but in such small quantities, and of such inferior qualities, that it has not been worth the trouble of shipping home. Here there is no rain, as at Angra Pequina, which makes the guano especially valuable. Many thousands of tons there have been taken in, and cast away when it was discovered the rains had caused fermentation, and destroyed the properties of the guano. It is clear, therefore, that it can only be obtained where no rain falls, and then it must be upon islands which the birds frequent, as they will not settle upon any part of the continent in great numbers. My conclusion, after much search and thought, is, that there is very little guano in the world, and that if farmers should expect it they will be deceived. The guano of Ichaboe has been worked since the beginning of 1844; up to the end of May, about 100 cargoes had been shipped; and now fully one-third of the deposit is gone. I am fearful," continues this writer, "that a great sacrifice will be made in this place. Upwards of 1000 persons from England,—living, for the time, without the law of God or their country—produce much anxiety: several rebellions have taken place; the *Thunderbolt* steamer, man-of-war, restored order, but the very day she left, the men declared their reign of power to have commenced. We repressed them, and sent two ringleaders to St. Helena."—*Chambers' Edinburgh Journal*.

SHUT your eyes to the faults of your neighbours, but open them wide upon your own. Stop your ears to the voice of slander, but be ever ready to listen to that of friendly admonition.

From the Union Agriculturist.

Time is Money.

DEAR SIR,—I begin to fear that yourself and others may think that I do nothing but write; as I send you something for every number of your paper. Well, suppose that should be the conclusion,—if I had nothing else to do all would be well. But farmers have something to do, besides writing for agricultural papers. This all know; how then, many will inquire, does C. find time to write. If I may answer the question myself, I shall say, that I am troubled to dispose of my spare time—of the long winter evenings—of the stormy days, and a great many bits and ends of time.

I may be answered—teach your children; make and mend such articles as you can that you need; read the newspapers, and such books as you have or can get; this I do, and yet there is spare time.

My wife and self manage to teach seven children; and during the winter, keep them at their studies more hours than if they were at school. I make and repair all the wood part of my tools, and some of the iron, and repair all our boots and shoes; my wife and daughters, the oldest sixteen, work up our wool, about 70 pounds, both spin and weave it; myself and boy, thirteen years old, till about forty acres, and provide for stock that require 40 tons of hay, besides all the coarse fodder that we can muster; this, besides all the incidental work about the house and farm, we do without hiring. Books and papers are literally worn out by being read. The Chicago Democrat or Union Agriculturist, is hailed with as much joy as an old friend; and if, as we frequently do, we receive a paper from distant friends, nothing could give greater pleasure, except the appearance of those friends.

A great wonder with me is, how men and families spend their time, without even a paper or a book, or any thing else of the kind. Even their Bible might as well be made of wood, bound and gilt, to save appearance, as to be filled with the words of God.

Never have I written, except in the evening; and then generally have some half dozen children about the same time at their studies. Some with slates, some with books, and some with more mischief than study. Even now, one little one pops up her head, with, "Father, how much is eleven times six?" Set down eleven and multiply it by six!—"what, six times eleven?" no six times one, and then six times one again. "O! I see; sixty-six." Now multiply 7, 8 and 9 in the same way: so I write, teach

and rest myself; at the same time killing three birds with one stone.

Now to my reasons for writing. If I say I write to benefit others, none will believe me in these selfish times; well then, I write to amuse myself, and to use time.

A. CHURCHILL.

Avon, March, 1841.

Pointed-toed Shoes.

HE was a cunning and a clever shoemaker, who first succeeded in turning old Grandfather Squaretoes into ridicule, and in setting up Young Shapefoot as a pattern for universal imitation. What must have been poor old Dame Nature's surprise and vexation, when she saw and felt the abominable change! The toes have their duty to perform, when the frame of men is either placed erect or put in motion; shoes at best are a vast encumbrance in them; but when it happens that shoes are what is called a bad fit, then all goes wrong indeed, and corns and blisters soon oblige the wearer of them to "wend his way with faltering step and slow." When I see a man thus hobbling on, I condemn both his fortitude and folly; his fortitude is undergoing a pedal martyrdom without necessity; and his folly is wearing, for fashion's sake, a pair of shoes ill adapted to his feet in size and shape. Corns are the undoubted offspring of tight shoes; and tight shoes the proper punishers of human vanity. If the rules of society require that I should imprison my toes, it does not follow that I should voluntarily force them to the treadmill. The foot of man does not end in a point; its termination is nearly circular. Hence it is plain and obvious that a pointed shoe will have the effect of forcing the toes into so small a space, that one will lie over the other for want of room. By having always worn shoes suited to the form of my foot, I have now, at sixty-two, the full use of my toes, and this is invaluable to me in ascending trees. There is something very forbidding to my eye, in a foot with a pointed shoe on; I always fancy that I can see there, comfort and ease, and symmetry, all sacrificed at the tinsel shrine of fashion. Never be it forgotten, that tight shoes and tight garters are very successful agents in procuring cold feet; and that cold feet are no friends to a warm heart. The foot of man is formed in Nature's finest mould; custom causes us to conceal it, and necessity to defend it from the asperities of the flinty path; but we never can improve its original shape, or add any thing to its natural means, in the performance of its important task.—*Waterton's Essay on Natural History.*

American Agricultural Imports.

THE farmers in the cheese manufacturing districts, are in a state of the greatest alarm at the recently immensely increased importation of American produce, but more particularly of that staple. The hay sent hither during the last season, was not of that prime quality to command an extensive and profitable sale, though at one period there was a scarcity of the article in consequence of the long drought, which was, however, corrected by a plentiful aftermath. The pork would be well received in England, if the English mode of cutting and packing were adopted. But in cheese, with an improved method of churning and making, an immense deal may be done. It has already superseded nearly all the quantities of that article formerly imported from Holland, and the efforts of the American population engaged in its production, should now be directed to a competition with Cheshire—the seat of England's finest sample of the article. The land owners and farmers of the adjacent counties have taken the alarm, and met to discuss the subject; but they are satisfied that there is not the slightest chance of their getting any additional duty imposed on American produce by the government, and their only hope of excluding it from the British market, is on the score of its inferiority; and in the circumstance that the factors have already begun to complain of its quality. We should recommend that more time should be taken in the manufacture of cheese in America, that a greater pressure should be applied to it, that they should be made of greater depth and less breadth than at present, that they should be packed in casks, separated by thin greased boards, and that the factors should be allowed 120 lbs. to the cwt., the Cheshire manufactures being about to give only 112 lbs.—*Liverpool Times*.

From the New York Farmer and Mechanic.

Sulphuric Acid as a Manure.

HITHERTO we have used in France but three substances, which act immediately upon the vegetation of grass and leguminous crops—but their scarcity and dearness have prevented their general use. These substances are ashes, soot and plaster. A substance has been discovered for use in fertilizing pastures, which is easily managed and less expensive. We shall not attempt to explain the chemical and physiological theories as to its action on some plants. It is sufficient for us to call the attention of agriculturists to the results which appear to be important.

1st. Sulphuric acid—commonly called oil of vitriol—diluted in water in the proportion of one part acid and one thousand of water, stimulates in a very active manner all grasses and leguminous plants.

2nd. The use of sulphuric acid is much less expensive than that of plaster, for, with one quart of the acid, costing about 30 cents, you can sprinkle, when diluted, about one acre of ground—*demi hectare*—and to produce any effect with the plaster, 300 pounds would be necessary, costing about fifty cents a hundred. As to distributing it over the land there is much more facility than in distributing plaster, for it is easily done by means of a watering pot, or over large fields by a cask on a cart, having a sprinkler behind it, as in watering the streets; and it may be done as well in rainy as in dry weather, for it always acts with the same energy.

The use of sulphuric acid has long been known in agriculture. Mr. Yvart, Professor of the Alfort School, recommended it a number of years ago, and we can cite many cultivators who have strongly recommended its use. We recollect, among other experiments, one made by Brand, in Dordogne. A piece of clover was divided into three parts, one was left in its natural state, the other was sowed with plaster the usual way—the third was watered with sulphuric acid diluted, one to a thousand of water. No difference was perceptible between the plaster and the acid pieces, but both of them were very superior to the first, both in quality and quantity of clover raised.

This acid has been used in larger doses, but except where the soil was extremely poor, the proportions of one part of the acid to one thousand of water is about right.

The prices of the acid vary considerably; and one principal reason is, that is difficult of transportation, especially on wheels.

From the *Revue Scientifique et Industrielle*, of 1840.

Translated by H. MEIGS.

American Institute, Dec. 6th, 1844.

BLESSED will be the day, if come it ever should, when every man will learn that his own true prosperity is essentially concerned in the prosperity of his neighbour, and that no gratification on earth, to a good mind, is more delicious than that which is reflected from the happiness of another, to which he has been himself instrumental.—*H. Colman*.

GET justly, use soberly, distribute cheerfully, and live with an eye to the recompense of reward.

Difficulty in Churning Butter.

MR. CABINET,—Please to ask your folks, instead of writing so many things which we know already—and some we don't want to know—to turn their attention to the department of *female husbandry*, and instruct us a little in that.

In the days of our grand-dames—as many a legend tells us—when witches were almost as numerous as cats, and quite as mischievous—riding broomsticks on their errands of mischief—the good housewife frequently encountered the greatest difficulty from their malicious interference with her household affairs; unless her stable door and “that dear cot her home,” were protected by the potent charm of an old horse-shoe, the horses manes and tails would be twisted into *cues*—the cows would either be sucked dry, or their milk turned to blood—or when churned would not make butter—her vinegar would not stay in the barrel, nor her soap in the tub—nor could she even supply its loss, unless she used the precaution to stir the soap pot with a *sassafras* stick, *top down*. In those perilous times stern necessity devised many means to break the spell—to burn the witch, or to douse her into scalding water. But to us who are young, this is mere matter of history—fabulous history it would seem—for no sooner did the people cease their efforts to *keep the witches out*, than they made the discovery that there were none to *get in*—oh pshaw! I sat down to inquire about churning, and here is a homily on witchcraft.

It is a fact unfortunately too well known, that in small dairies of one or two cows—perhaps cows which have been milked for several months—there is often much difficulty experienced in churning the cream into butter, especially in cold weather—sometimes the cream is converted into a thick froth, and will not *break*; at other times the butter forms into small pellets resembling fish eggs, and will not *gather*. Now it is no trifle to have all the trouble and labour of gathering the cream, and churning a whole day—perhaps two or three of them—and have to eat your buckwheat cakes without butter at last. Formerly it was only necessary to expel the witch, and all was right; but now-a-days, there is no witch, and we don't know what to do.

One thinks her cow is too poor to churn for, and exchanges her for one no better. Another can't get butter because her cows are fed on turnips or pumpkins. A third condemns oats' straw as feed for cows—and who would not agree with her in that—and some think that even the oats themselves, ground either

alone, or with corn, make inferior butter or none at all.

Now all this may, or may not be so. We think there is some difference in cows, and in cow-feed too; for we see a great difference between the milk of different cows, and of the same cows under different keeping. Still, as the complaint seems only to prevail in winter, we think that winter may have something to do with it—especially as our own cream will churn readily one week, and hardly at all another—cows and food the same.

Now what do your Cabinet folks say to this? you often talk about chemistry. Now can't you tell us what is the chemical process of converting cream into butter—what constitutes the difference between the two; and what are the essential conditions necessary to affect the change? Do tell us where the cream-pot should be kept in cold weather? How it should be stirred and managed? What put into it? How the churn should be prepared, &c., &c.

Do tell us all about it, and oblige a whole heap of

YOUNG WIVES.

It would afford the editor no small gratification, if he were able to remove a difficulty, which has from time immemorial, for aught we know, perplexed and annoyed, not only “heaps of Young Wives,” but also any quantity of *old* ones, who had thought that in most matters they had cut their wisdom teeth. We must, however, leave this to wiser people, and hope some of our readers will be able to render assistance in the premises. There is an excellent article under the head of *Butter*, in the *Farmer's Encyclopedia*, which is too long for the Cabinet, and to which we can only refer. We can very well sympathise with those who are worried in this way, having many a time watched with no little chagrin, the prolonged and fruitless labours at the churn, for six or eight, or even twelve hours; and then, after all, if the *buckwheat cakes* were not eaten *dry*, they might as well have been, for the stuff that was produced when the butter did *come*, if indeed it came at all, was not worthy of the name of butter, and hardly that of decent *grease*. Perhaps there is no better plan for having good butter in winter, and little difficulty in the churning of it, than to feed the cows well with Indian meal and green food, as carrots, turnips, potatoes, &c., and to keep the milk or cream at a moderate temperature. A friend in Jersey, and by the way, an excellent house-keeper, remarked to us a few weeks ago, that she kept her milk and cream during the winter, altogether in a closet in the kitchen: thus at a constant temperature, from 55° to 65°, it readily soured, and she had no difficulty in *getting* her butter: and the quality of it, when she does *get* it, ourselves are particularly fond of testing. This plan of keeping the milk warm, is we believe, practised to a very considerable extent, by our large and nice dairy people on this side the Delaware.

Food for different Latitudes.

From Fownes' Prize Essay on Chemistry, as exemplifying the Wisdom and Beneficence of God :

"We are accustomed to look with horror and disgust at the food of these poor people, as we in our ignorance and presumption dare to call them; to commiserate those who, as our northern navigators relate, prefer a piece of tallow-candle, or a draught of train-oil, to the fare of an English man-of-war; but a little more consideration might perhaps show us, that the blubber and fat of the arctic cetacea and fish, the only food the inhabitants of these countries can obtain, really constitute the only sort of food which could enable them to bear up against the extremities of cold to which they are subject. There is no other substance but fat, and that in very large quantity, which would answer the purpose required. It is a substance exceedingly rich in hydrogen, and in the body eminently combustible; weight for weight, it will generate a far larger amount of heat, when burned in the blood, than any thing else which can be taken as food. It will be wiser, then, instead of condemning, as filthy and abhorrent, the tastes and propensities of the Esquimaux, to consider them as a special adaptation, by an unspeakably benevolent Providence, of the very wishes and inclinations of the individual to the circumstances of his life.

"But this is not all: the same individual who, when in a warm or temperate climate, craves a large proportion of bread and vegetable food, and turns with aversion from fatty substances, experiences, when transported to the frozen regions of the north, a complete revolution in his tastes and desires. Nothing will then satisfy him but fat: the flesh of deer, fish, to be acceptable, must be loaded with fat; he takes delight in sucking the marrow from the bones; nothing in the shape of grease comes amiss to him; he longs for it, he desires it as much as he formerly loathed it. But this new, this induced state, only lasts as long as his mode of life requires; removal to a milder region restores, to a very great extent, the first condition."

Ornamental Shrubs and Flowers.

THE cultivation of flowers, and shrubs, and vines, is a remarkable and prominent feature in the landscape of England; and a circumstance which has given no little gratification to my national pride, has been the profusion of American plants, azalias and kalmias, magnolias and rhododendrons, and

a large variety of pines and firs, which are seen in the shrubberies and plantations, and pleasure grounds, both public and private. A very large establishment in London, is exclusively devoted to the sale of American plants; and they are everywhere admired for the splendor of their foliage and the beauty of their flowers. Green-houses and conservatories are almost universal in the country, where anything like a garden exists; and the better class of houses are surrounded and adorned with a great variety of flowering shrubs and plants, presenting, through the season, a charming succession of gay and brilliant ornaments. Even the labourer's humble cottage, too seldom, I am compelled to admit, anything but a picturesque object, will occasionally have its flowering shrubs adorning its doorway, and the ivy hanging its beautiful tresses over its window, forming, as it were, a mirror, set in a frame of the richest green. The village of Marr, in Yorkshire, not far from Doncaster, and the village of Edensor, in Derbyshire, near Chatsworth, and the village of Lord Brownlow, in Lincolnshire, the best built and by far the handsomest villages I have yet seen in England, to cottages of an excellent and picturesque construction, monuments of the liberality of their proprietors, add these beautiful rural embellishments of vines, and shrubs, and flowers, and at first blush compel a reflecting mind to admit the moral influence of such arrangements upon the character and manners of their inhabitants. Churches and ruins, likewise, are often seen spread over with the richest mantlings of ivy; and, among many others, the venerable and magnificent remains of Hardwicke Hall, for example, are covered, I may say, in the season of its flowering, with a gorgeous robe of it, matting its sides with indescribable luxuriance, climbing its lofty battlements and fringing its empty windows and broken arches, as though nature would make the pall of death exquisitely beautiful and splendid, that she might conceal the hideousness of decay, and shut from the sight of frail mortals these affecting monuments of the vanity of human grandeur and pride.

I have said and written a great deal to my countrymen about the cultivation of flowers, ornamental gardening, and rural embellishments; and I would read them a homily on the subject every day of every remaining year of my life, if I thought it would have the effect which I desire, of inducing them to make this matter of particular attention and care. When a man asks me what is the use of shrubs and flowers, my first impulse always is to look under his

Disease in the Potatoe.

A COMMITTEE was ordered by the Philadelphia Agricultural Society some time since, to collect facts and materials for a Report on the disease of the potatoe now prevailing. As a part of their action, the following translation was made at their desire, of a paper on the subject, by Professor Von Martius, one of the most celebrated scientific men of Europe, and they now publish it as a part of the Report that they intend making at some future time.

The Potatoe epidemic of last year, or the rot and scab of the potatoe, described by Dr. C. F. Ph. v. Martius, Munich, 1842.

Certain diseases of the potatoe plant have been observed for more than eighty years.

Curl.—The curl has been observed in 1776-79, in the principality of Goettingen, and was described first in 1779. The so called, white table potatoe, was almost the only sort attacked at first. In 1780-90, the disease appeared frequently on the British Isles, where it is said to have been first observed in Ireland, whence it spread over England and Scotland. John Holt mentions two other diseases, as having appeared contemporaneously with the curl, viz: the cancer, which appeared, according to him, chiefly in wet seasons; and the scab, which appeared to be produced by dry seasons.

In Hanover, the curl was first observed by Thaer, in 1790, and in the beginning of this century it showed itself most destructively in Southern Prussia, since which time it has shown itself at different places in Germany; nowhere, however, to any great extent. Putsche, a monographer of the potatoe, gives the following description of the curl; the plants attacked by it look very poor; stem of a brownish green, or of a variegated colour, with rubiginous spots, penetrating into its pith; leaves rough, wrinkled, curled, shrunk, with short petioles, covered with spots, some of a light green, others of a yellowish green colour. The pith of the sick plants is often found rust-eaten, as it were, and parched. Early in the fall the plants turn yellow and perish. The few tubers found, are of a bad flavour, soapy and hardly eatable, leaving, when eaten, a feeling of scratching in the throat. The very skin of the tubers is different from that of the sound ones, its colour being partly brown, partly of a pale yellow, or often with both colours blended.

Experience has shown that certain varieties of potatoes are more liable to this disease, than others; that they are less exposed to it on mountains, than in the level coun-

try; that the round and oblong red varieties are more readily attacked by it than the white ones, and that this disease is propagated by the seed-potatoes, and does not disappear before the fourth or fifth generation, even when the plants are well taken care of.

Rust.—Another disease, which is mentioned as occurring contemporaneously with the curl, is compared by Putsche with the rust of the grain. According to his description, small rubiginous spots appear on the leaves of the sick potatoe plants, and spreading gradually further, cover finally the whole surface of the leaves. The perspiration of the leaves being impeded, the stems become parched and wither, or, where this latter does not take place, black nobs are developed in the tubers, which are harder and more stringy than the rest of their substance. The causes of this disease are unknown; it is often but of short duration, and is cured by a gentle rain.

Mr. Hampe mentions a disease of the potatoe under the same name of rust, where the tubers show spots of the colours of the rust, with excoriations here and there. This disease occurred in cold, wet summers, when fresh dung had been brought upon the soil.

Blue pox.—Another disease, called *blue pox* or *blue tumor*, not yet observed by Mr. Martius himself, has appeared in several parts of the kingdom of Saxony, and in the Upper Harz. According to Mr. Hampe's description, blue spots and risings are first observed on the skin of the tubers; afterwards a dark coloured texture, similar to a rhizomorpha—probably the forerunner of a mushroom—appears, which surrounds the tuber, penetrating even its interior, followed by blue spots and streaks in the heart of its substance.

It is said to be produced by an improper admixture of saw-dust and pine-straw, and other imperfectly decomposed organic substances with the dung. Very wet weather causes then the final outbreak of the disease.

Rot.—The disease which has lately committed so great ravages in the potatoe crops, seems to be the same that was described first in 1769, by Gleditsch, and may be called the *rot*. In Germany it has been called "rot of the stem," "fruit cancer," "rot, or gangrene of the tuber." This same disease seems to have prevailed in the Saxon Voigtland, in 1783, when the summer was very hot and very foggy. It was described in 1784, by Dr. Ackermann. In the present century it began to show itself first epidemically in 1830, in France and Germany; in the latter country, in Rhenish Bavaria, Northern Bohemia, Saxon Mountains, Erfurt, Anhalt,

Silesia and Meklenburg, and continued increasing in intensity, and spreading more and more, until it reached its height in 1840.

The rot may be designated by the dry and the moist rot, according to the degree of moisture either contained in the tuber, or acting from without, upon it. Symptoms of this disease are: the potatoes brought home to the cellar, and the seed potatoes when laid on the field get rapidly rotten, and the latter either rot before the leaves have sprouted, or they produce but small and scanty lateral tubers, closely attached to the seed potatoes, of the size of musket-bullets, which produce but very slender stems; or the plants that are grown from them, are but meagre and soon droop and wither. At any rate, but few small and weak tubers are produced. These, when but little exposed to moisture, appear dry and hard, of a consistency like that of truffles, and unable to produce any eyes; when brought into the ground, they soon rot by attracting the moisture from the ground. Fields that suffer much from this disease, look like stubble fields, where potatoes, left here and there from last harvest, have sprouted. The flowers show themselves very unequally on such plants, and but very seldom produce fruit.

The rot seems to have appeared principally in those parts of Germany, where a denser and more industrious population cultivate the potatoe in a more rational, but also more refined way, and chiefly where they raise their potatoes, not by laying whole tubers, but by cutting these into several slices.

Too great economy in planting the potatoe, seems therefore, to have an essential influence on producing this epidemical disease. The two forms of mushrooms that are observed most frequently in potatoes attacked by the rot, are set by Martius under the genus *Fusisporium*, and are called by him, *Fsp. Solani*, and *Fsp. sporotrichoides*.

Chemical analysis.—Dr. Andr. Buchner, jr., found on a chemical analysis of potatoes infected with the rot, which he made at the request of Dr. Martius, that no new substance had been formed in them; they contained a considerable quantity of amyllum in cases where the moist rot had not shown itself, but only the dry one—and its quality was not altered; but the albumen had disappeared entirely, and the quantity of water, of which the sound potatoes contained 73.6 per cent., had been reduced in the diseased ones to less than the half, i. e., to 35.6 per cent. The fibrin in them was of a brownish colour, and in part already mouldy.

Scab.—There appears often at the same time with the rot, another disease less injurious, called the *Scab*, which occurs, however, also sporadically, from a great variety of external causes. As far as it is known to Martius, the scab produces but very rarely an entire alteration of the substance of the seed potatoes. It is distinguished from the rot, by its being merely a corruption of the cellular tissue, that lies immediately under the epidermis, followed by the generation of a mushroom, called by him, *Protomyces tuberum Solani*—and by the destruction of the epidermis. The rot on the contrary, infects the entire substance of the potatoe, and is an induration and a mouldiness of the tuber.

Sometimes also the tubers that are attacked by the scab, pass into a state of putrefaction, or produce but feeble stems, with fewer tubers, yet far less frequently than those attacked by the rot. Dr. Martius has not been able to determine, whether the scab and the rot occur together on one and the same field, or even on one and the same plant.

Causes of the rot.—There are both external and internal causes of the rot, of which the former regard, first, the preparation of the seed potatoes for laying, and the soil, wherein to plant them; second, the state of the weather; and third, insects wounding the plants. The internal or predisposing causes regard first, the peculiarities of the different sorts of potatoes; second, the manner of treating the plant on the field, and of treating the seed potatoes from harvest time to the time of planting them; and third, the way of laying the tubers, and of treating the plant till its maturity.

Soil.—The chemical composition and the degree of density of the soil, seem to have the greatest influence on the growth of the potatoe. In its native country, in Peru and Chili, it grows in cold mountain regions and in a stony soil that is rich in loam, but sufficiently loose. In Europe the sandy soil has been found the most convenient. The rot has been observed, however, on all kinds of soil, comparatively speaking; however, less frequently on a light, sandy, loose soil, rich in mould, than on a hard and heavy one. The scab of the potatoe, on the other hand, has been observed principally on lime soil. It is not so much, however, the original quality of the soil, as the particular way of preparing it, which seems to influence the rot, since it has been observed even on fields that were manured carefully, at the right time and with old dung, whilst other fields badly cultivated, or not manured at all, remained free from it and yielded even good crops.

Manure.—Most injurious seems to be the bringing the seed potatoe in immediate contact with the dung. Manure is best applied before the beginning of the winter season. Dung that is too fresh and too hot, is in general injurious.

Moisture.—With regard to moisture, stationary wetness is undoubtedly injurious. In its native country the potatoe is found thriving in a dry soil, which at certain seasons is strongly penetrated by moisture.

A rotation of crops appropriate to the locality, has been observed to be favourable to the productiveness of the potatoe.

Weather.—With regard to the weather as an external cause of the rot, we may conclude from all the reports that have come in, that most parts of Germany that have been ravaged by this epidemic, have rather suffered by too great dryness, than by too great moisture. A long continuance of dry weather in spring, proved very injurious to the sprouting of the seed potatoe in the Palatinate. On the lower Rhine, on the contrary, wetness was found to favour the breaking out of the rot; the same has been the case in the Harz mountains, and in Bohemia.

A very singular fact observed in several villages of the Palatinate, was that of potatoe, taken from one and the same cellar; all those laid in the morning sprouted, whilst all those laid in the afternoon failed.

Martius is opposed to the opinion of those who seek the cause of the rot, in insects laying their eggs on the potatoe, as but very rarely any eggs have been found on them. He is on the other hand not disinclined to side with those agriculturists, who believe that two different sorts of potatoe of very different degrees of acclimation, being planted aside of each other, the one less acclimated, will exert an injurious influence upon the other. In the year 1781, already several farmers ascribed the cause of the curl to the cultivation of the lately introduced *large American or New England hog potatoe*, the same probably as the *English cluster*, or perhaps also to that of the kindred *Howard*, or *large cattle potatoe*, in the neighbourhood of the *red potatoe* then generally cultivated.

Internal causes.—Martius has observed the rot attacking only the late sorts. In the Palatinate, the *gelbe und weisse Speise-Kartoffel*, i. e., yellow and white table potatoe, and among these, more those of a softer and proportionally more juicy texture, were chiefly attacked. In Saxony, Meklenburg, and elsewhere again, all sorts were attacked indifferently.

Points to be observed in the cultivation of the potatoe.—In cultivating the potatoe, we have to attend to the following points, when we wish to obtain a healthy crop. 1st. The seed potatoe are to be raised separately from those destined for food, since the growth of the eyes in the tubers takes place at the expense of the amyllum contained in them. In gathering and bringing home the potatoe, they ought to be guarded from all unnecessary concussions.

2nd. In preserving them in cellars, they are to be kept from freezing, but so as not to prevent a free draught of air, since they begin to perspire soon after being brought in, chiefly in confined places, and continue to do so for four to six weeks, which perspiration, when not allowed to evaporate, occasions their decomposition.

3rd. Those tubers will prove the best for raising vigorous plants, whose eyes are yet quite short, but juicy; and where the tubers have just begun to spend a part of their nutritive matter in the formation of the eyes, which is recognized by a slight withering of them.

4th. Great care is necessary in propagating the potatoe by cuttings, as those whose eyes were wounded, have been found particularly liable to the rot. Chiefly the upper part of the tuber, lying opposite to its point of connexion with the plant, and having the greatest number of eyes, ought to be used for planting. The cuttings ought to be kept for eight days at a moderately warm place before planting them, or to be strewn with wood ashes or gypsum on the cut surface, in order to make them less accessible to the moisture of the soil.

5th. In laying the cuttings, care must be had to lay them with their eyes upwards. When, instead of entire tubers, cuttings only are laid, it is important whether the earth around them lies loosely or closely, and in what manner the ploughing is done. The rot has been in general less frequently observed, where instead of the plough the spade is used. With regard to the manure, Martius thinks it is best to cover the cuttings with earth, and then first to spread the dung over them in the furrows.

In the ore mountains of Saxony, the farmers have improved their potatoe crops in quantity, as well as in quality, by laying whole tubers, instead of cuttings, and preparing for every one of them a couch, as it were, of a handfull of dried leaves, or of chopped straw, and covering them afterwards with earth.

6th. It is necessary to heap up the earth around the stem of the potatoe plants, and

it will depend on the quality of the soil and the sort of potatoe used, to what height that is to be done.

7th. It is injurious to the growth of the tubers to cut off the leaves and to pluck off the flowers; the later the season is, at which the leaves are out, the more the future crop is diminished, as the plant will spend part of the substance accumulated in the tuber in forming new sprouts.

Rot, a contagious epidemic.—Martius considers the rot of the potatoe as an epidemical disease, being contagious under certain dispositions, and having its seat in the tuber, in which it produces a peculiar decomposition and destruction of its form, which at a certain stage of the disease, renders it unfit for self-preservation and propagation, and terminates with the production of a peculiar mushroom—*Fusisporium Solani*. Martius ascribes to the seed grains, or *sporules* of the latter, the capacity of infecting other tubers already predisposed to this disease, so as to produce in them the rot.

Fries, in his *Systema Micologicum*, and Unger, think the rot, as well as the ergot in the grain, to be produced by cosmic causes, and not to be contagious at all. Sinclair, Link, and De Candolle, on the other hand, think it contagious, and the last mentioned scholar believes that the seed grains of the smut—*Uredo*—come always from below, out of the ground, in which they lie in great numbers, into the plants which inhale them, together with the water through their radicles. This opinion corresponds with the previous observations of Knight, Tillet, and Tessier.

The smut can then only develop itself, when a diseased mixture of the juices has been prepared by unfavourable terrestrial and cosmical relations; as too fresh manure, sudden changes from cold to heat, or *vice versa*, great wetness, too early harvesting.

Experiments have been made concerning the contagiousness of the *Fusisporium Solani*. When its seed grains were sown upon slices of both diseased and healthy potatoes, the mushrooms developed themselves very rapidly within three weeks. When they were sown on the outside of a healthy thin-skinned potatoe, its epidermis became diseased, which might be seen by numerous round dry spots of one-twenty-fourth of an inch in diameter, and of a darker colour.

Preventive remedies.—Martius does not expect to see the rot cease entirely. In order to prevent contagion, the ground of places where infected potatoes have been kept, is to be strewn with pure dry sand or ashes, and in cases of strong infection, straw

might be burned in the cellar, or the walls be whitewashed. The diseased potatoes themselves are not to be thrown upon the dunghill, but into the water, or to be buried. Seed potatoes that come from fields infected with the rot, before laying them, are to be slightly moistened, to be strewn with powdered lime and ashes, and to be turned with a shovel. Tubers that have not sprouted, may be laid for some hours in lime water.

The only remedy against the seed grains of the mushroom buried in the ground, is to raise in such a field as long as possible, other fruits, and when about to raise again potatoes in it, to mix the soil with gypsum, loam, lime, etc. *Preservatives* are: to select for raising, some good sort; to separate the seed potatoes from the very first from those destined for food; to sort the potatoes according to their size; to reject those apparently healthy, that show discoloured roundish tumors.

To secure the potatoes in the cellar from rot and scab, the cellar ought to be dry, and if possible, laid out with dry boards, and ought to have a sufficient draught of air; the floor to be strewn besides to the depth of some inches with sand mixed with ashes, coal dust, or fine iron filings. The potatoes ought to be well dried before laying them upon this. In heaps of more than four feet high, horizontal poles ought to be stuck in with dry brushwood round, to draw off the vapours arising from them and the potatoes to be laid upon the poles.

Extracted and translated by

HENRY SCHOLL.

For the Farmers' Cabinet.

Duty on Hops,

Paid by the farmers in England, who grow them.

TO THE EDITOR.—Every one knows that malt liquors of different qualities, constitute the chief beverage of both rich and poor in England, and the Government derives considerable revenue from the duty levied on the hops used in the brewing of them. Some years since it was ascertained, that immense quantities were made without the use of either hops or malt, and to caution my countrymen against the spurious articles, I thought it a duty to insert three papers in "The Medical Recorder," and "Medical Museum," of Philadelphia; in two of which I gave a list of the various drugs used in the brewing of the spurious liquor, taken from works published in London; and in the other, an official list of many persons convicted and fined for the offence. No impa-

tation was made against the eleven large breweries in London. A duty is also levied on malt, which a few years since was ten shillings and sixpence per quarter, of eight bushels. The enclosed official statement, I cut from a London newspaper. Let the American farmer read and reflect on it.

JAMES MEASE.

Philadelphia, December 19th, 1844.

An account of the duty on hops of the growth of the year 1843, distinguishing the districts, and the old from the new duty:

Districts.	Duty.		
	£	s.	d.
Barnstaple - - -	17	14	5 $\frac{1}{4}$
Cambridge - - -	35	4	0 $\frac{1}{4}$
Canterbury - - -	60,108	0	5 $\frac{3}{4}$
Cornwall - - -	0	8	8 $\frac{3}{4}$
Derby - - -	310	19	4 $\frac{1}{4}$
Dorset - - -	37	4	11 $\frac{1}{2}$
Essex - - -	1,172	5	10 $\frac{3}{4}$
Gloucester - - -	1	5	0 $\frac{3}{4}$
Grantham - - -	85	18	10
Hants - - -	5,184	17	8 $\frac{3}{4}$
Hereford - - -	12,690	1	4 $\frac{1}{4}$
Hertford - - -	778	19	2 $\frac{1}{4}$
Isle of Wight	3,337	2	6 $\frac{1}{4}$
Lincoln - - -	1,659	9	8 $\frac{1}{2}$
Lynn - - -	44	11	10 $\frac{1}{4}$
Norwich - - -	1	11	6
Oxford - - -	107	15	3 $\frac{1}{2}$
Reading - - -	51	3	4 $\frac{1}{2}$
Rochester - - -	73,870	0	2 $\frac{1}{2}$
Salisbury - - -	70	19	5
Salop - - -	3	3	10 $\frac{1}{2}$
Stourbridge - - -	294	6	7 $\frac{1}{2}$
Suffolk - - -	914	10	10
Surrey - - -	5	11	5 $\frac{1}{2}$
Sussex - - -	81,445	11	0 $\frac{3}{4}$
Wales, Middle	22	8	11 $\frac{3}{4}$
Wellington - - -	118	1	11 $\frac{1}{2}$
Worcester - - -	1,287	5	9 $\frac{3}{4}$
	243,656	14	5 $\frac{3}{4}$
Old duty, at 1 12-20d lb.	133,431	11	0 $\frac{3}{4}$
New duty, at $\frac{3}{4}$ 8-20d lb.	98,623	6	5 $\frac{1}{4}$
Additional duty of 5 per ct. per 3d Victoria, c. 17	11,601	16	11 $\frac{3}{4}$
Total,	243,656	14	5 $\frac{3}{4}$

G. A. COTTRELL, Accountant-Gen'l.

Excise-office, London. Nov. 14th, 1843.

HEAVY YIELD OF WHEAT.—James M. Underwood, of the town of Middlesex, in this county, cut 52 bushels and 56 pounds of wheat upon one acre of ground, selected from about 30, which he thinks will yield nearly the same amount.—*Pen. Yan. Demo.*

Silk.

THERE has been a large increase in the manufacture of silk in New England, within the last one or two years. Several new establishments have been started in that time, and old ones, that were prostrated by the mulberry speculation of 1839, have been re-suscitated, and are now going on prosperously. These establishments are employed chiefly in making sewings and twist, and severally consume from 20 to 200 pounds raw silk weekly; amounting, in the aggregate, I should think, to twice or three times the quantity worked up one year ago. We found one new establishment just going into operation, at Mansfield, Conn., for the manufacture of cords, gimps, and other trimmings. The building is over 100 feet long, three stories high, and designed for a large business. Messrs. Dale and Denmead, are owners. All our New England factories purchase all the American raw silk they can get properly reeled, and pay higher for it than for the foreign article, and yet their chief dependence is upon foreign stock.

There are three silk factories now in regular operation at Northampton, and one at Dedham, Mass. Something is also done in this way at Woburn, Hingham and Foxborough.

In Mansfield, Conn., there are five or six establishments of the kind, though we could not visit all of them. In Manchester, Conn., the Messrs. Cheney's have, within a few months, revived their establishment, and are now making 200 pounds of sewings weekly. There is also a factory at Windsor, and another at Pogonock, near Hartford, Connecticut.

West of the mountains, the business is carried on very differently from what it is in New England. No foreign raw silk is used in any establishment. No sewing silk or twist of any consequence is made. The entire attention of manufacturers in that quarter is turned to plain and figured dress goods, serges, satins, velvets, ribbons, &c. I brought home with me some 70 different samples of such goods, from the richest figured velvet, down to the simple pongee—samples that will well bear comparison with the same kinds of goods made in England or France. The two leading establishments are Mr. Rapp's, at Economy, Pa., and Mr. Gill's, Mount Pleasant, Jefferson county, Ohio, both of which were got up under the superintendence of John Fox, senior, and Sons, practical manufacturers from England, and have gone steadily forward, enlarging their operation from time to time, and finding a profitable and ready sale for

their goods as fast as made. We found Mr. Gill building a new factory, 50 by 20 feet, three stories high, to be filled with power-looms for weaving plain pongees for printing. We could hear of no establishment at the West that had failed, or had been suspended, though many of them had suffered much from the want of more capital. We learned from Mr. Fox, at Mount Pleasant, that his sons, at Richmond, Indiana, were going on prosperously. We had similar intelligence from Nashville, Tennessee.

In regard to the production of raw silk, the West, especially the valley of the Ohio river and its tributaries, has gone ahead of New England. Much evidence on this point is given in our Report. Mr. Gill there gives it as his opinion, that the crop of the past season in that valley, is sufficient to keep 200 reels in operation through the year. This opinion he repeated to me in conversation. The very rapid increase in that region, and its relative gain upon the East, is to be accounted for as follows:

The mulberry speculation did not prevail at the West as in the Atlantic States, and of course about all the disastrous consequences growing out of that matter, fell upon the Atlantic States, where they belonged. Western lands are all rich, and mulberry trees, when put out, push forward at once, making a rapid growth of three to six feet by mid-summer. On the other hand, our eastern lands are exhausted, and our trees will do nothing without manure, any more than our corn and other crops. On this point many silk growers at the East have made a sad mistake, and laid the foundation for their own disappointment, and the discouragement of themselves and others. In this matter the West has precisely the same advantages over the East, in the silk business, as in other agricultural pursuits, and no more. Western farmers do every thing on a larger scale than we do in the East, and they are carrying this characteristic spirit into the silk culture. Their summers also, are some two or three weeks longer than ours, though not better in any other respects. I think, therefore, that the West and Southwest will take the lead in the growth of silk, just as they now do in corn, and most other agricultural products, and for the same reasons. I am not a prophet, nor the son of a prophet; but I venture the prediction, that in thirty to fifty years, the valley of the Mississippi will control the silk markets of the country and of the world.—*Silk Growers' Magazine*.

PRESERVE self-possession, and do not be talked out of conviction.

Hemp.

HEMP was, until these last few years, scarcely cultivated any where except in Kentucky, and nearly the whole production was devoted to the manufacture of cotton bagging and bale rope. It was not, we believe, used, or even tested in the manufacture of ships' cordage, which is the great source of consumption, and for the supply of which our country has long been dependent upon Russia. Our import of hemp amounted in 1839, to \$607,766; in 1840, to \$686,777; in 1841, to \$609,201; in 1842, to \$267,849; and in nine months in 1843, to \$228,882.

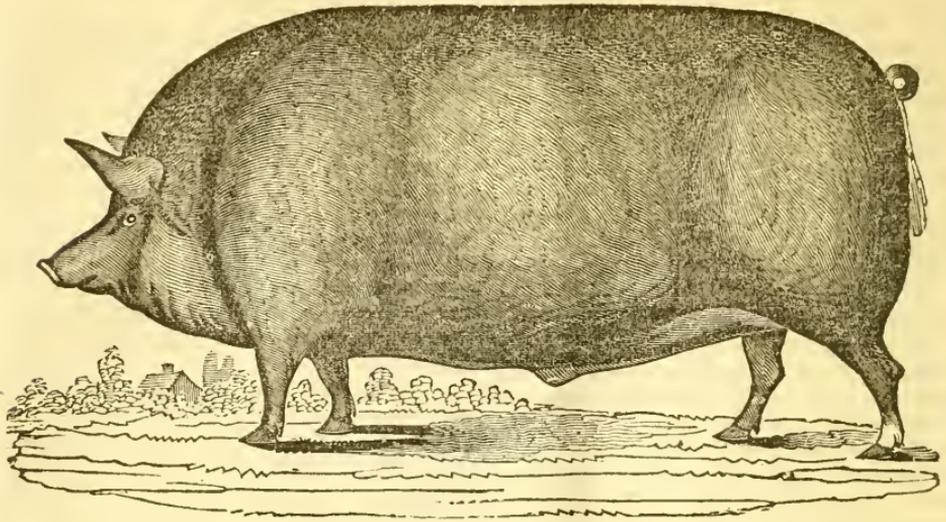
The cultivation of hemp having extended into Illinois and Missouri, occasioned a necessity of seeking new modes of consumption, and the attention of Government was called to the subject during the session of congress in 1841, asking that the fitness of American grown hemp for use in the naval service, might be fairly tested. The result of various experiments has, we are told, been highly favourable, and we hope that the day is not far distant, when American grown hemp will not only supersede the use of Russian in our own marine, but find also a ready market in Europe.

The following statement of hemp received at New Orleans, may help to show the rapid increase of the cultivation of this important article; in 1841 and 1842, the entire receipts at New Orleans, were only 1,211 bales; in 1842 and 1843, they rose to 15,000 bales; and in 1843 and 1844, they reached 38,000 bales, or about 5,000 tons—the increase being almost exclusively from Illinois and Missouri.

In the census of 1840, the return was made of hemp and flax together, and the agricultural statistics published by the Patent Office, are made in the same manner; so that they afford no information as to hemp alone.—*National Intelligencer*.

We learn from the papers, that two vessels have not long since been freighted at New Orleans, with *Hemp*, one for Hull, the other for Havre. Thus the hopes of the *Intelligencer* have been realized much earlier than was probably anticipated. A few years ago, the shipment of hemp to Europe, in large quantities, was perhaps as little looked for, as was still further back, the exportation of cotton goods to India.—
ED.

In 1792, the whole cotton crop of the country was only 138,326 lbs.; in 1795, it was 6,276,300 lbs.; and in 1842, it was 783,221,800 lbs.! About two-thirds of this immense quantity goes to Europe—the other third being used here.



BERKSHIRE HOG.

THE above is a far better likeness of our Pennsylvania and Jersey *Berkshires*, than that which is found in our fifth volume, taken from Professor Low's celebrated *Illustrations of the breeds of Domestic Animals of the British Islands*. It is indeed a representation of a noble grunter; a gentlemanly and portly sample of the breed. The hog has the credit of being "a creature of gross habits and unclean tastes;" but really to our eye, the engraving above conveys the idea of a cleanly and sensitive fellow, that would feel himself scandalized at even the mention of a mud-puddle, but would enjoy with true epicurean zest, a score of years of corn, or a dish of well scalded mush.

Low says, "the hog is subject to remarkable changes of form and character, according to the situations in which he is placed. When these characters assume a certain degree of permanence, a breed or variety is formed; and there is none of the domestic animals which more easily receive the characters we desire to impress upon them. This arises from its rapid powers of increase, and the constancy with which the characters of the parents are reproduced in the progeny. There is no kind of live stock that can be so easily improved by the breeder, and so quickly rendered suited to the purposes required; and the same characters of external form, indicate in the hog a disposition to arrive at early maturity of muscle and fat as in the ox and sheep." The principal breeds of England have been usually named after the particular counties or localities where they have been, for the most part, reared. The *Berkshire* was one of the earliest improved of the English breeds, and it is now the most widely distributed, as it is the most superior, says the Farmers' Encyclopedia, of the numerous varieties in England: it has a disposition to fatten quickly, and the pork and bacon are said to be very superior. This breed has widely spread over the United States, and is certainly a grand improvement upon the "land sharks"—the long legs and long faces which are still occasionally to be met with among the natives. It never seemed to us that the hog was made for *jumping*; and every farmer who is troubled with this propensity in his porkers, may at once conclude that his breed, or his corn-crib, or both are at fault, and the sooner he inquires among his neighbours for the real *Berkshire*, the better.

The wild boar, which was probably the progenitor of all the European varieties, and also of the Chinese breed, was formerly a native of the British Islands, and very common in the forests until the time of the civil wars in England.

The hog family includes several species—and of these it is said that the true hog was not indigenous to America, but was brought over by the early adventurers from the old world: no domestic animal is now more generally spread throughout the country, and none, probably, does so much to satisfy our meat-eating population.

For the Farmers' Cabinet.

Capons.

MR. EDITOR,—The subject of caponing is one of interest to the community. By the usual process many fowls are killed by the operation; and but few of our farmers are found either able or willing to practice it. I desire to communicate to you a plan unaccompanied with danger or uncertainty, even to the unskilful. A keen knife, a pair of scissors and a needle, are the only instruments required. As soon as the young cock begins to crow, commence fattening him. When his comb becomes blood red, keep him from food for twenty-four hours. Then catch him and tie him down on to a board, by fastening his wings with straps drawn through holes made in the board for that purpose. His feet may be left loose, or if preferred, may be made fast to two uprights fixed in the board. With scissors cut away the feathers from below the anus; then make an incision as near to the anus as can be done without cutting the rectum—let it follow the side bones until the hole thus made is large enough to insert the fingers: push them along down the back bone, until the testicles are felt. Then put the finger over the testicle, and by bearing at its base, pull it off: serve the other in the same way. A little practice will enable the operator to bring the testicles out on his finger. But this is of no importance: break them loose, and if you do not get them out, being certain that you have removed them, let them remain. They will soon become absorbed, and give no trouble. Sew up the incision, being careful to take up the inner skin. Turn the fowl loose after marking him, and he will do well. This plan has been tried with success for years, and is as safe as any man could desire. One of the proprietors of one of the Virginia springs, always has on hand a supply of capons made in this way.

I intend to try the operation upon turkies. Why will it not succeed in improving that favourite about "Christmas time," as well as the chicken? I will let you know the result, if it prove successful.

THOMAS P. HUNT.

Wyoming, Pa., Jan. 27th, 1845.

Cast-steel Ploughs.

A CAST-IRON plough will no more scour, or clear itself, in most of our prairie soils, than the end of a chesnut rail drawn end-wise. A few are in use, constructed of wrought-iron; but this is generally too soft a material, as it is easily scratched, and the least scratch on the mould-board catches the

earth and clogs the implement. Our best ploughs, then, are made of the best of *cast-steel*—that is, every part of them which touches the earth, including mould-board, land-side, and point: and these are polished as bright as a razor before use, and must be kept so to perform the required work. An eastern plough may be made of as good or better timber, as handsomely fashioned, or more so—but have you any polished cast-steel ploughs in Maine, friend Farmer? If yea, we have done.—*Prairie Farmer*.

BUTTER.—The committee on butter, of the Worcester Agricultural Society, in their report says:

"Good butter bespeaks first a good cow, and a good cow a good pasture, and both together imply an intelligent farmer; and not less requisite is a good churner, and for a good churner give us a good farmer's daughter, who never looks more blooming and bright than after the healthful exercise at the churn. No occupation is more befitting, none more honourable. No accomplishment should be more acceptable to the young husbandman, seeking a partner, than that the woman of his choice be well qualified to take the charge of his dairy, and excel in the difficult art of making *good butter*."

BEAUTIFUL EXPERIMENT WITH A PLANT.—The Brooklyn News gives the following interesting bit of information:—"Cut a small branch of Oleander from a thrifty plant, place it in a vial partly filled with rain water, so that the lower end of the branch may be immersed about half an inch in water. Place this in the sun in an open room, and in about fifteen or twenty days, small roots will shoot out from the end of the branch, presenting a beautiful appearance. After these roots have extended to three inches, the branch may be set out in moist earth, and if frequently watered, it will grow rapidly and soon form a large thrifty stock. Ladies who are fond of flowers, may easily propagate Oleanders in this manner, and in a very few months multiply these beautiful plants to an indefinite extent.—*Southern Agriculturist*.

I RECOLLECT, in passing through a part of Derbyshire, in a region which I was told afterwards was, from the contiguity of several large estates, called the "Dukeries," the coachman, by whose side I was seated, said to me, that this was the Duke of Devonshire's village; and this the Duke of Rutland's; and this the Duke of Norfolk's; and so on: and I could not help asking myself, with some sinking of heart, where is the people's own village?—*Colman's Tour*.

Barley.

BARLEY delights in any deep loam or other soil not of a tenacious character, in deep gravels, and in light sands; but, in order to secure good crops, a tolerable state of fertility is essential. The light sands in which it may be grown, should not be *very* dry. Depth and *friability* of soil, as well as moderate moisture, are necessary prerequisites to its vigorous growth and the successful fructification of its seed. It succeeds best after plough and hoe crops, as it luxuriates in a cleanly culture; prospers most in the absence of weeds, and should therefore never be grown on stubble. Stiff clays or wet soils of any kind, are not adapted to its culture. Deep ploughing and thorough pulverization of the soil are indispensable to insure good returns; and in order to make assurance doubly sure, after the seed is sown the ground should be rolled; but if it be not convenient to roll at the time of sowing, this operation may be performed after the plants are up, and from two to three inches high. This latter process might be advantageously performed, whether the ground were rolled or not at the time of sowing.

The best time for sowing is as soon in the spring, as, from the absence of frost, the ground can be got ready. The ground should be measurably dry when sown.

As to the *quantity of seed*, if the ground be in good heart, naturally rich, or improved by manuring, six pecks to the acre will be enough. If the ground be poor, two bushels will not be too much. Fresh manure that is undecomposed, or long manure, never should be applied *immediately* to the crop, as it has the tendency to make it run into straw. Lime, marl, ashes, or thorough rotted manure, may be applied at the time of seeding, the three first being preferable.

The *preparation of the seed* is best effected by being soaked twenty-four hours in a solution of the liquid of horse-dung and saltpetre, made as follows: Put as much horse-dung into a hogshead as will fill it about one-third; then fill the hogshead with water. After letting it stand a day, draw it off, and to every eight gallons of the liquid add two pounds of salt-petre. In this soak your seed the time above named. Then drain the matter off, roll your seed in plaster or lime, and sow before it dries: and, as fast as your lands are sown, harrow in both lengthwise and crosswise. After the whole may be sown, it should be rolled as above directed. This steep insures an early germination of the seed, imparts a vigorous growth to the young plants, and enables them to overcome weeds.

In England the average is computed at thirty bushels to the acre, though from sixty to eighty, under peculiarly favourable circumstances of soil and season, have been grown. In this country, as high as seventy bushels have been raised on an acre, and then again as low as ten.

We wish it to be borne in mind, that barley must be reaped before it is ripe, as otherwise a vast amount is lost by shattering.—*Louisville Weekly Journal.*

For the Farmers' Cabinet.

Facilities for Transportation.

TO THE EDITOR,—Many of us remember when fears were not unfrequently expressed that the multiplication of rail-roads, canals, &c., would bring our distant farming lands so nearly within reach of the Atlantic cities, that the value of farms in the vicinity of those cities, would be very seriously and injuriously affected. These fears, however, have not been realized. The value of lands in the neighbourhood of the large seaboard towns, has kept continually increasing, as have also those of the interior. To those at a distance, who send their produce to market, we can hardly estimate the importance of good roads, or the advantages of rail-roads and canals. To the farmer who puts his produce—his wheat, for instance, or his pork, or potatoes, on his own wagon, and brings it to market, a very small piece of bad road may add materially to the expense; for it should be recollected, that of whatever length his road may be, and however level and hard it may be in its general character, he can only bring to market such load as he can draw over the worst part of it. Even live stock is frequently brought a great distance on our rail-roads,—the expense of this mode of transportation being more than counterbalanced by the gain in time, &c. As an illustration of this, I take the following statement from a late English paper: “David Martin, of Wainfleet, sent five sheep to London, to walk the whole distance on the road, and killed five others at home. The two lots were of exactly equal weight—858 lbs.—when alive. The carcasses were weighed when dead, when it was found that the sheep which had walked to London, weighed 435 lbs., and their loose fat 60 lbs.; while the five killed at home, reached 489 lbs., their loose fat weighing 74½ lbs. The total difference of weight amounted to 68½ lbs., or 14 per cent. of the original weight of mutton, and this was evidently the loss of meat occasioned by compelling the five sheep to walk from Lincoln-

shire to London." We might instance the mutual advantage to town and country, of the ease with which milk is brought from a great distance into both Boston and New York, but this and other cases will readily occur to the reader. N. P.

From the American Agriculturist.

Dogs and Cats.

I SUFFER great loss in two kinds of stock here, which, if not of as great value as Durham cattle, are yet even more indispensably useful—I mean in *dogs and cats!* During the two years and a half that I have resided here, we have not been able to keep a single cat; they have all died in convulsions, and all in the same singular manner. They are attacked with violent shivering, seem in great agony, mewing and struggling, each fit becoming more and more violent, until they die. Can you or any of your correspondents give us the cause and remedy.* I have been told that *bleeding*, by cutting off a piece of the tail each time they have a fit, will ultimately cure them. I am now trying it, *economizing the tail* as much as possible, that it may get a fair trial. So far the kittens have recovered, when thus treated. Some other cure would be preferable, as a *bobtailed* cat is rather an unsightly object. Still, better even a bobtailed one than none.

I have also lost several valuable dogs within the past year, in somewhat the same way. Two of those I lost were *very valuable* terriers. They begin by going about as if in pain, and evidently not thriving. In a few days they commence with a sharp, keen, constantly reiterated bark, which they keep up, day and night, concealing themselves in some dark corner for a week or so, when they die. Others have dropped down, when apparently in good health, in a violent convulsive fit, having one fit after another, in rapid succession, until they die. I meet with no loss of this kind, that grieves and annoys me so much as that of a favourite dog, and would be glad to hear of some cure or preventive.

THOMAS AFFLECK.

Washington, Miss., October, 1844.

* We cannot tell the cause of this disease, unless it be an overeating of rats or animal food, but the remedy we have generally found successful, was, to administer pretty strong doses of warm catmint tea. As a preventive, we supply our cats with all the milk they will drink and what vegetable food they will eat, such as bread, potatoes, &c. We also occasionally give them a dish of fresh fish, well cooked, of which they are extremely fond. All animals should have a variety of food when possible to obtain it.—*Ed. Am. Ag.*

From the Farmers' Journal.

Advantage of planting Fruit Trees on declivities.

DODART first observed that trees pushed their branches in a direction parallel to the surface of the earth. If a tree stands on a steep it pushes both towards the hill and towards the declivity; but on both sides it still preserves its branches parallel to the surface. As there is an attraction between the upper surface of leaves and light, I am also persuaded, though not equally certain of it from experiment, that there is an attraction of the same nature between the under surface of leaves and the surface of the earth. This I consider the true cause of the phenomenon;—I had long observed that the most fruitful orchards and most fertile trees are those planted on a declivity, and the steeper it is, though not quite a precipice, the more fertile they prove. It is well known that the spreading of trees always renders them fruitful. On a plain they incline to shoot upwards; and therefore art is employed by skilful gardeners, and applied in various ways, to check their perpendicular, and to promote their lateral growth. But this point is obtained on a declivity by nature. There a tree loses its tendency to shoot upwards, and in order to preserve its branches parallel with the surface, is constrained to put them in a lateral direction. Hence an important rule in the choice of orchards and fruit gardens.

D. J. WALKER.

ARTIFICIAL GUANO.—A recipe was lately presented to the New York Farmers' Club, by Dr. Valentine, for the formation of an artificial guano, that would not cost more than one-fifth of the imported, and equally effective. The following are the ingredients:

Nitrate of soda,	20 lbs.
Sal-ammoniac,	10 "
Carbonate of ammonia,	5 "
Pearl-ash,	5 "
Sulphate of soda,	8 "
Sulphate of magnesia,	5 "
Fine bone,	60 "
Salt,	10 "
Sulphate of lime,	2 bushels.
Meadow mud, or street manure,	1 cartload
Carbonate of iron,	2 drachms
Manganese,	2 "

THE old proverb says, "Make hay when the sun shines;" but there is something else besides sunshine necessary to make good hay. The grass must be cut when it is mature, or the animals that have to eat it will have a hard bargain.

Poudrette.

To T. B. WAKEMAN, Esq., for the N. Y. Farmers' Club:—

DEAR SIR,—In reply to your circular of the 1st instant, I send you the following practical facts in relation to concentrated manures—a subject which is now commanding very general attention. I have selected these reports from distant parts of the country, that it may be seen that their effects are alike beneficial on different soils, and in somewhat different climates. The first statement is an extract from a letter written by *Augustus Shriver, Esq.*, of Carroll county, Md., dated Nov. 22nd, 1844, to the editor of the American Farmer, and is as follows:

“I received the Poudrette which you ordered for me too late to apply it to my corn in the hill, which mode of application I am satisfied would be the most advantageous; I therefore mixed it with an equal quantity of ashes and a little plaster, and when the corn was cleverly up, applied about a gill to each hill, leaving twelve rows in the field to which I gave the same quantity of ashes and plaster *alone*, as has heretofore been my custom. The corn all grew finely, and there was no perceptible difference in that on which the Poudrette had been applied, until the month of July, when we experienced a very severe drought, lasting about six weeks, when the part dressed with ashes and plaster alone, suffered somewhat, and ‘fired’ a little; but the balance, on which I put the Poudrette, held its own admirably, and did not ‘fire’ a single blade, and looked flourishing, and filled finely. I candidly believe that the Poudrette, though so small a quantity, increased the yield at least *ten* per cent. I am so well pleased with this small experiment, that I will go into it on a large scale next season.”

The next report is from Mr. Floyd Howell, residing in the county of Onondaga, seventeen miles south of Syracuse, in this State; to whom nineteen barrels, or seventy-six bushels, were sent late in November, 1843; upon which a freight of \$1 37 per barrel, was charged, which increased its cost to \$2 87 *a barrel*, on the farm. In reply to inquiries made in relation to its effects, the following answer is given, viz:

“We took five acres of wheat stubble, which we supposed would yield, *without any manure*, from 35 to 40 bushels of corn to the acre; ploughed and harrowed it once, the forepart of May—then marked it in rows about four feet a part, but owing to the cold weather, did not plant until about the 16th

of the month, when we dropped a handful of Poudrette in each *hill*, or 14 barrels to the five acres—then planted the corn upon it. After it came up, and *before the first hoeing*, we put four barrels more upon about *one half* of the field. The corn was hoed three times, and was ready to harvest a little earlier than our neighbours; but we could not perceive any *material* difference between that part of the field where the four barrels were applied as a top-dressing, and the part where it was applied *only in the hill*. There was no other manure used than the Poudrette. *The average* yield upon the five acres, was 80 bushels to the acre; but from one acre selected, we gathered 99 bushels and 18 lbs. The freight on the 40 barrels sent by you this year, will not exceed what was paid last year,—\$26 on 19 barrels—owing to its having been shipped near the close of navigation.”

From this it will be seen that, by the use of 18 barrels, or 72 bushels of Poudrette on the five acres, the yield was increased from 35 or bushels, to 80 bushels per acre, or over 200 bushels on the field.

Mr. Robert Henry, of Cranberry, N. J., says, under date of Dec. 27th, 1844, that—

“For the last four or five years I have used Poudrette with uniform success on corn, and find it to answer on that crop better than *any other manure* that I use. The corn, where it is used, is generally of a better colour, and comes to maturity earlier than where other manure is used. My mode of applying it is in the hill; the ground being previously prepared, with about 40 or 50 bushels of lime to the acre. This is the only way in which I have used it; and last season the corn was on a dry soil, and although the season was also dry, the crop of corn was good where Poudrette was used. I consider it a cheap and profitable manure.”

Mr. James Hay, of West Chester county, N. Y., made the following statement to me in relation to its application to potatoes. He says:

“I planted (No. 1.) about one acre of potatoes, with Nova Scotia seed, the last of May. The ground was manured with horse manure the fall previous, and the potatoes planted in drills, with coal ashes. The growth was luxuriant, and bid fair to yield a heavy crop, but they were apparently struck with disease or blight about the middle of July, as though there had been a frost, and the vines gradually died. They were dug the latter part of August, and were in size from a shot to a middling sized potatoe;

and the skin could be easily slipped off between the thumb and finger, and the potatoes were of little value.

“On the first of June I planted (No. 2.) another acre of potatoes, with *poudrette* in the drill—32 bushels to the acre. The vines were not as flourishing as where the horse manure was used, nor was the effect of the blight or frost as visible, though they were evidently affected by the same cause. They were dug about the middle of September, and the yield was 150 bushels of uniform size, though small, perfectly sound and free from disease. They were of the *Mercer* kind, and the seed was raised about ten miles distant, in Westchester county.

“The same seed (No. 3.) planted at the same time on rich ground, with stable manure, made large vines, but the potatoes were very irregular in size, and nearly half rotten. These were not dug until the first of October. None of the potatoes here spoken of, *except those raised with poudrette*, were considered fit for family use.

“For early potatoes, he planted the *Mercer* of his own raising; about the last of March manured them with horse dung, and got a fair yield of good sound potatoes.

“On corn the result was as in former years, and when planted one or two weeks later, the corn was fit to harvest a fortnight earlier than that of his neighbours, who used stable manure.”

Mr. Peter Hall, of Norwalk, Con., informs me, that he “used *Poudrette* in the fall of 1842, with barn-yard manure, on a field of wheat. The result was extraordinary—yielding *thirty-two and a half* bushels, weighing over 64 lbs. per bushel, to the acre. He also used it on corn the past year, 32 bushels, or eight barrels per acre. Part of it was put in the hill at planting, and the ballance was spread on the surface previous to the second hoeing. The corn was planted a week later than his neighbours planted theirs, and was fit to harvest nearly two weeks earlier; and it was believed from the appearance that the produce was greater than upon any other field in the neighbourhood. On potatoes also, its effects were remarked by every one who saw them. Those manured with *poudrette*, could be distinguished from those treated with stable manure, as they passed along the road, and on digging them, very few, if any, were found diseased.”

Your obedient servant, D. K. MINOR.

New York, Jan. 21st, 1845.

The above statements have been communicated for the Cabinet, and we cheerfully give them a place. It is, perhaps, unnecessary to remark that the *Poudrette* referred to above, was procured of D. K. Minor, and

was prepared at his establishment in New York. The manufactory in this city also belongs to him, and is under his supervision; and the editor entirely believes that all reliance may be placed in a proper preparation of the material. We were unable, last spring, as many who were disappointed will remember, to supply the wants of our farmers; and a very brisk demand, when the season opens, is again anticipated. The reports of those who got the article at this office last spring, are almost without exception, favourable to its use. Of that put on wheat in the fall, we cannot, of course, give any account as yet. Those who wish the *Poudrette*—and we would like all to give it a trial, either soon, as a top-dressing on their wheat, or at corn planting—will please call on the editor, at No. 50, North Fourth street, or forward the money, when their orders will be just as carefully attended to, as if themselves were on the spot. For prices, see advertisement on the last page of the Cabinet.—Ed.

The Poor.

In a country where labour is superabundant, and the price of land places it utterly beyond the reach of those who have no means to purchase, but from the scanty products of their own manual labour, the condition of the labourer is that of absolute dependance. In a condition of society where artificial ranks and classes exist, and where all the wealth and all the power are in the possession of the upper, or, as they are sometimes denominated, the favoured classes, the barriers which hem in the lowest class—without property, without power, without education, without even a home which they can call their own—are, of course, impassable. In a country where labour is scarce, where land is cheap and free, and where the advantages of a good education are offered gratuitously to all—where no arbitrary distinctions of rank exist, and every man by the force of his own talents and character, may occupy that condition in society to which he chooses to aspire, it is obvious how different is the situation of the labouring portion.—*Colman's Agricultural Tour, part 1.*

ORCHARDS.—A writer in the *Western Cultivator*, published at Indianapolis, Ind., says, if it is worth your while to have fruit, it is worth your while to have the best. It is therefore better to buy at the nurseries, or to bud your own trees. He also advises that the ground of a young apple orchard be kept in cultivation for six or eight years, and that the grass be not suffered to grow around the roots. Another writer in the same paper says, that an orchard of neglected trees may be renovated by ploughing the ground, scraping the moss from the body and limbs, and thoroughly washing the whole trunk with urine and soft soap.

**Bones,—Whip-Handles,—Ivory Black,—
Hoofs,—Prussian Blue,—Offal, &c.**

This is a motly heading, but is exactly adapted to what we have to say. A few days since we took a ramble up Deer creek. We were not walking for pleasure, although the atmosphere that encompassed us was *fragrant* with — that we will tell by and by. We hope the word will not be driven from the English vocabulary by this too free use of it. The creek shore, above Ninth street, is measurably lined, and in one instance, we believe, covered by slaughter-houses,—some devoted to disposing of hogs, and others of cattle,—tanneries, bone-mill, grease trying establishments, and similar odoriferous vocations; and in the winter season the stream should be known as Bloody run, for such it literally is, its colour being nearly scarlet. A brewery adds its mite, as well as a steam lard and tallow manufactory, to the general aggregate of which the creek is the depository.

But however undesirable is the brink of this murmuring stream, the vale through which it runs is nevertheless a fountain of wealth. Among the establishments there is one which is a common receiver of nearly all the offal of the city slaughter-houses. From it is turned out an immense amount of grease and inferior lard. A large proportion of the daily market beef-legs and shanks are purchased by the proprietor, and after the marrow and grease are extracted, the bones are sold for the various purposes of button-making, whip-handle finishing, the manufacture of China-ware, or porcelain, and also ivory black. Of the latter, large quantities are used in the manufacture of shoe-blackening; and a mill in this noted vale is expressly appropriated to the grinding of bone, pith of horns, &c., for the manufacture of black.

Of the small bone used for black and porcelain, this house ships to foreign ports, mostly Europe, about 400,000 lbs. per year; and of the large bone, which are principally used for the ferrules and butts of whip stocks, and the manufacture of buttons, about 130,000 pieces. These quantities are exclusive of the amount consumed here, which is very considerable, particularly of the former kind. A few years ago, nothing of the kind was done here, and, as far as bone was concerned, was entirely a waste. The prices here, are: for the small, \$16 per ton. A large contract closes with 1844, for export to Europe, at that rate, packages included; and for the latter, \$10 per 1000 pieces. The price last year was \$8.

Soap grease is the great staple of this

Vesuvius, very large quantities of which are shipped to the Eastern cities. Forty thousand dollars worth was mentioned to us as the value of what is at this time on sale in New York alone. The prices here now are: four cents for No. 1, and three and a half for No. 2.

One of the other articles made to a great extent, is Neats' foot oil, from the nether legs and hoof. This sells by wholesale at 62 to 75 cents per gallon.

Another is sausage skins, with which not only our own market is supplied, but shipments are constantly making to the South and East. They sell here at \$10 per keg—size, the common lard keg.

Hog's bristles are another thing prepared by this and other houses, or house in the city, and of this article large shipments are also made, both of the combed and tied, used by saddlers, shoemakers, &c., and of the curled. The former kind sells at 30 to 35 cents per lb. The curled are used for the same purposes to which curled hair is applied—mattresses, cushioned chairs, sofa, &c. Who ever thought of reposing on a pig's back?

One other thing we learned in this, our evening ramble, was, that we have with us a manufactory of Prussian Blue. The stock from which it is made is cattle's hoofs, and plucks, and the blood of hogs and cattle. The hoofs command \$16 per ton. The manufacturer is a German. It is but a year or eighteen months since he commenced operations, and cannot be said to be fairly under way, but has sufficiently tested the experiment clearly to demonstrate the practicability of successfully competing with the foreign article, both as to quality and price, and expects in a few years to be able to consume a very large proportion of the blood to be obtained here.

We were also told of an instance of a foreign demand for blood. The facts we have stated are a few instances of the economy with which science is capable of making us acquainted, and of the value of the skill by which it can be effected. Shall we cultivate the arts and sciences, and encourage skill and enterprise in our country?—*Cincinnati Chronicle*.

“COTTON was grown to a small extent in the United States, nearly two hundred years ago; but it was not extensively introduced till many years after. In 1786, James Madison, writing to a friend, says, ‘There is no reason to doubt that the United States will, one day, become a great cotton producing country.’”

On the Cultivation of Lettuce, so as to produce successive Crops the year through.

By J. W. RUSSELL, NEWTON, MASS.

As lettuce is more or less used in every family, the mode of obtaining it in the greatest perfection, throughout the year, in regular succession, may not be unacceptable to a portion of your readers.

Lettuce is grown in considerable quantities for the market, and fine heads may be obtained nearly the winter through; in the months of December and January, owing to our severe weather, it cannot be grown as large as it can in the climate of England, without too much care and expense; but later, when hot-beds do not suffer from extreme frost, it may be had in the greatest perfection. Notwithstanding lettuce may be found in the market of such excellence, few individuals, except market gardeners, understand its cultivation during the winter, and on this account many gentlemen are deprived of this desirable vegetable during that season, when it adds so much to the luxury of the table.

The following remarks are the results of several years cultivation of lettuce, both for private use and for the market; and if the directions are carefully followed, others may be equally successful.

Selection of sorts.—There are a few leading points to be strictly adhered to, and which ought not to be overlooked, if lettuce of a superior quality is the object of the cultivator. The Tennisball, Royal Cape, and Green Curled Silesia, are probably the best for spring use; the Imperial (true) is the most worthy of the cultivator's trouble, in order to have a good supply through the summer; and the Green Cabbage, or hardy Hammersmith, for the winter crop. It is of the greatest importance to obtain the seed *true* to the name, and not hybridized; what makes the careful selection of the seed of so much consequence is, that all the care and labour bestowed on the culture of the plants, if raised from spurious seed, approach very nearly to labour lost. It is well known, although not so universally as could be wished, that a great portion of the varieties enumerated in catalogues, are not worth growing in this climate; the Cos lettuce, so much cultivated in England, and deservedly so, is rarely ever seen in our markets; in fact, all the hybrid varieties, raised from the Cos and Cabbage lettuces, being intermixed, will not generally be such as would give satisfaction in this country, and more especially if the variety partakes most of the

Cos parent. Observe, therefore, to procure choice seed of *responsible* seedsmen.

Compost for the plants.—A light, rich, friable soil, and old hot-bed manure,—or manure that is as near as can be of the same nature,—well blended together, will ensure success; for fraining, the compost should be an equal quantity of manure and earth; this is the secret of obtaining fine lettuce; for wherever extra fine lettuce is found, extra culture produced it. For open air culture, the ground, however rich it may be in appearance, if not by the recent application of manure, ought to have a bountiful dressing, which should be dug in about three inches below the surface; but before this the ground should have been in fine condition, either by deep ploughing or digging; the reason why the manure should not be buried deeper than proposed is, that the roots may take hold of it at once, and that the plants may make a rapid and luxuriant growth.

Sowing the seed.—To have a regular succession throughout the year, several sowings will be necessary. The first, or spring crop, should be planted from the 15th of February to the 1st of March; the second, or summer crop, during April; and successive sowings in June and August. For the last, or winter crop, the 15th to the 30th of September, is the proper period. The seeds generally appear the fourth or fifth day, and the first transplanting should take place ten or twelve days subsequent to their appearance.

Cultivation of the Spring Crop.—Early in February prepare a small hot-bed, unless one is already made up for cucumbers, and the seed of the Tennisball, or Royal Cape, may be planted in flower-pots or boxes. It must be borne in mind that only a moderate heat is required for starting the plants from seed. Six inches from the glass is a proper distance for the young plants; give all the light possible through the day, and air every day that the weather will admit of it; the frame must be well secured from frost, which would destroy the plants, and it should be covered every night as long as the cold freezing weather lasts. The plants will require to be twice transplanted—first, from the seed-pots or boxes, about three inches apart each way, in order to become strong, healthy plants, for their final removal to the beds where they are to remain. This may appear to those persons not already acquainted with the process, to be superfluous; however, it is the only way to succeed. The final transplanting out into frames, should take place as soon as the plants are ready,—if the Tennisball and

Royal Cape, or Silesia, about nine inches apart each way, will be found to be a proper distance. Regular attendance to the watering, giving air every favourable opportunity, and covering over the frames every night in season, is all that is necessary to ensure fine early lettuce.

Cultivation in the open air.—Early in April, seeds of the Tennisball should be again sown, and the plants will be ready by the middle of May to transplant. It will be necessary at this season to allow about fifteen inches between the rows, in order to admit the Dutch hoe, or scuffle, to advantage, which should be frequently used. The Imperial should succeed the crop of Tennisball and Silesia, and the first of May the plants will be in readiness. Continue to plant as before advised, every month or six weeks, from early spring to autumn, and select a cool situation for the late summer crops.

Cultivation of the Winter Crop.—This is the sowing requiring the most attention, and which is to supply the table from January to March. Select a warm situation in the open ground, and manure the bed well, and dig it deep; make the surface level and smooth with a fine rake, and it is then ready for the seed. The Hardy Hammersmith is the variety to sow now; draw the drills three inches apart, and cover the seeds lightly. In a few days they will be up and grow rapidly—and in October they should be transplanted into beds, where they are to be protected from frost. These should be common hot-bed frames; and as soon as the nights become cool the ashes should be put on, removing them early every fair day. On the approach of severe cold secure the plants from the effects of frost in season, for freezing and thawing would nearly destroy the whole. Very little water will be needed, unless there should be a continuance of fine weather till Christmas, when they will require moderate waterings. Give all the light and air possible, and keep the plants clean and free from damp, by picking off all decayed leaves as soon as perceived.

In December the plants will be very strong and stocky, and ready for removal to hot-beds, or pits in the green-house, where, with the ordinary treatment, they will soon form fine large heads. From time to time, as a succession is wanted, the plants can be transplanted from frames to heat, until the season arrives for the sowing of the spring crop.—*Magazine of Horticulture.*

American Ploughs in England.

WE wonder that our cotemporaries should so worry themselves about the reported failure of the working of American ploughs in England. Have not the English ploughs always equally failed in their working in the United States, with an American ploughman at the end of the handles? The truth is, that the ploughs of the two nations are of so entirely different construction, that an Englishman with his prejudices, and without any previous practice, is totally unfit to handle an American plough; and so is an American, an English plough. Had a thoroughbred Yankee been at the handles of the American implement, at the late trial before the Royal Agricultural Society, at Southampton, the result would unquestionably have been in its favour; for we know from repeated personal observation, made in both countries, that the American plough will do more work with less draught than any English plough whatever; and that it is upon the whole better fitted to our purposes of ploughing round stumps and rocks, or on uneven ground, and among stone and gravel, than anything from abroad. But in level, smooth land, we think it has some defects; the principal of which are a want of proper lever purchase in the handle, and a miserably contrived clevis.

When plough-handles are placed in so upright a position as is usual with us, the ploughman has not a proper control over his implement, and it makes it hard work for him to handle it in the furrow; besides, it is continually bobbing up and down; running alternately deep and shallow; and in and out, instead of moving easily, steadily, and smoothly along. This defect has been pretty well remedied by Ruggles, Nourse, and Mason, and some others; they having adopted nearly the happy medium between, we think, the extreme length of the Scotch plough-handles, and the short ones of America, and added a wheel upon the beam to gauge the depth of ploughing, and make the draught easier. The second defect, the clevis, we suppose has been thus long submitted to, because more simple and cheaper made—we ought to say infinitely *dearer* in the end. To our mind, the Scotch clevis is the most perfect of any we have yet seen. It looks bungling, and seems to abound in *useless machinery*; but let any one use it on his plough a single season, and pay any attention to its working, and he will after that never have any other, we will be bound to say. As to the make of ploughs, they must be of different sizes and forms to suit different purposes; and this idea of offering

If thou intendest to borrow anything a second time, use it well the first, and speedily return it.

a single premium for the *best* plough, is perfectly ridiculous; it is like trying a race-horse, a roadster, and a cart-horse, together; or pitting a Merino, a Leicester, or a South-down sheep against each other. Each is valuable for particular purposes, and we know from considerable practice, and much personal observation, that different soils—for instance, from heavy clay through the several gradations to shifting sand, and the different state again of these soils—whether in green sward or naked fallow, or to turn in a stubble and green crop, at least six kinds of ploughs are requisite to perform their work properly.—*American Agriculturist*.

Animal Heat.

THE source of animal heat, its laws, and the influence it exerts upon the functions of the animal body, constitute a curious and highly interesting subject.

All living creatures, whose existence depends upon the absorption of oxygen, possess within themselves a source of heat, independent of surrounding objects.

This general truth applies to all animals, and extends to the seed of plants in the act of germination, to flower-buds when developing, and fruits during their maturation.

In the animal body, heat is produced only in those parts to which arterial blood, and with it the oxygen absorbed in respiration, are conveyed. Hair, wool, and feathers receive no arterial blood, and therefore in them no heat is developed. The combination of a combustible substance with oxygen is, under all circumstances, the only source of animal heat. In whatever way carbon may combine with oxygen, the act of combination is accompanied by the disengagement of heat. It is indifferent whether this combination takes place rapidly or slowly, at a high or at a low temperature; the amount of heat liberated is a constant quantity.

The carbon of the food being converted into carbonic acid within the body, must give out exactly as much heat as if it had been directly burnt in oxygen gas or in common air; the only difference is, the production of the heat is diffused over unequal times. In oxygen gas the combustion of carbon is rapid, and the heat intense; in atmospheric air it burns slower and for a longer time, the temperature being lower; in the animal body the combination is still more gradual, and the heat is lower in proportion.

It is obvious that the amount of heat liberated must increase or diminish with the

quantity of oxygen introduced in equal times by respiration. Those animals, therefore, which respire frequently, and consequently consume much oxygen, possess a higher temperature than others, which, with a body of equal size to be heated, take into the system less oxygen. The temperature of a child (102°) is higher than that of an adult, (99.5°.) That of birds (104° to 105.4°) is higher than that of quadrupeds (98.5° to 100.4°) or than that of fishes or amphibia, whose proper temperature is from 2.7° to 3.6° higher than that of the medium in which they live. All animals, strictly speaking, are warm-blooded; but in those only which possess lungs, is the temperature of the body quite independent of the surrounding medium.

The most trustworthy observations prove that in all climates, in the temperate zones, as well as at the equator or the poles, the temperature of the body in man, and in what are commonly called warm-blooded animals, is invariably the same; yet how different are the circumstances under which they live!

The animal body is a heated mass, which bears the same relation to surrounding objects as any other heated mass. It receives heat when the surrounding objects are hotter, it loses heat when they are colder than itself.

We know that the rapidity of cooling increases with the difference between the temperature of the heated body and that of the surrounding medium; that is, the colder the surrounding medium, the shorter the time required for the cooling of the heated body.

How unequal, then, must be the loss of heat in a man at Palermo, where the external temperature is nearly equal to that of the body, and in the polar regions, where the external temperature is from 70 to 90 degrees lower!

Yet, notwithstanding this extremely unequal loss of heat, experience has shown that the blood of the inhabitant of the arctic circle has a temperature as high as that of the native of the south, who lives in so different a medium.

This fact, when its true significance is perceived, proves that the heat given off to the surrounding medium, is restored within the body with great rapidity. This compensation must consequently take place more rapidly in winter than in summer, at the pole than at the equator.

Now, in different climates the quantity of oxygen introduced into the system by respiration, as has been already shown, varies according to the temperature of the exter-

nal air; the quantity of inspired oxygen increases with the loss of heat by external cooling, and the quantity of carbon or hydrogen necessary to combine with this oxygen must be increased in the same ratio.

It is evident that the supply of the heat lost by cooling, is effected by the mutual action of the elements of the food and the inspired oxygen, which combine together. To make use of a familiar, but not on that account a less just illustration, the animal body acts, in this respect, as a furnace, which we supply with fuel. It signifies nothing what intermediate forms food may assume, what changes it may undergo in the body, the last change is uniformly the conversion of its carbon into carbonic acid, and of its hydrogen into water. The unassimilated nitrogen of the food, along with the unburned or unoxidized carbon, is expelled in the urine or in the solid excrements. In order to keep up in the furnace a constant temperature, we must vary the supply of fuel according to the external temperature, that is, according to the supply of oxygen.

In the animal body the food is the fuel; with a proper supply of oxygen we obtain the heat given out during its oxidation or combustion. In winter, when we take exercise in a cold atmosphere, and when, consequently, the amount of inspired oxygen increases, the necessity for food containing carbon and hydrogen increases in the same ratio; and by gratifying the appetite thus excited, we obtain the most efficient protection against the most piercing cold. A starving man is soon frozen to death. The animals of prey in the arctic regions, as every one knows, far exceed in voracity those of the torrid zone.—*Liebig's Letters.*

(To be continued.)

Bees Swarming.

BEES when swarming, are generally peaceable, and if treated gently, may be hived without danger or difficulty. A remarkable instance of their inoffensiveness at this time is related by Mr. Thorley. Wanting to dislodge a swarm from the branches of a codlin tree, he placed the hive in the hands of his maid-servant, who being a novice, covered her head and shoulders with a cloth to guard her face; on shaking the tree, most of the bees alighted on the cloth, and quickly crept under it, covering the girl's breast and neck up to her very chin. Mr. Thorley impressed her with the importance of neither flinching from nor buffeting the bees, and began immediately to search for the queen; which on finding, he gently seized and removed, but without effecting a dis-

lodgement of the swarm: thus disappointed, he suspected that there was a second queen, which actually proved to be the case. On securing and placing her in the hive, with a portion of the bees, the rest followed in multitudes, till in two or three minutes not one bee remained upon the girl, who was thus released from her state of apprehension and alarm without feeling the point of a single sting.

The following is extracted from M. Lombard: "A young girl of my acquaintance was greatly afraid of bees, but was completely cured of her fear by the following incident. A swarm having come off, I observed the queen alight by herself at a little distance from the apiary. I immediately called my little friend that I might show her the queen; she wished to see her more nearly, so after having caused her to put on her gloves, I gave the queen into her hand. We were in an instant surrounded by the whole bees of the swarm. In this emergency I encouraged the girl to be steady, bidding her be silent and fear nothing, and remaining myself close by her; I then made her stretch out her right hand, which held the queen, and covered her head and shoulders with a very thin handkerchief. The swarm soon fixed on her hand and hung from it, as from the branch of a tree. The little girl was delighted above measure at the novel sight, and so entirely freed from all fear, that she bade me uncover her face. The spectators were charmed with the interesting spectacle. At length I brought a hive, and shaking the swarm from the child's hand, it was lodged in safety, and without inflicting a single wound."

All persons similarly situated, may not be so fortunate, as, notwithstanding the greatest precaution, bees may be provoked to draw their swords. Dr. Evans relates a case of this kind: a swarm having settled on the branch of a larch-tree, and its long tufts of narrow leaves flapping the bees as the bough was shaken, the woman who hived them received above thirty stings.

If the weather be windy at the time of swarming, they are often irritable, and apt to sting; and though clustered, will frequently return home: this last occurrence is generally caused by the absence of a queen, but it may also be produced by a sudden shower, or the transit of a dark cloud. In these cases the swarming is merely deferred.

A queen has sometimes a defect in her wings, or is disabled by some accident: either of these misfortunes may cause the return of a swarm, or produce symptoms of discontent after hiving. Should such symp-

to be observed, the queen will probably be discovered on the ground, or somewhere apart, surrounded by a small cluster of attendants, whom nothing but violence can separate from her. If she be taken up either singly or with the cluster, and placed near the entrance of the hive containing the swarm, all will be harmony.

Sometimes a swarm divides into two portions, which settle apart from each other; should this happen with an after swarm, it may be presumed that each portion has a distinct leader. The conduct of the apiarian in this case, must be governed by the size of the two divisions, and the season at which they emerge; unless both be large and the swarming early, they had better be hived in separate boxes, and joined together in the manner recommended in page 61. If near enough together, they may be hived in the same box.

The branch on which the swarm settled is sometimes rubbed with wormwood, or smoked with disagreeable fumes, to drive away all remaining loiterers. The readiest and simplest mode of procedure, however, is to keep up a constant agitation of the bough by means of a long hooked pole, till the whole or nearly the whole of the bees have forsaken it.

No attempt should ever be made to introduce a swarm into a hive or box till the cluster is nearly settled, nor should the hiving be long delayed, lest the bees rise and fly to a distance.

The general practice is not to remove bees to their intended station till night, but Bonner and Mr. Golding recommend their removal as soon as the swarm seems to be pretty well settled; and I am of the opinion that this plan is judicious, as the bees of a full swarm begin to explore the fields soon after hiving, and it is on that account desirable that their earliest proceedings should be associated with the spot upon which all their future operations are to be conducted; it will prevent that puzzling and impediment to their labours which are apt to be produced, by delaying the removal till night. Let the newly-tenanted hive therefore be placed as soon as possible upon a floor-board, and at once removed to the site which it is intended to occupy. Should any sufficient reason prevent the adoption of this early removal, let it be placed as near the intended site as convenient, and unless it stand in the shade, be covered with boughs or a cloth.

Notwithstanding what I have said as to the early location of a swarm, there are still some intelligent apiarians who prefer the ancient practice of deferring the re-

moval till night; Mr. Knight stands in this class, and says he does not believe that bees ever have any difficulty in finding their way from the fields to their new habitation, provided it be fixed before the next morning, and he considers late removal as securing the congregation of all stragglers.—*Bevan on the Bee.*

THE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK.

PHILADELPHIA, SECOND MONTH, 1845.

SOME unknown friend has forwarded the Albany Argus of the 22nd ult., containing an account of the Annual Meeting held in that city, of the New York State Agricultural Society, on the 15th.

It appears from the statement of the Treasurer, that the receipts for the year 1844, were \$4,805.80, and the expenditures \$3,933.91. Benjamin P. Johnson, of Oneida, was unanimously elected President; Daniel Lee, of Erie, Corresponding Secretary; Luther Tucker, of Albany, Recording Secretary; and Thomas Hillhouse, of the same place, Treasurer. Eight Vice-presidents were also chosen. Utica was proposed as a proper location for the next State Fair and Cattle Show; a committee of the citizens of that town having offered to prepare the grounds, &c., so as to be ready for the occupancy of the Society, and to furnish such police officers and clerks, as may be requisite for transacting the business of the Fair and Cattle Show, without expense to the State Agricultural Society. The reports of the various committees possessed their usual interest—some account of those on crops we give here.

The first premium for wheat, was awarded to Matthew Watson, of Canandaigua, he having raised 215 bushels of wheat on four acres and twelve poles of ground, or about fifty-two and a half bushels per acre. No first premium on corn was awarded, but the second was given to J. F. Osborn, of Cayuga county—his crop being 213½ bushels on two acres. Several premiums were awarded for *Barley* and *Oats*. The first for barley, to Stephen B. Dudley, of Ontario county, for a crop of sixty-nine and nine-tenths bushels, on a lot of two acres. The first premium for oats, was given to Seth Lawton, of Dutchess county, his crop being 120½ bushels per acre—and the second to J. F. Osborn, for 104 bushels per acre, on a lot of two acres and nine rods. John G. Smedberg, of Greene co. raised 1,160 bushels of ruta-baga on one acre, and 2,173 bushels on two acres and five rods. William Risley raised 1,059 bushels of carrots, and C. B. Meek, 1,101 bushels of mangel wurtzel, per acre. The first premium for butter, was awarded to George Vail, of Troy. His cows are the Durhams. Six of them kept on grass, produced in thirty days, 262 lbs. 9 ounces of butter—averaging for each cow better than 1 lb. 6 ounces per day. The milk of one of these cows was kept by itself for thirty days, and yielded in that time 52 lbs. 9 ounces of butter. The committee awarded to Henry S. Randall, of

Cortland, a gold medal, for the best managed flock of sheep. His statement in relation to his treatment of this flock, is, we think, well calculated to excite the attention of wool growers. He says:

"In the winter of 1843-4, I wintered in a separate flock, fifty-one ewes over one year old, two ewe lambs, two rams, one of them one, and one of them two years old. Of the ewes over one year old, twenty-eight were full blood Merinos; twenty-three were half blood Merinos and half blood Southdown, the two ewe lambs were three-fourth blood Merino and one-fourth blood Southdown; and the two rams were full blood Merinos. The flock was kept as follows, through the winter. They were fed hay morning and night, and were as a general rule required to eat it up clean. At noon the flock was daily fed three bundles of oats and barley—which had grown mixed, say three parts oats and one part barley—until the 25th of December, after which they received four bundles of oats. The grain was light and shrunken. They received no hay at noon during the winter, and usually consumed all the straw of the grain fed to them. They had a good shelter and access to pure water at all times. From this flock I raised fifty-three lambs. The full blood Merinos, including two rams, and the two three-fourths blood lambs—in all thirty two—sheared one hundred and eighty-six pounds and four ounces of washed wool, which I sold at forty-eight cents per pound. Four of the full bloods had two years' fleeces on. The half-blood Merinos and half-blood Southdowns—twenty-three—sheared eighty and one-half pounds of washed wool, seventy-one pounds of which I sold at thirty-eight cents per pound. During the summer of 1844, the flock was kept in good ordinary pasture, and salted once a week. Out of this flock I have sold during the past summer and fall, ten full blood Merinos over one year old, and twenty full blood Merino lambs for five hundred and twenty-nine dollars—and twenty-three half-blood Merino and half-blood Southdown ewes, and sixteen three-fourth blood Merino and one-fourth blood Southdown lambs, for one hundred and ninety-seven dollars.

Expense of keeping 55 sheep one year	\$82 50
Received for wool, estimating that kept at the same price with that sold	\$119 99
Received for those sold	726 00
	\$345 99

Remaining on hand, thirty nine of this flock.

I have submitted no estimate of the original value of the flock, not deeming it necessary, as the diminution of the original number is here stated."

The annual Address was delivered at an adjourned meeting in the evening, by John P. Beckman, the late President. And we doubt not the day and the labours of the meeting closed with an increased interest in the progress of agriculture in New York.

In our last number, page 198, will be found a notice of some inquiries relative to the Cranberry plant. M. S. Powell, No. 23 Market street, informs us that he can supply any demand, and can also give the necessary instruction for their cultivation.

The disease in the potatoe, which so extensively prevailed through this section of country in 1843, and

in the New England States in 1844, has very properly claimed the attention of many of our observant men. On page 102, of the current volume of the Cabinet, will be found a notice of the appointment of a committee, by the Philadelphia Agricultural Society, upon this subject. The translation furnished by that committee on page 212, will be read with much interest. Professor Von Martius has given close attention to the disease as it appeared in Germany, and certainly makes in relation to it, many judicious remarks.

THE *Farmers' Monthly Visitor* mentions a hog recently slaughtered in Pittsfield, N. H., which weighed when dressed, 795 lbs. It was nineteen months and sixteen days old, and consequently had gained in neat weight, about one pound and three ounces per day.

The following premiums will be awarded by the Pennsylvania Horticultural Society, at its stated meeting on the 18th inst., to wit:

For the best regularly shaped Camellias, six named varieties to be exhibited, \$10.

For the next best do. do. \$5.

For the best Camellias of other forms, do. do. \$7.

For the best Mushrooms, one dozen to be exhibited, \$2.

And at the stated meeting on the 18th of next month, the following will be awarded:

For the best Azaleas, ten named varieties to be exhibited, \$3.

For the next best do. do. \$2.

For the best American seedling Azalea, \$3.

For the best Pears, half a peck, \$3.

For the best Apples, half a peck, \$1.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMER'S CABINET, half bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestricea,	3 00
RELIQUIÆ BALDWINIANÆ,	1 00
AMERICAN Poulterer's Companion,	1 25
BEVAN ON THE HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

THE first number of the JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY, published under the direction of the *Philadelphia Society for the Alleviation of the miseries of public Prisons*, has recently made its appearance. It will be a quarterly of 96 pages octavo, and the subscription price \$2 per annum, payable in advance.

The subject matter of which this Journal will treat, is pretty well designated by its title. It will not, by any means, be confined to the economy of our prisons, strictly so called, but matters relating to our Houses of Refuge and Insane Hospitals, Police systems, Societies for the aid of discharged prisoners, and other reforms connected with these subjects will find a place, and we trust, be treated in a manner to advance the general good.

As these are all subjects of the broadest interest, we shall be pleased, as must, we think, every philanthropist, to find this interest manifested in a liberal support of the work. All the Society wishes is, that the receipts may meet the expenditures. Circulating, as the Cabinet does, in every State and territory in the Union, we embrace this method to bring the subject before our intelligent readers. It is published from the office of the Farmers' Cabinet, where subscriptions will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published.

IN the third number of our current volume, will be found a communication from C. J. Fell & Brother, in relation to a purchase of Mustard seed from J. H. Parmlee, of Ohio. Since the appearance of that article, we are in the frequent receipt of letters, particularly from the West, having reference to the cultivation of the plant. This opportunity is embraced to remark that we have no personal experience in the matter, or we would gladly communicate it for the benefit of all. Some of our letters mention that the writers are preparing to put in twenty or thirty acres, and inquire about the price which may probably be obtained for the product. It scarcely need be said, that the price of Mustard seed is like every other article in the market, variable, according to the supply and the demand. Brown Mustard seed for several years, has ranged, as we learn, from six to ten cents, and the demand has, perhaps, generally exceeded the supply: but if farmers take hold of it so extensively as to plant, many of them five and twenty or thirty acres, it needs but little penetration to perceive that the matter will be overdone, and the whole thing prove a failure.

C. J. Fell & Brother, advise us that Mustard is of two kinds, the brown or black, and the yellow or white: the former, a smaller seed, and generally called *American*—the latter a larger seed, and denominated *English*. They say the seed grown by Parmlee, differs much from any American seed they had ever before purchased. It is of superior quality, and they would recommend it to be sown in preference to the seed usually grown at the West, which appears to be the product of spontaneous growth, and is small with a thick hull, while Parmlee's is larger and stronger. They have reserved some of this seed, and we believe will furnish it to such as wish to propagate it, at eight

cents per lb. A cannister of Mustard of beautiful colour, prepared from Parmlee's seed, was kindly handed us by the manufacturers, and those at our table, better judges than the editor, pronounce it an exceedingly fine article.

A PACKAGE of various kinds of seed, has been received from H. L. Ellsworth, the indefatigable Commissioner of Patents, at Washington. They shall be properly distributed.

IN our last number, and in the one preceding it, we forwarded bills to many of our subscribers who were in arrears. To the large number who have promptly responded to those bills, we offer our acknowledgments. It should be borne in mind, that our terms are—payable in advance. By many this seems to be forgotten. Bills are forwarded in this number, to neighbourhoods where they have not yet been sent this season. It is always more agreeable—to say nothing of the greater convenience—when our subscribers are so prompt as to need no dun. Attention is particularly invited to all bills that have been sent; and we would remind those concerned, that Post-masters are at liberty by law, to frank remittances to publishers in payment of subscriptions, as well as to receive new subscribers and remit payment. Our friends are invited to avail themselves of this mode of settling our numerous little demands. The expenses of the Cabinet are necessarily heavy, and continual. It is only asked of each of our subscribers, promptly to bear his *small* part in their payment, and to do all he can in adding to the number on our subscription list. It gives the editor much pleasure to avail himself of this opportunity to acknowledge his strong obligations to the kindness and courtesy of the Post-masters of the country, from Canada to Florida, and from New Jersey to the Cherokee Nation. He respectfully solicits a continuance of this kindness.

Two or three numbers have reached us of the *Ohio Cultivator*, published semi-monthly at Columbus, Ohio, by our worthy friend, M. B. Bateham, late editor of the *Genesee Farmer*. The numbers before us give every promise that the work will be as we should certainly expect it to be, highly important and advantageous to the Western agriculturist. It appears in large quarto form, at \$1 a year. It is almost impossible that a farmer should look over the columns of that paper for a year—or those of the Cabinet either, without being abundantly more than compensated for the outlay of his money. We shall be rejoiced to learn that one half the farmers of the great West, have subscribed for the *Ohio Cultivator*; and still more pleased would we be to find the names of the other half on our own subscription book. Were this the case, we think they would soon very generally find they could not get along at all comfortably without having both these papers. We already send many packages of the FARMERS' CABINET to the West, and would ask our numerous friends there to assist us in adding still further to the list.

THE *Jeffersonian*, published at West Chester, in this State, says Emnor Jefferies recently slaughtered three hogs nine months and ten days old, which respectively weighed 357, 330, and 329 lbs.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. POWELL keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844.

tf.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrow; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable and Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by

D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portorage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.

JOSIAH TATUM.

COLEMAN'S AGRICULTURAL TOUR IN EUROPE.

It will not be forgotten that subscriptions to this work, are received at the office of the FARMERS' CABINET; where every farmer in the country will be heartily welcome as a subscriber to both, or either of these publications. Single Numbers will be sold.

SHORT ADVERTISEMENTS.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

A VESSEL recently arrived at New York with a cargo of Guano, the first, we believe, brought into that port.

THE quantity of rain and melted snow which fell during the First month, 1845, was about three and three-quarter inches. 3.76 inches.

Penn. Hospital, 2nd mo. 1st.

CONTENTS OF THIS NUMBER.

Gad-fly—Sheep-nose Worms.	PAGE 201
Harmon's varieties of Wheat in N. York.	202
Island of Ichaboe—Guano.	205
Time is Money.—Pointed-toed Shoes.	207
Agricultural Imports in England.—Sulphuric acid as a Manure.	208
Difficulty in Churning Butter.	209
Food for different Latitudes.—Ornamental Shrubs and Flowers.	210
Curing obstinate Horses.—Hemp.—Alpaca Wool.	211
Disease in the Potatoe.	212
Duty on Hops.	215
Heavy yield of Wheat.—Silk.	216
Hemp.	217
Berkshire Hog.	218
Capons.—Cast steel Ploughs.—Butter.—Beautiful Experiment with a Plant.	219
Barley.—Facilities for Transportation.	220
Dogs and Cats.—Advantage of planting Fruit Trees on declivities.—Artificial Guano.	221
Poudrette.	222
The Poor.—Orchards.	223
Bones—Whip-handles, &c.	224
Cultivation of Lettuce.	225
American Ploughs in England.	226
Animal Heat.	227
Bees Swarming.	228
Editorial Notices.	229

THE FARMERS' CABINET,

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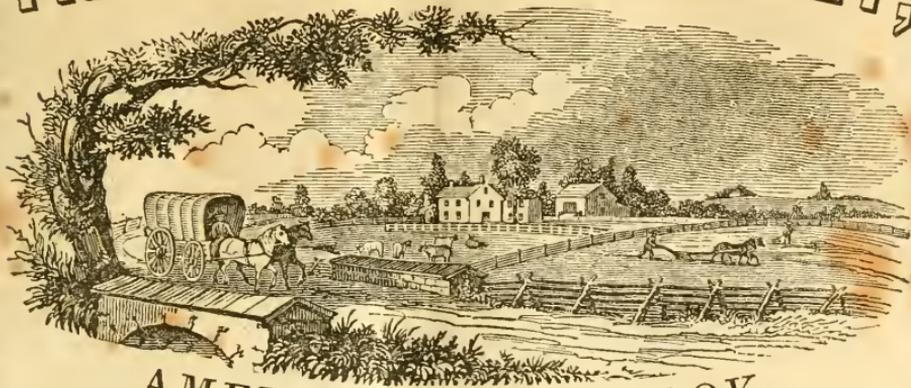
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Joseph Rakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 8.]

3rd mo. (March) 15th, 1845.

[Whole No. 122.]

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,
PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

“Difficulty in Churning Butter,” obviated.

THE last Number of the Cabinet contains an appeal to its editor and readers, on the difficulty of making butter in the winter, which, from its interesting source—“Young Wives”—and from its intrinsic merits, seems calculated to elicit prompt, and perhaps numerous replies. The following, which appears to embrace the true principle, and to be conclusive on the subject, is the result of the experience of a noted agriculturist, W. Allen, of N. Andover, published in the New England Farmer of January 14th, 1835, and is offered to the editor of the Cabinet for insertion, if nothing more eligible present. I regret that the inquiry appeared so late in the season, that the cause of the evil—the cold weather—will have passed away before the remedy can have reached the sufferers; and I trust “Young Wives” will not think me unreasonable, if, as an indemnity

CAB.—VOL. IX.—No. 8.

for the slight labour caused me in transcribing and in research, I request them *accurately* to test it on the first return of the cold weather of the ensuing winter, and to spend the time saved in a single process of churning, in giving, through the Farmers' Cabinet, the result to the public, and to

INDEX.

Philadelphia, Second mo., 1845.

“Having thought much on the subject, and experienced all the uncertain results of which others complain, I have been led to the conclusion,—which experiments have confirmed—that there is a certain degree of heat,—could it be ascertained—to which the cream might be raised, which would ensure a quick process in the formation and separation of the butter from the whey or milk, at the same time preserve the quality of the butter, and prevent that frothiness and softness which are the never failing result of long continued churning.

“To ascertain the degree of heat necessary to insure a short process, we heated the cream on the hearth to about 72 or 73 degrees—this, with heat in the churn, which was scalded with boiling water, gave to the cream about 75 degrees heat. In six or seven trials, during the months of November and December, the longest process in churning was twenty minutes, the shortest ten. The butter has been uniformly sweet and hard, and in nothing inferior to that made in October, except in colour. The

(233)

last churning was on the 30th of December last. I attended to the whole process carefully. The cream when first put into the churn, was 80 degrees—I waited till the heat had fallen to 75 degrees, and immediately began the operation. The butter was formed and ready to take out of the churn in just ten minutes. By the way, I use, and have for several years, a rocking churn, and think it the best, all things taken into view, that has ever been in use in New England.

* * * * *
 “N. B. Since writing the above, one of my neighbours, hearing of my successful experiments, called on me to borrow my thermometer,* to make a similar experiment—he informed me that their two last trials to make butter, after churning twenty-four hours, had been unsuccessful. They accordingly prepared the cream as above directed, heating to 75 degrees—the butter came in five minutes—was hard and good for winter butter.”

By the editor of the N. E. Farmer, T. G. Fessenden: “The above is a valuable paper, and establishes a fact of much importance in housekeeping economy. We have frequently recommended, and published the recommendations of others, to warm cream in cold weather, previous to any attempt to convert it into butter. But the temperature to which it should be raised, has not, so far as we know, been ascertained previous to the abovementioned experiments of our highly esteemed friend and correspondent.”

Manures.

The following statement of experiments lately appeared in the Albion, and has been kindly communicated by the writer for the Cabinet. We need hardly say that it would give us much pleasure, and add to the value of our paper, to hear frequently from our highly valued friend at Sandy Spring.—Ed.

Professor Hallowell's experiments to ascertain the comparative efficacy of various manures.

ALL the value which experiments in agriculture can derive from great care in conducting them, and from high character for science and exactness on the part of the experimenter, belongs to the following statement. But the best conducted experiments may lead to disappointment when we attempt to imitate them, without acquaintance with the various circumstances which may have influenced the results in any given case, such as climate, soil, temperature, &c.

* The price of a suitable instrument is a dollar or less.—INDEX.

The residence of Professor Hallowell, near Sandy Spring, in Montgomery county, Maryland, is in latitude 39° 10' N. The general elevation of the country above the tides of the Potomac is from 400 to 470 feet. The greater elevation, however, has, independent of latitude, a sensible effect, as, at Sandy Spring, grain ripens eight or ten days later than in the vicinity of Washington, at the distance of only twenty miles, and in the same latitude. The soil is, as stated by Mr. H., thin, but from recent experiments, very susceptible of improvement; with well and spring-water, the latter very abundant, and as pure, perhaps, as any in the world.

The mean temperature of the region where these experiments have been, and still are in progress, for the twelve seasons of the years 1828–9–30 and 31, was 51.63, and combining this mean with that produced by monthly observations made with equal care, during the same period, on perennial springs, the mean temperature at Sandy Spring comes out 52.776 deg. or 52¾ deg. Fahrenheit.

The prevailing timber is oak of various species, hickory of various species, Liriodendron or poplar, red flowering maple, black gum, &c., underwood the most abundant, dogwood.

The face of the country is moderately hilly, or in parts only rolling, and extremely pleasing to the eye, particularly the well-improved farms; in brief, it is a section of our country in a high degree capable of improvement, and we may conclude by saying, that a salutary and regenerating spirit has breathed its influence into the minds of its people, which is giving activity and efficacy to the modes adopted for its melioration. That such influence, with the examples of such friends of agriculture, and of all *peaceful* and useful arts, will increase, bringing forth good fruits, more and more abundantly, is our wish and our confident hope.

In conclusion of these hasty remarks, on some of the exterior circumstances under which the experiments were made, we submit, and invite to the following letter, the particular attention of the reader.

Rockland, Eleventh mo. 22nd, 1844.

ESTEEMED FRIEND,—In compliance with the request contained in thy letter of the 12th inst., I forward a statement of the results of my experiments with different kinds of manures.

Experiment 1.—On the 20th of the fourth month, 1843, I sowed bone-dust, as it is called, on a part of my wheat, at the rate of about six bushels to the acre. The cost of

the bones in Baltimore, was forty cents a bushel, and it cost ten cents a bushel to transport them to my farm. The wheat where the bone was put, was not improved by it; but a striking difference was soon perceived in the clover that had been sown among the wheat about three weeks before the bone. In the first crop mowing the past summer, there was amply sufficient, where the bone had been put, above what was on the adjacent parts, to pay for the bone, and all the trouble of putting it on; and the second growth gave me an excellent crop of seed, while on the parts where the bone was not put, there was no seed worth gathering. The seed is not got out yet, but several of my friends who are considered good judges in such matters, thought there would be more seed than would pay for the first cost of the bone.

Experiment 2.—At the same time I sowed bone on my wheat, I sowed some at the rate of six bushels per acre on my oats, which had been put in ten days before, and sowed with clover. There was a great increase in the oats, both in the size of the straw and in the quantity and weight of the grain; and the clover the past season was several times over more abundant where the bone was put than where there was none. There is no question that the first cost of the bone was fully returned in the additional quantity of oats that resulted from its application.

Experiment 3.—On the 2nd of the fifth month, 1843, I put a bushel of the bone at the rate of six bushels per acre, on four rows of my corn in the hill, by dropping the corn, then putting the bone on it, and covering both up together. The difference in the appearance was manifest through the summer. When we gathered the corn we kept these four rows, and the four rows on the one side, and the four rows on the other, all separate. From the four rows where the bone was put, there were two and three-quarter flour barrels full of real good ears, and a half barrel of short corn; while from the four rows on each side, there was a scant flour barrel full of good ears, and three-quarters of a flour barrel of short corn. This gave me more than one and a half flour barrels full of good corn for a bushel of bone, or fifty cents, besides there being more than double the quantity of fodder where the bone was put.

Experiment 4.—On the 3rd of the tenth month, 1843, I put in my wheat, on one part of which I put 15 bushels of bone per acre, on another part 30 bushels of finely ground charcoal per acre, on another stable manure, on another a coating of wheat straw, and a part was left without anything. The bone

and charcoal were sown broadcast, and harrowed in with the wheat. The charcoal did no good whatever, either to the wheat, or the clover that was sown amongst it, the part where the charcoal was, and that where nothing was put, alike not producing as much wheat as was sown on it, and they are now bare of clover, while I had fifteen bushels of wheat per acre where the bone was put, and a luxuriant growth of clover, a large portion of which headed out, and filled well with seed. The wheat was larger, and the heads better filled, and the clover larger, where the bone was put, than where the ground was dressed with stable manure. The wheat straw did *some* good, but comparatively little.

Experiment 5.—On the 26th of the third month, 1844, I put in my oats and clover, dressing the ground, except a small part, with ten bushels of bone to the acre. On one half the ground the bone was harrowed in with the oats, on the other half the bone was sown on the top after the harrowing. The crop of oats was greatly increased where the bone was put, but it was much best on that part where it had been harrowed in. The yield, however, was not so great as last year, which I attribute partly to the dryer season this year. The clover is far better where the bone had been, than it was on the part left for experiment without anything.

Experiment 6.—On the 24th of the fourth month, 1844, I planted my corn, putting pou-drette in the hills at the rate of one and a half barrels per acre, and covering it up with the corn. I left a few rows for experiment without any, which were decidedly inferior to the others in the number and size of the ears, and the size of the stalks. Also that which had been dressed with pou-drette, ripened considerably earlier—I should think at least ten days. The beneficial effects of the pou-drette were much the most remarkable on the part of the field where the land was poorest—indeed, on a small part where the ground was very good, I was scarcely able, at pulling time, to see any difference.

Experiment 7.—On the 19th of the ninth month, 1844, I put in my wheat, four contiguous acres of which were manured as follows, viz: One with 200 lbs. of guano, finely pulverized, and mixed the previous day with about an equal bulk of plaster of paris; another with 16 bushels of bone; a third with four barrels of pou-drette, and the fourth with a mixture of all these, and a small part was left without anything. The manures were all harrowed in with the wheat. The rest of my wheat ground was dressed with bone. The cost of the manure

on each of these four experiment acres was the same, viz., \$8 per acre. A marked difference is visible at this time in favour of that which was dressed with guano and plaster, and it all looks much better than that which was left without manure. The guano was obtained of Samuel R. George, of Baltimore, at \$3 per 100 lbs. I mixed it with plaster, to remove a part of its acrid quality that might injure the young germ, and also to condense the volatile portions, and render the sowing of it less unpleasant. It costs me 30 cents per 100 lbs. to get the guano hauled from Baltimore, 28 miles. The poudrette got of J. Tatum, costs \$1 50 per barrel in Philadelphia, and 50 cents a barrel to get it here by way of the District of Columbia. At my farm the bone stands me in 50 cents a buskel, guano \$3 30 per 100 lbs.; poudrette \$2 per barrel, and plaster \$1 30 per barrel. The benefit of plaster, as far as I have tried it, is very small indeed, if any. My land is, however, very poor, mostly a stiff clay, full of white flint stones. Yet it seems very susceptible of improvement, and I am in hopes that when I shall get it a little more improved, the effects of plaster will be more manifest. I have made no experiment till the present fall, to determine the comparative values of bone and guano. My impression is, however, that while the effects of guano may be more striking in the first crop, bone will be more lasting. The experiments with guano and bone, as given in several agricultural publications, are by no means satisfactory to me, because they give a statement of the produce of only the first crop after the application of the manures, where guano, from being in a state more ready to be immediately assimilated in the growing vegetable, would possess a decided advantage over bone, which is in a coarse state principally. The different crops from the time the manures are applied till the ground is broken up again, and the condition and quality of the ground when then broken up, should all be taken into account in making up the estimate of the comparative value of different manures. It is to this end that I am instituting my experiments. I may state, in conclusion, that I have no doubt the effects of bone dust and guano, are much more striking upon old worn out lands, such as these to which I have applied them, than they would be to those that are richer. Indeed it is reasonable that lands which have been long cropped, without having had anything returned to them, must eventually become deprived of phosphate of lime and other inorganic materials, which, existing in but small quantities in soils, are yet indispensably necessary to the growth of grains and

nutritious vegetables. And although such soils may contain every other ingredient necessary to vegetable growth, yet wanting the phosphate of lime, grains, clover, &c., which contain this, could not grow till it is applied in bone dust or something of the kind. So of other inorganic elements which enter into the vegetable economy.

It would give me great pleasure indeed to have an opportunity of *showing* thee my experiments, and of going with thee to see my cousin and neighbour Roger Brooke, to whom I read thy letter last evening, and who expressed an earnest wish that thou might find time to carry out thy intention as therein expressed.

Thy sincere friend,

BENJAMIN HALLOWELL.

JOHN S. SKINNER.

A Farm Cultivated by the Insane.

IN our former notices of the systems employed in France for the amelioration and cure of insanity, we pointed out that the occupation of the patients in various useful employments, was amongst the most successful modes of treatment. When the increase of patients in the two asylums, the Bicêtre and the Salpêtrière, at Paris, demanded further accommodation, the unfortunate inmates were employed to assist in the new buildings, and with results extremely favourable to themselves. When these works were finished, the medical directors of the hospital dreaded the effects of a relapse into inactivity on their patients, and employed them in the fields and grounds adjoining the two edifices. So active were the labourers, and so delighted with their work, that they did everything which could be done in a very short time, and want of work was again threatened. To avert it altogether, M. Ferrus, one of the physicians of the Bicêtre, conceived the idea of obtaining a farm for the permanent employment of his willing labourers. With this view he applied to the government; but as there were no funds at the disposal of the ministry which could be applied to the commencement of such an undertaking, and as every acre of cultivated ground near Paris was, of course, occupied, his scheme seemed at first hopeless. Still the benevolent projector was not to be daunted, and as he could not find a cultivated spot of ground fit for his purpose, he looked out for a barren one.

After many inquiries and surveys, M. Ferrus fixed upon an estate situated about two miles from the Bicêtre, near the *barrière de la Santé*. It was the most wretched piece of ground imaginable. So entirely was it

covered with stones, that there was not an acre in the whole tract which seemed capable of being successfully cultivated; and though formerly occupied by enterprising farmers, it had long been abandoned. A homestead which they had built was in ruins, and the barns and sheds in the last stage of decay. Upon this unpromising farm M. Ferrus fixed, and by the end of 1832, several of the Bicêtre patients were set to work to enclose about ten acres of the least barren portion. This enclosure was cleared and levelled with such success, that its first year's produce was sold for about £57, nearly ten pounds more than the annual rent of the entire farm. Encouraged by this result, M. Ferrus applied to the *administration des hospiteaux* to have the patients transferred from the Bicêtre altogether, that they might live entirely on the farm. The ruined house and the want of funds at head-quarters applicable to its repair, seemed at first powerful objections to this measure; but M. Ferrus, having good workmen at his command, overcame them. He got the government to supply tools—as it had previously done for the farming operations—the homestead was soon put into a habitable state by those for whose occupation it was designed, and in 1835 was tenanted by a number of the insane. The farm was now regularly organized; an experienced agriculturist, M. Béguin, was engaged to direct and superintend the operations of the labourers; the whole of the land belonging to the estate was taken into the original enclosure, and each succeeding year has been crowned with not only an increase of agricultural produce, but with an increase in the list of cures amongst the patients. The only inconvenience the managers of the farm have to contend with, arises from any accidental want of employment which may happen. So anxious are the majority of the unfortunates for work, that they become troublesome when they do not obtain it. This was most felt in winter, when farming operations are for a time suspended; but to fill up this blank space, the farmers of St. Anne are annually set to bleach the whole of the linen used in the two hospitals; a task which they perform cheerfully and well, saving to those establishments upwards of £400 pounds per annum.

Besides the excellent effects which have been produced on those patients employed and residing on the St. Anne farm, it has been found of the utmost benefit to less convalescent inmates of the insane hospitals. By allowing them, at first, to see the others at work, they soon get a desire to join in it, which, when the medical officers deem them

well enough, they are allowed to do. In short, the effects of such a healthful employment as that necessary to the culture of land, has been found of the utmost benefit to all classes of insane patients. The success of the French farm will, we trust, encourage the directors of our native lunatic asylums to adopt similar methods of cure; which, properly managed, appear to be as profitable as they are efficacious.—*Chambers' Journal*.

From Hovey's Magazine of Horticulture.

Progress of Horticulture in Indiana.

By the REV. H. W. BEECHER, Indianapolis, Indiana.

THE Horticultural Society's Fair is held annually, on the 4th and 5th of October. Experience has shown that it should be earlier; for, although a better assortment of late fruits, in which, hitherto, we have chiefly excelled, is secured, it is at the expense of small fruits and flowers. The floral exhibition was meagre—the frost having already visited and despoiled our gardens. The chief attraction, as, in an agricultural community, it must long continue to be, was the exhibition of fruit. My recollection of New England fruits, after an absence of more than ten years, is not distinct; but my impression is, that so fine a collection of fruits could scarcely be shown there. The luxuriance of the peach, the plum, the pear and the apple, is such, in this region, as to afford the most perfect possible specimens. The vigor of fruit trees, in such a soil and under a heaven so congenial, produces fruits which are very large without being coarse-fleshed; the flavor concentrated, and the colour very high. It is the constant remark of emigrants from the east, that our apples surpass those to which they have been accustomed. Many fruits which I remember in Connecticut as light-coloured, appear with us almost refulgent. All summer and early fall apples were gone before our exhibition; but between seventy and a hundred varieties of winter apples were exhibited. We never expect to see finer. Our most popular winter apples are: Yellow Bellflower; White Bellflower; [called *Detroit* by the gentlemen of Cincinnati Horticultural Society,—but for reasons which are not satisfactory to my mind. What has become of the White Bellflower of *Coxe*, if this is not it?] Newtown Spitzenberg, exceedingly fine with us; Canfield, Jennetin or Neverfail, escaping spring frosts by late blossoming, very hardy, a great bearer every year; the fruit comes into eating in February, is tender, juicy,

mild and sprightly, and preferred with us to the Green Newtown pippin—keeping full as well, bearing better, the pulp much more *manageable* in the mouth, and the apple has the peculiar property of bearing frosts, and even freezing, without material injury; Green Newtown pippin; Michael Henry pippin, (very fine;) Pryor's Red, in flavour resembling the New England Seek-no-further; Golden russet, the prince of small apples, and resembling a fine butter-pear more nearly than any apple in our orchards,—an enormous bearer; some limbs exhibited were clustered with fruit, more like bunches of grapes than apples;—Milam, favourite early winter; Rambo, the same. But the apple most universally cultivated is the Vandevere pippin, only a second or third-rate table apple, but having other qualities which quite ravish the hearts of our farmers. The tree is remarkably vigorous and healthy; it almost never fails in a crop; when all others *miss*, the Vandevere pippin *hits*; the fruit, which is very large and comely, is a late winter fruit—yet swells so quickly as to be the first and best summer cooking apple. If its flesh—which is coarse—were fine, and its—too sharp—flavour equalled that of the Golden russet, it would stand without a rival, or near neighbour, at the very head of the list of winter apples. As it is, it is a *first-rate* tree, bearing a *second-rate* apple. A hybrid between it and the Golden russet, or Newtown Spitzenberg, appropriating the virtues of both, would leave little more to be hoped for or wished. The *Baldwin* has never come up to its eastern reputation with us; the Rhode Island Greening is eaten for the sake of “auld lang syne;” the Roxbury russet is not yet in bearing—instead of it several false varieties have been presented at our exhibitions. All the classic apples of your orchards are planted here, but are yet on probation.

Nothing can exhibit better the folly of trusting to *seedling* orchards for fruit, for a main supply, than our experience in this matter. The early settlers could not bring trees from Kentucky, Virginia or Pennsylvania—and, as the next resort, brought and planted seeds of popular apples. A later population found no nurseries to supply the awakening demand for fruit trees, and resorted also to planting seed. That which at first sprang from necessity, has been continued from habit, and from an erroneous opinion that seedling fruit was better than grafted. An immense number of seedling trees are found in our State. Since the Indiana Horticultural Society began to collect specimens of these, more than one hundred and fifty varieties have been sent up for in-

spection. Our rule is to reject every apple which—the habits of the tree and the quality of its fruit being considered—has a superior or equal already in cultivation. Of all the number presented, not six have vindicated their claims to a name or a place, and not more than *three* will probably be known ten years hence. While, then, we encourage cultivators to raise seedlings experimentally, it is the clearest folly to reject the established varieties and trust to inferior seedling orchards. From facts which I have collected, there have been planted during the past year, in this State, at least one hundred thousand apple trees. Every year the demand increases. It is supposed that the next year will surpass this by at least twenty-five thousand.

In connection with apple orchards, our farmers are increasingly zealous in pear cultivation. We are fortunate in having secured to our nurseries not only the most approved old varieties, but the choicest new pears of British, Continental or American origin. A few years ago to each one hundred apple trees, our nurseries sold, perhaps, two pear trees; now they sell at least twenty to a hundred. Very large pear orchards are established, and in some instances are now beginning to bear. I purchased Williams' Bon Chrétien in our market last fall for 75 cents the bushel. This pear, with the St. Michael's, Beurré Diel, Beurré d'Aremberg, Passe Colmar, Duchesse d'Angouleme, Seckel, and Marie Louise, are the most widely diffused, and all of them regularly at our exhibitions. Every year enables us to test other varieties. The Passe Colmar and Beurré d'Aremberg have done exceedingly well,—a branch of the latter, about eighteen inches in length, was exhibited at our Fair, bearing over twenty pears, none of which were smaller than a turkey's egg. The demand for pear trees this year, has been such that our nurseries have not been able to answer it—and they are swept almost entirely clean. I may as well mention here that, besides many more neighbourhood nurseries, there are in this State eighteen which are large and skilfully conducted.

The extraordinary cheapness of trees favours their general cultivation. Apple trees, not under ten feet high, and finely grown, sell at *ten*, and pears at *twenty* cents; and in some nurseries, apples may be had at *six* cents. This price, it should be recollected, is in a community where corn brings from twelve to twenty cents only, a bushel; wheat sells from forty-five to fifty; hay at five dollars the ton. During the season of '43-'44, apples of the finest sorts,—Jennetin, green Newtown pippin, &c.—sold at my door, as

late as April, for *twenty-five* cents a bushel; and dull at that. This winter they command *thirty-seven* cents. Attention is increasingly turned to the cultivation of apples for exportation. Our inland orchards will soon find an outlet, both to the Ohio river by rail-road, and the Lakes by canal. The effects of such a deluge of fruit is worthy of some speculation. It will diminish the price but increase the *profit* of fruit. An analogous case is seen in the penny-postage system of England. Fruit will become more generally and largely an article, not of luxury, but of daily and ordinary diet. It will find its way down to the poorest table—and the *quantity* consumed will make up in profit to the dealer, what is lost in lessening its price. A few years and the apple crop will be a matter of reckoning by farmers and speculators, just as is now, the potatoe crop—the wheat crop—the pork, &c. Nor will it create a home market alone. By care it may be exported with such facility, that the world will receive it as a part of its diet. It will, in this respect, follow the history of grains and edible roots, and from a local and limited use, the apple and the pear will become articles of universal demand. The reasons of such an opinion are few and simple. It is a fruit always palatable—and as such, will be welcome to mankind whatever their tastes, if it can be brought within their reach. The Western States will, before many years, be *forested* with orchards. The fruit bears exportation kindly. Thus there will be a *supply*; a possibility of distributing it by commerce,—to meet a taste already existing. These views may seem fanciful—may prove so; but they are analogical. Nor, if I inherit my three-score years and ten, do I expect to die until the apple crop of the United States shall surpass the potatoe crop in value, both for man and beast. It has the double quality of palatableness, raw or cooked,—it is a *permanent* crop, not requiring annual planting,—and it produces more bushels to the acre than corn, wheat, or, on an average, than potatoes. The calculations may be made, allowing an average of fifteen bushels to a tree. The same reasoning is true of the pear;—it and the apple, are to hold a place yet, as universal eatables—a *fruit-grain*, not known in their past history. If not another tree should be set in this county, (Marion co.) in ten years the annual crop of apples will be 200,000 bushels. But Wayne county has double our number of trees,—suppose, however, the 90 counties of Indiana to have only 25 trees to a quarter section of land, i. e., to each 160 acres, the

crop, of 15 bushels to a tree, would be nearly *two millions*.

The past year has greatly increased the cultivation of small fruits in the State. Strawberries are found in almost every garden, and of select sorts. None among them all is more popular—or more deservedly so—than Hovey's Seedling. We have a native white strawberry, removed from our meadows to our gardens, which produces fruit of superior fragrance and flavor. The crop is not large—but continues gradually ripening for many weeks. The blackberry is introduced to the garden among us. The fruit sells at our market for three to five cents,—profit is not therefore the motive for cultivating it, but improvement. I have a *white* variety. Assorted gooseberries and the new raspberries, Franconia and Pastloff, are finding their way into our gardens. The Antwerps we have long had in abundance. If next spring I can produce rhubarb weighing two pounds to the stalk, shall I have surpassed you? I have a *seedling* which last year without good cultivation, produced petioles weighing from eighteen to twenty ounces. My wrist is not very delicate, and yet it is much smaller in girth than they were.

In no department is there more decided advance among our citizens than in floriculture. In all our rising towns, yards and gardens are to be found choicely stocked. All hardy bulbs are now sought after. Ornamental shrubs are taken from our forests, or imported from abroad, in great variety. Altheas, rose acacia, jessamine, calycanthus, snowberry, snowball, sumach, syringas, spicewood, shepherdia, dogwood, redwood, and other hardy shrubs abound. The rose is an especial favourite. The Bengal, Tea and Noisettes, bear our winters in the open garden with but slight protection. The Bourbon and Remontantes will, however, drive out all old and ordinary varieties. The gardens of this town would afford about *sixty* varieties of roses, which would be reckoned first-rate in Boston or Philadelphia.

While New England suffered under a season of drought, on this side of the mountains the season was uncommonly fine,—scarcely a week elapsed without copious showers, and gardens remained moist the whole season. Fruits ripened from two to three weeks earlier than usual. In consequence of this, winter fruits are rapidly decaying. To-day is Christmas—the weather is spring-like,—no snow,—the thermometer this morning 40°. My Noisettes retain their terminal leaves green; and in the southward-

looking dells of the woods, grasses and herbs are yet of a vivid green. Birds are still here,—three this morning were singing on the trees in my yard. There are some curious facts in the early history of horticulture in this region, which I meant to have included in this communication; but insensibly I have, I fear, already prolonged it beyond your convenience.

Indianapolis, Dec. 25th, 1844.

How to Raise Turkeys.

The attention of our readers has been repeatedly called to the subject of raising poultry—in the vicinity of our large cities, perhaps no stock is so profitable. Some good practical hints may be taken from the following, which the editor of the New Jersey Journal gives as the result of considerable experience of his own. The young turkey is proverbially a tender chick, and it is a nice matter to know how to manage him properly.—Ed.

WE believe it is common among farmers to say that a turkey's head costs twice as much as its body is worth when fattened. This we do not believe to be true, if he is properly managed; but on the contrary, we believe that nothing can be raised and turned to so great a profit. But turkeys must have care, especially when young; but this care will not trench on the business of the farmer, as it may be done by females or the younger branches of the family,—and beside, the little damage they may do to grass, or other things, must not be magnified tenfold, as is usually the case. But by proper attention they will do no damage at all.

Before giving our rules to be observed in raising turkeys, let us draw a comparison. There are but few farmers but can raise 100 turkeys,—these 100 turkeys will weigh, when fattened, in December, upon an average, seven and a half pounds each, full dressed. We say *full dressed*, for it is the practice in some places to divest the turkey of nothing but its head and feathers, and then take it to market. A practice as uncivilized as it is disgusting. These hundred turkeys then will weigh 750 lbs., which in market are equal to 1,500 lbs. of pork. But if the male turkeys are kept until February or March, they will not only increase in weight, twice the amount of their feed, but the price in market will be much higher.

We will now give the rules to be observed in raising and fattening them founded wholly on our experience. Turkeys intended for breeders, must be kept well during the winter. If put in good condition, however, in December, it takes but little feed to keep

them so. Their nests for laying must be made with hay or oat straw under cover, and be well protected from the weather, and from vermin. When incubation commences, the turkey must not be disturbed, and if she does not come from her nest for food and water, she must have both placed by her on her nest. When the young turkeys are hatched, they may be allowed to remain one day on the nest, or if removed let them be sheltered in a warm place, and plenty of straw for them to set upon, for they are now extremely liable to take cold. The second day feed them with curds, or warm clabbered milk mixed with a little Indian or barley meal. They must be kept up and fed in this way for two or three days, and longer if the weather should be cold or rainy, but as soon as a warm and pleasant day comes, let them out at nine or ten o'clock, and shut them up at four—and this practice of letting them out and shutting up *must* be followed for five or six weeks, and on no account let them get wet. When a young turkey begins to droop there is but little hope for it. There is no danger of keeping them too warm. When they are five or six weeks old put a little grease on their heads to preserve them from lice.

At the age of six or eight weeks the turkey is more hardy, but still should not be exposed to rains or the damp nights, for a few weeks longer. If the farmer has a plot of grass let him enclose a yard with a high fence, and crop the wings of the old turkeys, and continue to feed them with clabbered milk, and whatever else he pleases that comes from the kitchen, such as broken bread, potatoes, and the like. If he has a clover field, as soon as it is mown, let them run on it, and they will live on young clover. And as soon as the crops are off the ground, say in August or September, let them range on the farm; but see to it, that they come to their roosting place at night, and have water.

In December the turkeys will be large enough to fatten, and for this purpose select as many as you please, and shut them up,—next take to the mill a few bushels of *ears* of Indian corn and have it ground—then boil potatoes, and mix the meal with the scalding water and potatoes in a tub, say in the proportion of one bushel potatoes to one peck or more of meal, and stir them well together, then let it cool, but give it to the turkeys as warm as they will bear it, and as much as they will eat, and in two weeks and a half, they will be fat enough for market, and for an alderman's dinner.

We do not take this from books, but from several years experience. We kept an ex-

act account of the expense of raising and fattening a flock, and at the rate of ten cents a pound full dressed—we received \$72, while our cost exclusive of sour milk, was less than \$10. If any farmer does not wish to be at the *special* trouble of raising them, but should have a small flock to fatten, that have lived “in spite of wind and weather,” let him adopt our rules of fattening, and he will “save much corn.” On a large farm, and with a large yard and a butter dairy, with proper attention we believe it may be made a leading business to great profit.

For the Farmers' Cabinet.

Experiments with Gas Liquor on Grass Lands.

THE practice of publishing the results of experiments only when they are successful, is but too common both with agriculturists and those engaged in more abstruse researches. Now we regard an experiment as designed for instruction—and for that purpose, failure is sometimes as valuable as success—not only to ourselves but to others, in guarding against similar courses, and leading by the investigation of the causes of failure to the discovery of unexpected truths. We shall therefore submit the following remarks and details, leaving the results of further researches for a subsequent memoir.

The true economy of waste manures, by which is meant the application of the waste products of factories, to the amelioration of the soil, is confessedly one of the most important objects of modern agricultural science. Not that the idea is novel, but the extension of the practice to the including of many substances hitherto thought useless, is one of the immediate consequences of the application of chemistry to the farm. Indeed it is thought that but few of those discarded and frequently nauseous matters may not be employed with marked success, and accordingly the journals of Europe afford us long series of experiments, in which the waste of the dyer, leather-dresser, button-maker, sugar-refiner, and glue and gas manufacturer have been tried with known manures, and their relative value thus tested. Especially has this been the case with ammoniacal refuse. Among these the liquor which results from the distillation of coal, and which flows above the gas tar in the tank, would seem to merit attention, since its richness has caused it to be employed in the manufacture of ammoniacal salts, both in Europe and this country; and Scottish farmers have applied it to grass lands with extraordinary results. We endeavoured to

obtain the same wished for consummation in the following manner:—On the farm of Mary Lake, in Delaware county, between Cobbs and Darby creeks, a portion of a field of clover and timothy was selected—from this about one-sixth of an acre, 26.16 rods were carefully measured, and on the 6th of April last, *one half* of the grass was evenly sprinkled by hand, with ten gallons ammoniacal liquor from the Philadelphia gas works, diluted with four times the quantity of water, being about the rate of, one hundred and twenty-four gallons of gas liquor, or six hundred and twenty gallons of the diluted liquid to the acre. The season was propitious, and the ground favourable to the action of ammoniacal manures, being sufficiently light, with a fine natural drainage, and having grown Indian corn and wheat since manuring. During the season there was no perceptible difference between the two portions. In the latter part of June they were cut, dried, and weighed separately, though at the same time; that which was unliquored, gave 450 lbs.; liquored, 448 lbs. The difference, two pounds, may be safely set down to errors in collecting and weighing, when we have the result of neither benefit nor injury from the liquor.

On the 18th of April a similar experiment was performed on the farm of Mr. John Palmer, adjoining the above, except that the liquor was permitted to flow from a hogs-head set on a cart, over a board placed for the purpose somewhat in the manner of the Flemings. Twelve and a half gallons were diluted as before, and distributed over nineteen and nine-twenty-fifths rods—not quite one-eighth of an acre. No difference was perceived between the sprinkled and unsprinkled grass, either during the season, or while mowing or cocking; the workmen therefore thought themselves justified during the absence of the writer, in saving the trouble of weighing, by carting it into the barn. The opinion that the efficacy of dung depends mainly on the phosphates it contains, derives support from the above facts.

ALFRED L. KENNEDY.

Philadelphia, Feb., 1845.

Cultivation of Fruit.

Soil.—The hard gravelly soil of the eastern States, the sandy soil of New Jersey, the clay soil of Pennsylvania, and the rich alluvial bottoms of the west, all produce an abundance of the different varieties of fruit when proper attention is given to the trees. Mr. Phinney, of Lexington, Massachusetts, has ditched and drained one of his swamps, and has now on it a luxuriant orchard of

apple-trees. *The great point is to have a dry soil.* If it is not sufficiently rich, make it so; no man should expect to have fine crops of anything unless his soil is rich.

Setting out trees.—If by exposure the roots have become dry, immerse them in water for twenty or thirty hours previously to setting them out. Prepare a compost as follows: take three bushels of rich soil, or three bushels of swamp muck would be better, one bushel night soil, one bushel fine charcoal—if charcoal is plenty three to four bushels is to be preferred—one bushel slaked lime, one bushel of unleached, or two bushels of leached wood ashes, and one peck of salt. Mix the above well together.

Dig the holes three feet across and two feet deep, keeping the top soil by itself, fill in a portion of the bottom soil until nearly ready for the tree, then fill in half a bushel of the compost and set in the tree, spreading out the roots to their natural position, and fill in the top soil, gently shaking the tree two or three times to settle the soil around the roots. The tree should be set the same depth in the orchard, that it stood in the nursery. Leave the soil a little hollowing about the tree to catch and retain the rain-water. Put around each tree half a peck of fine charcoal, and half a peck of slaked lime. With these precautions, neither peach nor any other fruit-trees will be infested with worms at the roots, provided they have suitable after-culture. For many of the above suggestions the writer is indebted to R. L. Pell, Esq., of Pelham, Ulster county, New York.

Culture of Orchards.—The soil around the trees should be kept loose, either by spading, digging with a mattock, or by ploughing. If a crop is put in the orchard, nothing should be planted or sowed within five feet of the trees, as the nourishment taken up by the crop is so much taken from the growth of the trees. After the lime and charcoal have laid around the trees one year, spread them around the trees in a circle of ten feet in diameter. This should be done in the spring, when the soil is cultivated, and a fresh supply of lime and charcoal applied.

When the trees have been set out three or four years, the soil should be enriched with a compost of manure, swamp-muck and ashes. Early every spring the trunks of the trees should be washed with strong ley, strong soap-suds, or thin soft-soap. Apply either of these with a whitewash brush as high as a man can reach. When the trees grow rapidly, their growth will be increased by slitting the outer bark the whole length from the ground up to the limbs. This

gives the trees room to expand. As soon as the trees blossom, throw over them lime perfectly slaked—this should be done while the dew is on.

To render old and barren orchards thrifty and productive.—Early in the spring plough the entire orchard and enrich with a compost of manure, swamp-muck, lime, and chip manure. Scrape off all the old bark with a deck scraper, or a hoe, ground sharp. Apply half a bushel slaked lime, and the same of fine charcoal, around each tree. Apply then soft soap or strong soap-suds on the trunks and limbs as high as a man can reach. While the trees are in full bloom, throw over them a good supply of fine slaked lime.

B. G. BOSWELL.

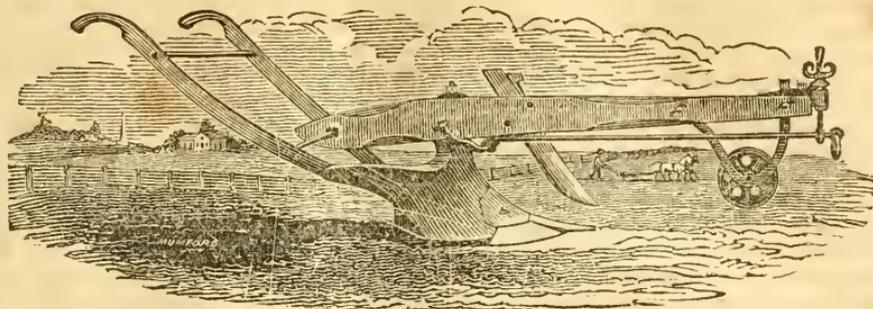
Philadelphia.

Seed Wheat.

WE are told, that, in the island of Jersey, England, where the farmers sell their produce and live upon the refuse, it is customary for them to tie their wheat in small sheaves, and by striking each twice or thrice across a barrel while lying on its side on the floor, a superfine sample of wheat is obtained for market, after which the sheaves are thrown by, to be clean threshed in the evening of winter by lamp light.

I have just met with the account of a farmer in Vermont, to whom his neighbours resorted for the purpose of securing seed wheat of superior quality; very fine in appearance, remarkably productive, and of early maturity; he readily commanded three dollars per bushel, when the price of wheat was a dollar and a quarter, calling it the red and genuine *Barrel wheat*. But the secret was at last discovered; he used, before threshing his wheat, to select the best sheaves, and striking them over the side of the empty barrel as it lay on the floor, three or four times, before laying them down to be clean threshed, he obtained in this very simple way a very superior seed wheat, which the whole county coveted at a double price. Thus the largest and ripest kernels were separated and collected without labour or difficulty, and a profitable business was carried on, until his neighbours discovered how to make "Barrel wheat" for themselves.—*Boston Cultivator*.

"On the banks of the Elbe, in Holland, in the neighbourhood of Arnheim, the meadows are depastured during one year, and cut, and their produce made into hay the following year, and so on alternately. The cattle are fed in the house with the hay during the winter."



Communicated for the Farmers' Cabinet.

The Prouty & Mears' Boston Centre-draught Plough, in Ohio.

MESSRS. PROUTY & Co.,—I did not receive the plough you sent me until the last week in November. Happening then to go to town with my wagon on a market day, I found it at the warehouse of Mr. Kirk, to whose care it had been forwarded by Mr. Smith, of Cincinnati, where it had arrived a day or two before, attracting very great attention from numerous farmers who had examined it, and by whom it had been much admired. When I had got it in my wagon and into the street, I soon had a crowd around it from three to four deep, and as many as could stand upon it, being literally blocked up for a considerable time, by farmers who were desirous of seeing "The Boston Centre-draught Prouty & Mears' Plough," two seeming to come for one that left; but night coming on, I was obliged to leave.

The land being in tolerable order, on the Monday following many of the neighbours collected to see the plough tried. We took it into the field together with one that drew a premium at our Fair, made by Mr. Peacock, of Cincinnati, who had left it with me for the purpose, and which, when tried by the Dynamometer, was the lightest running plough at the Fair, turning as neat a furrow as any, but not so wide, on which account it took the second premium only, although many considered it entitled to the first. The trial commenced, by backing up three rounds, about 50 rods in length, with the Peacock plough; land, a stiff clover sod three years old, interspersed with patches of very tough blue grass; the soil varying from very stiff clay to black loam; the surface rolling, and often very sideling. The rounds being long and soil stiff, we were not surprised to find the horses sweat considerably. We then hitched to the Prouty Centre-draught, and backed five rounds to these three, when it was observed by all present,

that by the time the team had gone a single round they began to cool, and before the five rounds were finished they had become perfectly cool, evidently walking off with great ease to themselves, although carrying a furrow an inch deeper and two inches wider than that taken by the Peacock plough.

We next backed up three rounds in another place with the Centre-draught, and then turned four rounds with the Peacock plough, when, as soon as we started, the horses began to labour, and by the time the rounds were finished, they were in a sweat again. And although we had no Dynamometer to ascertain the precise difference between the draught of the two ploughs, it was very evident to all that it was greatly in favour of the Boston Centre-draught. Mr. Peacock has the reputation of being one of the best plough makers in the State, and this plough was considered a first-rate article, yet when we came to compare the work performed, the difference between them was greater than in their draught, the Peacock plough edging the furrows, laying them uneven and considerably broken, leaving the clover tops visible through nearly all the work, while the Prouty plough inverted the sod so completely, that you could not have told, and would have had to guess what crop had grown there, unless the clover roots had led you into the secret; the soil at the same time being left quite mellow, and in fine order for harrowing.

I have ploughed five acres of similar land since, and like my plough better and better. The work, examined by many first-rate farmers, has been pronounced by all, superior to every thing they had before seen. I have also tried it in stubble land, and find it to work admirably. I measured thirty-one furrows in the sod ground, and found them to average thirteen inches wide, with an uniform depth of seven inches. The wheel works to perfection, and is convenient on many more accounts, than regulating the depth of the furrows. I forgot to say,

on the day of trial and after following a couple of furrows with the Centre-draught, it was proposed to let the plough go alone—no sooner said than done, and to our amazement it ran a round of one hundred rods without putting a hand to it, farther than steadying it on land that was a good deal sideling; turning a much neater furrow by itself than with an indifferent ploughman. Indeed, it was agreed by all, that upon level land without obstruction, it would run all day, by only just turning it in and out at the ends.

I have seen many encomiums on the ploughs of Barnaby & Moer, Ruggles & Mason, &c., but if they can go ahead of the Boston Prouty & Mears' Centre-draught, they deserve the thanks of every farmer and every farmer's horse in the community. An iron merchant of this town has engaged to bring on a number of ploughs from your establishment in Philadelphia, in the spring, as a great many farmers are anxious to obtain them; I hope we shall be furnished in time for spring cultivation. The blacksmiths do not encourage them, as they will lose their work of sharpening and new laying the shares, as in other ploughs, but when they become known, farmers will, I am confident, send one hundred miles to obtain them, rather than purchase those now in use about us. The entire satisfaction which my plough has given me, and the universal admiration that she has excited, have induced me, as in duty bound, to give you the above information; and in conclusion, I wish you to consider me, your much obliged friend,

STEPHEN WIDNEY.

Piqua, O., Jan. 28th, 1845.

Report on Crops.

At a meeting of the Philadelphia Society for promoting Agriculture, held at their rooms, March 5th, 1845: The Committee on Crops beg leave to report, that they have carefully examined all crops submitted to them, and award the premiums as follows:

To Mr. James Gowen they award the premium of \$8, for the best three acres of Rye.

To Samuel S. Richie, second premium of Coleman's Agricultural Tour.

To Henry Chorley they award the premium of \$8, for the best three acres of Oats.

To John Hunter, second premium of Coleman's Tour.

To James Gowen they award the premium of \$8, for the best acre of Sugar Beets—972 bushels.

To H. Williams they award the premium of \$8, for the best acre of Ruta Baga—790 bushels.

To Caleb Cresson, second premium, Coleman's Tour.

To James Gowen, they award the premium of \$8, for the best half acre of Carrots—495 bushels.

To S. S. Richie, second premium, Coleman's Tour.

To James Gowen, they award the premium of \$8, for the best half acre of Sugar Parsneps, at the rate of 700 bushels per acre.

GEORGE BLIGHT,
HENRY CHORLEY,
SAMUEL S. RICHIE,
CORNELIUS S. SMITH.

Philadelphia, March 4th, 1845.

It may be allowed us to remark, that in the foregoing Report, there is a manifest deficiency, which cannot fail to strike every one. Premiums are in several cases rendered for the *best crops*, without designating the amount of those crops. This cannot be satisfactory: where premiums are awarded, it is desirable to know, that they are for really heavy crops, and not merely for the *best* of a set of wretched ones. The extra trouble should not deter farmers from the free use of the half bushel.—Ed.

Philadelphia Agricultural Society.

To the Committee on Crops:—

GENTLEMEN,—As the year is drawing to a close, I take leave to pay my usual respects on the occasion, by way of showing what I have been doing in the department under your supervision since you last heard from me, and of claiming your attention to some of the following crops, in hopes they may be found worthy of distinction.

You are all aware, that in consequence of keeping so large a stock of cattle, my farm is principally under grass, and that I raise but little grain. If premiums had been offered for the best fields of grass, I should have competed successfully, I think, with thirty acres of Timothy. The early grasses, clover, and orchard, were not so good, I housed however, some one hundred and twenty to thirty tons, first crop hay.

Of Corn, I had but seven acres, the yield very good in view of the impoverished state of the land, it being two small lots adjoining some land of mine which from its condition for years, was a standing reproach to the neighbourhood. It came into my possession last spring, and I had barely time to plough and seed it.

I had no wheat, except two acres of spring wheat, the seed of which was presented to me by Mr. Butman, of Dixmont, Maine. It ripened well—is not yet threshed; I cannot therefore report the precise yield, nor its quality as to flour.

Of Rye, I had eight acres, in with orchard

grass and clover. The field had been under grass the three previous years. Your Committee saw the crop while growing, and in sheaf. It was a beautiful field of Rye, the style of culture was such as gratified every practised eye. Nothing I think, in stubble, can exceed the setting of the young grass and clover, which I think will prove an object of attraction to the farmer, next summer.

Of roots, I had four acres of Mercer Potatoes, planted between the 18th and 26th of April, in drills. Manure, barn yard: yield over two hundred bushels to the acre. Quality, very good.

Carrots, over half an acre in drills, twenty inches apart, sowed last week in April. Manure, a dressing of well rotted barnyard, with one application of liquid manure. The patch was 260 feet long, 100 feet wide, equal to two roods and 15 perches. The yield 588 bushels, averaging 990 bushels to the acre.

Sugar Parsneps about half an acre, in drills, sowed first week in May. Manured and treated the same as the carrots: crop still in the ground: I compute the yield at seven hundred bushels to the acre.

Sugar Beets, over one acre, in drills, sowed from 15th to 18th May. Drills two feet six inches apart; manured same as the carrots and parsneps; yield nine hundred and seventy-two bushels of sixty lbs. each, to the acre.

Turnips, three acres and a half, sowed on the 8th August, broad cast, with timothy seed, yield computed at 2500 bushels. The turnips were uniformly large, and the grass is well set,

For years I have urged upon our farmers in this neighbourhood, the necessity of turning their attention to root crops, and have for the same period demonstrated their utility by practical results. The present is but another proof, with the many I have heretofore furnished, of the utility of this culture, especially, in view of the high and increasing value of land in the vicinity of the city, and where the keeping of large stocks of dairy cattle is so indispensable. It is a reproach, indeed a serious affliction, that so much of the milk served to the city is produced from such feed as is procured at the distilleries and breweries; such trash is unnatural to the habits and functions of cattle. Cattle thus fed, become diseased, their secretions are impure, of which the citizens are not aware, and seldom inspect, or inquire into the state of the dairy, whence they obtain their supplies—they but too generally think of the *price* of the milk, without reference to quality. Milk with them is milk, if it be not a shade darker than blue, and

thus through carelessness or ill-directed economy, they may be found administering to their children daily, a vitiated fluid, strongly impregnated with deleterious matters, that cannot fail to exert a pernicious influence on the health and dispositions of their offspring. This subject is worthy the special attention of our Society. I shall however revert to it again on some more fitting occasion, the subject being important to the interests of the farmer as well as to the health of our fellow citizens, who depend upon us for so large a portion of the necessaries of life. It is true, we have accomplished much, as our crops, our cattle, and our markets abundantly prove. But the inhumanity in the treatment of cattle, and the quality of some of the milk, served to the cities, present strong claims to the justice and intelligence of our Society. Let any one compare a cup of milk taken from a cow fed in the winter on her natural food—well cured grass, and well matured roots, such as sugar beets, turnips, sugar parsneps, &c., and compare it with that taken from an animal, whose secretions are excited by the fermented and filthy slops of a distillery or brew house, and he will find as much difference as there is between a bad cider, and a pure and generous wine.

In the spirit of improvement, and kindness, I would invite those who feed from the distilleries and breweries to look at this statement, and calculate, whether it would not be even cheaper to cultivate two or three acres of roots for winter feed, than to waste time and money upon that, which inevitably must impair the constitution and health of their cattle.

From 1	acre of Sugar Beets,	I have 972 bus.
“	$\frac{1}{2}$ “ Sugar Parsneps,	350 “
“	$\frac{1}{2}$ “ Carrots,	495 “
“	$3\frac{1}{2}$ “ Turnips,	2500 “

Making 4317 bushels, allowing 60 lbs. to the bushel. In round numbers, one hundred and fifteen tons of wholesome juicy food, from five and a half acres of land.

Respectfully,

JAMES GOWEN.

Mount Airy, 20th Dec., 1844.

Letter from T. le Couteur.

There is so beautiful and philanthropic a spirit, running through the following letter from a well known wheat grower in the Island of Jersey, that we solicited the privilege from Dr. Elwyn of making copious extracts from it; believing that the readers of the Cabinet, will be no less pleased with them than was the Editor.—Ed.

Belle Vue, Jersey, 30th October, 1844.

SIR,—

I have the honour to acknowledge the receipt of your letter of the 19th July last, to—

gether with a certificate of my election as an honorary member of the Philadelphia Agricultural Society.

I beg that you will do me the honour to express to the President and members of your Society, at its next meeting, that I greatly appreciate this mark of distinction.

I have now laboured a quarter of a century, in the constant view, to benefit mankind generally—thus, any mark of approbation coming from a point so distant, is doubly gratifying, and marks that humble, though persevering labours, are not always unnoticed.

As you state that packets of any size can reach you duty free, I enclose a few grains of new, or excellent varieties of Wheat, which, if entrusted to some careful farmer, may prove useful.*

You will pardon me for adding that, my early career in life was in the war with the United States, on the Niagara frontier. It always distressed me to hear, my own language was that of my opponents, for I felt it to be a sort of civil war! How unhappy is it, that nations springing from a common source, should not rather seek to benefit each other by the friendly relations of commerce, than by seeking to injure each other by war.

It affords me infinitely more pleasure to fancy that any grain I may send you, may become the source of wide spreading fields of golden produce, harvested by hardy husbandmen, than to contemplate any victory, with its train of devastation and rapine.

I am convinced that the dissemination of those admirable bodies, Agricultural Societies throughout your noble country, will tend there, as in Europe, to this happy result—the husbandman is averse to war, he loves industry and peace. In England and France, the whole body of husbandmen dread war, they are the last to desire it; unquiet spirits with hazardous professions, alone seek it. May it never be again waged by nations springing from one root! I shall be happy at any time, to send you seeds of any new grain, if you will let me know the proper period.

I have the honour to be Sir, your very faithful and obliged,

T. LE COUTEUR, F. R. S.,

A Governor of the Royal Agricultural Society of England.

Alfred Langdon Elwyn, Esq. }
Cor. Sec. Philad'a Ag. Soc. }

* It may be stated, that these splendid samples of Wheat, were placed by the Society in the hands of James Gowen, of Mount Airy, who will, doubtless, take all proper care of them.—Ed.

GUANO.—The Guano trade still forms a prominent branch of commerce. It employs a large amount of shipping; and, as the article is getting scarce, the price has risen considerably. A great deal of business has been recently done on speculation; and the rage for investment for this new description of manure is increasing daily.

The consumption last season of Peruvian and African guano was 60,000 tons. The stock on hand at the beginning of the present year was 39,000 tons. The demand, it is expected, will this year exceed 160,000 or 200,000 tons.—*English paper.*

BEES.—Dr. Waterman gives in the *Cleveland Herald*, his mode of catching the bee-miller or moth. He says, "I took two white dishes, (I think white attracts their attention in the night,) or deep plates, and placed them on the top of the hives, and filled them about full of sweetened vinegar. The next morning I had about fifty millers caught; the second night I caught fifty more; the third night being cold, I did not get any; the fourth night being very warm, I caught about four hundred.

HOGS AT CINCINNATI.—The *Cincinnati Gazette* says:—"We are indebted to Mr. Clearwater, for the following statement of the number of hogs slaughtered in Cincinnati and Covington the past season. Instead of giving the names of the several slaughtering houses, we number them as we did last season.

No. 1,	36,715 head.
" 2,	29,456 "
" 3,	28,223 "
" 4,	23,612 "
" 5,	16,089 "
" 6,	12,838 "
" 7,	11,906 "
" 8, (at Covington,)	12,384 "

171,228 head.

We shall know in a few days the number of slaughtered hogs received this season by wagon and river. We suppose it to be only about 15,000—which would make the entire number packed here this season, 186,228 head. Last season, the entire number packed here was 240,000 head."

RATS.—Last week, as Mr. Arnold, farmer, of this place, was taking in a small Wheat rick, he found about the middle of it a nest of young rats, containing twenty-nine, all about the size of mice. The old one was seen, but made her escape, unluckily for the owner, she being so good a breeder.—*English paper.*

For the Farmers' Cabinet.

Lightning Rods,—No. 1.

My attention was recently turned to the subject announced in the caption to this article, by reading two papers in the current volume of the Cabinet, one signed J. M. P.,* the other from the pen of Professor Olmsted.†

If I am not mistaken in the person of our old friend *Observer*, deep family affliction and more engrossing cares have for a long time withdrawn him from the pages of his favourite Cabinet. Perhaps *I* may therefore be excused for offering a few remarks on the subject of Lightning Rods, which might more appropriately come—and in a more instructive form too—from *his* pen. I acknowledge myself much indebted to his valuable papers, and as the suggestion of a correspondent (vol. 5, page 228,) in favour of republishing those papers, did not meet with a favourable response from the then editor, I shall make free use of the materials which are there to be found.

J. M. P. says,—and perhaps truly—"it must be manifest that there exists a culpable ignorance on the part of the community in relation to this whole subject." To me this ignorance is more lamentable than culpable—more a cause of regret than of surprise. How shall the *people* be otherwise than ignorant, when it is "manifest" that the *priests*—those who undertake to teach knowledge—too often themselves, betray something a *little* worse than ignorance—error—and error is always worse than ignorance. For *ignorance* merely implies a want of the knowledge of the *true*, and *may* lead to the *omission* of what is *right*—but *error* is the adoption of the *false*, and *must* lead to the *commission* of what is *wrong*. Indeed such are the discrepancies between writers on lightning rods, as frequently to suggest the sarcastic query—*who* shall decide when doctors disagree?

I can hardly hope to be more fortunate than those who have preceded me—or to be able wholly to extricate my readers from the bewildering labyrinth of error and uncertainty into which they have been unfortunately led. Indeed I know that some of my views are opposed by high authorities; but I do not hold my opinions subject to their *dictum*.

The object of these papers is:—

First, To lay down a few relevant principles of electrical science, and to illustrate them as fully as my means will admit.

Second, To draw from these principles cer-

tain inferential rules for the construction of lightning rods, which will be intelligible to common readers. It is too much to ask the implicit confidence of any one, in facts which he cannot comprehend—and the *whys* and *wherefores* of which he does not understand.

1. Electricity is a universally diffused principle—a variable quantity of it pervades all material bodies. This is called their *natural quantity of electricity*.

2. Some bodies—as the metals, water, and moist substances generally—possess the property of allowing electricity to pass freely through them, and are thence called *conductors of electricity*.

3. Another class of bodies—as glass, wax, resin, silk, atmospheric air, earth, and wood when perfectly dry—do not allow electricity to pass through them, and are therefore called *non-conductors of electricity*.

4. The particles of the electric fluid have a strong mutual repulsion for each other, which causes them to disperse with a force which decreases as the squares of their distances increase. This is called *electrical repulsion*.

5. The same particles strongly attract, and are attracted by other bodies, and thus attach themselves to them. This is called *electrical attraction*.

6. When the repelling and attracting forces are unequal, the fluid will be put in motion in the direction of the stronger force. This is called the *electrical current*.

7. When the two forces are equal, the fluid will remain at rest. This is called *electrical equilibrium*.

8. Electrical phenomena can only be produced by interposing some *nonconductor*, so as to intercept the *electrical current*, and cause the fluid to collect in more than its *natural quantity*. If all bodies were good *conductors* of electricity, it would soon find an equilibrium, and forever remain in a quiescent state without being in any way cognizable to our senses. It is only when this equilibrium is disturbed by means of *non-conductors*, that we can recognize its existence. This is called the *accumulation of electricity*.

9. When two substances are rubbed together—one or both of which are *nonconductors*—as the glass and cushion of an electrical machine, the *natural electricity* of both will be disturbed, and they will exhibit electrical phenomena. This is called *electrical excitement*.

10. When by means of the electrical machine we give to a body more than its *natural quantity* of electricity, it is called the *electrical charge*, and the body is said to be *electrified, or charged*.

* Number 2, page 61. † Number 3, page 97.

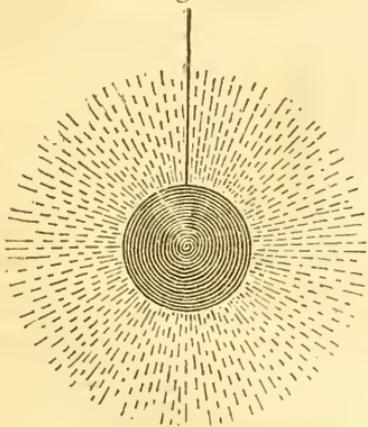
11. In order to *charge* a body with the electric fluid, it must first be suspended or supported by some *nonconducting* material to prevent it from escaping. The body is then said to be *insulated*.

12. Though both the glass and cushion (9) show electrical phenomena, yet there is a striking difference in their character. Some believe that the electricity of the cushion is transferred to and *accumulated* on the glass; the latter having *more* and the former *less* than its natural quantity; hence that of the glass has been called *plus*, or *positive*, and that of the cushion *minus*, or *negative electricity*.

13. Others suppose that there are *two* electric fluids which are ordinarily combined, but that they are separated by the friction—one accumulating on the cushion and the other on the glass. Having observed that glass affords one and resin the other, when friction is employed, they have called the one *vitreous*, and the other *resinous electricity*.

14. If we *insulate* the brass ball, fig. 1,

Fig. 1.



by means of a *nonconducting* silk thread, and then *charge* it with electricity—the particles of the fluid will be dispersed by their own repulsive power, while the attraction of the ball will solicit them towards its surface, until an *equilibrium* is obtained between the two forces. The electricity will then have arranged itself around the ball as seen in the figure. This is called an *electrical atmosphere*.

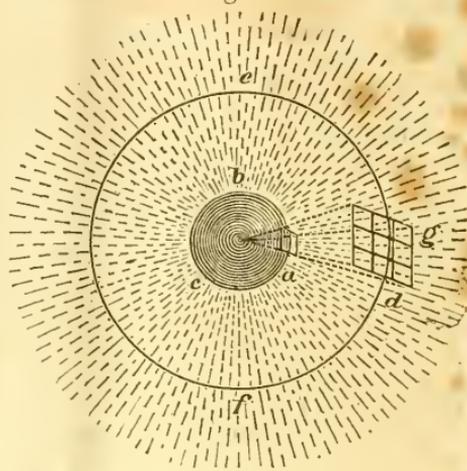
15. The attraction of the ball decreases as the squares of the distances from its centre increase—consequently the condensation of the fluid will be greatest at the surface, and will decrease in the same ratio with the attracting force. This is called the *intensity of the charge*.

16. The attracting force, and consequent-

ly the *intensity* of the *charge* which a ball is capable of receiving, is in proportion to its *density* or the quantity of matter contained in a given space. A ball of lead will hold a more intense charge than a ball of cork.

17. Let *a, b, c*, and *d, e, f*, fig. 2, repre-

Fig. 2.



sent two balls, the half diameters of which are as the numbers 1 and 3, but composed of different materials, so that they shall contain like quantities of matter—then from the known laws of attraction, the attracting force on the surface of *a, b, c*, will be nine times greater than on the surface of *d, e, f*; or in other words, the same force will be diffused over nine times the space on the latter, that it was on the former as is seen at *g*. Hence if we form an *electrical atmosphere* around the lesser body, *a, b, c*, and then describe the circle *d, e, f*, to represent the larger body, the circle so drawn will cut off just so much of the electricity as the larger ball would be capable of holding.

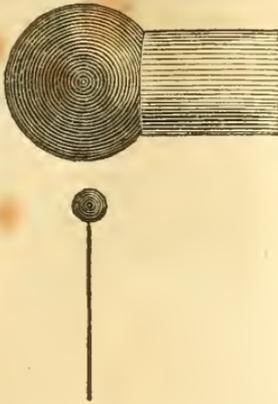
18. If we increase the intensity of the *charge* until the repelling, becomes greater than the attracting force, the fluid will diffuse itself through the surrounding air, or will fly off to some contiguous body with an explosion and luminous spark. The former is called *electrical dispersion*—the latter, the *electrical stroke*.

19. The facility with which the *dispersion* or *stroke* takes place, depends, in a great degree, upon the state of the atmosphere and the form of the electrified body; and the *intensity* of the *charge* will be influenced by the same circumstances to the same extent. The space through which the discharge passes, is called the *striking distance*.

20. If a metallic ball be presented to an

electrified body, as seen in fig. 3, it will re-

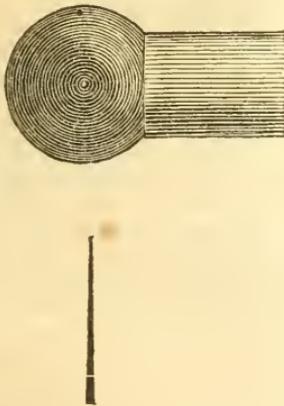
Fig. 3.



ceive a spark when brought within striking distance, accompanied by an explosion; and the body so approached, will be found to have parted with its electricity. This is called the *explosive discharge*.

21. But if a pointed wire be presented in like manner as shown in fig. 4, no spark

Fig. 4.



or explosion will ensue, but the *charge* will be removed even more completely than in the former case, before it has been brought within several times the *striking distance* of the body. This is called the *silent discharge*.

22. Again, if both the ball and point be presented at once, as seen in fig. 5, only with the latter at three or four times the distance of the former—still the *discharge* will take place *silently*, and the ball will not receive a spark.

23. If, however, the point be presented along side of, and close to a larger obtuse body, without actual contact, as seen in

Fig. 5.

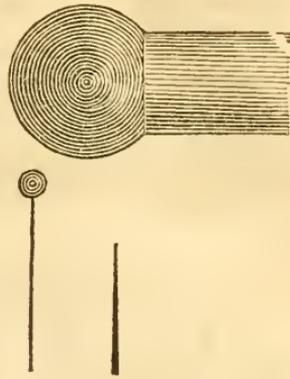
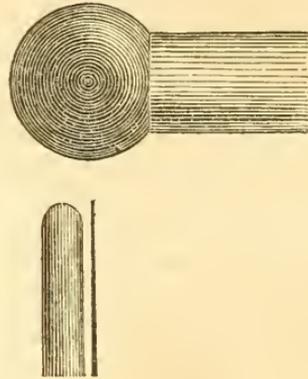


fig. 6, it will be found that the discharging

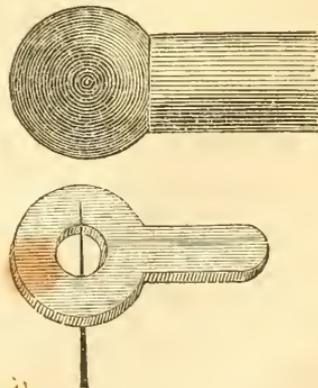
Fig. 6.



power of the point is greatly diminished, if not entirely destroyed.

24. The same effect will be still better observed, if the point be passed through a broad moveable ring, as seen in fig. 7. The

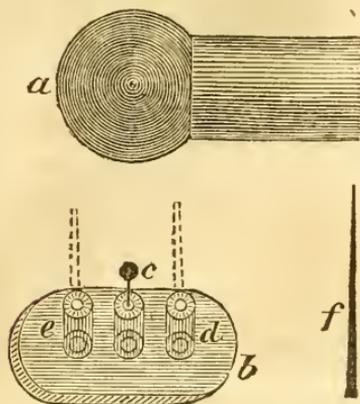
Fig. 7.



discharging power of the rod will increase or diminish, as the ring is made to recede from, or approach the point.

25. A rod which is *insulated*, will not effect an electrified body. Let *a*, fig. 8, be

Fig. 8.

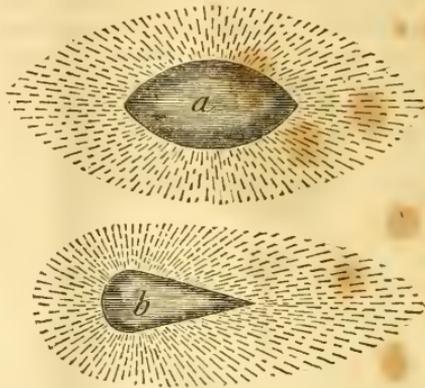


an electrified body, and the charge kept up by its connexion with the electrical machine. Under *a*, upon the table, place the instrument *b*, which is a small board holding two short glass tubes at *d*, and *e*. The tube *d*, is open at its lower end, while the one at *e*, is hermetically closed. Between them, at *c*, is another glass tube surmounted by a brass ball, and communicating through the tube with the table. Place the pointed wire *f*, in the open tube *d*, and it will silently discharge *a*; remove it to the closed tube *e*, by which it becomes *insulated*, and it will no longer do so. But as the intensity of the charge in *a*, increases, it first begins to pass *silently* to the point, until it has acquired sufficient explosive force to strike from the side of the wire in a horizontal direction to the ball at *c*. This I will call the lateral explosion.

26. The *electrical atmosphere* which forms around a sphere, (12) is everywhere equally diffused, because all parts of its surface are equi-distant from its centre, and its attraction everywhere the same. Bodies with angles or points, have those parts farther from the centre, and the electric fluid being less strongly attracted at those parts, is driven by its own repulsion to greater distances—as shown at *a*, fig. 9. The more acute the angle or point, the greater will be the distance to which the atmosphere will extend, as at *b*, until the feeble attraction of the small quantity of matter near the point is no longer sufficient to hold the repulsive force in equilibrium, and *dispersion* takes place.

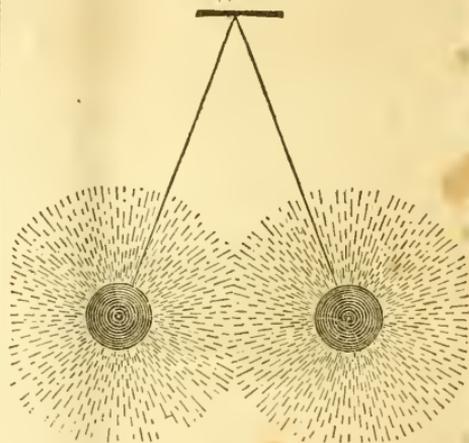
27. If two or more pith-balls be suspended by silk threads and electrified, each one respectively will acquire an *electrical atmosphere*, and the electricity of the one will

Fig. 9.



repel that of the other, so as to separate them to twice the extent of their atmospheres, as is shown fig. 10. But if the

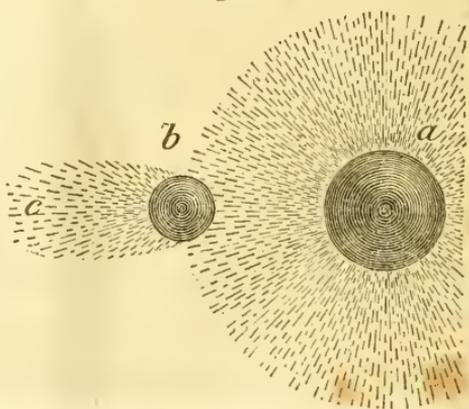
Fig. 10.



finger be brought near them they will fly to it,—give off their electricity in form of a spark, and then fall back to their original position.

28. If we *insulate* the ball *b*, fig. 11, and

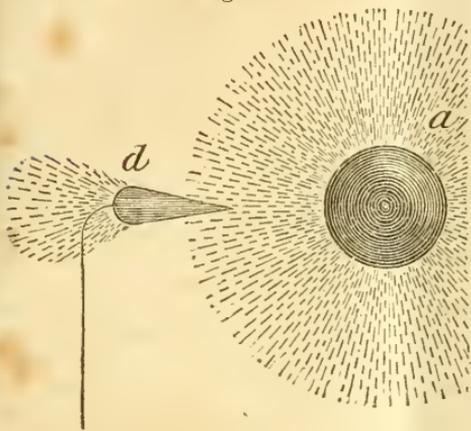
Fig. 11.



cause it to approach the electrified ball *a*, so as just to come within the influence of its atmosphere, the electricity of *a*, will repel the *natural quantity* possessed by *b*, to the opposite side, where it will form a local atmosphere, *c*. If the finger be approached to this part, a spark will be received without diminishing the *charge* of *a*, but on removing *b*, it will be found negatively charged, and will more readily receive a spark from *a*, than before.

29. If instead of the ball we now present a pointed body, *d*, fig. 12, the same thing

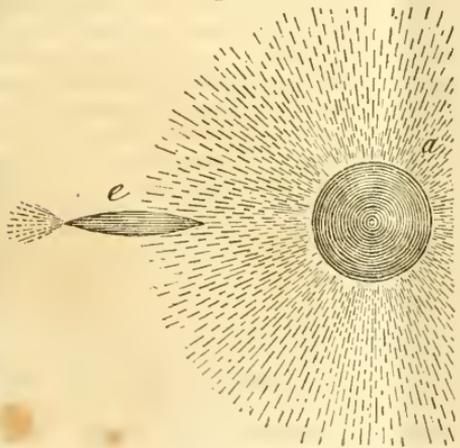
Fig. 12.



will take place. But the point immediately receives more electricity from *a*,—another spark is given, and another, and another, until *a*, is completely discharged. But if instead of applying the finger to *d*, we attach a conducting wire *e*, to it, so as to communicate with the earth, we have all the conditions mentioned (21) and *a*, is *silently discharged*.

30. Instead of the point *d*, we may next substitute a double point, as *e*, fig. 13, and

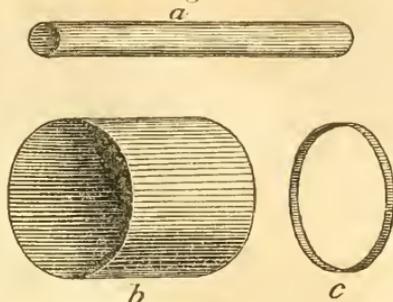
Fig. 13.



it will discharge *a*, without the intervention of a conducting rod. The nearest point will receive the fluid from *a*, (21) and the more distant one will disperse it, (26.)

31. If we *insulate* and *electrify* a thin, narrow, metallic tube, *a*, fig. 14, it will be

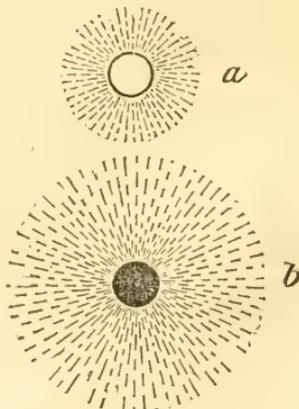
Fig. 14.



found that the *charge* does not enter the tube, but occupies the outside only. This is owing to the mutual repulsion of the portions of the fluid on opposing sides of the instrument. As the tube is increased in width proportioned to its length, as at *b*, a portion of the charge will enter upon its inner surface, and still more as it approaches nearer to the form of *c*.

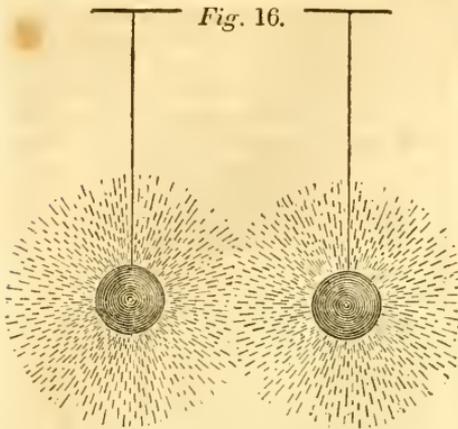
32. As the quantity and intensity of the *charge* which any body is capable of receiving—other circumstances equal—are in proportion to the quantity of matter which it contains, (16); Hence if *a*, and *b*, fig. 15,

Fig. 15.



represent cross sections of two charged bodies, one tubular and the other solid, it must be evident that the latter will hold a charge of many times greater *intensity* than the former.

33. Take two similar balls, fig. 16, and electrify them, one positively and the other negatively. Each one alone will present electrical phenomena, but when brought near together, their *atmospheres* will sud-



denly coalesce, the balls will rush together with an *explosion*, and all signs of *excitement* will have disappeared. The two charges have completely neutralized each other; the excess of electricity in the one having supplied the deficiency in the other.

Observation.—The intelligent reader will perceive that I have proceeded on the supposition of a single electrical fluid—the *Franklinean theory*. Of course those who hold a different theory will be disposed to cavil at some parts of this essay. It will be for them to show that my statements are not in conformity with facts. FRANKLIN.

First month 1st, 1845.

The Shepherd's Dog.

In the ninth No. of the last volume of the Cabinet, was given a beautiful cut of the Shepherd's Dog, with an interesting account of him from a correspondent. The following lively article we take from the Salem Register, Ohio, which credits it to a late English work.—Ed.

THE Shepherd's Dog in his own department is a perfect miracle of intelligence. He understands the sign, the voice, the look of his master. He collects the scattered sheep at the slightest signal, separates any one that is indicated from the rest of the flock, drives them wherever he is told, and keeps them all the while under perfect control, less by his active exertions than by the modulations of his voice, which expresses every tone from gentle instruction to angry menace. These are his ordinary performances, visible every day in a thousand pastures. But he can do greater wonders. It chanced one night that seven hundred lambs, committed to the keeping of the Ettrick Shepherd, broke loose from his control and scampered away in three divisions over hill and plain. "Sirrah, my man," said Hogg mournfully to his *colly*, meaning it for an expression of grief, and not for a direction, "they're awa." Silently and without his master's knowledge, for it was too dark to

see, the dog left his side, while the shepherd passed the hours till morning in a weary and fruitless search after his wandering charge. At the dawn of the day he was about to return home with a heart full of despair, when he caught a sight of Sirrah guarding at the bottom of a deep ravine, not, as he at first supposed, one division of the lambs, but the whole of the vast flock, without a solitary exception. "It was," says James Hogg, "the most extraordinary circumstance that had ever occurred in my pastoral life. How he had got all the divisions collected in the dark is beyond my comprehension. The charge was left entirely to himself, from midnight until the rising of the sun, and if all the shepherds in the forest had been there to have assisted him, they could not have effected it with greater propriety." On another occasion the same famous shepherd saw a dog, when it was utterly dark, put upon the path of a ewe that had been lost by her owner near a neighbour's farm, and which was supposed to have mingled with her fellows that were feeding in the surrounding pastures. "Chieftain," said the master of the dog, pointing to the spot from which the sheep had gone off, "fetch that, I say, sir—bring that back; away!" And away he went, and back he brought, in half an hour, the identical sheep. A sheep-stealer, who was at last discovered and hanged, used to carry on his trade by secretly signifying the particular sheep that he desired out of a large flock, as he viewed them under the pretence of purchasing, to his dog, who returning by himself, a distance of several miles at night, drove the selected sheep, which was undoubtedly the fattest, to his fastidious owner. Both Scott and Hogg relate this picturesque story more circumstantially from the annals of the Justiciary Court, in Scotland. Sir Thomas Wilde knew an instance in which three oxen out of some score, had mingled with another herd. "Go fetch them," was all the instruction the drover gave his dog, and he instantly brought along with him those very three. A cattle dealer, accustomed to drive his beasts for nine miles to Alston, in Cumberland, once for a wager, sent them alone with his dog. The animal perfectly understood his commission. He kept the straight road, ran when he came to a strange drove, to the head of his own to stop their progress, put the beasts that blocked the path upon one side, then went back again to the rear to hie on his charge, and thus adroitly steering his way and keeping his herd together, he carried them safely to the destined yard, and signified their arrival by barking at the door of the dwelling,

Animal Heat.

(Concluded from p. 228, last Number.)

In cold and temperate climates, the air, which incessantly strives to consume the body, urges man to laborious efforts in order to furnish the means of resistance to its action, while, in hot climates, the necessity of labour to provide food is far less urgent.

Our clothing is merely an equivalent for a certain amount of food. The more warmly we are clothed, the less urgent becomes the appetite for food, because the loss of heat by cooling, and consequently the amount of heat to be supplied by the food, is diminished.

If we were to go naked, like certain savage tribes, or if in hunting or fishing we were exposed to the same degree of cold as the Samoyedes, we should be able with ease to consume ten pounds of flesh, and perhaps a dozen of tallow candles into the bargain, daily, as warmly clad travellers have related with astonishment of these people. We should then also be able to take the same quantity of brandy or train oil without bad effects, because the carbon and hydrogen of these substances would only suffice to keep up the equilibrium between the external temperature and that of our bodies.

According to the preceding expositions, the quantity of food is regulated by the number of respirations, by the temperature of the air, and by the amount of heat given off to the surrounding medium.

No isolated fact, apparently opposed to this statement, can affect the truth of this natural law. Without temporary or permanent injury to health, the Neapolitan cannot take more carbon and hydrogen in the shape of food than he expires as carbonic acid and water; and the Esquimaux cannot expire more carbon and hydrogen than he takes into the system as food, unless in a state of disease or of starvation. Let us examine these states a little more closely.

The Englishman in Jamaica, perceives with regret, the disappearance of his appetite, previously a source of frequently recurring enjoyment; and he succeeds, by the use of cayenne pepper and the most powerful stimulants, in enabling himself to take as much food as he was accustomed to eat at home. But the whole of the carbon thus introduced into the system is not consumed; the temperature of the air is too high, and the oppressive heat does not allow him to increase the number of respirations by active exercise, and thus to proportion the waste to the amount of food taken; disease of some kind, therefore, ensues.

On the other hand, England sends her

sick to southern regions, where the amount of the oxygen inspired is diminished in a very large proportion. Those whose diseased digestive organs have in a greater or less degree lost the power of bringing the food into the state best adapted for oxidation, and therefore are less able to resist the oxidizing influence of the atmosphere of their native climate, obtain a great improvement in health. The diseased organs of digestion have power to place the diminished amount of food in equilibrium with the inspired oxygen, in the mild climate; while in a colder region the organs of respiration themselves would have been consumed in furnishing the necessary resistance to the action of the atmospheric oxygen.

In our climate, hepatic diseases, or those arising from excess of carbon, prevail in summer; in winter, pulmonary diseases, or those arising from excess of oxygen, are more frequent.

The cooling of the body, by whatever cause it may be produced, increases the amount of food necessary. The mere exposure to the open air, in a carriage or on the deck of a ship, by increasing radiation and vaporization, increases the loss of heat, and compels us to eat more than usual. The same is true of those who are accustomed to drink large quantities of cold water, which is given off at the temperature of the body, 98.5 degrees. It increases the appetite, and persons of weak constitution find it necessary, by continued exercise, to supply to the system the oxygen required to restore the heat abstracted by the cold water. Loud and long continued speaking, the crying of infants, moist air, all exert a decided and appreciable influence on the amount of food which is taken.

We have assumed that it is especially carbon and hydrogen which, by combining with oxygen, serve to produce animal heat. In fact, observation proves that the hydrogen of the food plays a not less important part than the carbon.

The whole process of respiration appears most clearly developed, when we consider the state of a man, or other animal, totally deprived of food.

The first effect of starvation is the disappearance of fat, and this fat cannot be traced either in the urine or in the scanty fæces. Its carbon and hydrogen have been given off through the skin and lungs, in the form of oxidized products; it is obvious that they have served to support respiration.

In the case of a starving man, 32½ ounces of oxygen enter the system daily, and are given out again in combination with a part of his body. Currie mentions the case of

an individual who was unable to swallow, and whose body lost 100 lbs. in weight during a month; and, according to Martell, (*Trans. Linn. Soc.*, vol. xi., p. 411.) a fat pig, overwhelmed in a slip of earth, lived 160 days without food, and was found to have diminished in weight, in that time, more than 120 lbs. The whole history of hibernating animals, and the well-established facts of the periodical accumulation, in various animals, of fat, which, at other periods, entirely disappears, prove that the oxygen, in the respiratory process, consumes, without exception, all such substances as are capable of entering into combination with it. It combines with whatever is presented to it; and the deficiency of hydrogen is the only reason why carbonic acid is the chief product; for, at the temperature of the body, the affinity of hydrogen for oxygen far surpasses that of carbon for the same element.

We know, in fact, that the gramivora expire a volume of carbonic acid equal to that of the oxygen inspired, while the carnivora, the only class of animals whose food contains fat, inspire more oxygen than is equal in volume to the carbonic acid expired. Exact experiments have shown, that in many cases only half the volume of oxygen is expired in the form of carbonic acid. These observations cannot be gainsaid, and are far more convincing than those arbitrary and artificially produced phenomena, sometimes called experiments; experiments which, made, as too often they are, without regard to the necessary and natural conditions, possess no value, and may be entirely dispensed with; especially when, as in the present case, nature affords the opportunity for observation, and when we make a rational use of that opportunity.

In the progress of starvation, however, it is not only the fat which disappears, but also, by degrees, all such of the solids as are capable of being dissolved. In the wasted bodies of those who have suffered starvation, the muscles are shrunk and unnaturally soft, and have lost their contractility; all those parts of the body which were capable of entering into the state of motion, have served to protect the remainder of the frame from the destructive influence of the atmosphere. Toward the end, the particles of the brain begin to undergo the process of oxidation, and delirium, mania, and death close the scene; that is to say, all resistance to the oxidizing power of the atmospheric oxygen ceases, and the chemical process of eremacausis, or decay, commences, in which every part of the body, the bones excepted, enters into combination with oxygen.

The time which is required to cause death by starvation, depends on the amount of fat in the body, on the degree of exercise, as in labour or exertion of any kind, on the temperature of the air, and, finally, on the presence or absence of water. Through the skin and lungs there escapes a certain quantity of water, and as the presence of water is essential to the continuance of the vital motions, its dissipation hastens death. Cases have occurred, in which a full supply of water being accessible to the sufferer, death has not occurred till after the lapse of twenty days. In one case, life was sustained in this way for the period of sixty days.

In all chronic diseases, death is produced by the same cause, namely, the chemical action of the atmosphere. When those substances are wanting, whose function in the organism is to support the process of respiration; when the diseased organs are incapable of performing their proper function of producing these substances; when they have lost the power of transforming the food into that shape in which it may, by entering into combination with the oxygen of the air, protect the system from its influence, then, the substance of the organs themselves, the fat of the body, the substance of the muscles, the nerves, and the brain, are unavoidably consumed. The true cause of death in these cases is the respiratory process, that is, the action of the atmosphere.

A deficiency of food, and a want of power to convert the food into a part of the organism, are both, equally, a want of resistance; and this is the negative cause of the cessation of the vital process. The flame is extinguished, because the oil is consumed; and it is the oxygen of the air which has consumed it.

In many diseases substances are produced which are incapable of assimilation. By the mere deprivation of food, these substances are removed from the body without leaving a trace behind; their elements have entered into combination with the oxygen of the air.

From the first moment that the function of the lungs or of the skin is interrupted or disturbed, compounds, rich in carbon, appear in the urine, which acquires a brown colour. Over the whole surface of the body oxygen is absorbed, and combines with all the substances which offer no resistance to it. In those parts of the body where the access of oxygen is impeded—for example, in the arm-pits, or in the soles of the feet—peculiar compounds are given out, recognisable by their appearance, or by their odour. These compounds contain much carbon.

Respiration is the falling weight, the bent spring, which keeps the clock in its mo-

tion; the inspirations and expirations are the strokes of the pendulum which regulate it. In our ordinary time-pieces, we know with mathematical accuracy the effect produced on their rate of going, by changes in the length of the pendulum, or in the external temperature. Few, however, have a clear conception of the influence of air and temperature on the health of the human body; and yet the research into the conditions necessary to keep it in the normal state, is not more difficult than in the case of a clock.—*Liebig's Letters.*

Scientific Agriculture.

How many curious questions are suggested by such observations as the following: Some varieties of wheat are better suited for the pastry-cook; others, for the baker of bread. Some samples of barley refuse to *melt* in the hands of the brewer and distiller; and some yield more brandy; while others lay on more fat. The Scottish ploughman refuses bog oats for his *brose-meal*, or for his oaten-cake, because they make it tough; and the coter's family prefer Angus oats for their porridge-meal, because they swell, and become bulky and consistent in the pot, and go further in feeding the children at the same cost. The pea sometimes refuses to boil soft; and potatoes, on some soils and with some manures, persist in growing waxy. If Swedish turnips sell for thirty shillings a ton—as in large towns they often do—yellow turnips will bring only about twenty-five, and white globes, eighteen; while all the varieties cease to *feed well* as soon as a second growth commences.

What is the cause of such differences as these? How do they arise? Can they be controlled? Can we by cultivation remove them! Can we raise produce of this or that quality at our pleasure?

Such questions, constantly arising, have led to extended analyses of the food consumed both by cattle and by man; and from these analyses—still far from being complete—most curious, and most interesting, and most practically important results have already been obtained. Let us glance at some of the partial generalizations which have been arrived at, and which may be *provisionally* adopted, by practical men.

We have already seen that all vegetable productions contain from ninety to ninety-eight per cent. of combustible or organic matter. Now, this organic part has been found, in all cases, to contain three different classes of substances:

First, the *starch* class, which compre-

hends starch, gum, and sugar, and certain other substances of a similar kind.

Second, the *fatty* class, which comprehends solid and liquid oils of various kinds, of which the oils extracted from seeds and nuts are familiar examples.

Third, the *gluten** class, which comprehends the gluten* of wheat, vegetable albumen, vegetable casein, and some other analogous substances, the distinctive characters of which have not as yet been thoroughly investigated.

These several classes of substances are always to be found in sensible quantity in all our cultivated crops; but their proportions vary in different plants, in different parts of the same plant, and in the same part when the plants are grown in different climates, on unlike soils, or by the aid of different manures. Hence the occasional differences in the sensible qualities of the same vegetable, under different circumstances—the waxiness of the potatoe, the hardness of the pea, and the stubbornness of the barley—become intelligible. The several organic constituents of the grain and root crops are present in unlike proportions, and necessarily give rise to unlike qualities.

But their unlike effects, in the feeding of animals, suggested a further train of investigation. The parts of animals are known to be differently built up, or with different degrees of rapidity and success, by these different varieties of vegetable produce;—of what, then, do the parts of animals themselves consist? The answer to this question throws a new and beautiful light upon our path, clearing up obscure points on the way we have already trodden, and pointing out new tracks, which it will prove interesting hereafter still further to explore.

All animal substances—the flesh, bones, and milk, of all living creatures—consist, like the soil and the plant, of a combustible and an incombustible part. In dry muscle and blood, the incombustible or inorganic part does not exceed two per cent., and in milk evaporated to dryness, seven per cent.; while in dry bone it amounts to about sixty-six per cent. of the whole weight.

The combustible or organic part consists

* When wheaten flour is made into a dough with water, and this dough is washed with a stream of water upon a sieve, as long as the water passes through milky, a tenacious substance, like bird-lime, remains behind. This is the gluten of wheat. Albumen is the name given by chemists to the white of the egg; and casein, that applied to the curd of milk. Of both of these latter, an appreciable quantity is found in almost every kind of vegetable food.

of fibrin—the fibrous part of lean meat is so called—and of fat. And rigorous analysis appears to show, that this fibrin is almost identical in constitution with the pure gluten of wheat; while the fat of some animals at least, is absolutely identical with the fatty oils contained in certain vegetable productions.

The incombustible part, again, consists of soluble saline substances, and of an insoluble earthy matter, the *earth of bones*. These two classes of inorganic substances exist also in the ash of all plants, though in variable proportions. The stems and leaves abound more in soluble saline matter, the seeds in bone-earth and other phosphates.

These things being discovered, the uses of the several constituents of the food became in some degree manifest. The fat of the animal was derived directly from the fat of the vegetables on which it lived—its muscular fibre directly from the gluten of its food—and the salts of its blood, and the earth of its bones, from the inorganic matters contained in the ash of the plants on which it fed. The plant produced the raw materials, the fat and gluten—the bricks and stones as it were—with which the animal, having received them into its stomach, proceeded directly to build up its several parts.

And as the proportion of the fatty matter was greater in some vegetables than in others, some kinds of food would enable the animal to lay on more fat, or to produce more butter. Others again, in which gluten abounded, would favour the growth of muscle, or the production of cheese; while those of which the ash was richest in bone-earth, would enlarge and more rapidly increase the bones of growing animals. In so far also as the composition of the food was known to be modified by the soil on which it grew, so far might the fattening or growth of stock be considered as directly dependent upon the quality of the land on which they lived, or were fed; and in so far as the application of this or that manure was known to affect the quantity of gluten or fat in the crop, in so far would it be in our power, by varying our manures, to control the ordinary operations of nature, and to raise varieties of produce, fitted especially for this purpose or for that. These deductions opened up a wide field for experiments, both in the practical raising of varieties of food, and in the practical feeding of stock; upon which many zealous cultivators have already entered, and which, if they cultivate it with perseverance and accuracy, they are sure to cultivate with success.

How beautiful is the connexion thus es-

tablished between the dead earth, the living plant, and the reasoning animal! The life and growth of the animal are dependent upon what it receives from the plant, those of the plant on what it receives from the soil on which it grows. The plant does not always produce, in equal quantity, those substances which the animal requires. It is dependent upon the nature of the soil, even for the proportions of gluten, or of fat, which it is capable of yielding to the wants of the animal; while the inorganic part of its substance is wholly drawn from the spot of earth on which it happens to be placed. It strikes us at first as a curious circumstance, that all vegetable food should contain bone-earth and common salt in some small proportion, and that useful plants should refuse to grow in a healthy manner where these substances are not present in the soil. But this arrangement appears absolutely beautiful when we learn, that without these substances the animal cannot live. The main purpose served by the vegetable is to feed the animal races. This they could not do, if they did not contain all that animals require to form the several parts of their bodies; their bones and blood, as well as their muscles and their fat. Thus the soil imparts to the plant only what it is the special duty of the plant to impart to the animal. Hence the machinery of life—of life animal, as well as of life vegetable—must equally cease to move, if the soil be deficient in any of its necessary ingredients. How much, therefore, both of the direct or cropping, and of the indirect or manufacturing branches of rural economy, depends upon the chemistry of the soil!—*Edinburgh Review*.

For the Farmers' Cabinet.

Uselessness of Dogs.

TO THE EDITOR,—There have appeared in the Cabinet and other papers, occasional commendations of the dog. Many anecdotes have been related, showing the sagacity, fidelity and usefulness of this creature; but it is nevertheless a question of grave importance, whether his benefits to the community are equivalent to the injuries he commits. In France and other countries of Europe, where the dog is trained to perform the duties of the shepherd, in the care and defence of the flock—where, fences being scarce, his vigilance supplies their want; or where beasts of prey abounding, he protects his charge from their depredations—the dog is certainly a valuable, if not essential part of a farmer's stock. But in this section of our country, he has not these arguments in his

favour. He is so far from being useful in the management of sheep, that they flee at his approach. In regard to tending other stock while feeding, he is here applied to no such purpose. As fences are general, an officer to take their place is seldom needed; and were it otherwise, I have never known a dog to which such a post could be trusted. But it is urged—our stock “get into mischief,” and then a dog is very convenient to drive them out. Good management on a farm requires such precautions in securing domestic animals, that their “getting into mischief” would be a thing so uncommon, that even the dog would think it strange. And when such accidents do occur, the dog, in the state in which we have him, is quite an unsuitable agent to displace intruders; his headlong way of doing the business may double the amount of damages. The more quietly intruders are driven from a grain field, the better.

With respect to his utility in guarding our possessions by night, from the intrusions of man and beast, it may be observed, the dog is so faithless to his trust, that he frequently leaves home to become a depredator himself. It is a plain fact, that in some instances,—and I have no doubt there are many—the farmer apprehends nightly injury from scarcely any thing but dogs. We are nearly free from wild animals which would annoy us; and by human thieves, in the country, we are seldom disturbed; but dogs are nightly prowling around us, ready to devour whatever may suit their purposes. Thus they cause to the public the very evil they were designed to prevent.

Conspicuous among the depredations of the dog, is the ravage he annually commits upon our flocks. So great is the injury which farmers thus sustain, that many good services must be brought to bear against it, to countervail our loss. In some sections of our country, a tax is levied upon the canine race, to cover damages in this particular, and this is an excellent provision where no better can be had. But who that has a sheep for whose welfare he has the least concern, would sacrifice it to the dogs for twice its value in money? The wounding, mangling, and murderous butchery of a flock of sheep by the wanton riot of a *dog*, is a circumstance painfully revolting to our better feelings, and calls loudly for effectual redress.

Another point in which dogs are felt to be a nuisance, is the inhospitable reception they give to every stranger or visitor, who approaches their master's premises. They act upon the supposition, that every stranger is an enemy to the family they belong

to, and must not be admitted until some one comes to decide upon the intruder's character. In olden times when men were secure at home, only in walled towns or fortified castles—when it was deemed unsafe to walk abroad unarmed—when every man was viewed with suspicion until he was ascertained to be a friendly acquaintance, a mastiff might have been a very suitable officer at the gate of a mansion, his feelings being in consonance with those of his master. But these barbarous days have passed away. These sentiments of jealousy and deeds of darkness have vanished before the beams of social order and Christian refinement; and while all the other arrangements of a farmer's establishment are tuned to harmony and peace, it is sadly out of place to require every one who visits him, to strike at his approach, such “a peevish, dissonant, rebellious string,” as a dog.

The last argument against dogs I shall here notice, is their liability to madness. Of this terrible malady—hydrophobia—little need be said. The dread of it entertained by perhaps every one, is sufficiently great, but it may be observed, that without dogs we should be free from it.

In pointing out a few of the evils which the community of men suffer from that of dogs, I just wish to call public attention to the subject. Let every one who owns a dog, calmly consider whether the public, i. e., himself and his neighbours together, would not be better off without him. If he come to the conclusion that he cannot spare him, let him at least be very careful that no one shall suffer in person or property, by the threats or violence of his dog. D.

Cecil co., Md.

Acquired Knowledge among Farmers.

THOSE who are connected with agriculture are not inferior in natural intelligence to any other class of the community. And yet it is not denied, that both owners and tenants, as a body, possess less of that acquired knowledge which specially relates to the art by which they live, than those who hold the same station in reference to any of our great manufacturing arts. This is to be ascribed to the small value hitherto placed upon any other than practical instruction in reference to agriculture, and to the consequent absence of nearly all public provision for acquiring it. Notwithstanding the acknowledged importance of the art of culture, no regular course of instruction in connexion with it is given in the English or Irish universities. There is indeed a Professor of rural economy at Oxford, but there

is no Class, and therefore only occasional lectures. In the universities of Edinburgh and Aberdeen, there are Chairs of agriculture: but even in Scotland no provision has yet been made for a *systematic* agricultural education. The Edinburgh Chair is, however, numerously attended, and has the advantage of an illustrative Museum.—*Edinburgh Review*.

Adulterated Milk.

The inhabitants of large cities are constantly complaining, and with very good reason, that the article sold to them under the name of milk, is systematically adulterated. The udder of the cow supplies merely the basis of the compound; water, and certain foreign substances to give it the requisite whiteness, forming the other ingredients. The colouring matter is made from things of which the public at large have very little notion. The prevailing belief regarding the London milk manufacturer is, that chalk is their favourite pigment. Their brethren of Paris, however, employ a more extensive range of adulterating substances—such as flour, plaster of Paris, calves' lights, and a still more extraordinary animal substance, namely, dogs' brains.

This system of adulteration is the more abominable, when we consider that, of all species of food proper for the support of human life, milk is the most useful. It is unlike any other aliment in this respect—that it has the power of sustaining life without the assistance of any other sort of sustenance. Though man cannot live by bread alone, yet nature can be fully sustained by milk, were he reduced to have nothing else to sustain him. Its consumption, therefore, is very great in every part of the world except in China, where it is never used as a beverage. It has been computed that the average consumption of milk in Paris during the year 1837, was about 15,000 gallons per day. What the daily consumption of London may be, is not to be ascertained. If we reckon it in proportion to the population of the two cities, about 30,000 gallons of milk may be consumed every day in the great metropolis.

In Paris, everything is done, from the highest function of government to the petty public convenience, by an "administration." Hence the purveyance of milk to the Parisians is effected by an "*administration*" which was formed by, and remains under the surveillance of, Monsieur the prefect of police. The whole country around the capital is laid under contribution to sup-

ply it with milk, some of which comes from a distance of fifty miles. The details of this important *administration* are as follows:—In certain villages near to Paris, are situated large establishments, which serve as depôts for the reception and distribution of milk. Of the largest, one belongs to M. Delanos, at Corneille-en-Vixen, on the road to Dieppe, and another to M. Delacour, at Envery. From each of these central establishments—*laiteries centrales*—a number of light carts are despatched twice a day, to collect the milk from the different farmers, each having a round or district of its own. These vehicles start and arrive with the punctuality of a clock, so that, if the country people are not ready with their quota of milk at the minute the collector calls, they lose the sale of it. These collections are so managed, that each charioteer arrives at the central depôt with his milky freight exactly at the same hour. A certain portion of it is retained in the house to be converted into cream, butter, and cheese, and the rest is sent on direct to Paris. M. M. Delacour and Delanos have distributed throughout the capital a vast number of little milk shops, which their friend the prefect of police, has placed in such parts of the town as will prevent rivalry between them; so that each of these great milkmen has a separate territory, over which—in the matter of milk—he despotically presides. From these local depôts—*laiteries*—the public obtain their milk with a punctuality quite equal to that with which they receive letters through the post. M. Delacour rents above seventy of these small shops; but the older established, M. Delanos, boasts of nearly double that number. There are, besides, smaller proprietors in direct correspondence—by rail-road and other public conveyances—with cow-feeders and farmers in the neighbourhood of Paris. M. Lenoir, an eminent statist, computes that, in 1837, about 8,760,000 francs—above £350,400—were spent for milk in Paris.

The milk-trade of London has, like that of Paris, its great proprietors. Of cow-keepers, the representatives of the late Mr. Rhodes, of the Hampstead road, and of Mr. Laycox, of Islington, must be considered the aristocracy. There was a tradition respecting the former gentleman's establishment, which may serve to show its magnitude; namely, that so many as a thousand cows could never be maintained upon it; for so sure as the thousandth was added to the stock, one of the nine hundred and ninety-nine died, so as to leave that exact number alive, and no more. The herd of the Islington proprietor is, we have been told, equally

large. There are, besides, less cow-feeders, whose stock varies from twenty to a hundred head.

To the establishments of the larger suburban proprietors, milk retailers repair twice a day, purchase the article at the wholesale price, take it to their own homes, where—unless the craft be much libelled—the quantity is much increased at the expense of the quality, before delivered to the public. The London milk-trade, then, is divided into two great branches, consisting of those who keep cows, and those who merely sell milk. Sometimes, however, these two departments are united, and the same individual retails the produce of his own stock, which in an overcrowded city like London, is almost universally stall-fed. The denizen of the provinces, while threading his way through a dense, close, and pestiferous neighbourhood, may be occasionally startled, while peeping into a cellar, or what was once a parlor, to behold a cow or two tied up to a sort of manger, there in all probability to be imprisoned during the term of their natural lives, never having enjoyed the sight of a green field since the days of their calfhood. The milk yielded by these unlucky animals, must be of a very inferior description; yet even that is adulterated. According to the occupation abstract of the census of 1841, the number of persons employed in feeding cows and selling milk, was 2764.

It is perhaps wrong to stigmatize the whole of these individuals as deteriorating the article they deal in; for, doubtless, a great many are honest traders, and do not sophisticate their milk. One thing is certain, that some in this line of business, lest they should be suspected of the practice, drive their cows about the streets, and guarantee the genuineness of the commodity by milking the poor beast before the customers' eyes. Yet adulteration must be very generally carried on, else "the chalk and water of London" could never have so firmly established itself as a proverb as it has done. It is said of a celebrated comedian, that when he first came to London from the rural districts, he imagined that real milk was unattainable; and finding the chalk and water supplied to him as such, very badly mixed, he one morning, in the simplicity of his heart, presented two vessels to the milk-seller, saying, "he would, if convenient, take the ingredients separate, for he preferred mixing them himself." As a fresh proof of the difficulty of obtaining good milk in London, we may instance the fact, that in noblemen's families, where the consumption is great, the supply is drawn directly from farms in the vicinity of the metropolis.

The great tavern and hotel keepers have taken dairy farms on their own account, in despair of obtaining genuine articles by other means.

It must not, however, be inferred that London is the only place where milk is adulterated. With all the centralising regulations of the Paris police, the article is very largely vitiated in that city, and, we are led to believe, in every other place where the demand for the nutritious aliment is great. Many have been the efforts to suppress this fraudulent manufacture; but hitherto they have proved abortive. Lately, however, science has aided in the detection, and a certain Dr. Donné has invented two instruments, by one of which the proportion of water added to any quantity of milk can be readily found out, while the other enables us to ascertain the relative richness of cream. The first will prove of essential value not only to the London public, but to the inhabitants of all large cities. It is called a lactometer, and consists of upright tubes of glass placed one within the other. The suspected milk, poured into this simple machine, very soon separates itself from the adulterating water, the proportion of which to the rest of the liquid, shows itself by means of a scale of degrees marked on the outside of the tube. We have not yet heard whether the hawk-eyed police of Paris have adopted the invention as a detective power, but a paragraph from a Belgian journal assures us that the Brussels officials have. On the 27th of last June, a body of police, armed with lactometers, posted themselves at the gates of the city, and condemned and seized no fewer than eighty large cans of milk. The consequence has been, that the denizens of Brussels have subsequently had no cause to complain of being supplied with bad milk. Thanks to Dr. Donné, his lactometer, and the municipal police, they get the full benefit of some of the finest milch cows in the world, which feed upon the unequalled pastures of the Belgian meadowland.

The lactometer would be a useful instrument in the hands of the London public. By it they would at least be able to ascertain how much water they are made to drink in their milk, and thus, by discovering the extent of the adulteration, gradually remedy it. We have not seen either of the learned Donné's machines, and are indebted for a description and figures of them to the 86th number of *L'Illustration Journal Universél*.—*Chambers' Journal*.

In all your reckonings, be careful to remember the final account.

For the Farmers' Cabinet.

I. W. Roberts' Durham Steers.

An account of two Durham Steers, raised and fed by Isaac W. Roberts, Esq., of Montgomery county, Pa.

THE larger Steer was six years old; he had been stall fed two winters and one summer, principally on ground Indian corn and oats, with a few sugar beets. He was for his size a very light eater, averaging in winter, about nine quarts per day, and six quarts in summer, with the advantage of good natural grass for pasturage. When under four years old, he had during winter, a few sugar beets with a little wheat bran, and was always fed on good hay. He was a remarkably close built and thick set animal, and formed almost the perfect solid parallelogram, which is the grand desideratum of the English grazier. Besides which, every point essential to a good beast, was filled out, prominent and complete; he was in a word, a *thoroughly fat* animal. His hide was unusually light and clear, being almost semi-transparent. The loose fat and entrails were very small. He was exceedingly rich, fine and broad on the back and loins, and not less full and prominent on the ribs, flanks, &c. He was in every point all that the most fastidious butcher or grazier could desire, and probably in fatness and form, has never been excelled, if equalled, in this eminently grazing district.

He was not unusually large, but the weight and measure may be of interest for comparison, and we therefore give them. Live weight about 2,600 lbs.—dead neat weight 1826 lbs; three feet through the shoulders; three feet seven inches through the ribs; and two feet six inches across the hips; depth of shoulders, three feet seven inches; girth behind the shoulders, nine feet six inches; around the first ribs, 10 feet five inches; over the hips, nine feet three inches; length from the point of the withers to the set of the tail, six feet seven and a half inches; do. from the root of the horns to tail, eight feet three inches. The smaller steer was five years old, he weighed alive 2285 lbs., and dead 1503 lbs.; he was not so fat as his companion, but equally fine in quality; his feed was precisely the same in kind and quantity. He was a beautiful steer, and was by some as much admired as the larger animal, but in form and valuable points, was not so prominent, or conformable to the requirements of the butcher and grazier. The larger steer was seven-eighths Durham; and got by Col. Powell's "Frolic;" the other was three-fourths Durham, and his sire was Mr. Kelly's celebrated "Prince of Wales;"

both were the progeny of Mr. Roberts' distinguished butter and stock cow, "Rosanna."

They died well, and the beef made a beautiful display on the shambles. The city butchers, although frequently invited, declined buying, or even looking at them, and without any *assignable* cause. Their owner was therefore compelled to have them exhibited on the *Farmers' Stalls*, and they were brought to market by Messrs. Levering and Sons on the 1st instant, and sold on his own account. Some apprehension was felt that so much fat and heavy beef could not be disposed of, without the agency and skill of the city victualers; but the result proved highly satisfactory; every pound was sold, and at fully remunerating prices. It will we hope be the means of improving to the citizens of Philadelphia, this new source of supply.

Very respectfully, A. S. ROBERTS.

Philadelphia, March 5th, 1845.

SOME birds have a great deal of humour in them, particularly the raven. One that belonged to me was the most mischievous and amusing creature I ever met with. He would get into the flower garden, go to the beds where the gardener had sowed a great variety of seeds, with sticks put in the ground with labels, and then he would amuse himself with pulling up every stick, and laying them in heaps of ten or twelve in the path. This used to irritate the old gardener very much, who would drive him away. The raven knew that he ought not to do it, or he would not have done it. He would soon return to his mischief, and when the gardener again chased him—the old man could not run very fast—the raven would keep just clear of the rake or hoe in his hand, dancing before him, and singing as plain as a raven could—"Tol de rol de rol! tol de rol de rol!" with all kinds of mimicking gestures.—*New Monthly Magazine*.

BURNING SMOKE.—At the last session of the British Parliament, it was enacted that from and after the 1st of last month, the furnaces of Manchester and Salford shall consume their own smoke or pay a penalty of 40s. a week for not doing so. As a matter of economy, therefore, the factory people have found it necessary to comply with the law. The smoke is effectually prevented by an extremely simple contrivance, and unattended with any trouble or difficulty to the engineers; the plan consisting merely of the introduction into the furnace of a due proportion of atmospheric air, whereby perfect combustion and a considerable saving of fuel are effected.

Annual Sale of Stock at Worton.

The first annual sale of Mr. James Glass' stock took place on Friday last. No man in this county has given more attention to the improvement of stock than Mr. Glass, a circumstance which ensured him a large and most respectable company, not only from this, but from the adjoining counties. Mr. Glass, after regaling his friends, to the number of about three hundred, with a most substantial lunch, introduced the business of the day by pledging himself, under a penalty of 100*l.* to the last bidder, that no lot should be bought in. The young bulls he would put in at a nominal sum, and they were all sold at the following prices:—

Young Prince,	£38	0
Favourite, calved 14th June, 1843,	42	0
Antonio, calved 20th May, 1844,	44	2
Hogarth, calved 7th April, 1844,	25	0
Commodore, calved 8th April, 1844,	21	0
Wellington, calved 2d Feb'y, 1844,	32	10

The dairy stock sold at from 15*l.* to 22*l.* each.—*Wilts Independent.*

EXCRETORY DUCT OF THE FEET OF SHEEP. Chancellor Livingston, 1st President of the N. Y. State Agricultural Society, says the legs of sheep are furnished with a duct, which terminates in the fissure of the hoof; from which, when the animal is in health, is secreted a white fluid, but when sickly, these ducts are stopped by the hardening of the fluid. He says he has in some instances found that the sheep were relieved, by merely pressing out the hardened matter with the finger from the orifice of the duct in each foot; it may in some cases be proper to place their feet in warm water, or to use a probe or hand brush for cleansing this passage.

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, THIRD MONTH, 1845.

PHILIP REYBOLD, of Delaware, who has for several years been so well known for his remarkably fine flock of Bakewells, sent to this city about two months ago, on their way to New York, in the cars, fifty of perhaps as fine ewes and wethers, as could be shown by any part of the country. They had been purchased by Moses E. Arment, a victualler of New York, at the price, as we understood, of seven and a half cents per pound, live weight. They were part of a lot of two hundred, sold to the same person.—were two and three years old, and weighed from 180 to 230 pounds. Fine Leicesters these!

A VERY spirited effort has been made at Richmond, Va., to form a State Agricultural Society. They say that \$1,500 annually, will be needed to enable them to carry out their views. It is proposed to raise this amount partly by yearly subscriptions of members—by a State appropriation of \$10,000, to be properly invested—and an investment of \$10,000 more, to be raised by private subscriptions and donations. Our valued friend Edmund Ruffin, was elected President, and C. T. Botts, Corresponding Secretary.

THE American Rail Road Journal states, that the Stockton and Darlington Railway Company has recently carried over the great North of England rail road into York, 8,000 tons of coal in twenty-six hours. Reckoning two and a half tons to a wagon load, that would be 3,200 wagons, which, at forty wagons to a train, would be eighty trains, or one train every nineteen and a half minutes. One may well ask, how did they contrive to get rid of it? It is said, the same company has contracted to furnish locomotive power to transport coal and coke over their road, at the low rate of one eighth of a penny per ton per mile.

SALE OF FULL-BLOODED NORMAN HORSES.

The subscriber having relinquished Farming, will offer at Public Vendue, at his Farm in Moorestown, Burlington County, N. Jersey, nine miles from Philadelphia, on Tuesday, the 20th of May next, his entire Stock of NORMAN HORSES, consisting of two Imported Stallions, "Diligence" and "Buonaparte;" two Imported Mares—three full-blooded Stud Colts, one, two and four years old—two full blooded Fillies, three and four years old—two Fillies by "Diligence," from a half-blood Canadian Mare, three and four years old, and one Filly four years old, by "Diligence," from a well-bred English Mare, broke and kind to harness.

The undersigned deems it unnecessary to speak at large of the qualities of these horses, so much having been said of this particular importation, (which is believed to be the only one ever made to the United States,) in all the principal Agricultural papers. In a few words, they are the *Canada* Horse, on a larger scale, combining the form, activity and hardihood of that well known race, with greater size and strength. "Diligence" has been a remarkably successful Stallion; he has been exhibited at the Fairs of the Pennsylvania and New York Agricultural Societies, where he was not entitled to compete for the premiums, but received the highest encomiums from the Committees. At the Fair of the American Institute, in New York city in October last, he received the Silver Medal of the Institute.

It is expected that a large number of the Colts of "Diligence" will be on the ground on the day of Sale, some of which, no doubt, may be purchased.

EDWARD HARRIS.

Moorestown, Burlington Co., N. J. }
March, 15th, 1845. }

☞ The American Agriculturist, N. Y.,—Cultivator, Albany,—New England Farmer, Boston,—Genesee Farmer, Rochester,—Ohio Cultivator, Columbus,—American Farmer, Baltimore, and Southern Agriculturist, Charleston, will please insert the above on 1st of Fourth mo. (April,) and 1st of Fifth mo. (May,) and send their bills to this office, for payment.—Ed. F. CABINET.

H. L. ELLSWORTH, the *Commissioner of Patents* at Washington, will accept very hearty thanks for his highly valuable Annual Report for the year 1844; and also for another package of seeds, which have been distributed. In running the eye through the Report, we observe much that we shall be likely to transfer for the benefit of our readers, who may not have access to it.

RURAL ECONOMY, in its relations with Chemistry, Physics, and Meteorology; or, Chemistry applied to Agriculture; by J. B. BOUSSINGAULT, member of the Institute of France, &c., translated, with an Introduction and Notes, by GEORGE LAW, Agriculturist.

This work has just issued from the press of D. Appleton & Co., No. 200 Broadway, New York, and G. S. Appleton, No. 143 Chesnut street, Philadelphia. A very neat copy has been placed on our table, and on looking hastily through it, we are well satisfied that a valuable addition has been thus made to the amount of important agricultural information within our reach. M. Boussingault is not by any means a mere theorist, or man of science—he is a practical farmer, watching closely all the operations of his plantation at *Bechelbroun*, in the east of France; and handling the balance himself, weighing his calves, &c., from day to day, as well as the produce of his fields, has ascertained with scrupulous exactness the facts which sustain the very interesting results now published. He has for many years been engaged in these inquiries, and while as a man of letters, he has held a high position at the side of such men as Arago, Biot, and a Dumas, he has, like Cincinnatus, been occasionally found guiding his own plough. The chapters on *Soils, Manures, Rotation of Crops, Feeding of Animals*, will be found to embody many important leading principles in relation to these primary objects with the farmer. In every country the great fundamental principles of agriculture are the same, and it is for the intelligent practitioner to make them subservient to his interests; and to do this, let him avail himself of all the means within his reach. Of all men, it will not do for the farmer to sit idly with his arms folded, and say *I already know all things*.

The work, a duodecimo of more than 500 pages, may be procured either at the office of the Farmers' Cabinet, or at the book store of the publishers, No. 143 Chesnut street,—price \$1.50

THE following premiums will be awarded by the Pennsylvania Horticultural Society, at its stated meeting on the 15th of next month. Those to be given on the 18th inst., we published a month ago.

For the best Pelargoniums, (Geraniums,) ten named varieties, in pots, \$3.

For the next best, do. do. \$2.

For the best Hyacinths, ten named varieties to be exhibited, \$3.

For the next best do., ten named varieties, \$2.

For the best Pansies, six varieties to be exhibited, \$2.

For the next best do. do. \$1.

For the best Auriculas, four named varieties to be exhibited, \$3.

For the next best do. do. \$2.

For the best Polyanthus, six named varieties to be exhibited, \$3.

For the best forced Cucumbers, four in number, \$3.

For the best Sea Kale, two bunches of one pound each, \$3.

Our valued friend M. S. Thomas, of Chestertown, Md., will receive thanks for the package of *Mimosa* seed, so kindly forwarded: they are in course of distribution as directed. She has one of these highly ornamental trees,—which she raised from the seed,—now ten years old. Though at first it died down, for a couple of winters before it became acclimated,—the seed having come from the South,—it is very flourishing, and has attained the size of a large peach tree. "The foliage," says she, "is beautiful; the flowers very handsome. It commences blooming in June—continues for a month, and has bloomed twice some years, but more sparingly the second time. I cannot convey an adequate idea of its beauty when the sun is on it in the evening." It appears to be free from liability to attacks from insects—the caterpillar even, avoiding it entirely. The seed should be prepared for planting in a light and rich mould, by having water very nearly boiling, poured over them at night—allow them to stand in it till morning: all that are swelled, plant—scald the balance again, and when swelled, plant them. When up, weed them carefully by hand, as a hoe injures the roots which run near the surface. When three or four inches high, tie them to a stake, or they will hardly become trees, the tops inclining to approach the earth, like the Banyan.

Those who are curious in these matters, will please call and get some of the seed.

In a note from D. Lloyd, of Montgomery county, he speaks highly of the advantages that would result to farmers from a general propagation of the Red cedar—*Virginian Juniperus*. He considers it useful for many purposes on the farm, from its lightness, toughness, and durability; and thinks it would be worth while, on the edges of plantations which are a good deal exposed, to plant these trees to break off the cold winds; thus affording a shelter to stock. He mentions also their beauty, fragrance and adaptation for the purposes of the Cabinet maker.

It may be mentioned by the way, that the editor has frequently heard it remarked, that the Red cedar in the vicinity of thorn hedges, was thought to be particularly injurious.

SOME apples of a superior flavor, as well as some scions from the original tree, producing what in Vermont, is called *Jewett's Best*, were lately left with us by Solomon W. Jewett, of Weybridge. The grafts have been distributed among those who will take proper care of them; some were sent to our friend Boswell, of this city, who has a nursery in the vicinity; and a couple of apples were also given him. He is famous for his wax fruits, and will probably take a fac simile of this apple. It is quite celebrated in Vermont, and has been introduced into some of the best nurseries abroad.

COLMAN'S AGRICULTURAL TOUR IN EUROPE.

It will not be forgotten that subscriptions to this work, are received at the office of the FARMERS' CABINET; where every farmer in the country will be heartily welcome as a subscriber to these publications. Single Numbers will be sold. The subscription price of Colman's Tour, as we have repeatedly advertised, is \$5; single Numbers fifty cents each.

By a letter lately received from the publisher in Boston, we regret to learn that the third number has been somewhat delayed by the indisposition of our friend Colman. It was also delayed by a visit paid to several large and well conducted estates, for which he received polite and urgent invitations, only a short time since. He says he was abundantly paid for the time spent upon them. In his desire to make the work valuable, he spares no expense of time and money, to obtain correct and useful information. The manuscript is looked for by the steamer on the 20th instant, and we hope to be ready to deliver it in the early part of the Fifth month.

The Report for the year 1844, of the Pennsylvania Hospital for the Insane, situated a couple of miles on the other side of the Schuylkill, has been kindly forwarded by Dr. Kirkbride, physician to the Institution. We have read it with great interest. Though there is certainly abundance that is sufficiently humiliating in the revelations recently made to different Legislatures, by the indefatigable and philanthropic D. L. Dix, yet it is not a little cheering to contemplate the improvements which have been made within the last quarter of a century, in the mode of treating this most afflicted class of our race. The improvements are clearly developed in this, and Reports of similar Institutions, which are annually thrown before the public. The history of a nation, it has been said, may be read in its statute book; and so, too, most unquestionably, are strong evidences afforded, of its advancement or otherwise, in Christian practice and substantial civilization, by the modes most general in the treatment of the insane.

The employments of the garden, the field, and the workshop, are resorted to as eminently calculated to divert and improve the minds of the unsettled; and although from occupations of this kind, a small pecuniary advantage may result, this is as nothing, says the Doctor, "in comparison with the beneficial effects produced on the health of the patients. The true profit of labour about an insane hospital—and it is a profit that cannot be estimated in money—consists in the tranquility and repose which are given to irritable and excited minds, the removal of painful thought, the comfort of a quiet evening after a day's toil, the sound and refreshing sleep, the blessings of a good digestion, and all the happy results which follow these advantages." The spirit of kindness and law of love, even for those deprived of the use of their reason, remarkably characterise this Report; and it appears to us they are brought into operation manifestly to the advantage of all who are under the Doctor's care.

JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY. This work is published quarterly under the direction

of the Philadelphia Society for the Alleviation of the miseries of public Prisons. It is an octavo of 96 pages, and the subscription price \$2 per annum. The object of the work may be readily gathered from the title, and from the high character of the Society who have charge of it. It is published from the office of the Farmers' Cabinet, where subscriptions and payments will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay. AARON CLEMENT.

March 15th, 1845.

WE keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestrica,	3 00
RELIQUIE BALDWINIANE,	1 00
AMERICAN Poulterer's Companion,	1 25
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

ERASTUS H. PEASE, of Albany, will shortly publish, if indeed by this time he has not already published, A CATECHISM OF AGRICULTURAL CHEMISTRY AND GEOLOGY, by James F. W. Johnston, M. A., F. R. S. S. L. & E., with an Introduction by John Pitkin Norton, of Farmington, Connecticut. This will, we apprehend, be a valuable work, judging from the well known character of the author. It will, as soon as it appears, be for sale at George S. Appleton's, No. 148 Chesnut st., and at this office.

PARTICULAR attention is invited to the Sale of Edward Harris' Norman Horses, at Moorestown, New Jersey. It is very rarely that farmers of the United States can avail themselves of an opportunity for the purchase of such stock.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrow; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable and Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by
D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portorage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.
JOSIAH TATUM.

SHORT ADVERTISEMENTS.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

Seed Store,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red clover, and other grass seeds. Field seeds, consisting of Spring and Winter Wheats, Potatoe-Oats, Barley, and choice varieties of Seed-corn. Also in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.
tf.

Philad., March 15th.

The quantity of rain which fell during the Second month, 1845, was about four and three-quarter inches.
..... 4.738 inches.

Penn. Hospital, 3rd mo. 1st.

CONTENTS OF THIS NUMBER.

Difficulty in Churning Butter, obviated.	PAGE 233
Professor Hallowell's Experiments on Manures.	234
Farm cultivated by the Insane.	236
Progress of Horticulture in Indiana.	237
How to raise Turkeys.	240
Experiments with Gas liquor on Grass Lands.— Cultivation of Fruit.	241
Seed Wheat.	242
Prouty & Mears' Centre-draught Plough in Ohio.	243
Report on Crops.	244
Letter from T. le Couteur.	245
Lightning Rods,—No. 1.	247
The Shepherd's Dog.	252
Animal Heat, concluded.	253
Scientific Agriculture.	255
Uselessness of Dogs.	256
Acquired Knowledge among Farmers.	257
Adulterated Milk.	258
I. W. Roberts' Durham Steers.—Ingenuous Raven.	260
Editorial Notices.	261

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

TERMS.—One dollar per annum, or five dollars for seven copies—payable in advance.

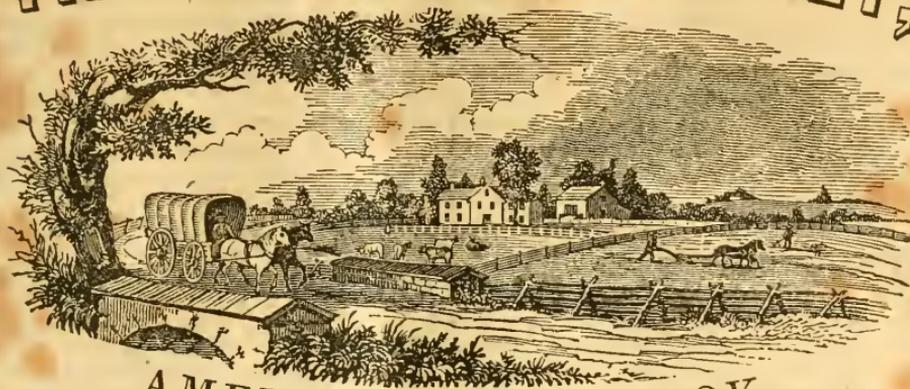
All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For six dollars paid in advance, a complete set of the work will be furnished in numbers, including the ninth

volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly half-bound and lettered. Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 9.]

4th mo. (April) 15th, 1845.

[Whole No. 123.]

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BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

The Preparation of Seed.

MR. EDITOR,—I do not know any subject in the whole range of agricultural pursuits, upon which labour can be so profitably bestowed as in the preparation of seed. It is lamentable to observe the immense loss which is continually sustained in consequence of indifference and carelessness on this point; and it is really to be feared that every species of grain will continue to degenerate in quality and diminish in quantity, unless the farmer is awakened to a proper sense of the importance which he should attach to this part of his business. It has been the observation of almost every man, that those products of the farm which are less valuable, and which, therefore, the farmer is more indifferent about, are annually growing worse in quality. Oats are lighter in the grain and upon the ground than they were formerly, and rye is becom-

ing so exceedingly bad in quality, and so uncertain a crop, as to be scarcely worth committing to the ground. Farmers are heard constantly to express their wonder why the product of the rye crop is not as it was formerly, and that they cannot raise as much oats to the acre as they used to do; but they will cease to wonder, if they will but reflect how exceedingly indifferent they have been, with regard to the quality of the seed which they have used. The importance and value of the wheat and corn crops, have sometimes induced them to make an exertion to procure better seed than their own; but who ever takes the trouble to go beyond his own granaries to seek for seed rye or oats? or who ever takes more pains in its preparation, than to measure it into his bags from the pile, as it comes from the barn floor? To this alone is attributable the fact that these crops make but a scanty return for the labour bestowed upon them. I do not urge the recollection of these things for the sake of these crops, for I do not deem them essential to the farming interest, beyond the small amount of them which the farmer may be supposed to require for his own immediate consumption; but the same reasons and principles precisely are applicable to wheat and corn, to which we attach so much importance. If in the preparation of seed wheat, we take the grain as it is prepared for grinding, and run it through the wind-mill at a speed which will blow one-fourth or one-third of it out, and with this,

nearly all the weed and grass-seeds—then run it through the rolling-screen, and thus separate any cockle, weed, or cheat seed, which may remain; then wash it, and if there has been any smut in it, wash it again in salt water, and spread it upon the barn floor and sift lime upon it and mix it, I will venture to assert that in any soil, the product will be increased from 15 to 20 per cent. over what it would have been, if the wheat had been sown without this preparation. If this be so, what labour and pains so profitably spent? And that it is so, is not only constantly taught us by experience, but is perfectly consistent with those reasons which are so familiar to us all. Cheat, cockle, rag-weed and smut, are principally what infest the wheat field. Where weeds grow, they occupy the place of wheat, and take that nourishment from the ground which the wheat should have; and I need not use any argument to prove that they will not grow unless the seed is in the ground, and that it will not be there—at least in such quantities—unless it be put there. Indeed I know from experience, that in the course of a few years these weeds will be wholly exterminated by that strict attention to the cleansing of seed which is here recommended. Smut is but an infectious disease of the grain, and is common to wheat, corn, and oats; but no one need have it in either, if he will but take the trouble to cleanse his seed. For several successive years have I made the experiment of cleansing smutted wheat, by washing a small portion of it in salt water and putting lime upon it, and venture the assertion that it will never fail to purify it. I have also taken pure wheat and mixed smut with it, and thus communicated the disease, and it will never fail to produce smutted wheat. The same remark may be made with regard to oats and corn; for the blighted head of oats, and the large black excrescence which sometimes grows upon corn, although different in appearance, are essentially the same thing.

It is a very common impression that wheat is improved by changing it from one kind of soil to another. It may be so; and if "what every body says must be true," it is so: but I may be permitted to doubt it, if it be only for the purpose of inducing thought and observation on this point. Each one of your readers is prepared to say, "I know this from experience;" but, notwithstanding, it is still worth the inquiry, whether his experience is not this,—that when he went from home after seed, he went after *good* seed—better than his own, which he sowed in the next field, and cultivated in the same way, and upon which his observation induced him

to come to the conclusion, that the seed he got from the slate land produced better than his own? I am not prepared to enlist myself upon the one or the other side of this question.

Seed corn should be selected while it is upon the stalk; it cannot be so well done afterwards. Every one has observed how much sooner some ears of corn in the same field ripen than others, and that some stalks bear two and some three ears, while others have but one. All analogies and experience teach the advantages which are derived from the selection of those ears which possess these advantages. The same reason which would induce us to select a good breed of hogs, is equally applicable to our corn and wheat. The farmer who will turn his attention to a proper selection and preparation of his seed, will be much surprised how little labour will produce a great result. W.

Carlisle, March 17th, 1845.

Improvement under Difficulties.

We sometimes hear intelligent men inculcating the sentiment, as if they really believed it, that a farmer need not expect to get any valuable information in his calling from agricultural books. We claim for ourselves freedom of opinion—of course we grant it to others. The article below, which we take from the *Southern Planter*, is of so matter of fact a character, and altogether so practical in its bearings, that we could scarcely give in the same room a more thorough refutation of the doctrine, that reading is useless to the farmer.—Ed.

MR. EDITOR,—In the year 1819 I bought the farm on which I now reside. It was then without buildings, nearly without fence, and so poor and exhausted, and had been neglected so long, that most of it was overgrown with bottle-end pines. From the year I purchased, up to 1834, I can venture to say, that very few persons would have cultivated this farm could they have been permitted to do so rent free, and during this period the money I made, although I followed the oyster business in the winter, was very little. Yet, by economy and great industry, I was enabled to build myself a small dwelling house, a log-kitchen, and crib. The growing expense of a young family, and the small product of my farm almost discouraged me, and at that time so little was known by myself or neighbours of the true value of manure and the best mode of using it, particularly on the corn crop, that I saw no prospect of making a comfortable living. But as good fortune would have it, your valuable periodical fell into my hands, and in reading its pages, ideas were suggested to my mind

that have been of immense value to me, and have enabled me to be very prosperous and happy. I was reading one day about the rocky land in the old countries, where I found the following statement: "A very wealthy gentleman, I believe in Switzerland, who was of the opinion that the very rocky land thereabouts could be made productive and profitable, built several small huts on that rocky land, and induced poor families to live in them by giving them a year's provisions, and at the same time requiring them to use their industry to improve the land and provide for themselves. They were required to bring turf and dirt from the nearest bog, and this they used by putting one spadeful to each dimple for potatoes. The next year they put one more spadeful to the same dimple and raised a second crop of potatoes. These crops proved very good, although so little dirt was thrown among the rocks; and at the expiration of two years these hitherto barren rocks were found to be so productive as to be rented out, which was done by the wealthy proprietor, who received in a few years a full remuneration for all the expense of the first outlay in establishing these poor people." These experiments and their results, so surprising, induced me to make trials with manure in corn crops, and opened the door of prosperity to me. In 1834 I made experiments with horse manure on corn. I took a single cart-load and applied it, using but one pint to the hill, and to my surprise found it had doubled my crop where used. This gave me fresh courage, and the next year so sanguine were my feelings, that I purchased at Norfolk fifty dollars worth of manure. This, with what I raised, enabled me to manure my whole crop of corn, sweet potatoes and melons, and every thing else that I planted. Applying my manure to my corn, as in my first experiment, I found I made not only enough for my family, but nearly enough for two such families. And since, from year to year, I have continued buying about the same quantity of manure. It cost me at the stable fifty cents a load, or sixty-two and a half cents at the wharf, whence I convey it in lighters to my farm. All the real or stable manure I apply to corn; I do it as follows: for every 120 corn-hills, or sometimes for one hundred, I measure out two bushels of manure by a bushel box, which I keep for this purpose, and drop it over the field in heaps; my servants then, with a box under one arm, holding about a peck, and with a paddle in the other hand which will hold a pint, apply it to the hill where the corn is to be planted. I am fully convinced that stable manure should in no

case be used broadcast in its application to corn.

My corn land, under the above management, has gradually improved. I have found great benefit from oyster shell marl.

I have adopted the following rotation of crops: first year corn, second year corn, third year small grain, fourth year clover; but have not yet entirely succeeded in the clover crop. Rather than tend my land after oats, I should prefer three successive crops of corn.

Owing to the great flood of rain last year, 1842, my crop was small; but never since I commenced buying manure, have I been discouraged.

In 1828 I planted me a peach orchard.—Peaches then were worth in our market from 50 to 75 cents per bushel, but when my trees had become bearers, I was enabled to get, by retail in Norfolk market, from two dollars and fifty cents to three dollars per bushel. For the last three years I have sold to Baltimore hucksters a large portion of my peaches. I sold them at five dollars per barrel, being barreled on the farm and then delivered by myself at Norfolk, aboard the steamboat. When my orchard bears well, I can deliver from three to ten barrels per day, and send one boat load to be retailed at Norfolk market.

WILLIAM GRIMES.

Norfolk county, Va., 1844.

Agriculture, &c., of the Cherokees.

From the *Cherokee Advocate* published at *Tahlequah*, we take the following paragraphs, which are contained in the Report of P. M. Butler, United States agent, lately made to the Commissioner of Indian Affairs.—
ED.

THE cultivation of the soil is now the only means of support possessed by the Cherokees, there being no game within the limits of their territory. Their soil is fertile, and yields an abundant support with but little labour. They raise an abundance for consumption, but nothing for exportation, at least not in sufficient quantities to derive any income from it. Their country is admirably adapted for grazing cattle, of which all of them have stocks more or less large. In consequence of the climate, only a portion of the country, resembling the northern parts of Alabama, is suited for the cultivation of cotton; tobacco and hemp grow well. They are very much in want of a good merchant mill; it would act as a stimulant to the raising of wheat, for which the soil and climate are peculiarly fitted. Though the soil, which is of limestone foundation, like all limestone regions, yields an abundant supply of springs, yet, except where these springs are found,

there is, during the summer and fall months, a great scarcity of water.

Among the Cherokees there are many native mechanics, such as blacksmiths, carpenters and gunsmiths. Looms are manufactured; and in one instance, a wooden clock was made. Many of them possess a great talent for the mechanic arts. I may here mention, as a gratifying evidence of the improvement of the Cherokees, the universal industry and the great ingenuity manifested by the females in manufacturing cloth and many other articles of domestic economy. Considering the very few advantages possessed by them, they evince a highly creditable degree of skill.

Steaming of Cattle, &c.

CATTLE are being steamed up, at the West to advantage; and where pasturage is cheap and cattle are plenty, it is doubtless a sure mode of disposing of stock to some profit. The importance of this subject deserves a more minute statement of the disposition of the whole carcass, upon which the gain depends.

The hide is salted with fine salt on the flesh side, and subsequently sprinkled with coarse salt, and rolled up for the English market, into which it is admitted at the low duty of about six cents per cwt. The hide shrinks about 18 per cent.; nets from four to five cents per lb. And here I would remark, that this foreign market is much better than the domestic market at the West. The hoofs are soaked in warm water—not boiled—and then the flesh is taken out for oil, while the horn part is sent to Europe as a substitute for shell in making combs. From the thigh and shoulders are taken from 75 to 100 pounds of lean meat, suitable for drying. If the British market, or the market at the East is good, 100 pounds of beef of the very best cuts are also reserved for the barrel. The liver is rubbed over with saltpetre, and then dry salted for about two or three weeks, and hung up to dry. This makes a most excellent relish during the summer, if fried in butter. The great object is, however, to extract from the carcass all the oil or grease both from the flesh and bones. For this purpose the carcass is cut into pieces and thrown into an iron cylinder, capable of holding from 10,000 to 15,000 pounds of beef. After the top is fastened down, steam is let in to the extent of 70 pounds to the square inch, which is equal to 306 Fahr.

After boiling 12 to 14 hours, and the oil or grease has risen to the top, it may be

drawn into barrels for the European market. If this pressure of steam is continued upon the bones for a few hours more, they become soft. The rich soup in the kettle affords a most excellent nourishment for swine, especially if shorts or meal be added. It is estimated that 40 beeves killed per day, and tried up in the manner stated, will feed 600 to 1000 hogs. The pork, it is true, will not be equal to the corn-fed, but will try up to advantage for lard, leaving also a further supply of soup.

If we consider the low price of cattle in the West—viz. \$8 to \$10 for a large steer—the cheapness of pasture, and the quantity of fat which is acquired by one summer's feed, we cannot doubt that this plan will give a certain market, which is far better than none.

The time will soon come when more attention will be paid to the selection of cattle for their hides. Some hides are actually worth twice as much as others for their wear, after being tanned. The hides of the Durham cattle, for instance, are more open and porous than the hides of the native cattle, and hence their suffering from cold; and far less so than of the Scottish cattle upon the mountains. Very little has hitherto been said upon this point. I have written for information, which may arrive too late for this report.

The question arises,—how much tallow will a fat steer afford? The following statement I received from a large packer at Cincinnati: If the ox weighs 700 pounds, deduct 25 pounds for kidney-tallow; for rough gut tallow, 50 pounds; allow 100 pounds for hide, and 100 pounds for the lean meat for drying; this will leave 425 pounds to be tried up. If the hide only is taken out, leaving 600 pounds. This, it is supposed, will give,—if the steer is fat—from 25 to 30 per cent. of tallow or grease, and may be increased 6 or 10 per cent. The estimate given me is this:

Hide, 100 lbs. at 4 cents,	\$1 00
Beef for smoking, 100 lbs. at 3 cents,	3 00
Tallow, 150 lbs. at 6 cents,	9 00
	<hr/>
	\$16 00

No account is made in this computation of oil from the feet, or the grease and soup from the offal.

I have directed some new experiments to be made with six bullocks, to determine more definitely and satisfactorily the facts as communicated above. I hope to receive the results before this report is closed.

Several patents have been lately taken out to increase the facility of trying up cattle, sheep and hogs.

While on this subject it may not be amiss to add the experience of some excellent graziers as respects salting the cattle as a preventive to the murrain, as well as hastening the accumulation of fat. Whoever has noticed the salting of stock, must have been struck with the eagerness with which they rush for this luxury. The strong ones get a double portion, while many get none at all. The successful ones, however, in their strife, seize much more than is good for them, since an excess occasions excessive thirst. A remedy is found by saturating salt with water, and then adding clay or ashes to absorb the liquid; the residuum, after standing still a little while, becomes a hard mass susceptible of form. This is then conveyed, say in the form of a pyramid, to a convenient place—which should always be a dry place—for the stock to assemble at, and there protected by some covering from the rains.

To this pyramid give the cattle free access. Sheep will usually lick the salt-cake two or three times a day. None of the stock will take more than they want, and all will get enough. The experiment has been attended with the most favourable results.

In addition to the advantage of giving all the cattle such a supply of salt, it has been found that large herds have been saved entirely from the murrain. I would, therefore, recommend a trial, which can be easily made. If successful, the plan will save much labour and some danger. The following proportion will usually answer:

One part salt dissolved in two parts water; three and a half parts dry clay; three and a half parts of wood ashes.

The ashes and clay will help to keep the stomach and bowels in good order. This is the great preventive of the murrain, which is a highly excited inflammation of the intestines. The supposition that this disease arises from drinking in leeches, which subsequently find their way to the liver, is often believed, but is not tenable. The leech—if so it may be called—found on the liver, appears, upon microscopic investigation—indeed, also to the naked eye—to be a very different thing from the water leech; besides, if the leech proceeded from the stomach to the liver, such a breach would be made as to cause the speedy death of the animal; nor could the leech very pleasantly find its way through the gall-ducts. Be all this as it may, the experiment of salting in the mode prescribed is confidently recommended.—*Ellsworth's Report for 1844.*

DRIVE your business—don't let your business drive you.

For the Farmers' Cabinet.

Experiments in Farming.

THE writer of this has derived instruction and interest from the perusal of the Cabinet for several years past, and though not depending on agriculture as his principal business, yet, having a small farm, has made some observations and experiments in that line. These may be worth one half the room they may take, if deemed worthy an insertion; their principal merit being that they are *facts*; a stubborn ingredient, difficult to be got over or around.

Conversing with farmers frequently many years since, I was struck forcibly with the opinion advanced by them all, without exception, that one load of barn-yard or stable manure, made, tramped in by the stock, and always under shelter, till time to haul it on the land, was worth at least two loads—some said three—of that made exposed to sun and rain, or without shelter; the question rushed to my mind at once, “if the difference is so great why do you not roof your yards, nearly or quite all over? it can be cheaply done; a roof of boards not necessarily water-tight, will answer every purpose, and pay you certainly not less than twenty per cent. clear, for your money;” a satisfactory reply was never obtained to the question.

Having occasion some years afterward to build a barn—my land having been limed and otherways improved, until I had not shelter for half the product—the idea of a roof over a more than usual portion of the yard, having obtained an immovable place in the mind was carried out, and the only regret about it is, that the plan was not laid for roofing a much greater quantity. Care is now generally taken several times during the winter, to sow about one bushel of plaster of paris at a time all over the manure, whether sheltered or not, at times when there is a thaw, or warm wet weather; a larger yard would require more plaster.

With me it is set down as bad economy of time to send my farming men to a distant part of the farm to work *before breakfast*, except to a suffering job, for the reason that almost every farmer can find suitable work near the buildings, or in the garden, and thus save the time spent in walking to and fro before the breakfast hour; hence part of our early hours are spent in putting under the shelter, wet dripping manure and straw, that has been exposed; its weight will pack it down sufficiently. After levelling it, plaster is sown, and there all lay together till immediately after harvest; it is then carted to the field, on oat or barley stubble, pre-

paratory to a crop of wheat: as soon as one or two days hauling is ahead, a careful man is employed to spread, having a bag or bucket by him with plaster of paris in, to sow a light coat over the square as soon as the heap of manure is carefully spread; several barrels containing plaster, being previously distributed over the field for the spreader to resort to, and the idea strongly impressed upon the man, that I would prefer to pay for two or three days extra labour if he will spend the time in spreading evenly, and parting and breaking all large pieces of the manure, instead of carelessly throwing it round, regardless where it falls, or how large the parts may be; my convictions are that much is lost to the crop by careless management of manure. After the spreading is finished, the field is shut up, and so left till near the time for sowing; it is then carefully ploughed, sowed and well harrowed, sometimes rolled immediately, and sometimes not till spring. Advantages of this whole plan are, first, that roofing a sufficient portion of the barn-yard, you can fodder your cattle in the dry, and they have their choice of shelter or the open air; second, your team will draw at least one-third more in value of manure at a load, there being not half so much water in it; third, an equal bulk—it being richer—will manure a larger space of ground; fourth, and most important, and caps all the others, a *uniformly good crop of fine heavy wheat, from land, not by any means the best of wheat land.* The first and only disadvantage is, a little more difficulty to get it spread evenly. I may remark that the *uniformly good crop* extended just as far over the fields as the manure—managed as above—reached; the remaining part of the fields having had the exposed or unsheltered manure put on them, though in greater weight, produced a crop of one-half to two-thirds in value. I am not chemist or philosopher of sufficient depth to account, by a long course of reasoning, for the result; I am satisfied to continue this plan till a better is learned; its cheapness commends it to me.

Another little experiment was made previous to the foregoing, and which is intended to be repeated, though on land somewhat different from that on which it was tried. Having had frequent occasion to travel, some years since, through parts of the best cultivated districts in Chester county, Pa., and some other places, I was occasionally, in fact frequently astonished, just before harvest to find the wheat crop an almost total failure, on lands well farmed and highly manured: it was truly sorrowful to see so much labour and value lost, so far as wheat was concerned, and the query arose strongly, can it

be that so much more depends on the season being favourable, than on careful farming and high manuring; if it be so, why not put the manure on grass or corn ground, and plough down clover and other green crops in the fall, sow wheat, and depend for all the rest on the season? the manure will certainly pay in corn: and at it I went, on quite a small scale at first; thus, clover seed, sowed on wheat in the spring in the usual manner; after the wheat crop is removed at harvest, close up the field, suffering no stock to run on it, but permitting every thing to grow; about the first of September plough all down, turning under with a drag chain: this was followed up on the same ground five years in succession, without manure—results: first year, a very moderate crop; second year, a pretty good crop, equal to most of my neighbours, who had put on manure in the usual way, and better than some—third year, quite a good crop, fully equal to neighbouring farmers; here and there a few spots of green grass sod were observable, which put the wheat out where they obtained—fourth year, less wheat, and a much increased quantity of green grass—fifth year, very little wheat on a large part of the field, but the green grass had obtained a most astonishing hold; so long and tangled was it, that in many places a horse had not strength sufficient to pull the hay rake through it, and raking the stubble was abandoned in the part where the green grass had obtained. Such a result was, to say the least, not expected; that land which had been ploughed seven years in succession, should become almost matted with natural grass, as it is called, was certainly a curiosity. I say seven years successively, because a crop of corn and one of wheat, had been taken off before this experiment commenced.

This, if it has not already, may become dry and uninteresting if extended; it contains the essence of my experiments in obtaining crops of wheat; I therefore close.

J. P.

Newcastle co., Delaware.

Greatest amount of Produce from a given surface.

THE following is the twelfth of Liebig's *Familiar Letters on Chemistry*. The whole of those letters, as well as his *Agricultural and Animal Chemistry*, afford an amount of delightful reading for the farmer, which can hardly be obtained of the same kind, anywhere else for the same price.—Ed.

HAVING occupied several letters with the attempt to unravel, by means of chemistry, some of the most curious functions of the

animal body, and, as I hope, made clear the distinctions between the two kinds of constituent elements in food, and the purposes they severally subserve in sustaining life, let me now direct attention to a scarcely less interesting and equally important subject—the means of obtaining from a given surface of the earth, the largest amount of produce adapted to the food of man and animals.

Agriculture is both a science and an art. The knowledge of all the conditions of the life of vegetables, the origin of their elements, and the sources of their nourishment, forms its scientific basis.

From this knowledge we derive certain rules for the exercise of the *art*, the principles upon which the mechanical operations of farming depend, the usefulness or necessity of these for preparing the soil to support the growth of plants, and for removing every obnoxious influence. No experience, drawn from the exercise of the art, can be opposed to true scientific principles, because the latter should include all the results of practical operations, and are in some instances solely derived therefrom. Theory must correspond with experience, because it is nothing more than the reduction of a series of phenomena to their last cause.

A field in which we cultivate the same plant for several successive years, becomes barren for that plant in a period varying with the nature of the soil: in one field it will be in three, in another in seven, in a third in twenty, in a fourth in a hundred years. One field bears wheat, and no peas; another beans and turnips, but no tobacco: a third gives a plentiful crop of turnips, but will not bear clover. What is the reason that a field loses its fertility for one plant, the same which at first flourished there? What is the reason one kind of plant succeeds in a field where another fails?

These questions belong to science.

What means are necessary to preserve to a field its fertility for one and the same plant!—what to render one field fertile for two, for three, for all plants?

These last questions are put by art, but they cannot be answered by art.

If a farmer, without the guidance of just scientific principles, is trying experiments to render a field fertile for a plant which it otherwise will not bear, his prospect of success is very small. Thousands of farmers try such experiments in various directions, the result of which is a mass of practical experience forming a method of cultivation which accomplishes the desired end for certain places; but the same method frequently does not succeed—it indeed ceases to be ap-

plicable to a second or third place in the immediate neighbourhood. How large a capital, and how much power, are wasted in these experiments! Very different, and far more secure, is the path indicated by science; it exposes us to no danger of failing, but, on the contrary, it furnishes us with every guarantee of success. If the cause of failure—of barrenness in the soil for one or two plants—has been discovered, means to remedy it may readily be found.

The most exact observations prove that the method of cultivation must vary with the geognostical condition of the subsoil. In basalt, greywacke, porphyry, sandstone, limestone, &c., are certain elements indispensable to the growth of plants, and the presence of which renders them fertile. This fully explains the difference in the necessary methods of culture for different places; since it is obvious that the essential elements of the soil must vary with the varieties of composition of the rocks, from the disintegration of which they originated.

Wheat, clover, turnips, for example, each require certain elements from the soil; they will not flourish where the appropriate elements are absent. Science teaches us what elements are essential to every species of plants by an analysis of their ashes. If, therefore, a soil is found wanting in any of those elements, we discover at once the cause of its barrenness, and its removal may now be readily accomplished.

The empiric attributes all his success to the mechanical operations of agriculture: he experiences and recognises their value, without inquiring what are the causes of their utility, their mode of action: and yet this scientific knowledge is of the highest importance for regulating the application of power and the expenditure of capital—for insuring its economical expenditure and the prevention of waste. Can it be imagined that the mere passing of the ploughshare or the harrow through the soil—the mere contact of the iron—can impart fertility miraculously? Nobody, perhaps, seriously entertains such an opinion. Nevertheless, the *modus operandi* of these mechanical operations is by no means generally understood. The fact is quite certain, that careful ploughing exerts the most favourable influence; the surface is thus mechanically divided, changed, increased, and renovated; but the ploughing is only auxiliary to the end sought.

In the effects of time, in what in agriculture are technically called *fallows*—the repose of the fields—we recognise by science certain chemical actions, which are continually exercised by the elements of the atmos-

phere upon the whole surface of our globe. By the action of its oxygen and its carbonic acid, aided by water, rain, changes of temperature, &c., certain elementary constituents of rocks, or of their ruins, which form the soil capable of cultivation, are rendered soluble in water, and consequently become separable from all their insoluble parts.

These chemical actions, poetically denominated "the tooth of time," destroy all the works of man, and gradually reduce the hardest rocks to the condition of dust. By their influence the necessary elements of the soil become fitted for assimilation by plants; and it is precisely the end which is obtained by the mechanical operations of farming. They accelerate the decomposition of the soil, in order to provide a new generation of plants with the necessary elements in a condition favourable to their assimilation. It is obvious that the rapidity of the decomposition of a solid body must increase with the extension of its surface; the more points of contact we offer in a given time to the external chemical agent, the more rapid will be its action.

The chemist, in order to prepare a mineral for analysis, to decompose it, or to increase the solubility of its elements, proceeds in the same way as the farmer deals with his fields—he spares no labour in order to reduce it to the finest powder; he separates the impalpable from the coarser parts by washing, and repeats his mechanical bruising and trituration, being assured his whole process will fail if he is inattentive to this essential and preliminary part of it.

The influence which the increase of surface exercises upon the disintegration of rocks, and upon the chemical action of air and moisture, is strikingly illustrated upon a large scale in the operations pursued in the gold mines of Yaquil, in Chili. These are described in a very interesting manner by Darwin. The rock containing the gold ore is pounded by mills into the finest powder; this is subjected to washing, which separates the lighter particles from the metallic; the gold sinks to the bottom, while a stream of water carries away the lighter earthy parts into ponds, where it subsides to the bottom as mud. When this deposit has gradually filled up the pond, this mud is taken out and piled in heaps, and left exposed to the action of the atmosphere and moisture. The washing completely removes all the soluble part of the disintegrated rock; the insoluble part, moreover, cannot undergo any further change while it is covered with water, and so excluded from the influence of the atmosphere at the bottom of the pond. But being exposed at once to the air and

moisture, a powerful chemical action takes place in the whole mass, which becomes indicated by an efflorescence of salts covering the whole surface of the heaps in considerable quantity. After being exposed for two or three years, the mud is again subjected to the same process of washing, and a considerable quantity of gold is obtained, this having been separated by the chemical process of decomposition in the mass. The exposure and washing of the same mud is repeated six or seven times, and at every washing it furnishes a new quantity of gold, although its amount diminishes every time.

Precisely similar is the chemical action which takes place in the soil of our fields; and we accelerate and increase it by the mechanical operations of agriculture. By these we sever and extend the surface, and endeavour to make every atom of the soil accessible to the action of the carbonic acid and oxygen of the atmosphere. We thus produce a stock of soluble mineral substances, which serve as nourishment to a new generation of plants, and which are indispensable to their growth and prosperity.

Fecundity of Hens.

We take the following from Bement's American Poulterer's Companion, a work of which we have heretofore spoken, and of which all our housewives who would be successful with their poultry, should possess themselves.—Ed.

THE question is often asked "why hens cannot be made to lay as well in the winter as in the summer?" They can, to a certain extent; but they require as a condition, that they be well provided with warm and comfortable lodging, clean apartments, plenty of food, in all its variety, consisting of grain, vegetable and animal food, pure water, and gravel, lime, and sand to roll and bask in.

A writer in the Southern Agriculturist says: "To make hens lay in winter, they should be shut up in a warm place. Boiled potatoes, turnips, carrots and parsnips, are cheap and good food," &c.

"The reason why hens do not lay in winter," observes a writer in the New England Farmer, "is because the earth is covered with snow so that they can find no ground or other calcareous matter to form the shells. If the bones of meat or poultry be pounded and given to them, either mixed with their food, or by itself, they will eat greedily, and lay eggs as well as in warm weather. When hens are fed on cats, they lay better than when fed on any other grain."

There seem naturally to be two seasons of the year when hens lay; early in the spring, and afterwards in summer: indi-

cating that if fowls were left to themselves, they would, like wild birds, produce two broods in a year.

Spring-hatched birds, if kept in a warm place and fed plentifully and attended to, will generally commence laying about Christmas, or even somewhat earlier. In cold and damp this is not to be expected, and much may, in different seasons, depend on the state of the weather and the condition of the bird.

It is a well known fact, that from November to February,—the very time we are in want of eggs the most—they are to many a bill of expense, without any profit. To promote fecundity and great laying in the hen, it is necessary that they be well fed on grain, boiled potatoes given to them *warm*, and occasionally animal food. In the summer they get their supply of animal food, in the form of worms and insects, when suffered to run at large; unless their number is so great as to consume beyond the supply in their roving distance. I find it quite advantageous, in the summer, to open my gates occasionally, and give my fowls a run in the garden and field adjoining their yard, for a few hours in the day, when grasshoppers and other insects are plenty. I had two objects in view; one to benefit the fowls, the other to destroy the insects. It will be found that the fecundity of the hen will be increased or diminished, according to the supply of animal food furnished.

Hens moult and cast their feathers once every year, which generally commences in August, and lasts until late in November. It is the approach, the duration and the consequences of this period, which put a stop to their laying. It is a critical time for all birds. All the period while it lasts, even to the time that the last feathers are replaced by new ones, till these are full grown, the wasting of the nutritive juices, prepared from the blood for the very purpose of promoting this growth, is considerable; and hence it is no wonder there should not remain enough in the body of the hen to cause her egg to grow.

Old hens cannot always be depended on for eggs* in winter, they scarcely being in full feather before the last of December; and then, probably, may not begin to lay till March or April, producing not more than twenty or thirty eggs; and this is probably the cause of the disappointment of those who have supplied themselves at the markets for their stock to commence with, and get but few or no eggs. As pullets do not moult the first year, they commence laying before the older hens, and by attending to the period of hatching, eggs may be pro-

duced during the year. An early brood of chickens, therefore, by being carefully sheltered from the cold and wet, and fed once a day on boiled potatoes, *warm*, with plenty of grain, in the feeding hoppers, and occasionally a little animal food, will begin to lay in the fall, or early in the winter.

"When," says Bose, "it is wished to have eggs during the cold season, even in the dead of winter, it is necessary to make the fowls roost over an oven, in a stable, or to erect a stove in the poultry-house on purpose. By such methods the farmers of Auge have chickens fit for the table in the month of April, a period when they are only beginning to be hatched on the farms around Paris, although farther to the south. It would be desirable to have stoves more common in poultry-houses near cities, where luxury grudges no expense for the convenience of having fresh eggs."

A writer in the *Cultivator*, under the signature of B., says, "I never allow cocks to run with my hens, except when I want to raise chickens." He recommends giving them fresh meat chopped fine, once a day; never allowing any eggs to remain in the nest, for nest eggs. "My hens," continues the writer, "always lay all winter, and from 75 to 100 eggs each, in succession. There being nothing to excite the animal passions, they never attempt to sit. I have for several years reduced my theory to practice, and proved its entire correctness. It must be obvious that the presence of the male is *not* necessary for the production of eggs, as they are formed whether the male be present or not. Of course such eggs will not produce chickens."

In contradiction to the foregoing, Boswell says, "To promote fecundity and great laying in the hen, nothing more is necessary than the best corn and fair water; but malted or sprouted barley has occasionally a good effect, whilst the hens are kept on solid corn, but if continued too long they are apt to scour. It must be noted, that nothing is more necessary towards success in the particular of obtaining plenty of eggs, than a good attendance of cocks, especially in the cold season; and it is also especially to be observed, that a cock while moulting is generally useless."

"Man," says Parmentier, "who thinks of nothing but his own interest, has attempted several means of arousing hens from their torpidity, when they cease at the natural period of the year to lay, inasmuch as it seems very hard to pass through the winter without the luxury of eating new laid eggs."

The method adopted by the ancients was,

rich and stimulant food, such as toasted bread soaked in ale or wine, barley half sodden, tares and millet.

M. Reaumur made several experiments with a view to the object in question. A certain class of food, and of seeds, he says, are much extolled in many places, as tending to promote the laying of eggs, but nothing has yet been determined by our choice; for in this way, the sum of the eggs laid by the hens of a poultry-yard, might be distributed in a far more equable manner, over the several months of the year: and if, as is probable, each hen can only produce a certain number of eggs, we should be glad to have a portion of them yearly produced in winter. The necessity we are under of keeping great quantities of eggs in the season when they are laid, causes an uncommon quantity to be spoiled every year, from too long keeping or want of proper caution in preserving them; and hence the importance of the question—"Whether it may not be possible to make hens lay in winter?"

With respect to fecundity, some hens will lay only one egg in three days, some every other day, others every day, and a hen was exhibited at the Fair of the American Institute, at New York, in October, 1843, that was said to have laid two eggs in a day, and Aristotle mentions a breed of Ilyssian hens, which laid as often as thrice a day.

According to our experience much depends on circumstances, such as climate, accommodations, feed, and the attention paid to the hens, as to the number of eggs annually produced. It is asserted by Buffon, that a hen, well fed and attended, will produce upwards of 150 eggs a year, besides two broods of chickens; and a writer in the Connecticut Courant, says, "a dozen hens properly attended, will furnish a family with more than 2,000 eggs in a year, and 100 chickens," but from our experience we think this an over-estimate, especially for this cold climate. From 70 to 75 eggs per hen, a year, would be a fair estimate, for any number of fowls kept together.

We find statements from practical writers recorded in our American journals, several instances of extraordinary products of hens, which will enable us to form some judgment on the subject; but it must be borne in mind, however, that these statements have been given generally as extraordinary products.

Mr. E. A. Colman, of Chelsea, Mass., obtained from eight hens, from July 7th to August 29th, seven weeks, 293 eggs.

The editor of the Newburyport Herald gives an account of an experiment made with ten hens, which produced 1,116 eggs, besides 15 chickens, within the year. The

avails of 41 dozen eggs sold, paid all the expense of keeping.

It is stated in the Farmer's Journal, that from 150 hens, 1,900 eggs were obtained in the month of January; and that five pullets produced 300 eggs from the middle of October to the middle of April, which is the coldest part of the year.

"Mr. E. Tucker, of Milton," says the editor of the Massachusetts Ploughman, "tells us that he obtained 600 dozen—7,200 eggs in one year, from 83 hens; this was his highest number of fowls; he sometimes had less; that for 562 dozen—6,744—he took \$100 within one cent. The whole amount of his cash expenditures was \$56 43, leaving him a balance of \$43 57."

Mr. Westfall, of Rhinebeck, in the Cultivator, says, "From 45 hens, I have the past year, 1840, raised more than 150 chickens, although I had rather poor success in hatching the eggs. I have sold eggs to the amount of \$21 29: have now over 300 on hand, and the year since the receipt of the first egg last spring, will not be up till the last of this month, February, and we are now getting from 20 to 25 eggs per day, from about 80 hens."

A writer in the Cultivator of 1842, says, "This year, 1842, I have about 40 hens, mostly pullets, and three cocks. They commenced laying in the latter part of January, and, up to the last of April, about 90 days, have given me about 120 dozen—1,440 eggs."

A correspondent in the Cultivator, who writes more in detail, says, "that when his fowls commenced laying he had 37 hens and three cocks, and when they ceased laying he had 26, the average being 32. In about 300 days, between January and November, they yielded 3,293 eggs." He raised no chickens.

The following remarkable instance of fecundity is furnished by Mr. Morent, in the Cultivator. He had three pullets of the Poland or top-knot variety, which were hatched in June. December the 15th of the same year, they began to lay, and from that time to December following, laid 524 eggs. Cost of keeping not exceeding \$3 71. They were fed on barley, rice and peas.

A correspondent of the Massachusetts Ploughman, gives a most extraordinary account of the sales from the produce of one hen, amounting to the sum of \$18.

The following singular case is related in an English publication. "Mr. James Drinkwater, of Harpenbery, has a hen two years old; it has not a white feather on it, but is as black as jet. For upwards of eighteen months it has laid an egg every other day,

and has never been known to change its feathers."

A friend living on Staten Island, and who has been pretty successful in the management of poultry, informed me that from 55 hens and 7 ducks, he obtained in the months of January, 1842, 182 eggs—in February, 324—March, 792—April, 878—May, 915—June, 746—July, 534—August, 650—September, 346—October, 68—November, 5—December, 69—making in all for the year 5,509. Allowing the seven ducks to have laid 70 eggs each, would leave 5,019, which divided by 55, gives an average of 91 eggs to each hen. These hens were fed from six to eight quarts of cracked corn per day, and occasionally a few boiled potatoes. Averaging the feed at seven quarts per day, we have within a fraction of 80 bushels of corn, which at 50 cents per bushel, amounts to \$40, and allowing the eggs to be worth \$1 per 100, we have \$55 09, from which deduct \$40 for food, and we have a profit of only \$15 09, besides 60 chickens, which, at 15 cents each, would swell the profits up to \$24 09. He gives the preference, for eggs, to the silver top-knots and French hens.

Another friend who resides in a neighbouring city, and keeps between 30 and 40 hens, informed me that, in 1841, he obtained eggs from his hens throughout the year; that is, there was not a single day in which he did not obtain some. This he accounted for by having very early chickens, as when the old hens ceased laying to moult, the young pullets commenced. In 1842, he kept between 25 and 30 hens, and obtained 2,832 eggs. This, it will be seen, gives a fraction over 94 eggs to each hen, which is nearly double the number we obtained from our hens. His yard is completely protected by high fences and buildings on the north and west, and receiving the full influence of the sun from the south. He has low sheds around the yard to protect them from storms in the day, and a warm room in the loft of his wood-house, which is lathed and plastered, to protect them from vermin, and keep them warm in cold weather.

Communicated for the Farmers' Cabinet.

American Agricultural Association of New York--Report on Guano.

"RESOLVED, That the Association cause an analysis to be made of the cargoes of guano from Ichaboe and Peru, now in the market for the use of members and all persons in the neighbourhood; and that a report be drawn up with the analysis, containing suggestions for the application of the manure; the whole to be published as early as

practicable, in the agricultural papers of this city and vicinity."

Peruvian Guano.—The specimen was obtained from Mr. Allen, 205 Broadway, who is an agent for the sale of it.

Uric acid	10.5
Ammonia	19.0
Phosphoric acid	14.0
Lime and magnesia	16.0
Salts of soda and potash	6.0
Oxalic acid, with carbonic and muriatic acids	13.0
Water	13.0
Sand	2.0
Volatile and organic matters	6.5
	<hr/>
	100.00

Ichaboe Guano.—The specimen was obtained from Mr. Irvine, Front street, and is a fair sample.

Ammonia	13.5
Humic acid	4.0
Phosphates	25.0
Oxalic, &c., acids	20.0
Salts of soda, &c.	7.0
Water and volatile matter	27.5
Sand	3.0
	<hr/>
	100.00

Prices and relative value of the Peruvian and African Guano.—These specimens are both very fair, and represent the peculiarities of the two kinds of guano. The absence of uric acid in the African variety, is the cause of its inferiority; for that body decaying gradually in the soil, continues to yield carbonate of ammonia for a long time, so that the stimulating effects of the guano are seen the next year, while the African is more fleeting. The prices of the two are, for Peruvian \$45, and for African \$35 per ton, for quantities amounting to five tons; and this may be considered, all things being taken into the account, a fair representation of their value in agriculture.

The African being soluble to the extent of 40 per cent., is better adapted for watering plants, and where very rapid growth is wanted. The Peruvian, on the other hand, acts for a longer time, and is better calculated for crops which continue to grow vigorously during many weeks. The two will probably produce very similar effects for one crop; but the Peruvian is much more active on the second crop.

Crops to which it is applied.—It is hardly necessary to state, that the application may be made to every crop, for experiments are already multiplied with nearly every com-

mon plant or tree: to enumerate a few is sufficient. Wheat, corn, grass, the cerealia, sugar-cane, tobacco, apple, pear, and other fruit trees, flowers, cabbages, turnips, and other cruciferous plants; the experiments are fewest on leguminous plants. But the effect of guano will not be equal on all; for those plants requiring most stable manure, such as tobacco, turnips and corn, are more benefited than grass, oats, or such as require less—the chief effect of the manure being due to the quantity of the ammonia it contains. The reason guano is serviceable to all plants, arises from its containing every saline and organic matter they require as food.

Kinds of soil to which it may be applied.

—It has been used beneficially on all soils; for as it contains every element necessary to plants, it is independent of the quality of the soil—one great point being attended to, that the land be in good tillth; for, otherwise, the tender roots of the vegetable find an obstruction to free growth, and are crippled. Poor, well-tilled soils, exhibit most increase by guano, for in them some essential to the growth of plants is more likely to be absent.

Amount to be applied.—On wheat 250 lbs. per acre, will be an average for a fair soil; 300 lbs. for one that is poor, and 200 for a good soil. Corn, potatoes, turnips, cabbages and garden vegetables, will require 300 lbs. in fair lands; but the amount may be diminished by 50 lbs., if two applications are made instead of one. For grass, rye, and oats, 200 lbs. will be enough.

Time and mode of application.—Seeds may be prepared by soaking in a solution of two lbs. of guano to the gallon of water, and this will answer for a first manuring, if they are left sufficiently long to exhibit signs of germination. Wheat and other small grains should be steeped in this solution about sixty hours, corn about one hundred hours. Thus steeped, the seeds of smut will also be destroyed. Half the quantity to the acre to be applied when the plant has fairly started, and is in second leaf. By this timely addition, the effects of many insects are avoided, and the seedling at once takes on a robust habit. The remaining half should be applied to the small grain crops when they are throwing out new stems, or tillering; to corn, as the tassel appears, or at the second hoeing, and so with other hoed crops. This application should be made, therefore, at the latest period of working, and as nearly before flowering as practicable. The guano should be sowed with a mixture of fine soil, gypsum or charcoal, to give it bulk and divide the particles. No lumps should be

thrown amongst the plants, for they burn them; and where an extensive application is to be made, it is better to screen the manure and pound the lumps. In sowing, reach the soil, if possible, for it is unserviceable to sprinkle it on the plants, and frequently destroys them. Select a season when the land is wet or moist, or when rain may be expected; for in dry weather the guano does not answer well, or even does injury, by acting as a caustic on vegetation. But if the crop suits, always prefer manuring the plant or hill; do this whilst hoeing; less guano is thus used, and more certain effects result. One table spoonful to the hill of corn, tobacco, potatoes, &c., is an abundance for each application. If a solution be preferred, mix one pound in ten gallons of water, and water sparingly with this on the soil, and not on the plants, at the times before mentioned, taking care to stir up the insoluble portion when applied. For this purpose the African variety will be most suitable. Or, where rapid growth is wanted, irrespective of seed, the clear solution may be applied; the insoluble matter, phosphates, &c., being reserved for wheat and corn. Guano may be composted with common soil, or anything but lime and unleached ashes; for these liberate the free ammonia, and thus diminish the effects of the manure.

Value, compared with other manures.—So far as the experiments in England and Scotland may be adduced, one cwt. of guano is equal to about five tons of farm-yard manure on an average; but it is much higher for turnips than for grass, &c. It would be advisable that in the very different climate of the United States, comparative experiments be made on this point. Let twenty single cart loads of stable manure be used per acre, on wheat, corn, &c., and contrasted with four cwt. of guano. It would also be of service to the agricultural world, that some experiments were made on the value of the organic and inorganic portions of guano. A plot of ground eight square yards, may be divided into two parts, half manured with the ordinary guano, and half with the ashes remaining after burning. In this way the proportionate effect of the organic and saline parts would be estimated, and the conclusion be serviceable, inasmuch as the saline matters can be mixed into a compost for a trifling sum, and thus the expense of guano avoided.

D. P. GARDNER, M. D.

PERSEVERE against discouragements. Let obstructions only stimulate to increased exertion.

The Cattle Epidemic.

THIS pestilence is beginning to excite much apprehension in Great Britain, so much so as to be taken up by the Highland Agricultural Society of Scotland, and several of the Agricultural Protection Societies. At the meeting of the Highland Society last week, Professor Low said:

"The members were all, no doubt, aware that there at present prevailed an epidemic on the continent amongst cattle. He believed it originated in the marshy swamps of Hungary; but it was steadily and rapidly extending northward. The opinion of medical men was, that the disease was contagious: and he thought it was safest to act upon the supposition. The French Government had been eagerly urged to take some precautions to prevent the admittance of these animals. He thought, therefore, that the Directors should apply to the Board of Trade, that, if necessary, they might suspend the operation of that portion of the tariff which refers to the importation of German cattle, so long as the epidemic continues. This would be no injury to the consumer, as the quantity of cattle hitherto imported had been very small, while the injury which might be inflicted by the importation of diseased cattle, would be enormous."

The following extract is from the report read at the annual meeting of the Sussex Agricultural Protection Society:

"Your committee have lately had brought before their notice, the fact of a most fatal disease raging among the cattle on some parts of the continent, and your committee have taken measures that the existence of such malady should be brought before the notice of the Board of Trade, with the view that that Board should take such steps as to prevent the landing of cattle so diseased."

It is to be hoped that while this epidemic shall prevail on the continent of Europe, no importations of cattle or stock of any kind will be made into our country.—*American Farmer*.

Useful Directions.

BRITANNIA ware should be first rubbed gently with a woollen cloth and sweet oil, then washed in warm suds and rubbed with soft leather and whiting. Thus treated it will retain its beauty to the last.

New iron should be very gradually heated at first; after it has become inured to the heat, it is not as likely to crack.

It is a good plan to put new earthen ware into cold water, and let it heat gradually until it boils—then cool again. Brown

earthen ware, particularly, may be toughened in this way. A handful of rye or wheat bran thrown in while it is boiling, will preserve the glazing, so that it will not be destroyed by acid or salt.

The oftener carpets are shaken the longer they will wear; the dirt that collects under them grinds out the threads.

If you wish to preserve fine teeth, always clean them thoroughly after you have eaten your last meal at night.

Woollens should be washed in very hot suds and not rinsed. Luke-warm water shrinks them.

Suet keeps good all the year round, if chopped and packed in a stone jar, and covered with molasses.

When molasses is used in cooking, it is a prodigious improvement to boil and skim it before you use it. It takes out the unpleasant raw taste, and makes it almost as good as sugar.

Use hard soap to wash your clothes, and soft to wash your floors. Soft soap is so slippery that it wastes a good deal in washing clothes.

It is easy to have a supply of horse-radish all winter. Have a quantity grated while the root is in perfection, put it in bottles, fill it with vinegar, and keep it corked tight.

Do not wrap knives and forks in woollens; wrap them in good strong paper. Steel is injured by lying in woollens.—*American Traveller*.

From the Massachusetts Ploughman.

Oats--Eighty bushels per acre.

MR. EDITOR,—If you think the following, in relation to a crop of oats I raised the past season will be interesting to your readers, it is at your disposal.

I sowed four acres with oats last spring, which had been planted two years previous with corn, and well manured. The yield was eighty bushels to the acre, the oats weighing thirty-five lbs. to the bushel. I procured my seed about forty miles distant, and sowed five bushels to the acre. I attribute the superiority of my crops to the changing of seed, more than to any other one circumstance. Would not our farmers find it to their advantage to take more pains than they ordinarily do to obtain their seed oats from soils different from those which they sow?

I ploughed in the stubble, seeded and rolled the ground immediately after taking off the crop. The grass seed took well and looked promising at the closing in of winter.

D. A.

Ashfield, Feb. 11th, 1845.

Rich Milk.

No error can be greater than that of believing a cow can give rich milk upon a poor, lean, spare diet. There must be in the food that which will supply the materials or ingredients of which milk is composed, or else it must be impossible for the cow to produce it. The better the food, the better and richer the milk—the larger quantity of cream, and the supply of butter made from it. Many of our own cows, and most of the imported specimens, whose surprising products have been spread before us in our agricultural papers and reports, have had the advantages of great care and abundant and rich feeding, either of the pasture or the stall. It could not have been otherwise; the effects only followed known causes.

Great difference exists in cattle; some cows run to fat, and those are apt to be spare milkers; the lean and well formed are apt to be good ones; some digest the food better than others, and these do better upon the same pasture or quantity of food; some feed faster and more constantly, and these are apt to be the best milkers, which run with others upon the same pasture. There appears to be as much diversity among cattle in these particulars as among men and women, who may daily sit together around the same table.

The milk-men can now reside thirty or forty miles from Boston, and have their milk fresh and warm from the cow in two hours or less in the dwelling of the consumer. The farmer finds a new source of income in his milk, and as the supply is more abundant, the citizen of Boston has it good; he no longer suspects that it has been diluted with water. There is enough of good milk to supply the demand, and had would find no customers. Town and city families no longer jar in consequence of trading in cows; and they can much quicker, and oftener than formerly visit by means of the rail-roads, their country friends, without those unpleasant comparisons between city and country cream and butter.—*Farmers' Monthly Visitor*.

Tabular Estimate of Crops for 1844.

IN the eleventh No. of our last volume, will be found estimates of the crops in the United States in the year 1843, from the Report of the Commissioner of Patents at Washington. We now give from the same source, those for the past year. These are highly interesting to farmers, and afford, at a glance, not only the aggregate of our great staple crops, but also the produce of the individual States. By comparing the tables for

1843, with those annexed, it will be observed that the crop of corn throughout the country for the past year, appears to have been more than 70,000,000 of bushels short of that of the preceding one, and that the crop of wheat was nearly 5,000,000 of bushels less. While the produce of these grains in some States was less in the last year than in the preceding one, others, however, have considerably increased their amounts. In 1843, in the amount of corn raised, the six following States stood in the following order: Tennessee, Kentucky, Virginia, Ohio, Indiana, Illinois. In 1844, the six heaviest corn producers stand as follow: Tennessee, Ohio, Kentucky, Virginia, Indiana, North Carolina. The six States, which in 1843 produced the greatest amount of wheat, stood in the following order: Ohio, New York, Pennsylvania, Virginia, Indiana, Tennessee; in 1844, they stand as follow: Ohio, New York, Virginia, Pennsylvania, Tennessee, Indiana. Louisiana in 1843, produced but 97,000,000 lbs. of sugar, while in 1844, her produce was raised to 160,000,000; and what is not a little remarkable, New York is the next heaviest sugar producer. While Connecticut produces almost as much silk as all the other States put together, Georgia, Mississippi, Louisiana and Alabama, are far the heaviest cotton growers. Kentucky and Virginia are the great tobacco States. New York, Pennsylvania, Ohio and Virginia, have the greatest population. New York may well be called the Empire State, as she now numbers almost as many souls as did the whole "thirteen" at the time of the Revolution.

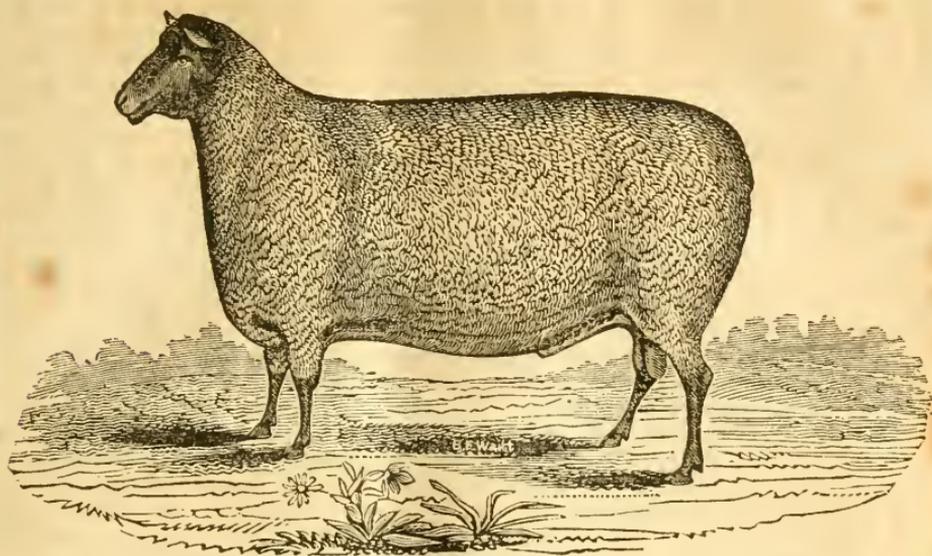
While the population of every State is steadily on the increase, we find that the facilities for procuring a comfortable subsistence are also continually multiplied. We have still, vast territories of unimproved land, inviting to their occupancy the hardy and enterprising of our citizens, whose capital is limited, and who would themselves lay a foundation for the wealth, and more easy situation of their children. It is by no means in an improved cultivation of the soil alone that our advancement is to be perceived. The productions of our mechanics and manufacturers will bear comparison with the very best of any country; and the general diffusion of these improvements, leads, it is to be hoped, to a general increase of the *common comfort*. "There is a beautiful connection," says the Report, "between the progress of the mechanic arts and the developement of the natural productions of the soil. The genius which puts into the hands of the Agriculturist the machine by which he may plough, mow, reap, thresh, or shell out ten times the usual amount performed by the same number of individuals, of course is gifting him with increased power of turning his labour to advantage, provided the market keeps pace with such advance of product. The same may be said with respect to the great fertility secured by different compounds, which, by the aid of chemistry, have been applied to the soil." As information becomes more generally diffused, and the minds of the farming community more thoroughly set into action, we believe the apparent comfort of all may be promoted, and long periods elapse before the onward march of our country shall have reached the goal towards which it would seem to be aiming.—Ed.

TABULAR ESTIMATE OF THE CROPS FOR 1844.

State or Territory.	Population in 1840.	Present estimated popu'n.	Wheat.	Barley.	Oats.	Rye.	Buckwheat.	Indian corn.
			Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Maine	501,973	555,525	628,000	260,000	1,422,000	176,000	66,000	1,738,000
New Hampshire	234,374	289,368	588,000	117,000	1,765,000	405,000	147,000	1,662,000
Massachusetts	737,699	803,187	210,000	141,000	1,687,000	660,000	114,000	2,816,000
Rhode Island	108,830	115,033	4,000	49,000	182,000	49,000	4,000	636,000
Connecticut	309,978	316,543	104,000	25,000	1,496,000	1,122,000	404,000	2,408,000
Vermont	291,948	297,166	776,000	49,000	3,265,000	306,000	286,000	1,440,000
New York	2,428,921	2,714,486	14,975,000	2,164,000	31,135,000	4,044,000	2,997,000	19,463,000
New Jersey	373,306	401,295	875,000	10,000	4,271,000	2,569,000	818,000	6,966,000
Pennsylvania	1,724,033	1,924,460	10,483,000	157,000	24,783,000	10,373,000	2,889,000	19,029,000
Delaware	78,085	78,527	367,000	5,000	1,035,000	46,000	12,000	3,014,000
Maryland	470,019	482,256	4,070,000	3,000	2,254,000	858,000	99,000	4,653,000
Virginia	1,239,797	1,254,938	10,805,000	94,000	14,812,000	1,310,000	—	38,960,000
North Carolina	753,419	761,648	2,461,000	4,000	5,346,000	255,000	—	22,330,000
South Carolina	594,398	606,285	1,460,000	4,000	1,400,000	60,000	—	13,640,000
Georgia	691,392	891,642	1,848,000	13,000	1,190,000	80,000	—	22,200,000
Alabama	590,756	657,600	1,088,000	8,000	1,909,000	72,000	—	22,200,000
Mississippi	375,651	556,467	344,000	2,000	1,081,000	20,000	—	2,709,000
Louisiana	352,411	426,160	—	—	138,000	2,000	—	7,600,000
Tennessee	829,210	907,770	6,950,000	5,000	7,841,000	366,000	25,000	61,100,000
Kentucky	779,828	828,846	3,974,000	14,000	11,901,000	2,316,000	13,000	47,500,000
Ohio	1,519,467	1,834,965	15,969,000	191,000	20,393,000	840,000	792,000	48,000,000
Indiana	685,866	868,175	5,419,000	32,000	11,585,000	210,000	66,000	24,500,000
Illinois	476,183	764,809	3,380,000	92,000	10,798,000	136,000	86,000	19,680,000
Missouri	383,102	514,000	1,144,000	10,000	4,555,000	77,000	17,000	12,500,000
Arkansas	97,574	133,403	2,111,000	1,000	396,000	11,000	—	7,500,000
Michigan	212,267	308,437	4,237,000	158,000	4,013,000	70,000	200,000	4,300,000
Florida	54,477	65,005	1,000	—	10,000	—	—	1,100,000
Wisconsin	30,945	52,379	728,000	17,000	1,000,000	4,000	23,000	560,000
Iowa	43,112	90,000	595,000	2,000	568,000	7,000	13,000	1,690,000
District of Columbia	43,712	52,421	13,000	—	15,000	6,000	—	44,000
	17,069,453	19,552,196	95,607,000	3,627,000	172,247,000	26,450,000	9,071,000	421,953,000

TABULAR ESTIMATE OF THE CROPS FOR 1844—CONTINUED.

State or Territory.	Potatoes.	Hay.	Flax and Hemp.	Tobacco.	Cotton.	Rice.	Silk.	Sugar.
	Bushels.	Tons.	Tons.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Maine	12,304,000	1,251,000	--	--	--	--	850	266,000
New Hampshire	4,643,000	657,000	--	--	--	--	1,100	1,928,000
Massachusetts	4,050,000	706,000	--	103,000	--	--	37,690	425,000
Rhode Island	812,000	44,000	--	--	--	--	1,140	--
Connecticut	2,117,000	573,000	--	661,000	--	--	176,210	47,000
Vermont	6,158,000	1,266,000	--	--	--	--	10,990	4,383,000
New York	17,703,000	4,938,000	--	--	--	--	6,540	12,135,000
New Jersey	2,067,000	376,000	--	--	--	--	5,200	--
Pennsylvania	6,871,000	2,182,000	--	486,000	--	--	33,100	1,313,000
Delaware	194,000	23,000	--	--	--	--	4,580	--
Maryland	881,000	80,000	--	15,582,000	6,000	--	8,530	--
Virginia	2,374,000	444,000	--	33,574,000	2,683,000	3,000	7,720	1,407,000
North Carolina	3,615,000	134,000	--	466,000	51,628,000	3,823,000	8,050	8,000
South Carolina	3,360,000	31,000	--	53,000	49,700,000	83,610,000	6,930	28,000
Georgia	2,048,000	22,000	--	163,000	213,620,000	17,524,000	7,660	291,000
Alabama	1,923,000	21,000	--	310,000	140,000,000	200,000	7,170	9,000
Mississippi	3,378,000	1,000	--	176,000	195,240,000	1,144,000	270	--
Louisiana	1,443,000	33,000	--	--	154,800,000	4,705,000	1,310	160,000,000
Tennessee	2,051,000	52,000	--	33,736,000	39,600,000	10,000	25,090	460,000
Kentucky	1,371,000	164,000	12,000	57,555,000	860,000	19,000	5,810	2,447,000
Ohio	4,847,000	1,876,000	1,000	6,888,000	--	--	31,500	4,380,000
Indiana	3,573,000	2,027,000	500	3,200,000	--	--	1,050	7,365,000
Illinois	3,095,000	350,000	300	1,062,000	250,000	--	4,250	542,000
Missouri	972,000	90,000	9,000	12,495,000	180,000	--	260	396,000
Arkansas	611,000	1,000	--	--	14,400,000	7,000	270	3,000
Michigan	5,359,000	268,000	--	--	--	--	1,730	2,611,000
Florida	300,000	2,000	--	195,000	9,120,000	708,000	510	373,000
Wisconsin	853,000	67,000	--	--	--	--	30	216,000
Iowa	469,000	34,000	--	--	--	--	--	74,000
District of Columbia	51,000	2,000	--	--	--	--	1,250	--
	99,493,000	17,715,000	22,800	166,705,000	872,107,000	111,759,000	396,790	201,107,000



THE SOUTH-DOWN BUCK.

IN the Cabinet, vol 5, page 225, is the portrait of a South-down Buck of the improved flock of Ellman of Glynd, county of Sussex, England, the origin of which was, undoubtedly, a cross between the Leicester or Dishley, or Bakewell and the old Down breed, so long famous as the only sheep stock grazing the very extensive range of Chalk-hills in that immediate vicinity; the large size and longer staple of fleece indicating that cross; suitable to deeper keep and less exposure of situation. Many individuals of this improved breed have attained great weights, and a laying on of fat truly astonishing; the last steamer to Boston,—the Cambria,—bringing over a hind quarter of “real South-down mutton,” weighing 40 lbs., and cutting six inches thick of fat on the rump.

The portrait at the head of our present article, is a perfect likeness of a valuable animal, late the property of E. P. Prentice, Esq., of Mount Hope, near Albany, whose praise as an excellent judge and breeder of fine stock, is in all the country. This fine Buck is of the old and very pure race of the legitimate South-downs, which still retain their peculiarities; and, like the red cattle of the Eastern States, bid defiance to change; their blood scarcely admitting of contamination by closeness of breeding; a little common care in the selection of the best animals, being sufficient to secure the perpetuity of a flock, that on suitable soils and under proper management, will be found the most valuable, perhaps, that can be selected. They are healthy, hardy, quiet and tractable to a proverb; peculiarly adapted to the folding system, which will, in all probability, be practised in this extensive country, as the most convenient, as well as the most profitable, although attended with a portion of extra labour and expense; which would, however, be found to be well paid for. The old race of South-downs are still remarkable for their greater weight of hind-quarter, that portion of the animal which brings the greater relative value; and it is customary to cut from such carcasses those haunches, consisting of the leg and part of the loin, which often command a price little less than that of stall-fed venison; while in the estimation even of epicures, they are sometimes to be preferred, abounding as they do, in the “rich brown gravy, which can be properly relished, only” by those who know what is really fine mutton.

In *Baxter's Library of Agriculture* may be found a good description of these sheep. The South-down breeders in England are particular as to form. The wide and deep breast, projecting well forward before the fore-legs, with the rump long and broad, and the tail set on high, nearly on a level with the chine, are indications of a good form and pure breed.

Can a Horse Reason?

The editor of the Mobile Advertiser, whence we take the following curious and amusing statements of Judge Taylor, says they may be entirely relied on; and can be corroborated by the testimony of hundreds of the most reputable citizens of Mobile.—Ed.

My purpose is not to discuss the question at the head of this article, but to submit some facts for the speculation of those who may be curious in such matters. As you are aware, I own a horse called *John*, that for several years has not only amused, but astonished the public, by his various feats of intelligence and sagacity.

Everybody knows *John*; and if he is seen, as he often is, in a buggy, and no one in it, walking, trotting, or galloping through the most crowded streets, threading his way among carriages and drays, no citizen offers to stop him; but if a stranger attempt it, he only excites a laugh, and is asked how long he has been in the city? I have witnessed some amusing scenes of this kind, at the expense of some one's *good intentions*.

It is proper I should state, that for the last seven years, with the exception of the past and present winters, I have resided about two and a half miles from the city. I generally come to town every day, about eleven or twelve o'clock. I frequently drive to town and back, without touching the rein. If I come down St. Francis street, he is certain to stop at the Waverly, without anything being said to him; and as soon as I get out, he will start in a trot or gallop, and stop at the Corinthian. If I come down Dauphin street, he will go directly to the post-office, where he will stop until I get out, when he will wheel across the street, and remain there, in his *opinion*, a reasonable time; if he wants water, he will go to a pump, and from one to another, until he finds a friend to pump it for him, when he will return.

John is also a general favourite. The "freedom of the city" was long since presented to him in a buggy! He is therefore not confined to any particular street, but goes where he likes, in pursuit of me or his own amusement. He will sometimes go to Water street, and then to Commerce, where, with excellent *taste* and judgment, he will sample bales of hay on the side-walk; but, unlike the cotton samplers, he was never known to fill a bag and carry it off on his back. He not only knows me from others, but can distinguish my voice from all others, as may be easily proved. Hundreds of persons may pass him daily, without attracting from him any particular notice. If I come toward him when his head is turned *from*

me, and happen to be talking at the time, although from his tight check rein the motion may be difficult, and perhaps painful, he will turn his head round, resting it against his side, with his eye, which then exhibits a peculiar, tremlous motion, fixed on me, till I pass. If he then desires to go home, he will raise his head, point his ears, and start after me, stepping loftily, and keeping me in view. Although a spirited animal, nothing "frightens him from his propriety;" in fact, he "dares do all that may become a" —horse! It is a fact quite notorious, that he will go about the city in pursuit of me; it is equally so, that experiments have been made to induce him to leave me, by turning him up the street leading to the country; but after turning a block or two, he would invariably come back. There are many instances of gentlemen having driven him to their residences in different parts of the city, and turned him loose to come back; and I am informed some bets have been pocketed on such performances. I had a standing bet for some years, that I would send him to the market, or the post-office, or any house or point that might be designated, and that he would return safely with the buggy. No one doubted he would do it. But a few months since, I sent him from my house across the country to the Spring Hill road, and up that road a distance of a mile, to the house of a friend, although he had not been there for more than a year. I have often sent him on errands of a similar character. I have only to go with him and show him a place, and he never forgets it. He is perfectly under command of my voice. I speak to him as I would to a servant; and that he understands many things I say to him, is proved by the fact that he obeys me. In harness, or out of it, he follows me about like a dog. He stands in no fear of me, and has no cause; for although I may sometimes scold him, I have never struck him, as I believe, in the seven years and a half I have owned him. He therefore does nothing from fear, but everything from kindness.

It is getting quite late,—two or three o'clock—I must have gone up the street. He turns up Royal street, and stopping a short time at the Literary Depot, and several other places, he goes to the Waverly. There is no use in going farther in this direction, for he knows I seldom go above that point. He becomes uneasy; turns back, and goes down the street as far as the courthouse. He turns again, much excited; his ears thrown back, his neck arched, his nostrils flattened, and starts into a fast trot. As he passes the Mansion House, he is in a round gallop, wildly throwing his head from

one side of the street to the other. If he sees me, he will stop, or come up to me. I get into the carriage, and without saying a word to him, or touching the rein, he takes up the first street leading to our home. Here is a narrow lane, leading to the gate; and to make a clean turn through it, it is necessary to keep to the right, near the fence. John knows it, and stops at the proper point; I get out, open the gate, and pass through. He wheels short round, describing a quarter circle, and sees all is right before him; the gate is narrow, there being but five or six inches to spare, between the wheel and the post. John knows it; and in more than five hundred times passing through that gate, he has not touched the post more than three or four times; but when he happens to do so, he will immediately back, sheer off of his own accord, and pass through, never failing in his second attempt. There are many instances of his having locked his wheels with other carriages, when endeavouring to get a good shade, and disengaging himself in a similar manner, and which have been noticed by Gen. T. D. W. and others. But for the oddity of it, I certainly should not use either rein or bridle. In going to the city, or back, but especially at night, I would trust him sooner than a professed watchman. Not the slightest injury has ever occurred to the carriage by any fault of his.

But he has also a mode of communicating his wishes and wants, by signs, looks, and actions, which are as perfectly comprehensible by me, as if expressed in the plainest language spoken by man. He not only *uses* a language to express his ideas, emotions, &c., but he has clearly *invented* that language himself, as I think I shall prove. A portion of the year, the stable being left open for that purpose, John is allowed to come to the house and kitchen when he likes. About twelve o'clock, one light night, I heard a heavy knocking at the kitchen door. The knocking continued so long and so loud, that I got up and went to the window, when I found it was John creating the disturbance. His hind feet were on the ground, and his fore feet on the upper step. Lifting his foot, he would strike the point of his hoof against the door, ten or fifteen times, repeating it every few minutes. From many other feats of his sagacity, I was well convinced of his object. I called up the servant, and charged him with neglecting to feed the horse; but he stoutly denied the charge. It is certain I did not believe him. But the same thing happened several times afterwards, and I had as often called up the servant, who still asserted the

horse had been fed. One day I happened to hear the old negro talking to the servants in the kitchen, laughing heartily, and repeating, "John won't lie, and master knows it." A laugh. "He believes John, and won't believe me." Another laugh. "I won't tell any more lies about feeding John. It's no use." They all laugh, and I laugh! When he wants water, he will go to the well, and knock against the curb, or the water tub, in the same manner. Of late years, the servant gets up at the earliest knocking, for he knows that no sleep is to be had on the premises until John's demands are complied with. I often direct that he should not be fed in the morning, for the purpose of inducing him to adopt some other mode of communicating his wishes. After exhausting his patience in his usual efforts, he would come to the house and walk by the door, stepping short and quick, and wheeling abruptly round. After practising in this manner for some time, he would give one of the queerest squeals I ever heard, as much resembling the yell of a Choctaw, as anything else, although he *can*, if he likes, squeal in very good *English*! In November last, Mr. H., of C., who was at my house, desired to witness some of John's performances. After performing several feats I have related, and we had gone into the house, the house servant came to me and said John would not let her go to the kitchen. We went out on the gallery, and saw that John had planted his heels directly opposite to the kitchen door, looking very savagely. I ordered the girl to drive him away, which she attempted to do with a stick. But no! John would not move an inch. With his head near the ground, his ears backed, stamping violently, and shaking his head, he bid defiance. All this I knew was merely for effect. I knew he would not have injured the least of living things. I then told the girl to go to the well and draw him water. As soon as she started in that direction, he threw off his theatrical character and followed her, looking pleased and highly gratified at the success of his ingenious experiment. I will relate one feat of a different character. A year or two ago, when I came to the city one morning, I left John at a shop in Church street, to be shod, requesting the smith, after he had done so, to put the horse in the buggy, and let him go; a practice I have pursued at that and other shops, for several years. An hour or two after, I was standing on the side-walk, opposite to the Mansion house, when I saw John coming down Government street, and then up Royal, in a fast trot, stopping within a few feet of me. He soon commenced

stamping violently with his fore foot, which continued for a minute or two. The West ward omnibus was standing some 30 or 40 feet in front of him. Walking up to it, he put his foot on the *upper* step, and commenced biting it. After relieving himself of the fly—as I supposed it was—he backed the buggy to his old position. Although John *knew*, and had *his* reason, why he went to the omnibus, yet it is proper the *learned* public should be informed, that as his check rein would not allow his *head* to be brought down to his *foot*, he went to the omnibus to bring up his *foot* to his *head*! Mr. P., then and now of this city, and a number of other gentlemen, were amused spectators of this performance.

John is a Northern horse, finely formed, and without a blemish; and although in his twelfth year, he has all the playfulness and elasticity of a colt. H. W. TAYLOR.

For the Farmers' Cabinet.

Potatoes, Wheat, &c.

POTATOES in this section of country the past season, have rotted to an alarming extent; and I learn from the papers that the complaint is very extensive; many conjectures and speculations have been afloat respecting the cause. Among the most probable causes that I have heard, is wet weather.

Through the whole course of last summer the ground was not dry enough to work more than two or three days at a time. I concluded this must be the cause, and upon general inquiry and particular examination, I found that the more dry and hilly the land, the less disease among the potatoes. The colour of the soil was also found to affect the quality of the potatoes materially. The blacker the land—other things being equal—the more disease; from this I conclude that the heat absorbed by the colour of the soil, together with excessive moisture, causes all the complaint of which we hear so much. In situations where potatoes are subject to this disease, the driest and lightest coloured land should be selected. There may some advantage be derived from planting in ridges thrown up for the purpose. Potatoes should be planted as soon as the ground is in good condition, and dug as soon as they are done growing.

Wheat is often much injured by the rust, and in some situations and unfavourable seasons it has been so completely destroyed, as not to pay for reaping, though quite a large crop of straw. It has been generally conceded that the rust is caused by the bursting of the straw, and the 'sap or nourishment

that should feed the grain, is permitted to ooze out and dry on the surface. There are several things that tend to the production of rust; one of the most prominent is late sowing, which brings the critical time of ripening too late in the summer, when hot days and frequent showers cause a greater flow of sap than the grain can dispose of; in consequence of which the straw bursts, the sap runs out, and the grain shrivels for the want of nourishment.

Wheat that is seldom agitated by the wind, is apt to grow tall and tender, and is sure to be ruined unless the ripening season is very dry and cool, so as to feed the grain slowly.

It is a fact that may have escaped the observation of some, that wheat never rusts in countries where it is constantly agitated by the wind; this is owing, I suppose, to its growing slower; consequently the straw is firmer, and not so liable to be ruptured, and the danger of any sudden flow of sap is entirely removed by continual waving.

MICAJAH T. JOHNSON.

Short creek, Ohio, 1845.

Sulphate of Ammonia, its uses, &c., for Farming purposes.

SULPHATE of ammonia is better known to the farmer than any other salts of ammonia, having been a good deal advertised of late by vendors of artificial manures. This salt is a compound of sulphuric acid—oil of vitriol—and ammonia. It is not found in a free state of nature, but is obtained by adding oil of vitriol to urine in a state of fermentation; or another plan is to apply the same acid to the waste liquor—ammoniacal liquor—of the gas works, and then applying heat; the water is driven off, and the substance called sulphate of ammonia is left. The sulphate obtained from urine contains other salts, as the phosphates found in urine, and which are likely to add to its utility. The simple mode in which sulphate of ammonia is got, will show the farmer how much might be effected by a general acquaintance with chemistry. The urine of his stall-fed animals might be collected, free of other matters, by having a small reservoir at one extremity of his buildings, into which, by small channels, the fluid would run from each of the out-houses where the cattle are lodged. Let the urine so collected ferment, and pour into it a quantity of the oil of vitriol, which can be purchased at the druggists' for a mere trifle. The vitriol has the effect of *fixing* the ammonia—that is, preventing its flying off, which it is apt to do when in combination with carbonic acid.

The sulphate so formed is not volatile. Instead of oil of vitriol, gypsum might be used. Along with the sulphate of ammonia, other ingredients of considerable value as manures are obtained. By economising well the means within our reach, we become, in a measure, independent of the "manure vendors." We have opportunities of noticing the uses to which the urine of animals may be applied, but we cannot here overlook the extreme slovenliness and inattention which are almost universally displayed in the farm yards around us. Every one extols, and justly so, the manure of the farm yard; yet how many of those who so loudly boast of its superiority to artificial manures, attempt to manage their dunghills as they ought to do? "Far-fetched and dear-bought," as some of our manures are, the farmer continues to buy, whilst he daily witnesses under his own nose the loss of most valuable manure. Ammonia is constantly rising from the stalls and dung heaps, which might be fixed by oil of vitriol or gypsum. The urine is allowed to run anywhere but into reservoirs or tanks—very often into a corner of his yard, which in wet weather serve as a *duck pond*; or it is swept to the door of the stable or cow house, where, by being exposed to the air, it is soon dried up; how melancholy a fact it is that these gross negligences prevail so extensively—almost universally! There are worthy exceptions, it is true, and it is from these more enterprising farmers that we expect those improvements which agriculture stands so much in need of. Let them not confine their knowledge to their own farmsteads, but give the results of their experience to the world.—*J. H. Shepherd's second edition of Hints to Landlords and Tenants.*

The Cranberry.

THIS delicious fruit is coming into such general use, and is becoming so important an article of export, and so much interest is now taken in its cultivation, that I propose giving a concise account of the same, and its general history.

The common American cranberry (*oxycoccus macrocarpus*) is found growing in a wild state in swampy soils, in the eastern, middle, and western States. The first account we have of the cultivation of this fruit, is by the late Sir Joseph Banks, who produced from a bed eighteen feet square, three and a half Winchester bushels; being at the rate of 460 bushels to the acre. Captain Henry Hall, of Barnstable, Mass., has cultivated this fruit for the last twenty years. His method is to spread on his

swampy ground a quantity of sand—this is to kill the grass; but where sand is not at hand, gravel will answer the same purpose. He then digs holes four feet apart each way, and puts in the holes sods of cranberry plants about one foot square.

As this plant naturally grows in a very wet soil, it is generally supposed it will not thrive in a dry soil; but this idea is erroneous. Mr. Sullivan Bates, of Billingham, Mass., has cultivated the cranberry on a dry soil for several years, with the utmost success—having produced 300 bushels to the acre on several acres, and his fruit double the usual size. His method is to plough the land—spread on a quantity of swamp-muck, and after harrowing the soil thoroughly, set out the plants in drills twenty inches apart—hoeing them the first season. After this, no cultivation is needed. By both the above methods, the plants will cover the ground in three years.

From my own knowledge of the cranberry for the last thirty years, should I design commencing the cultivation of this fruit on an extensive scale, I would try it on both swampy and dry soils. I would drain the swampy soil, plough it as early as possible in the spring, and set out the plants on the plan of Mr. Bates.

To show the rapidity with which cranberry plants increase, I will add this statement from an English book on fruits: "An English gentleman had only a few plants, these he cut in small pieces or cuttings, and set them out in a green-house. In the spring he prepared some swampy ground by spading it 12 inches deep. In a bed 150 feet long, and four feet wide, he set out 75 cuttings in one drill through the length of the bed, putting the cuttings two feet apart in the drill, and yet in three years the plants completely covered the ground."

In Massachusetts the cranberry crop is once in a few years cut off by the late spring frosts. This may be prevented where a meadow is so situated as to be flowed. The water should not be over one or two inches deep on the cranberries, nor be left on later than the last of May, in this climate. If kept on till it becomes warm, it will kill the vines. Perhaps the best management would be something as they flood the rice-fields at the south, or water meadows in England—let the water on while the weather is coldest, and then take it off as it moderates. Sometimes, in the eastern States, the cranberries are destroyed by a frost in September; where water is convenient and plenty, the meadow should be flowed on cold nights at this season, as well as in the spring.

Previous to shipping cranberries, they should be run over a platform slightly inclined. The rotten and bruised fruit will not run off, but stick going down the platform, and are scraped off and thrown away. The perfect fruit is then put into tight barrels, and when headed up filled with water, and in this manner they arrive in Europe in perfect order, and have frequently sold in foreign ports at \$20 per barrel.

Rakes are now made for the express purpose of gathering cranberries, and although these rakes tear the vines somewhat, yet the crop is not diminished by raking; on the contrary, it has been increased. Some years ago, a gentleman in Massachusetts commenced raking his little patch of one-fourth of an acre. The first year it produced 12 bushels, the next 18, the third 25, and so on till his last harvest, when the crop amounted to 65 bushels. This increase is easily accounted for by the method of gathering with rakes—the pulling up a few of the vines loosens the ground, and although not intended, yet in fact the raking acts as a partial cultivation.

To promote the cultivation of this fruit, the American Institute is making arrangements to supply horticulturists with plants early in the spring, in either large or small quantities; and I would recommend those wishing to purchase, in this vicinity, or New York, to get their supplies in this way.

B. G. BOSWELL.

Philadelphia.

American Provisions.

THIS article of American exports to England has become one of much importance. We copy the circular of the highly respectable house of J. & C. Kirkpatrick, of Liverpool, largely occupied in this business.

“The business of the past month in general produce has been limited on the whole, the season of the year being unfavourable to any very extensive transactions, while the opinion which has been gaining ground in the best informed quarters, that future changes are contemplated in our tariff system, induces all persons to act with caution in their purchases, until it is definitely known what articles are to be the subjects of legislation in the session of parliament now about to open. The sale of American produce has been affected by the same cause, though it is certain that any change that may be made in our present tariff will be favourable to the extension of our trade with the United States. The imports from thence during the past month have been unusually large, and the shipments now on the way

will give us equally large arrivals in the present one.

“Beef is now coming in freely, and the best parcels have met with a ready sale from the quay at our highest quotations, but such parcels as are inferior in quality, or irregularly cut, are with difficulty disposed of, even at a considerable reduction in price. The quantity now in dock and on passage being large, dealers are holding back in the expectation of being able to supply themselves on easier terms; but unless the import be much in excess of last year’s, there cannot be any material decline from present rates. Some of the Irish curers who packed beef to meet the early demand of the season, have been forcing off their stocks at low and unremunerating prices, being unwilling to meet the increased arrivals of American, the best brands of which are taken now in preference to their own.

“Pork has also been arriving more freely, and generally of very prime quality. Its value has declined somewhat since the date of our last advice, Irish being offered at a reduction of three shillings per barrel, in consequence of the increased competition which it meets from the improved quality of the late arrivals from America. We anticipate, however, an enlarged demand in the present month, and a firm market, the prospects of this article continuing very favourable, and warranting us in confirming the opinion already expressed, that our future supplies of pork, as well as beef, will be principally drawn from the United States.

“*Cheese.*—The demand for this article has been quiet throughout the month, which, with very large arrivals, has caused the small stock at the end of the year to be raised to at least 600 tons. The home supplies have also been large, but are like to decrease after this month, when we anticipate a better demand from America.”

From the Farmer and Mechanic.

Soiling Cattle.

SOILING means “the practice of supporting animals in the summer season with green food, cut daily, and given to them in the houses, stalls, or yards.” The advantages of such a practice are the following:

1. The saving of land.
2. The saving of fencing.
3. The economising of food.
4. The better condition and greater comfort of the cattle.
5. The greater product of milk.
6. The manure obtained. In England, soiling is practised considerably. The saving of land there, is considered amply sufficient to repay any extra labour, leaving the manure, so valuable to the British farmer, out

of the question. Three-quarters of an acre are found fully to supply one cow, by soiling, while one and a half are required in pasturing.

In America, and in the State of New York, very little has been done in the settlement of the question before us, whether soiling is suitable to this country? Mr. Pell, of Pelham, has pursued soiling, and his experience fully bears out the advantages above stated. Mr. Pell says, eight acres will afford more and better food, than forty would pastured; and the manure saved is sufficient to pay the interest of a large farm.

The American Institute has led the way in inquiry about the advantages of soiling. At the Farmers' Convention of October, I find the following questions: "Is soiling practised? with what advantage and comparative cost?"

In Massachusetts, soiling has been followed for many years. The Hon. Josiah Quincy says: "At the end of the soiling season—from June to November—I had \$200 worth of manure, had kept 20 head of cattle on 17 acres;—by pasturing, I had to allow 50 acres for 15 head—had my stock in prime condition, a full supply of milk all the season, saved all expense on cross fences, not requiring one rod of interior fence on my whole farm, while previously I had 1600 rods of fencing, and paid \$60 yearly for repairs. The additional expense I had gone to in cutting the food, and giving it to the animals, amounted to \$163. My manure alone paid for this. I have practised soiling for six years, and no consideration would induce me to abandon it."

"On the farm of McLean Asylum, thirteen cows and seven horses are kept, although the land under cultivation is only about 20 acres; and yet hay is sold. Mr. G. E. Adams, of Medford, soils his stock, being convinced of its great superiority over pasturing."

For a very excellent article on soiling, see Journal of Massachusetts Agricultural Society, vol. 3, page 318.

I think the introduction of soiling cannot but be attended with immense advantage.

I would draw the attention of gentlemen present to the admirable soiling qualities of Lucerne. This plant is perfectly adapted to this climate—cuts four or five times every season—stands the winter better than clover—is ready for cutting much earlier in the spring than any other grass, and gives excellent milk. It has been cultivated in New York for some years, though its introduction is as yet rather limited. In support of this, and with regard to its other properties, so valuable to our farmers, I quote

Buel's Farmer's Companion, p. 211; Cultivator, January, 1844; Mass. Agricultural Society's Journal, vol. 9, pp. 24, 25; Memoirs of the Board of Agriculture of the State of New York, vol. 1, p. 254; New England Farmer, August, 1844.

THOMAS KERR.

Agricultural Premiums.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held on the 2nd inst., it was Resolved, that the following premiums be offered for crops, the ensuing season.

For the best field of Wheat, not less than five acres, \$10.

For the best field of Rye, not less than five acres, \$10.

For the best field of Corn, not less than five acres, \$10.

For the best field of Oats, not less than five acres, \$10.

For the best field of Potatoes, not less than three acres, \$10.

For the best acre of Sugar Beets, \$8.

For the best three acres of Ruta-baga, or other turnip, \$8.

For the best half acre of Carrots, \$8.

For the best half acre of Parsnips, \$8.

A particular account of the expenses and manner of cultivation, will be required of competitors, and also satisfactory evidence of the product of each crop.

A. CLEMENT, *Rec. Sec'ry.*

Philadelphia, April 4th, 1845.

GUANO.—on the 29th of January, a cargo was sold by public auction, the first lots £7 12s. 6d. to £7 15s., progressively down to £7 5s. per ton. The market is now quieter. Several thousand tons of Peruvian have been sold at £10. The past week has been one of unprecedented excitement; perhaps more so than has ever occurred before in any other article of merchandize, and a great many thousand tons have changed hands.

Advices from Ichaboe state, that about 350 vessels were there about the latter end of November; that the guano remaining on the island was estimated sufficient to load about 150 of them; and that, owing to this, vessels were leaving in ballast, some proceeding to Saldanha Bay and Angra Pequena, in quest of the manure that may be deposited on those islands.

Letters have been received in Leith, mentioning the discovery of an Island, named "Nalagar," where guano is said to abound from four to seven yards in depth, and covering an area of about eight acres.—*Liverpool Paper.*

Royal Agricultural Society.

The following remarks of our friend Henry Colman, which we find in the second number of his Agricultural Tour, will hardly fail to interest all of us who look on the movements of our own Agricultural Societies, with that kind of solicitude, which arises from a wish that they may do all the good throughout the country that they possibly can.

The Highland and Agricultural Society of Scotland, is an institution similar to that of the Royal Society of England. It is richly endowed and powerfully patronized. "The exhibition of the Society at Dundee, last autumn," says Colman, "was, in the character and condition of its animals, in no respect inferior to that at Derby, though the Scotch cattle present different varieties from those which are fashionable and most esteemed in England." The general management of the Scotch Agricultural Society does not essentially differ from that of the English Royal Agricultural Society. The general exhibition at Dundee passed off much in the same style as at Derby, excepting that the Scotch were thought to have drunk their toasts with a little more heartiness than the English.—Ed.

In the continued progress of improvement the Royal Agricultural Society of England contributes its full share. This was established about 1837, and embraces a long array of the highest rank and talent in the kingdom, and a vast body of farmers, landlords, and others interested in Agriculture. Its funds are large, arising from donations and an annual subscription of a guinea from each of its members; but it has received no endowment from the government. Its objects comprehend every branch of husbandry and rural economy. It has a central office, or building in Hanover Square, London, where the Secretary of the society resides, and where the council of the society and other members hold weekly and monthly meetings, for the management of the business of the society, and the discussion of Agricultural subjects, and the reception of Agricultural information. This conduces very much to the interest felt in the projects and operations of the society, and is the means of diffusing a great amount of valuable information.

It has begun here the establishment of an agricultural library and museum, which presently must assume a considerable importance, and become curious and useful. The object of the library is to collect the most useful and valuable publications on subjects connected with Agriculture, in all its various and kindred branches, including likewise geology, botany, agricultural chemistry, engineering, and manufacturing, as far as they are connected with the making of agricultural implements, and the great agricultural operations of draining, embanking, irrigation,

and other important farming processes. The object of its museum is to exhibit its specimens of agricultural productions, which are capable of preservation, seeds, plants, grasses, samples of wool, mineral manures, models and drawings of agricultural implements, and whatever in any way may conduce to the advancement of the science or practice of agriculture. It is obvious how very important such an establishment must prove, by giving practical men an opportunity of inspecting, at their leisure, the most improved subjects of cultivation, the best grains, and the best grasses and vegetables, and, at the same time, the best tools and machines with which to cultivate them. I have often urged the establishment of agricultural museums upon my countrymen, especially, in the capitals of the States and of the United States, where the members of the different Legislatures assemble. Coming, as they do, from different and distant parts of the country, they will be enabled to carry home information of the utmost importance to the farmers, besides having their own knowledge advanced, and their own zeal quickened in this great cause. The commissioner of patents, in Washington, distinguished by his indefatigable exertions for the advancement of agriculture, has already laid the foundation of such a collection at the metropolis of the country, and in connection with his own department, where models of all patented agricultural machinery are always to be seen. It is to be hoped that the friends of an improved agriculture in the country will encourage and assist him in extending his collection of valuable grains and seeds. There are few ways so little expensive, in which they may render so much service to the country. It would be desirable that the Government should enjoin it upon the commanders of all their ships of war, visiting different parts of the globe, that they should collect and bring home such seeds and plants, and such models of implements, as would be likely to be of use. That universal vegetable, the potatoe, furnishing so much food to man and beast, and scarcely second to any in value, considering the multitudes whom it supplies, and the quantity of food it affords, is said to be an importation from South America. The cotton plant, a source of enormous wealth to the country, is likewise esteemed a foreign plant.

Besides this, the Royal Agricultural Society issues a semi-yearly publication, of valuable communications and papers, both on the science and practice of agriculture, which fall in its way, or are made to the society in reply to queries proposed for discussion and for information, upon which it offers pre-

miums of a pecuniary or an honorary nature.

The society, likewise, at some place in the country, easily accessible, holds an annual show or exhibition of animals, implements, and agricultural products, upon the best of which it awards premiums. This occupies, generally, four days. Tuesday is exclusively assigned to the several committees for the inspection of subjects of premium, in the way of implements and agricultural machinery, when no persons whatever, excepting the committees and persons necessarily attendant upon them, are admitted to the yard, so that they have a favorable opportunity of quiet inspection, uninterrupted by any interested or curious parties; Wednesday is devoted, in the same way, to the examination of the animals, and afterwards the yards are open to the public, upon payment of a reasonable entrance fee; and on Fridays a public sale, at auction, is held of such animals, or implements, as their owners are willing to dispose of in this way. The collection of people, on such occasions, from all parts of the country, and, I may properly add, from all parts of the world, is immense. Two large public dinners are given on the occasion; the one called the *council dinner*, on Wednesday, and the other, called the *society's dinner*, on Thursday, when provision is made for fifteen hundred guests, in a pavilion erected for the purpose. These dinners are, in general, seasons of great hilarity, and promotive of sympathy in the great cause of agricultural improvement. If no other good comes of them to agriculture, they serve at least the purpose of consumption, and so quicken price and demand.

On these occasions the prizes are announced to the successful candidates; and these premiums are given either in medals, plate, or money, and are received with no small degree of public and self-congratulation.

The arrangements, in general, are made with great care. The animals are assorted in distinct classes, with separate committees for the examination of each class; and the implements are placed according to their different designs and uses. It would be impossible to convey an accurate or adequate impression of the number and variety of the animals offered, in such cases, for exhibition and premium. I have already given a list and the number of agricultural implements exhibited the last year at the Derby show; but that conveys no idea of the ingenuity and skill evinced in their construction. One is led to conclude, from the inspection, that there is no operation or function, connected with human life and labor, for which mechanical labor does not attempt, and may not

presently succeed in furnishing, an instrument or machine. In many cases, a machine is any thing but a facility; and not a few of the machines, both in their contrivance and in the expensive and showy manner in which they are got up, evince pretty strongly the gauge which the contrivers and makers have taken of the understandings and pockets of the probable purchasers. They are seldom at a loss to put the pail under a full cow.

In many respects the arrangements are admirable, and well worthy of imitation.*

* The terms on which the premiums for seed wheat are to be awarded, are well worth the observation of other agricultural societies, and I therefore subjoin them.

"SEED WHEAT.

"I. Thirty Sovereigns, or a Piece of Plate of that value, will be given to the Exhibitor, at the Meeting at Derby, of the best 14 bushels of White Wheat, of the harvest of 1842, and grown by himself.

"II. Thirty Sovereigns, or a Piece of Plate of that value, will be given to the Exhibitor, at the Meeting at Derby, of the best 14 bushels of Red Wheat, of the harvest of 1842, and grown by himself.

"III. Twenty Sovereigns, or a Piece of Plate of that value, will be given to the Exhibitor, at the Meeting at Derby, of the best 14 bushels of Spring Wheat, of the harvest of 1842, and grown by himself.

"Competitors are requested to send with their Wheat, specimens, fairly taken, of the same in ear, with the whole of the Straw, in a bundle not less than one foot in diameter, and with the roots attached.

"[12 bushels of the Wheat will be sealed up by the Stewards, and one of the remaining bushels of each variety will be exhibited as a sample to the public; the other being kept for comparison with the produce of the next year. At the General Meeting, in December, 1844, the prizes will be awarded.]

"The two best samples of each of these three classes of Wheat, without at that time distinguishing, in any of the cases, between the comparative merits of either sample, will be selected by the Judges, appointed for the Meeting at Derby, and will be sown, under the direction of the Society, (the Winter Wheats in the autumn of 1843, and the Spring Wheat not earlier than the 1st of March, 1844,) by four farmers, who will make their report, upon which the prizes will be awarded, provided there be sufficient merit in any of the samples. Ten Sovereigns will be given at the Meeting at Derby, to each Exhibitor whose Wheat has been selected for trial.

"* * * No variety of Wheat which has been selected for trial at any previous show shall be qualified to compete."

The following are the instructions to the Judges on other subjects:

"As the object of the Society in giving the prizes for neat cattle, sheep, and pigs, is to promote improve-

Every possible effort is made to secure an impartial decision among the competitors; for, besides that they are not suffered by their presence to influence the examiners, the examiners themselves are selected from among persons who are as far as possible disinterested, and not likely to be influenced. They are chosen, likewise, with a special reference, in their characters and qualifications, to the nature of the subjects submitted; and every pains is taken in this way to secure the greatest aptness and talents. The name of the competitor is not given where it can be avoided, but only the number of the article presented. The rules of admission and competition are stringent and absolute, and no exceptions are, on any account, allowed. When, last year, a competitor attempted to introduce a machine out of season, or in some way contrary to the published rules, and wrote to one of the agents of the society, that, if a *silver key* should be found necessary to its introduction, he begged him to use it,—this attempt at bribery was rejected with proper indignation by the society, and the individual concerned, though eminent as a machinist and manufacturer, and offering every apology for his “indiscretion,” was forever irrevocably excluded as a competitor for any of the premiums of the society.

The society likewise offers premiums for essays, which are deemed deserving of such reward, upon any given subjects, and for reports on the agricultural condition and habits of different counties and districts. This has been the means of bringing out many valuable papers. Here, too, the decision is sought to be rendered as fair as possible; for the name of the writer is not given with the essay, but under a separate and sealed envelope, which is not opened until the successful essay is announced; and then the seal is broken, and the writer's name declared, in the presence of the society.

The society likewise has a consulting chemist, a consulting engineer, a botanist, and a professor of the veterinary art, of whose services, in any desirable case, it avails itself. Some time since it numbered on its lists more than 6,500 members; and has been, since that time, steadily on the increase. It is impossible to overrate the

ment in breeding stock, the Judges, in making their award, are instructed not to take into their consideration the present value to the butcher of animals exhibited, but to decide according to their relative merits for the purpose of breeding.”

“In the class for horses, the Judges, in awarding the prizes, are instructed, in addition to symmetry, to take activity and strength into their consideration.”

advantages which such a society brings with it to the agricultural community; for, though it enrolls among its members many gentlemen who are mere amateurs in the profession, and take little interest, and have little knowledge of its practical details, yet, on the other hand, it combines, among the highest men in the kingdom, a very large amount of practical talent and skill—men of the most accurate observation, who carefully enter into the whole subject. There is another great and good influence which it powerfully exerts, and which must not be overlooked. It gives a high respectability to the agricultural profession, and presents it as a pursuit, not, as has been too often said, for mere dolts and clod-hoppers, but for minds of the highest order, and for men of all conditions, from the prince to the peasant; for “the king himself is served by the field.” The prizes are contended for with an ardour little short of that which displays itself in the contests of political life, and received with a high sense of their value. I have seen, at the tables of some of the highest noblemen in the land, the premiums of agricultural success, exhibited in some form of plate, with more triumph than they would display in the brilliant badges of their rank.—*Colman's Agricultural Tour.*

Cultivation of the Cranberry.

A good many enquiries have been made in relation to this subject, and the following is taken from the *Boston Cultivator*. The conversation occurred at an Agricultural meeting in Boston, in the early part of 3d month last.—*Ed.*

Mr. Buckminster said, that Albert Ware, of Sherburne, had raised 200 bushels of Cranberries to the acre.

Mr. Gleason observed, that when there were no floods in the spring on the Concord river, the plants come forward early, and are liable to be killed by frosts while in blossom. Cattle biting off buds in the spring are very destructive. He has a plat of cranberries, on high land, that have rooted out the grass. The land would produce corn, barley, and potatoes. They were never killed in the winter.

Mr. Earle, of Worcester, said, when a boy he crossed a meadow where fine cranberries grew on high land, on the side of a hill; the soil was strong and moist.

The Chairman remarked that low lands were much exposed to frosts. He stated a case where a meadow produced good crops of cranberries till it was ditched; then it failed.

Mr. Allen said that he had known frost every month in the year; and cranberries were liable to be killed if they were flowed.

A little plat of cranberries grew on high land, from which his daughter picked a pint or a quart.

Mr. Bragdon, of Milford, said that his father had a meadow which bore cranberries. He ditched it and the cranberries failed; but as the ditches filled up the cranberries re-appeared.

Mr. Breck said, where he was born, in Medfield, cranberries were considered worthless, and attempts were made to destroy them. They flourished on flowed lands; but as they were drained and dried the vines died.

Mr. Cole stated that, in 1843, cranberries were killed extensively, on the morning of the 4th of July. He had been informed by several persons, who flowed their cranberry meadows, that they turned off the water the first of May; but, as they were liable to be killed in the blossom the first of June, they should try the effect of keeping the water on till the last of May. There is no regular system established as to the cultivation of the cranberry. He asked a gentleman of experience and observation to give the best mode of culture, and he said that they would flourish well in sand and water. As the cranberry grows on marshes, where the salt water often flows, salt may be good manure on high lands. He had seen them grow on upland which was not too moist for potatoes.

Making Hay—Cutting Grass.

Twenty-two years ago, Judge Cheever says, he purchased a small hay farm, and upon that and elsewhere he has ever since cut from 100 to 250 tons of hay per year. Of course it had become his interest to learn all he could of the best method of seeding, and keeping up his meadows; the best season, and best mode of cutting and curing hay, and then how to turn it to best account. His bottom lands upon the rear, he seeded with timothy only, except in some places where it was too wet to grow timothy; there he seeded with red-top. On his uplands he seeded with timothy and clover. Where he used timothy alone, about eight quarts to the acre was his quantity. Where he used clover with it, he used six or eight pounds of clover to six or eight quarts of timothy. He had succeeded in seeding with timothy at almost all seasons of the year, but always best when he covered the seed well. He had had good success in seeding with buckwheat, sowing the fore part of July, sowing the buckwheat thin, not over five quarts of seed to the acre. If he seeded with winter grain, he preferred sowing timothy in the fall with grain, and in the spring, of course, if on a spring crop. He had succeed-

ed much the best by sowing and passing a light harrow over it once, to cover it well. He had had good success in sowing clover in the fall, with grain, on sandy and gravelly lands; but on clays and tenacious soils there was great danger of loosing it, from the action of the winter frost. It was safest to sow clover in the spring, upon some of the last snows, if on winter grain, and with the grain, using the harrow upon it, if sowed with spring crop. He always used the harrow when he could. He had kept up his meadows by leaving the after growth upon them as much as he could; and where he grazed considerably in the fall, to repay it by an occasional top-dressing. Grass land, whether bottom or upland, will keep itself up, if mowed once in the year, at the ordinary season, if all the after growth is left, without top-dressing. If the fall is dry and the after growth light, the next crop will not be full, but the first wet fall will bring it up again. Meadows should be drained, when practicable, as well as tillage lands. Although irrigation is very useful, where properly applied, an excess of water is very hurtful, especially to the quality of the hay.

Making Hay.—He would cut his clover in blossom, not sooner. He would let it take the sun one day, but not enough to have the leaf break off; then put it in small cocks and cure it, until by a few hours' drying, by turning over and breaking the cocks, the fluids would be so far out of it that it may be housed without hurting. The length of time necessary to cure it will depend upon the state of the weather, and the larger or smaller growth of the crop. Upon this the farmer must exercise his judgment.

He would not cut timothy until it had passed out of the blossom. Professor Davy, in his *Agricultural Chemistry*, says, the 64 parts of clover hay cut in the blossom, produced 10 parts of nutritive matter, and the same taken in seed. Timothy, 10 parts in blossom, and 23 in seed. This in the timothy is probably too much; but that the nutritive matter in timothy improved after the fall of the blossom, he had no doubt. Red-top comes to maturity later, and he did not think there was much difference, whether cut in the blossom or soon after. He believed timothy cut in blossom would, pound for pound, produce more milk when fed to cows or sheep, than it would cut afterwards; but for horses and other stock, he thought it more nutritious to stand a little longer. It certainly improved in weight.

He preferred mowing his hay, as far as he could, when free from dews or water. He let the swaths take the sun a few hours, until the top got a little wilted or seared, before

turning. It thus held up the greener parts when turned over and spread, and permitted the air to circulate under it: it also gave the ground between the swaths time to dry, which was important in hastening the curing. In this way he avoided the necessity of turning the hay after being spread, which was one of the most tedious processes through which the hay had to be passed, and of course the most expensive. He never permitted his hay to take a dew when it had sun enough to wilt it considerably, if he could help it. The dew discoloured it, and he had never been able to restore the fine fresh colour afterwards. He preferred letting his hay stand over night in the cock. He could then better tell of its fitness to be housed. It is very easy to break up the cocks and give it more sun, if necessary; and the slight fermentation or sweating in the cock, which is checked and dried off in carting, is a great preventative against heating in the mow. Hay heated in the mow is sure to be discoloured. Some people insist that it is not injured for feeding, especially to cattle. It may be so. I know that flour, corn, or oats, which have been heated until they are musty, are thought not so good. I do not know why hay should be.

On the approach of rain, I always put all the hay that has had any sun of consequence into the cock. If the storm is a long one, it may turn yellow, so that it cannot be restored, but it will retain most of its nutritive matter and weight; whereas if left spread out to take the rain, it loses both, and is much worse discoloured. I never use salt upon my hay, but upon compulsion. When the weather is good, I dry my hay sufficiently to keep, and as soon as I can, I house it; but sooner than leave it out to take a storm, even in the cock, I would put it in a little short dried, and apply salt to save it, as I would sooner have it salted than musty.

The river counties make hay for the New York and Southern markets.

On bottom lands, which are occasionally overflowed by turbid water, and where the meadows are not grazed, this is not bad husbandry, especially where the hay brings fair prices; but very few of the upland farms will bear to have hay taken from them for any length of time without impoverishment. For the last two or three years, it has been bad husbandry to sell hay even from the bottom lands. During the last season there were hundreds of tons of hay, of fair quality, sold in New York from 30 to 35 cents per hundred. On most of it, the owner paid from 14 to 16s. per ton freight, besides commission and other charges. If he hired it pressed, and hoops and slats found, it cost him

from 12 to 14s. per ton more. If he owned his press, and found his own horse power, he pressed it a trifle under these rates, which left him for his hay in the barn, and for carting it to the vessel, from \$2 to \$2 75 per ton. With the present price of wool, or when good fair Merino wool will fetch 3s. per lb., hay is worth, at the barn of any farmer in this State, \$6 to \$8 per ton to feed to sheep, besides the value of the manure; which manure, to one who rightly values the improvement of his farm, is worth \$2 more.

As a general rule, it is safe to calculate that store sheep will fetch one dollar more in the spring than in the fall; and a ton of hay, fed to sheep that are well sheltered, will carry eight through an ordinary winter.

Dr. Lee thought timothy exhausted the soil much more than clover. From scientific investigations, it has been well ascertained that timothy exhausted the soil three times as much as clover. He thought grasses should be cut before the seed is filled. It was correct, as had been stated, that the nutriment of the stems was exhausted in forming seed. He thought some of the plans which had been mentioned for making hay, required too much labour. He thought it the best way to mow grass after the dew was off—spread it, dry it as much as possible, and rake it into winrow. If it was dried enough, and it would frequently be so, he would load from the winrow, and save the labour of cocking it up. He had had some experience in irrigation, and thought its advantages were considerable. As to top-dressing for grass lands, he was much in favor of ashes. Charcoal dust, or charcoal pulverized, had proved very excellent for this purpose. The coal might be crushed in a bark mill. He would apply ashes or coal in the spring.—*Albany Argus.*

A FACT FOR THE CURIOUS.—A. W. Palmer, of Cheam, in Surry, England, tried a very striking experiment respecting the production of wheat. In July, 1841, he put one grain of wheat into a common garden pot—in August he divided it into four plants, and in three weeks again divided these into twelve plants—in September these twelve were divided into thirty-two, which in November were divided into fifty—and he then placed them in the open ground. In July, 1842, twelve of them had failed, but the remainder of them were healthy. On the 19th of August they were cut down, and counted 2,197 stems, with an average of 50 grains to the stem, giving thus the increase of 97,000 grains.—*South Western Farmer.*

Recipe for Making Bread.

JAMES ROCHE, long celebrated in Baltimore, as a baker of excellent bread, having retired from business, has furnished the Baltimore American with the following recipe for making bread, with a request that it should be published for the information of the public:

“Take an earthen vessel larger at the top than the bottom, and in it put one pint of milk-warm water, one and a half pounds of flour, and half a pint of malt yeast; mix them well together, and set away,—in winter it should be in a warm place until it rises and falls again, which it will in from three to five hours—it may be set at night if wanted in the morning; then put two large spoonfuls of salt into two quarts of water, and mix it well with the above rising; then put in about nine pounds of flour, and work your dough well, and put it by until it becomes light; then make it out in loaves. New flour requires one-fourth more salt than old and dry flour. The water should be tempered according to the weather; in the spring and fall it should only be milk-warm; in hot weather, cold; and in winter, warm.”—*Southern Cultivator*.

Raising early Cucumbers.

H. G. DICKERSON, of Lyons, Wayne co., N. Y., one of the most successful cultivators of garden vegetables, adopts the following mode of raising early cucumbers. He makes his hot-bed at the usual time, and when the soil is placed upon the stack of manure, pieces of turf are placed just below the surface, on which the seed are planted. If the grass of this turf is alive, it is to be put upside downward. On the arrival of warm weather, and when the soil in the open air becomes fit for cultivation, these pieces of turf are removed entire, with the young plants upon them, and placed in highly manured ground where they are finally to grow. In this way the roots are taken up without the least mutilation, consequently no check is given to their growth. Afterwards, whenever there is any probability of a night frost, each hill is covered with a bell glass. These glasses have a small opening at top, which prevents the sun scorching the plants in case they are not removed in time; they are obtained at the glass-works in the neighbourhood, for four cents a piece; but where they cannot be had, boxes with panes inserted, will answer nearly as well.

By this means, cucumbers fit for the table, were raised the past season, by the first of June.—*Cultivator*.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, FOURTH MONTH, 1845.

The slaughtering of sheep for their tallow, is a great business in the northern part of Ohio. Hollister & Boalt, at Sandusky, killed last fall, upwards of 5,000, averaging about nine pounds of tallow each. The whole carcass was boiled up, except the hams; the pelts were shipped on a contract, and the tallow, we suppose, was intended for an eastern market. Probably more than 50,000 were slaughtered and tried up last autumn at Cleveland. To get an estimate of the value of sheep for this operation, the Collector of Customs at Cleveland, says in Ellsworth's Report, he made inquiry of a friend who purchased 20,000, and who had by last new years, killed 15,000 of them, and he learned that their estimated cost was about \$1 12½ each; expense of butchering and rendering, 10 cents, making in the whole \$1 22½. The average of tallow was eight lbs., worth at 5½ cts., 44 cts.—wool, say three lbs., at 33 cts.. 99 cts., and the hams 5 cts., making the yield \$1 48, leaving a gain of 25½ cts. on each sheep.

The “American Agricultural Association” has been organized in New York, by the election of Luther Bradish for president, and twelve vice presidents, among whom we notice the names of Theodore Frelinghuysen, Vice-Chancellor McCoun, &c.

The objects of the Association are to collect and diffuse correct information throughout the United States, in Agriculture, Horticulture, and Arboriculture, and to promote the introduction of scientific knowledge into these arts. These objects it proposes to accomplish by the following means:

1. The discussion at stated meetings of topics in these arts.
2. The procuring of original, practical and scientific experiments in these arts, and of essays, papers and lectures for publication, in a series of transactions.
3. The establishment of a laboratory, for the examination of manures, composts, and marls, and the investigation of the mineral food of plants, fruits and seeds.
4. The establishment of an interchange of fruits, seeds and scions, with other societies, and among its own members.
5. The establishment of an Agricultural Library.
6. The founding of a Museum of seeds, fruits, specimens of choice varieties of plants, models of implements and buildings, pictures of improved animals, together with a collection of geological specimens, fossil manures, and other objects relating to agriculture.

The initiatory fee is \$5—and \$5 annually—or a life subscription of \$50, to entitle to membership.

It is feared the unusually cold weather of last week has greatly injured, if not destroyed, the peach crop.

COLMAN'S AGRICULTURAL TOUR IN EUROPE.

It will not be forgotten that subscriptions to this work, are received at the office of the FARMERS' CABINET; where every farmer in the country will be heartily welcome as a subscriber to these publications. Single Numbers will be sold. The subscription price of Colman's Tour, as we have repeatedly advertised, is \$5; single Numbers fifty cents each.

JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY. This work is published quarterly under the direction of the Philadelphia Society for the Alleviation of the miseries of public Prisons. It is an octavo of 96 pages, and the subscription price \$2 per annum. The object of the work may be readily gathered from the title, and from the high character of the Society who have charge of it. It is published from the office of the Farmers' Cabinet, where subscriptions and payments will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published. The second number will shortly be ready for publication.

ERASTUS H. PEASE, of Albany, will shortly publish, if indeed by this time he has not already published, A CATECHISM OF AGRICULTURAL CHEMISTRY AND GEOLOGY, by James F. W. Johnston, M. A., F. R. S. S. L. & E., with an Introduction by John Pitkin Norton, of Farmington, Connecticut. This will, we apprehend, be a valuable work, judging from the well known character of the author. It will, as soon as it appears, be for sale at George S. Appleton's, No. 148 Chesnut st., and at this office.

A COPY of the proceedings of the Hamilton County Agricultural Society, Ohio, has lately been forwarded by the "Ploughboy," who, we are glad to find, has again waked up, and prepared for his spring labours. We could wish it might please him to spell his name correctly.

At their Show held in the Ninth mo. last, at Mount Pleasant, a few miles north of Cincinnati, J. W. Hoel exhibited 43 pumpkins weighing 543 lbs., being the product of one vine!

In the Address delivered by Wm. H. H. Taylor, allusion is made in strong terms to the little attention paid to the protection of stock from the inclemency of the weather. It is an erroneous idea, we think by far too prevalent, that these animals are provided by nature with all that is necessary in this respect. Having become domesticated, and subservient in all things to our wants and wishes, they look to us, and have a right to do so, to give them house room to shield them from the discomforts of exposure to cold and storm. Not only in Ohio, are remarks of this character seasonable and judicious, but here also in our own vicinity, the interests of the farmer, as well as humanity, call for more attention to the shelter of his stock in winter.

In some remarks of the Editor on page 244, of last No., in relation to the awarding of premiums for the

best crops, without a measurement of them to show what they actually amounted to, some of our friends thought there was room to infer, that the Editor supposed it probable that some of the crops mentioned in the Report immediately preceding the remarks, though the best offered, were yet in fact, wretched ones. The Editor thinks such an inference cannot be fairly drawn from the language used. It gives him pleasure, however, to say, that no one at all acquainted with the good farming characters of the persons who bore off the premiums, or with the Philadelphia Agricultural Society, would for one moment suppose that premiums would be awarded for any other than remarkably fine crops. We take this opportunity to repeat, that where Agricultural premiums are competed for, it is abundantly satisfactory to know that the ordeal of the half bushel or the steelyards, has been submitted to: this only will satisfy strangers.

THE following premiums will be awarded by the Pennsylvania Horticultural Society, at an intermediate meeting on the 6th of next month.

For the best single Tulips, twelve named varieties to be exhibited, \$3.

For the next best do. do. \$2.

For the best forced Cauliflowers, three in number, \$3.

For the next best do. do. \$2.

For the best Asparagus, three bunches of one pound each, \$2.

For the best Rhubarb, blanched, two bunches of four pounds each, \$2.

And at the stated meeting on the 20th of next month:

For the best American Seedling Camellia, exhibited at any stated meeting from December to May, inclusive, \$10.

For the best Everblooming Roses, twelve named varieties, in pots, \$7.

For the next best Everblooming Roses, twelve named varieties, in pots, \$4.

For the best American Seedling Everblooming Rose, \$3.

For the best forced Potatoes, half a peck, \$2.

JAMES S. LAWRENCE, of Monmouth co., N. J., informed the Editor a few days ago, that in the fall of 1843, he put some apples—the *Redstreak*—into his cellar in open casks, which in the early part of 1844, he overhauled and packed in barrels with plaster of Paris. Three barrels were thus headed up, and remained in the cellar until the early part of last summer, when they were again assorted and put away in a box, with alternate layers of dry oak saw-dust. This box was put away under lock and key, access only being had to it as the apples were wanted. The family continued using them occasionally, till some time after early apples were ripe last year, and it was supposed they were all exhausted. On the 11th of last month—it being *Town-meeting* day—on unlocking the box for the purpose of again filling it with apples and saw-dust, he was surprised to find three of the apples of 1843, as originally put there, and which must have matured eighteen months ago. They were in good keeping, perfectly sound, and of pretty good flavour.

STABLE ECONOMY:—a Treatise on the management of Horses, in relation to stabling, grooming, feeding, watering and working; by JOHN STEWART, Veterinary Surgeon, &c., &c., Glasgow. With notes and additions, adapting it to American food and climate, by A. B. Allen, Editor of the American Agriculturist. Published by George S. Appleton, No. 143 Chesnut street, Philadelphia, and D. Appleton & Co., N. York.

This work, the subject of which is fully indicated by the title given above, is a very comprehensive and instructive one: and scarcely any person, let him be as well acquainted with the horse as he may, will rise from its perusal without having learned something which he did not know before. It may be procured, either of the publishers, or at this office.—Price \$1.

The courtesy of the Editors, Dr. E. Emmons and Dr. A. J. Prime, has placed in our hands the first number of the *American Quarterly Journal of Agriculture and Science*, to be published by them in Albany, at \$3 per annum. We announced some time ago, in the Cabinet, the intended publication of this work, and have looked for its appearance with considerable interest. Notwithstanding the large number of periodicals already in circulation, devoted to the farming interests, there is still, perhaps, room for a Quarterly Journal, which should occupy in American Agriculture the position which the Edinburgh Review does in English literature. It should be able to give a tone—a wholesome one of course—to what may perhaps be termed the National agriculture, and to hold up more prominently, because in a more extended form than is practicable in our small monthlies, the great leading principles of this most important of human avocations. These principles are as broad in their application as the earth's surface; and the Editors of the *American Quarterly* will, we trust, take a range over this whole ground, and give us—not local details, for these more appropriately belong to the local papers—but those extended views which can only be grasped and developed by the masters of this inexhaustible subject. We wish them all success in their enterprise.

SALE OF

FULL-BLOODED NORMAN HORSES.

The subscriber having relinquished Farming, will offer at Public Vendue, at his Farm in Moorestown, Burlington County, N. J., nine miles from Philadelphia, on Tuesday, the 20th of May next, his entire stock of NORMAN HORSES, consisting of two imported Stallions, *Diligence* and *Buonaparte*; two imported Mares—three full-blooded Stud Colts, one, two and four years old—two full-blooded Fillies, three and four years old—two Fillies by *Diligence*, from a half-blood Canadian Mare, three and four years old, and one Filley four years old, by *Diligence*, from a well-bred English Mare, broke and kind to harness.

The undersigned deems it unnecessary to speak at large of the qualities of these horses, so much having been said of this particular importation—which is believed to be the only one ever made to the United States—in all the principal Agricultural papers. In a few words, they are the *Canada* Horse, on a larger scale, combining the form, activity and hardihood of

that well known race, with greater size and strength. *Diligence* has been a remarkably successful Stallion; he has been exhibited at the Fairs of the Pennsylvania and New York Agricultural Societies, where he was not entitled to compete for the premiums, but received the highest encomiums from the Committees. At the Fair of the American Institute, in New York city in October last, he received the Silver Medal of the Institute.

It is expected that a large number of the Colts of *Diligence* will be on the ground on the day of Sale, some of which, no doubt, may be purchased.

EDWARD HARRIS.

Moorestown, Burlington Co., N. J.,
March 15th, 1845.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

March 15th, 1845.

WE keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestrica,	3 00
RELIQUIÆ BALDWINIANÆ,	1 00
AMERICAN Poulterer's Companion,	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

☞ We are prepared to bind books to order.

THE New York papers contain the advertisement of the *Orange County Milk Association*, which was formed about a year ago. This is a new enterprise, and has, so far, we believe, been successful. They supply families at their residences with milk, cream and butter, of good quality, and as they say, at reasonable prices.

PARTICULAR attention is invited to the Sale of Edward Harris' Norman Horses, at Moorestown, New Jersey. It is very rarely that farmers of the United States can avail themselves of an opportunity for the purchase of such stock.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrow; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable and Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by
D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.
JOSIAH TATUM.

SHORT ADVERTISEMENTS,

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

Seed Store,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red clover, and other grass seeds. Field seeds, consisting of Spring and Winter Wheats, Potatoes—Oats, Barley, and choice varieties of Seed-corn. Also in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.
M. S. POWELL.

Philad., March 15th.

THE quantity of rain and melted snow which fell during the Third month, 1845, was nearly two inches and a half. 2.415 inches.

Penn. Hospital, 4th mo. 1st.

CONTENTS OF THIS NUMBER.

	PAGE
Preparation of Seed.	265
Improvement under Difficulties.	266
Agriculture, &c., of the Cherokees.	267
Steaming of Cattle, &c.	268
Experiments in Farming.	269
Greatest amount of Produce from a given surface.	270
Fecundity of Hens.	272
American Ag. Association of N. Y.—Guano.	275
Cattle Epidemic.—Useful Directions.—Oats,—80 bushels per acre.	277
Rich Milk.—Tabular Estimate of Crops, 1844.	278
Southdown Buck.	281
Can a Horse Reason?	282
Potatoes, Wheat, &c.—Sulphate of Ammonia—its Uses, &c.	284
Raising Cranberries.	285
American Provisions.—Soiling Cattle.	286
Premiums of Agricultural Society.—Guano.	287
Royal Agricultural Society of England.	288
Cultivation of the Cranberry.	290
Making Hay—Cutting Grass.	291
A Fact for the Curious.	292
Recipe for Making Bread.—Raising early Cucumbers.—Editorial Notices.	293

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

TERMS.—One dollar per annum, or five dollars for seven copies—payable in advance.

All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For six dollars paid in advance, a complete set of the work will be furnished in numbers, including the ninth

volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly half-bound and lettered. Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 10.]

5th mo. (May) 15th, 1845.

[Whole No. 124.]

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

To make Good Butter.

MR. EDITOR.—There is nothing requires more care than the making of good butter, and nothing is more wholesome when it is good. Aware of this, I found that strict attention, care and perseverance on my part, were ultimately crowned with success. Good butter ought to be made in winter, as at any other time. The heat of summer is as hard to contend with as the cold of winter—and this convinced me that there was a certain degree of heat more favourable than another; this, after many trials with the thermometer, I thought to be about 60°. I will relate to you some of my discoveries and observations, which no doubt will seem rather stale among so many good butter makers, but let me premise that these were in my own dairy and under peculiar circumstances.

First objection;—The milk was often left

too long standing in the bucket before strained and put away. I think the sooner it is put away the better, and should not be disturbed while the cream is rising.

Second objection;—The milk pans—of stone ware—were never warmed, but frequently taken from the shelf out of door, and the milk—already cooled by standing—strained into the almost freezing pans—the consequence was, the too chilled milk would stand a long time without casting its cream, and being skimmed at regular intervals, we fell short of the proper quantity of that necessary article, and of butter.

Third objection;—The skimming process was not carefully done; too much milk, and in the summer too much “clobber,” clopper, or “clabbaugh,” or whatever it may be called, is thrown in with the cream, which in summer, gave a rancidity to the churning, creating a difficulty, and sometimes entirely preventing the gathering of the butter, and in the winter filling the churn to no purpose.

Fourth objection;—Inattention while churning; leaving the churn after having commenced; stopping, as they would say, to rest; not regular enough in turning—we use a barrel churn. All these things tend to prevent the coming of the butter in a proper time—and long churning tends to deteriorate the quality. I found too, that after the butter *had* come, instead of moving the paddles slower to allow it to gather, they continued the same quick movement, keeping up and even raising the

temperature till it melted, or went back, as one of my women told me. Hence you perceive the necessity of close attention in churning. Beginning with a good velocity and continuing the same motion till a little pressure is felt on the handle, which signifies the approach to butter, and then decrease the motion gradually till the butter begins to gather or break, when a few turns backward and forward will end the process. Now if the cream was good and sweet—churned properly, and has come in 15 or 20 minutes, I will warrant good butter so far. But it is as often spoiled after taken from the churn as before.

The best temperature for the *whole* process of the dairy is, as I have before stated, between 50 and 65°, the latter perhaps the best. This winter I brought my milk to the house, appropriated a closet to it in a room where I have kept the temperature to an average rate of 60°. The past winter, however, has been very mild, and during some of the warm days I observed the milk turned within twenty-four hours; during which time I leave the milk to cream. My observations after taking the butter from the churn and objections were these:

First objection;—They would leave the butter too long after churning in the butter-milk. I think as soon as the vessels for working it can be made ready it is best to take it out and rinse it off in strained water, and then commence the working; do not let the vessels be too warm—nay cool.

Second objection;—Working by hand—the short scoop paddle being the neatest and best. Working does not mean paddling it over and over, but means pressure; and when carefully done, two or three times working over by small parcels, will be quite sufficient: the best evidence of a sufficient working, however, is the purity of the water with which it is washed; when it runs clear as a bell then stop. Salt to the taste next, is a safe recommendation; but I put in half an ounce to every pound, which seems to be best suited to the taste of *my* customers. The common Liverpool salt, free from motes and rolled very fine, is the kind I use. I would recommend *now* a sufficient paddling over to mix the salt well, and after standing an hour or half hour, cut it in half pound prints, and observe if it be streaky—which is occasioned I think by the salt abstracting the colouring matter of the butter—work over each print by itself, and then if the butter is not fit for any table, I'll give up.

Yours truly,

F. H.

Baltimore, March 23th, 1845.

Electricity in Agriculture.

THE Tring Agricultural Association held their fourth annual meeting on Friday.

Mr. Gorden described a new method of increasing the fertility of the land—by electricity.

In Morayshire he met with a gentleman who communicated to him many agricultural facts, and informed him that he had recently seen, on the farm of Findrassie, a plot of land which seemed to bear barley and clover as if they were growing on a dung-hill; and that that effect was produced by singular means, but easily to be comprehended by persons versed in science. Perhaps, when he mentioned it, they would call him a wire-worm; and perhaps they would be astonished if he told them that the most successful agriculturists might be the poachers; for who would deny that they well knew how to lay down wires? He came among them armed only with a pole or poles eleven feet long, a coil of common wire and a compass; and with these weapons he trusted he should, in a few minutes, convince them that he could wield an agricultural power not to be despised. But to proceed. He wrote to the proprietor of the farm at Findrassie, near Eglin, (Dr. Forster—not Faustus,) to open, with a lecture on the subject, a large room which he had built for agricultural purposes in the county of Aberdeen. Dr. Forster, however, was not able to do so; but, with a practical liberality which marked him a true agriculturist, he was kind enough to write an account of the subject, which was the novel and surprising one of the influence of electricity and galvanism on the growth of plants, as applicable to agriculture. Many years since, Mr. Forster read in the *Gardener's Gazette* the account of an experiment made by a lady, which mainly consisted in a constant flow or supply of electricity—to be afforded by a common electrical machine—to proceed from a summer or garden-house, and which was diffused, by wire, to a fixed portion of the surrounding ground; and the effect was, that vegetation did not cease in the winter on the spot under the influence of this wonderful power; and that what snow fell during the continuance of the experiment never remained, as it did on the rest of the garden around. This impressed Mr. Forster very much, and induced him to place a small galvanic battery in action on a grass-plot; and although the power from it was very small, still the effect produced fully confirmed the lady's experiment. This, and other facts which Mr. Forster collected, led him to think that the electricity of the

atmosphere—a constant current of which was found to proceed from east to west over the whole of this earth's surface—might, by some arrangement, be usefully employed in agriculture; for Mr. Crosse, of Taunton, had long since proved that the free electricity of the air might be easily collected by wire suspended on poles of wood, at many feet from the earth's surface—the direction of the wire being due north and south by the compass; and many very interesting and important facts and experiments had been recorded by Mr. Crosse, and many collected from a careful observance of the electricity proceeding from the suspended wire.

Mr. Forster next placed two poles four feet high in his front lawn, which had been recently laid down with chevalier barley and grass, after draining and sub-ploughing it; and over those poles which were due north and south of each other, he stretched a common piece of iron wire, fixing the two ends of it to stout wooden pins, driven in close to the earth; and on the edges of the plot of eight English poles, and around the edge, which were straight lines, he sunk, about two or three inches beneath the earth, two wires of equal length, the ends of which were fixed and in contact with the two ends of the suspended wire, which were meant not to be too tight, for its contraction, in cold nights, would break it in two, or pull away the fixtures, and thus defeat the object. Mr. Forster formed two of these plots for experiment, measuring eight square poles each, and then proceeded to criticise his work: and, to do so accurately, sought the aid of "Noad's Popular Lectures on Electricity and Galvanism;" and almost the first half hour's perusal showed him, that there was such an error in one part of his plan as would effectually defeat his intentions. This was, that the point of a blade of grass or young corn-plant has the most extraordinary faculty or power of attracting or appropriating to itself all the free electricity present, at four times the distance that the finest point of metal would or could; so that, when the points of the barley-plants should reach one foot high, all the electricity that the suspended wire might before that have collected and conveyed through the buried wire to the roots of the plants, would be abstracted by the points of the barley; and thus the suspended wire, getting nothing from the air, could not of course supply anything; by which all the induced electrical influence would cease.

Mr. Forster, therefore, next day placed poles eleven feet high above the surface, with wires, &c., exactly the same, except that the space surrounded by the buried

wire was twenty-four poles, English measure. All the results are yet imperfectly known; but these were evident: the barley plants on the two smaller plots—of eight poles each—soon became darker in colour, and grew faster until they had attained to about a foot in height; the darker green colour then gradually disappeared; and, at the end of a fortnight after, there was no perceptible difference but in the height of the young barley-plants; and even this ceased to be very apparent as the crop advanced. When the barley of the larger or twenty-four pole plot was six inches high, it assumed the same lively dark green, and grew faster than the surrounding unelectrified barley-plant; and this difference it maintained up to the last—except that the colour, of course, in time became yellow; and it was curious that this change occurred later than in the rest of the crop. The number of stooks or shocks was also greater, and each larger when reaped; the ears from one grain of seed were more numerous and longer; the corn, also, was larger and harder.

To make assurance doubly sure, Mr. Forster fixed to the short four feet poles of one of the smaller plots, pieces of dry pine wood eight feet high, and suspended two wires to them—one at that elevation, and another a foot lower down—and was pleased to find that, after some time, this plot partially resumed its former darker green colour. The experiment has also been tried at Liverpool with great success, on potatoes; the crops being much larger than on the other parts of the land. It was the opinion of those scientific persons of whom he had inquired, that even Professor Liebig was not aware of the application to agriculture of this discovery. It seemed, then, that the meeting was now in possession of valuable details, which were known to very few persons in the whole country. He hoped some gentleman would try the experiments, and write upon the subject; for he had written to the Royal Agricultural Society to offer £30 for the best prize essay on galvanism and electricity as applicable to agriculture.—*London Spectator*.

From Ellsworth's Report for 1844.

Cultivation of Celery.

New York, December 12th, 1844.

DEAR SIR,—The cultivation and growth of celery, that most excellent and wholesome winter vegetable, require the close attention of the gardener to bring it to perfection.

A practical gardener will soon learn the art; and for the benefit of those who have

yet to learn it, I beg to hand you the result of my own experience for the last twenty-five years.

In this country it is not necessary to sow the seed before the month of May, and then in the open ground, well manured with stable dung thoroughly cured, and not less than a year old. The colour, whether white or red, is a matter of taste. I generally mix my seed, and thus have both species. The seed is slow of vegetation, but, if good, never fails to germinate. Whether the seed be sown broadcast or in drills, is a matter of no consequence; as the seed being very small, the plants are sure to shoot up thick. So soon as the sprouts have attained the height of an inch, they should be pricked out in a bed of rich mould, at the distance of about three inches each way from each other. You cannot have good strong stocky plants without pursuing this method. If left standing in the seedling-bed, they will grow spindling, weak, and consumptive. No more attention is required, excepting that of keeping the plants perfectly free from weeds until August, when you will find the plants strong, healthy and vigorous.

Any time in this month dig your trenches eighteen inches deep and as many wide. For this purpose I generally occupy the ground that has been used for early peas.

The quality of the celery, and chiefly its growth, depends entirely upon the next step. The trenches should be half filled with thoroughly cured stable manure. I have found the manure used for early hot-beds the best. It never fails of success. The increased fermentation of the manure, by the repeated waterings of the beds, the escape of the ammonia and noxious qualities of the manure render it sweet and capable of imparting the mildest and richest flavour to the plant. If fresh manure from the yard, of whatever kind, is used, the celery will invariably grow strong and rank, with as little delicacy of flavour as there is in the manure. With a garden fork of four tines, strike through the manure in the trench into the earth beneath and bring it up fresh, carefully mixing it with the manure as you proceed from one end of the trench to the other. Attention to this point is indispensable to the growth of good celery.

The plants taken up should be trimmed about the crown, just at the top of the root; all the young suckers taken off, leaving the plant trim and neat, with all its main stalks. With a dibble, which should be as large as the handle of a spade, as the roots will now be of considerable size, begin at one end of the trench with your face towards the other, and set in a single row of plants in the mid-

dle of the trench, and not less than six inches asunder; water them well. No teetotaler loves water better than does celery. It cannot have too much. The roots of this plant require more room than is generally allowed them, as any one may see when they are taken up for the table.

Earthing up the plants should be delayed until they have attained a good size; and then it requires care, especially the first time. I always get into the trench myself, and, holding the plant with all its stalks firmly in my left hand, with a short-handled small hoe draw the earth up round the plant, without allowing it to come in between the stalks. When this is done, and the plants thus protected, you may, with a spade, strike off the edges of the trench, and partially fill it. As the plant grows—as it now will, if well watered in dry weather, with great vigor—continue to earth up, and by the 1st of November the plants will be two feet above the level of the earth, with a main stalk the size of a man's arm.

Sometimes, particularly if the season be dry, celery is liable to be attacked by a fly. In that case you will see the tops of the celery turn brown and wither. The moment that symptom appears, no time is to be lost in calling in the doctor; for the whole crop is at stake. The cause of the disease is the sting of a fly upon the leaves of the celery. The egg is deposited between the integuments of the leaf, and soon hatches into a small white worm—sometimes visible on opening the leaf to the naked eye, always by the aid of a microscope. If not attended to, the disease gradually descends to the root, and the whole plant falls a sacrifice. Amputate every defective and diseased leaf; and early in the morning, whilst the dew is on, sift on to the whole of the plants fresh slacked lime. One such powdering is generally sufficient; but if not, give them another dose, and the first rain that falls will wash the plants clean, and you will probably see them fresh, green, and stretching away towards maturity.

With regard to the mode of securing the crop for winter use, gentlemen have their fancies. I prefer leaving the plants in their original trenches, earthing up to the top of the plants, and covering with straw litter and boards, so as to protect them sufficiently from the frost, to be able to take them up as wanted; and this always fresh and sweet. I do not fancy disturbing the roots, and transplanting into narrow quarters.

Finally, any one in this country who wishes to have "first-rate" celery must cultivate it himself. Common labourers are sure to spoil it. Professional gardeners are

seldom found, and generally too expensive when they are.

Your obedient servant,

JUNIUS SMITH.

Hon. H. L. ELLSWORTH.

IMPORTANT TO PORK RAISERS.—There is an increasing demand in the eastern markets for pork and bacon from young hogs, and of thinner quality than formerly; and farmers are beginning to learn that by selecting a good thrifty breed, and managing them properly, they can raise hogs of 200 to 250 lbs. weight at nine or ten months old, and at a saving of one-third to one-half the expense over the old system of wintering store hogs, and slaughtering them at 18 or 20 months old. To practice this system the pigs should come in winter or early in spring; and special care must be taken to have them *kept thriving during their whole lives*; for if they become stunted when young, it is impossible to recover them in time for slaughtering till the next year.—*Ohio Cultivator.*

MANURE.—It is really surprising to see what a large quantity may be collected and made from a very small number of cattle. If a barn yard were cleared once a week and transferred to the compost heap, which should be made a save-all of every thing that ever had vegetable or animal life, a large heap is soon made with mud, sod from the sides of the roads, and the deposit of ditches, which may be thrown over, and moved after rains before the land is put to work. The great process of nature is to reproduce, and we may have this reproduction in grain, fruit or vegetables. All we have to do is to prepare the earth, sow or plant, and cultivate, and a bountiful Providence does the rest.—*Farmer's Monthly Visitor.*

GYPSON FOR STABLES.—The London Agricultural Gazette says: "In our concern, where we have a great number of horses, we use gypsum in our stables, strewing it on the floor, which arrests the ammonia as it is formed, and thereby not only helps to preserve a most valuable fertilizer, but also renders the stable much more wholesome for the horses. If, in the hot stables that are sometimes met with at inns, where the air is so charged with ammoniacal vapors, that when you enter your eyes are affected, a little gypsum were strewed on the floor every day, all that offensive smell would be done away, and the stable be much more healthy for its inhabitants."

Large Chests.

Horses that are round, or "barrel-chested," are invariably more muscular and enduring than those of the opposite kind. Scientific sportsmen are, in a great measure, guided in their opinion of a horse's racing qualifications by his girth just behind his shoulders; by this test, a well-known jockey foretold the reputation and prowess of the celebrated racer "Plenipotentiary," almost from the period of his birth. Cattle-dealers and butchers, in like manner, judge by the chests and shoulders of cows and pigs what amount of fat they are likely to gain in the process of feeding. All animals that have large lungs are remarkable for the vigour of their appetite, and for the facility with which they appropriate their nutriment; such animals will feed upon the coarsest hay and straw, whilst their less fortunately constructed companions are fattened by no kind of food. An amusing anecdote is related of a simpleton, who, in trying to sell his horse, declared that "*the animal's eating was a mere nothing.*" The intelligence would, contrary to intention, have sufficed to ruin the prospect of sale, but that the buyer, with a rare discrimination, inferred from the horse's chest that the capacity of his appetite had been unwittingly misstated. He bought him on the hazard of an opinion, and had no reason to repent of his judgment.—*Medical Times.*

SUBSOIL PLOUGHS.—In many soils, not otherwise rich enough for corn, it would be a good practice to make a furrow six inches deep in the fall, with a common plough; then let a subsoil plough run in this furrow ten or twelve inches more; and it would be still better to put cornstalks and other manure in this trench, and listed in when thoroughly wet, with a small plough or hoe; the land to remain in this state till planting time. The subsoil plough is very valuable; by its use the soil will be less wet in great rains, and more moist in great drought. Where the subsoil is used, in comparison with only the common plough, the yield will be fifty per cent. more, and the crop in dry weather always green. The subsoil plough has doubled and frequently trebled the crops.—*Farmer and Gardener.*

TO DESTROY INSECTS ON PLANTS.—Tie up some flowers of sulphur in a piece of muslin or fine linen, and with this the leaves of young shoots of plants should be dusted; or it may be thrown on them by means of a common swansdown puff, or even by a dredging-box.—*Peterson's Magazine.*

To Improve the Soil.

To improve a soil is as much as to say that we seek to modify its constitution, its physical properties, in order to bring them into harmony with the climate and the nature of the crops that are grown. In a district where the soil is too clayey our endeavour ought to be, to make it acquire to a certain extent the qualities of light soils. Theory indicates the means to be followed to effect such a change; it suffices to introduce sand into soils that are too stiff, and to mix clay with those that are too sandy. But these recommendations of science which, indeed, the common sense of mankind had already pointed out, are seldom realized in practice, and only appear feasible to those who are entirely unacquainted with rural economy. The digging up and transport of the various kinds of soil according to the necessities of the case, are very costly operations, and I can quote a particular instance in illustration of the fact: my land at Bechelbronn is generally strong; experiments made in the garden on a small scale showed that an addition of sand improved it considerably. In the middle of the farm there is a manufactory which accumulates such a quantity of sand that it becomes troublesome; nevertheless, I am satisfied that the improvement by means of sand would be too costly, and that all things taken into account, it would be better policy to buy new lands with the capital which would be required to improve those I already possess in the manner which has been indicated. I should have no difficulty in citing numerous instances where improvements by mingling different kinds of soil were ruinous in the end to those who undertook them.

A piece of sandy soil, for example, purchased at a very low price, after having been suitably improved by means of clay, cost its proprietor much more than the price of the best land in the country. Great caution is therefore necessary in undertaking any improvement of the soil in this direction,—in changing suddenly the nature of the soil. Improvement ought to take place gradually and by good husbandry, the necessary tendency of which is to improve the soil. Upon stiff clayey lands we put dressings and manures which tend to divide it, to lessen its cohesion, such as ashes, turf, long manure, &c. But the husbandman has not always suitable materials at his command, and in this case, which is perhaps the usual one, he must endeavour by selecting his crops judiciously, crops which shall agree best with stiff soils, and at the same time meet the demands of his market, to make the most of his

land. In a word, the true husbandman ought to know the qualities and defects of the land which he cultivates, and to be guided in his operations by these; and in fact it is only with such knowledge that he can know the rent he can afford to pay, and estimate the amount of capital which he can reasonably employ in carrying on the operations of his farm.

In an argillaceous or clayey soil, it would be absurd to persist in attempting to grow crops that require an open soil. Clayey lands generally answer well for meadows, and autumn ploughing is always highly advantageous to them by reason of the disintegrating effects of the ensuing winter frosts.

—*Boussingault.*

Cranberries.

In answer to the inquiries of a subscriber on this subject, we will remark as we have often before, that the cultivation of this plant is not yet reduced to any regular system. They come into some lands and disappear in others unexpectedly and unaccountably, unless it be owing to a rotation of crops by nature, as oaks succeed pines, and the reverse.

If the land be not naturally wet, it is best to prepare for flowing, and there is sometimes an advantage in flowing very wet lands. The water is a protection against severe cold in winter, and by flowing late in spring the blossoming may be retarded until the frosty season has passed, and if flowing can be effected rapidly, it may be done any time in summer when there are indications of a frost.

As to the preparation of the soil, if it be naturally too dry, mud will improve its texture by rendering it more retentive of moisture, and if the land be naturally wet and the soil composed mostly of mud or peat, sand will be a good manure. When land has been long in grass, and cranberries have not grown, the cranberry plants would be likely to displace the grasses, aided by the tendency of nature to rotation, but if the ground has been in cranberry vines, and they have disappeared, the land should be ploughed, or in some way inverted, burying the grass completely, and tolerably deep.

In transplanting, as we lately observed, take up shovelfuls of the soil at places about four feet apart, and place in the holes shovelfuls of earth taken from a cranberry bog with the vines therein, and they will soon run and occupy the whole ground. For further information we refer our readers to a discussion on this subject at the State House, which appears in the *Cultivator of March* 8th.—*Boston Cultivator.*

Pepper and Mustard.

HUMAN life, though a great and momentous affair, is the sum and result of many little and apparently insignificant arrangements. Who, without experience, would think that pepper and mustard could materially influence our enjoyments—could affect, even in a moral point of view, either the head or the heart? Yet so it is—‘these little things are great to little men.’ Suppose that we are set down to dinner, and that we have been helped to some hot and savoury soup; we take up the pepper box, but find it either empty, or half filled with large particles which will not pass through; or if it contains a supply of good pepper, the holes are so stuffed up that not a particle can make its escape; or, what is still worse than all, the lid has been so carelessly put on, that the moment we begin to use it, off it tumbles, and the whole contents of the cruet fall into your plate at once. Or, on the other hand, suppose we have been presented with a plate of beef; the mustard pot is empty, or it is partially filled with the rancid remains of a former day, dirtily clogged around the sides and top of it; or it may be filled with a tasteless fluid, the result of a dish of water put into the half empty vessel before dinner. It may not even be found on the table at all; and, after several times calling for it, and during the time lost going for it or searching it out, you are obliged silently to eat your beef without the aid of its stimulating flavour. If, on the contrary, you are resolved to wait its appearance, your patience and temper undergo a severe trial, and your keen appetite is lost in the anxiety of hope deferred, while the tedious process is going through of procuring a fresh supply. First of all the keys have to be found; or, it may be, the key which opens the work-basket which contains the key which opens the closet which contains the shelf where, huddled among a dozen heterogeneous packages, the paper containing the mustard powder is to be found. Then this powder, which has lost more than half its pungency by being kept in paper instead of a stone jar, has to be hurriedly mixed up with water, and is brought at last, after a world of delay, with large knots of dry powder interspersed among the half liquid mass. If, under the same auspices, you should dine day after day at the same table, it is ten to one but the same neglects are repeated. If you should ask for pickles to your beefsteak, they will also have to be waited for in the same manner; or, if on the table, they will in all probability contain a metallic spoon, the action of the acid on which producing a poisonous

mixture, will effectually deter you from partaking of them. In short, these little arrangements are an index of the mind of the presiding mistress. It may sometimes be the fault of the servants; but the omissions of servants, unless they are incorrigible, more frequently depend on the guiding spirit of the house than on their own peculiar faults. When one sees the arrangements of the table perfect, even including the well filled, clean, and inviting mustard pot, he may be assured that all other most important departments of domestic management are in their proper order. “My dear,” says Mrs. Slovenloof, “why should you vex and fret yourself so about such a trifle as the omission of the mustard? How often do you tell *me* not to fret myself about trifles? Besides, I do not think either pepper or mustard agrees with you; and I have been reading lately that too much of such things is unwholesome.” “Yes, too much of any thing is unwholesome; but what do you say to too little, or none at all?” “I have read, my dear,” retorts Mrs. Slovenloof, “that man in a state of nature requires none of these things; that half broiled beef or venison, of which you so often complain, is devoured by the savage without salt, or pepper, or any thing else, and reckoned a most savoury meal; and I do think, that all the niceties of cookery are very useless, and I am sure they are very, very troublesome?” “The savage,” replies her husband, “takes his food thus because his squaw knows no better; and depend upon it, did she present him with a well cooked and well seasoned mess, he would eat it with a double relish, and thrive under it too, in a way quite different from what he does under his ill-cooked fare. But even your instance of the savage is an unfortunate one. Your ‘man of nature’ is just as fond of aromatics and other stimulants as a civilized man. Witness his avidity for salt, for aromatic and bitter roots and herbs, for the intoxicating cava, for beer, for tobacco. Nay, if we stoop to the analogy of the lower animals—whose appetites you will allow are under the guidance of unerring instinct—we shall find that they, too, are equally incited by appetite to take along with their food stimulants, such as salt and aromatic herbs and roots.” Mrs. Slovenloof, however, was unwilling to be convinced. There are none more fertile in evasive excuses than the really indolent and negligent; and she spun out the argument for about two hours after dinner, advancing however, nothing but commonplaces in support of her theory, till at last she unconsciously gave it a practical deathblow, by partaking freely of both tea and coffee in

the evening; both of which, according to her view of the question, were equally unnecessary as pepper and mustard.—*Chambers.*

Waste Manures.

Norwich, Conn., June 29, 1844.

SIR: I have been much interested in the examination of your able and very valuable report for 1843, the first that has fallen into my hands. By its perusal, I am the more convinced of the importance of close observation, investigation, and comparison of facts, in all the occupations of life. I see you have given much attention to manures; and, although my business is bleaching and finishing cotton goods, and more immediately connected with manufacturing, yet I have always felt a deep interest in agriculture and horticulture; and, like thousands of others engaged in other pursuits, am looking forward to the time to retire from other business, and engage it. Hoping that my present business may render some service to the tiller of the soil, I call your attention to the following facts.

In bleaching cotton goods, we boil them in lime—about one cask to three tons of goods; this we do to extract or kill the vegetable and other oils got into them in the process of manufacturing. They are again boiled in one hundred and fifty to one hundred and eighty pounds crude soda (or soda ash, as it is called in market) to the three tons of goods, for ten or twelve hours; then the spent lye is drawn off as before. Now the most, if not all bleachers, make little or no use of this spent lye. Supposing that a liquid so highly charged with alkali, vegetable, and other matter from the cotton goods, would be worth something for manure, I have a pit dug of about eight hundred square feet, and three to four feet deep; filled it about half full of soil, into which I have run all the spent lye from both ash and lime boil, until it has become fully impregnated; so that, in digging it over, it smells very much like hog-manure.

I have had no time or opportunity to try its effect on different kinds of soil; neither have I found any person engaged in agriculture, who was willing to make a fair trial of it. The only trial I have ever seen, of any kind, was on a small lot, three-quarters of an acre, elevated, gravelly land, and somewhat arid soil. The lot was divided between three tenants, for a garden, equally. The first manured his portion with barn-yard manure; the second, who had the middle garden, used the soil impregnated with spent lye; the third used little or no manure of

any kind. The season was very dry; the gardens of the first and third suffered severely—so much so, as hardly to pay for cultivating. A cornfield, on the same kind of soil, near by, was very much injured; while the garden manured with the impregnated soil did not suffer any. Vegetation did not progress as rapidly as on the other lot, yet the growth was healthy. Sweet corn, which mostly covered the second lot, was of a deep green; the leaf did not roll, and showed no sign of being affected by the drought; it furnished a fair return of green sweet corn, until cut off by the frost in October.

What would be the effect on different soils, or in different modes of applying it, I have no means of judging; but should take pleasure in furnishing any person who would make a fair trial of it, without charge. If it has value as a manure, it is important to be known, as a large quantity can be furnished in New England at small expense. I have made an estimate, from my knowledge of the bleaching business in New England, and am confident that I am safe in saying that there is more than six thousand five hundred casks of lime used yearly in bleaching cotton goods alone, and a much larger quantity is used by the paper-makers in bleaching rags; that the bleachers of cotton goods in New England use more than one million two hundred and fifty thousand pounds of crude soda, or soda ash, yearly; the spent lye of which I think almost all is wasted.

One word about soda ash. It has very generally taken the place of potashes. I think it was introduced among bleachers in this country in 1835, by James Lee, Esq., of New York; since which time it has also been largely introduced into use among glass-makers and soap-makers. As it is an imported article, I should think it worth the effort to learn the mode and cost of production.

Please excuse me for drawing so largely on your time and attention; and believe me, yours, very truly,

MOSES PIERCE.

HON. H. L. ELLSWORTH.

GRAFTING THE CHESTNUT ON THE OAK.—In the department of the Correze, an oak, engrafted eight years ago with the chestnut, has produced at length, chestnuts of good quality. The success of the experiment is deemed important for extensive districts where the oak flourishes, and the chestnut is barren, and where the fruit is needed for food.

Milking Cows.

THE owners of cows should pay particular attention to milking. Children should not be trusted with this business, and there are many grown people who never milk well, though they have been brought up to the business.

If you would obtain all the milk from the cow, you must treat her with the utmost gentleness; she must not stand trembling under your blows nor under your threats. She may at times need a little chastisement, but at such times you need not expect all her milk.

Soon after the bag has been brushed by your hand, and the ends of the teats have been moistened a little with milk, it flows in rapidly, and all the veins or ducts near the teats are completely filled. Then it must be drawn out immediately or you will not get the whole. You must not sit and talk—you must not delay one moment, if you would have all the cow is then ready to yield.

The udder should be moved in every direction at the close of milking, and the hands may beat it a little, in imitation of the beating which the calf gives it when he is sucking. An expert milker will make the cow give one quarter more in butter than a majority of grown milkers will.

One season, at Framingham, says an experienced writer, we kept four cows in the home lot; there was but little difference in the quantity of milk given by each. We had a *very steady* hired man of forty years of age; he had carried on a farm in New Hampshire, and had always been used to milking; but he was so slow the cows had no patience with him.

We milked two of the cows, and he the other two, and we were but little more than half as long as he in milking, though we got the largest mess by about one quart. On our remonstrating, that he did not draw out all the milk, he said his cows would not yield so much as those milked by us. We then made an exchange; he milked our two, and we milked his. In three weeks time the case was reversed; our mess exceeded his by nearly one quart. He never failed to strip his cows to the last drop; but his *intolerable moderation* prevented his obtaining what an active milker would have done.

Young learners may practice on cows that are soon to be dried off. They should be taught *at first* how to take hold of the teats, and they will remember it; but how common it is to let each child choose his own mode of milking! Learners should know that the hand should be kept very near the extremity of the teat, if they would milk with ease.

The left arm should always press gently against the leg of the cow; for if she is inclined to kick, she cannot, with any force; she cannot *strike* an object that leans against her; but if she raises up her foot, as she often will when her teats are sore, the milker will be ready to ward off and keep it from the pail, much better than when he sits far off from the cow.

If heifers are made tame and gentle by frequent handling when they are young, they are not apt to kick the milker; their udders should be rubbed gently before calving; it is quite as grateful to them as carding. But if they are suffered to run wild till after they have calved, they cannot be expected to be gentle when you first attempt to milk them: they often acquire bad habits, and are not broken of them through life.—*Emigrant's Hand-Book.*

Profits of Poultry—Keeping Eggs.

PHILIP SMITH, Jr., makes a statement in a late number of the *Cultivator*, showing that from a stock of 35 hens and a rooster, he had a nett gain in the year 1844, of \$5 40, after paying \$18 67 for grain, for feeding, and the enormous rent of \$15 for yard, &c. They gave him 3115 eggs, and an increase of 53 hens. He says: "My manner of keeping eggs so that they will be fresh, is as follows. I place a layer of saw-dust in a keg, then pack the eggs closely to each other, with the *small end down*, to prevent the yolk from passing through the white of the egg; over this place another layer of saw-dust, closely packing to, and between the eggs, where they do not touch each other, and so on to filling the keg; then head it tight, and change it end for end every twenty-four hours. In this manner eggs will keep a year, and be as fresh as the day they were laid."

GRAFTING CURRANTS.—The Gardener's Chronicle recommends for the pretty appearance presented, as well as for improved flavour, to graft currants of different colours, as the red, black and white, variously intermixed, on stocks trimmed up to a single stem three or four feet high. The tops may be headed down to a compact head, or trained as espaliers in the horizontal or fan method, the two latter modes of training, by the free exposure to sun and air, much improving the quality of the fruit. The importance of trimming the bushes up to single stems to improve the fruit and facilitate clean culture, instead of suffering two hundred and fifty suckers to shoot up all round into a dense brush heap, is very obvious to those who have tried both.

Importance of Manure.

THE progress of agricultural improvement brings with it an increased demand for manures of easy transport. The supply gradually falls short of the demand, and their market value rises until they reach a kind of famine price; at which the corn they can be made to raise, barely repays the cost of applying them. This high price, which at first appears to be an unmitigated evil, leads, however, to good in many ways. Perhaps the simplest and most intelligible way of treating our present subject will be, to follow in their order the successive effects or improvements to which this high price naturally gives rise.

In the first place, it causes all *known* manures to be eagerly sought for and collected. The home dealer is stimulated to search for them in every quarter, and each bone-mill employs its staff of humble collectors to perambulate the towns and villages. Foreign and larger dealers spring up in the seaports. Our east coast puts the whole sea-board of Europe under requisition—whole fleets of merchantmen from the west, skirt the Irish shores, or, crossing the Atlantic, bring their cargoes of bones from the United States; and even to Buenos Ayres and Monte Video, suggest a new article of export, in addition to the hides and tallow of their numberless cattle. Such is, perhaps, the earliest national advantage which springs from high prices and increased demand.

It is interesting enough to mark how agriculture and commerce thus mutually aid each other—how the wants of one country impart a new value even to the refuse substances of another, and afford a new employment to its idle population. But it is more interesting still to observe how such a traffic, commenced with a view to the benefit of our own farming interest, reacts upon the minds of the agricultural population in those distant countries—awakening them to new desires, and leading them to increased skill in the art by which they live. Bones, for example, they come to think, may be useful at home, if it is worth the while of English merchants to bring them from so great a distance. How are they to be used, they ask, where and when applied, to what crops, on what soils, and after what preparation? Such questions called forth by degrees a vast amount of practical information, the diffusion of which has in Sweden already given rise to the complaint, that bones are not to be obtained by the home farmer, because of the high price offered by the exporters to England; and in the United States of America, to the reflection, that

they are surely worth more for home consumption than the seven or eight dollars a ton which the English agents pay for them. How striking to see the awakening intelligence of a few thousand agriculturists in our own island, thus rousing a spirit of inquiry, and actually pushing forward the art of culture in the most remote parts of the world!

A second and no less important consequence of this high price of manure, is the saving to which it leads of such as were previously wasted. It is only the more skilful farmers who use these comparatively costly substances, in any considerable quantity. The less skilful cannot afford to use them. Their land is not in proper condition, perhaps because it is undrained, or they apply them after a wrong method, or at a wrong season; so that if by way of experiment they are tempted to try them, they suffer an actual money loss, and they are long deterred from employing them again. Nevertheless, the absolute value of manures of every kind rises in the estimation of the farmer, as that of portable manures increases. He comes to see that every waste of manure is an actual loss of money; and when satisfied of this, the slowest begin to move, and the most wedded to old customs to think of deviating from the methods of their forefathers.

The instructed look with amazement when, on the borders of the Roman Campagna, they see whole hills of dung, the long accumulating refuse from the stables of the post-house, or when, on the breaking up of the winter's frost, they see the yearly collections from the farm-yards floated away on the ice of the Wolga, almost literally realizing the times of the Augean stables. We never dream that anything half so barbarous could by possibility happen among ourselves; and yet a visit to a hill-farm in Northumberland, may show us the same winter accumulations emptied purposely on the side of a brook, that the waters may carry them off, or into some neighbouring hollow, where they are least in the way, and have been permitted to collect for entire generations. Such palpable waste is seldom seen, indeed, in the lower country, where intercourse is greater, and where knowledge and public opinion spread more widely, and exercise a more immediate influence; and yet the no less serious waste of the liquid from our farm-yards is still too widely prevalent, even in our better cultivated districts, and among our more improving and intelligent farmers. Within the last few weeks, we have walked over the farms of the first practical farmer of the Tyne-side, and of the most celebrated

breeder in Yorkshire, and yet, from the fold-yard of the one, the liquid was conducted by a drain into the nearest ditch; and from the cow-houses of the other, into a shallow open pond, where it stood reeking and fermenting beneath a blazing sun! What merit, as a farmer, can that man claim, who, though he annually lays five tons of guano, or bones, or rape-dust upon his farm, yet allows what is equal to ten or twenty tons of the same, to run to waste from his farm-yard in the form of liquid manure?

It is such waste as this that the high price of portable manure tends to check. It is now happily checking it here and there in various parts of the island; but it will be long before the evil is remedied over the general face of the country.

But after he has done everything in the way of saving what he had hitherto inadvertently neglected, the inquiring farmer still finds that his wants are not all supplied; that if he would farm high—raise, in other words, the largest possible produce from his land—he must still incur a considerable annual expense in the purchase of foreign manures. Can I not, he next asks himself—can I not husband these manures which cost me so much? Is there no way in which I can more economically apply them, so as, from the same quantity of manure, to obtain a larger return of roots or corn? This inquiry leads him to three successive mechanical improvements, as they may be called, which are severally applicable to one or other of the crops he cultivates. *First*, To put his manure into the ground immediately before he sows his crop in spring or summer, rather than in the preceding autumn. This is a result of the same system of saving to which we have already adverted. By examining the waters which escape from the drains during winter—upon his thorough drained land—he finds that they actually carry with them a portion of the manure he had previously laid upon his fields in the autumn, and that thus he had unconsciously suffered a partial loss. To put it in, therefore, only when spring arrives, will ensure him a certain saving. *Second*, To deposit the manure in the drills when his seed is sown, putting it all thus within reach of the plant, and wasting none of it on the unprofitable or unproductive part of the soil. And *third*, with the drop-drill to bury it only beside the seeds it is intended to nourish, and thus more perfectly to effect what laying along the whole drill had only in part accomplished. These methods husband his manures, and, at the same time, call in the aid of the ingenious mechanic to furnish cheap

and efficient implements, by which the several operations may be easily performed. They may not be applicable to all his crops, and there are certain circumstances under which the intelligent practical man will wisely refrain from fully adopting any one of them; but they are valuable illustrations of rural *economy*, nevertheless, and of the line along which improvement will proceed, in endeavouring “to raise the largest amount of produce, in the shortest time, at the smallest cost, and with the least permanent injury to the land.”

But the same desire to husband his manures, leads him also to what may be called a chemical improvement in the form in which he applies them. “If,” says he, “as chemists tell me, the roots of the plant drink in only that which is in a liquid form, the manures which are already in a liquid state, or in such a condition, at least, that the rains will readily dissolve them, should be more immediately useful in the nourishment of my crops. If I apply dry bones to my turnips, they must take a considerable time to become soluble, and may not yield all their substance to the growing bulb before its period of maturity arrives; and though the residue of the bones left in the soil does benefit the after crop, still the rains of winter must wash away some of their constituents, and thus occasion to me a variable loss. Would not the same quantity of bones or rape-dust, or even of guano, go further in the production of corn, or potatoes, or turnips, if I could apply all their constituents to my land in a fluid form?” Theory and experiment both answer these questions in the affirmative. Recent experiments, especially upon the action of bones dissolved in sulphuric acid, have thrown new light upon this subject; and though too hasty inferences have by some been drawn from them, and the benefits to be derived from the new method have been exaggerated, and unreasonable expectations have consequently been excited, yet such good may fairly be expected from the use of the liquid form of applying manures, as will encourage, we hope, the continuance and extension of experimental inquiry.—*Edinburgh Review*.

POULTRY HOUSES.—If you wish your hens to lay through the winter, have their houses cleaned out thoroughly. Empty the nests of all filth, and have them scraped inside and out, and then whitewashed. Place contiguous to your hen-house, under roof, a peck or two of lime, a bushel of gravel, and a load of sand or ashes, so that they can daily have access to these substances.

Culture of the Olive, Grape, &c.

THE section of level land lying between Nismes and Montpellier, is cultivated chiefly with olives, and the Frontignac and several other fine varieties of grapes. The olives had just been gathered and pressed. This tree does not bear until it is ten years of age, but it is very long lived. I saw some at this place which are known to have existed in the time of Cæsar. Surrounded by an abundance of food as we are in America, it is difficult for us to estimate the very great importance of the olive to the poorer classes in France. Requiring no cultivation, and no further labour than to gather the fruit and express the oil, it can be afforded at a cheap rate. This oil with coarse bread, constitutes almost the entire food of the lower classes of France and Italy. They have also some cheap kinds of light wine, at a few sous per bottle, which is much used.

The cultivation of the grape in Europe is a subject in which I feel much interested, and on which I have already obtained some information. After being accustomed to the extensive glass vinerics of Boston, Philadelphia, and Flushing, I was forcibly impressed with the great simplicity of its culture, both in France and Italy. In some instances planted in sandy or gravelly soil, in which scarcely anything else would grow, without stake or trellis to support them, and consisting of two branches, each pruned down to three buds, they are made to produce some of the finest fruit in the country. In other instances they are tied to stakes and trellises, and moderately manured. It is very desirable to obtain some varieties of these delicious European grapes, that will succeed well with us in the open air. That such can be obtained, I have no doubt; for they are found flourishing upon some of the most exposed points of the Alps, and where there is a foot or more of snow during the winter. An American gentleman of distinguished literary merit, and some time a resident of Italy, has been making a collection of these vines, and through his kindness I hope to send some of them to Flushing this spring, in time for planting out. By another year we shall, in this case, be able to test them fully, and to aid, perhaps, in introducing to the lovers of good fruit in America, some new and very superior hardy varieties of the grape. I much regret that my visit here is not during the vintage; at that season I should have full opportunity of seeing the different varieties, and testing their respective merits.

They have good cattle here, but none that

will compare with the English. Buffaloes are used in the campagna, and the oxen are often handsome, with horns sometimes three feet in length. The cows are small, and much like our native cows in form. It is amusing to see the peasants milking them from between the legs *behind!* where a single kick will send milker and milk both topsy-turvy! Besides these, they use the milk of goats and asses. There is a milk establishment opposite my window, and the donkeys *bray* lustily every morning, by way of reveille. Their milk is said to be particularly rich. The old Roman breed of horses is still kept up, and I have seen uniformly better horses here than in any other city. They are not large; are of a glossy black, well formed, with thick mane, and a tail sweeping the ground. Agriculture in Italy is a century behind the age. For a plough they use a narrow triangular piece of plank, with a stake put on one end for a handle, and the oxen draw it over, rather than through the soil, by their horns.

S. B. PARSONS.

Rome, Feb. 14th, 1845.

A Humble Reading Room.

THE following lately appeared in the *Glasgow Citizen* newspaper:—"How little do people know of what is passing daily around them! Until the other evening, we had not the remotest idea that, on being conducted up the first stair of a dingy low-roofed close in Saltmarket, No. 115, we should observe, painted in white letters on a door, the words 'Reading Room.' Was it possible that in such a locality—in the midst of vice and wretchedness—surrounded, as it were, by the very dregs of our dense population, there existed an institution devoted to mental culture and self-improvement? By what strange accident had a ray of light from the upper levels of society descended to this obscure alley? On entering, we passed a small kitchen to the right, with a fire burning briskly, and a shelf along the wall, supporting some half-dozen coffee-cups, with three or four bottles of lemonade. Before us were two rooms with tables and forms, and sufficiently lighted with gas, although, on the whole, rather scantily furnished. In one of these apartments were a few workmen—for aught we know, common labourers—with hard bushy heads, greedily devouring the news; while in the other, there was some one reading aloud to two or three gaping listeners, whose education had been more neglected. On inquiry, we learned that the subscription to the rooms, which were pretty well furnished with newspapers and cheap

periodicals—such as *Chambers' Journal* and *Miscellany*—was only *one shilling a quarter*; and that among the subscribers there were no fewer than *eleven who could not read!* It was the first time we had heard of men ignorant of the alphabet subscribing to a news-room! This interesting establishment, which was started upwards of eight months ago, through the praiseworthy exertions of a person named Mr. James Partidge, is denominated 'The City Teetotal Reading Room,' and affords a curious instance of the good that is sometimes doing by private individuals in obscure places, and under circumstances apparently the most adverse.—*Littell's Living Age.*

The Improved Nautilus or Safety Girdle.

THIS is an important article to travellers. The opinion of those who have tested its qualities, together with an examination of its construction and mode of operation, induces a belief that, in practice, it will fully sustain all that is claimed for it. The Nautilus is a foreign invention, and has obtained a high reputation in Europe, having been adopted in the English and French marines, by order of their respective governments. In the hands of our ingenious countrymen its mode of construction has been materially changed and improved. It is secured by Letters Patent, both for the original invention and the improvements. It is inflated by the single act of putting it around the chest, and when secured there, the wearer cannot immerse his head in the water, consequently drowning is impossible. Its superiority over the ordinary air bag, consists, first, in its being inflated in a moment of time without the aid of the breath. Secondly, when inflated, the water proof covering is distended by an ingenious apparatus within, and permanently remains so whilst around the chest, or otherwise elongated. Being thus distended, and unable to collapse from external pressure, the air within has no tendency to escape, consequently, if perforated with numerous small holes, it retains its buoyancy for a long time.

Thirdly, the compact form to which it may be reduced when not in use.

In view of the immense destruction of human life on our inland seas, rivers and Atlantic coast, it ranks as an indispensable article for the carpet-bag, or overcoat pocket of the traveller.

In all kinds of boat service, in stress of weather, landing through surf upon the beach, &c., the Nautilus cannot fail to be essentially serviceable. Two dozen of them extended around a long boat or launch, con-

verts them into perfect life boats, which can neither capsize nor sink. This can be accomplished with but little preparatory arrangement for making them secure. The recent loss of the ship *Alabamian*, and the rescue of the passengers and crew by almost a miracle, would have illustrated the use of the Nautilus, in converting a launch into a life boat.

The revenue service, in our harbours, and along our coast, should undoubtedly be supplied with them. The Nautilus may be examined at Leary & Co's, No. 5, Astor House, S. C. Smith & Sons, 79 John street, or at the Factory, 83 Anthony street.—*New York Farmer and Mechanic.*

Hatching of double yolked Eggs.

The statements below are given as we find them in the *North American*. We would not be understood as vouching for their correctness.—Ed.

Her Majesty's Aviary at Windsor: The following singular and rare, if not unique occurrence, has just taken place at the Royal Aviary, in the Home Park, at Windsor. It having been deemed advisable by Mr. Walters, the superintendent of her Majesty's Aviary, in order to improve the breed of the genuine Dorking fowl, that it should be crossed with that of the Cochin China fowl, the necessary arrangements were made for that purpose. A Dorking hen, which had roosted for some time past with the fowls from China, has recently been in the habit of laying twice, and sometimes thrice a week, eggs containing double or two distinct yolks. Mr. Walters determined to try the experiment of attempting to hatch one of these double-yolked eggs, and placed it with several other eggs under the hen. The result was that two chickens were produced from this single egg; one is a cock-bird, of the pure Cochin China breed, and the other is a hen chick, of the Dorking genus. Both which are now five days old, are in good health, and there is not the least doubt of their being reared. This is a circumstance, as we are informed, unprecedented in the annals of natural history. The Cochin China fowls were imported into this country direct from Asia, and presented to her Majesty last autumn.—*North American.*

A man who gives his children the habit of industry, provides better for them than by giving them a large sum of money.

A man is valued, as he makes himself valuable.

From the Cincinnati Gazette.

Male and Female Strawberries.

MESSRS. EDITORS,—The season for the blossoming of the strawberry is at hand, and it behoves all who wish to raise this fine fruit, to examine their beds, and ascertain if they have both male and female plants, and the proper proportion of each. There should be one male to ten or twelve of the female. The blossom of the male is larger and more showy than the blossom of the female. I have been at a loss to describe the two blossoms to persons ignorant of botany—who would not understand the terms staminate and pistilate—and enable them to distinguish the difference. I was trying to do this recently, when a Dutch boy was present, the son of one of my tenants, who described the difference so as to make it apparent to all. "Why," said he, "you not know the man from the woman? The man he have the beard, the woman have none." In the female plant, the pistils, or female organs only, are perceptible, and is the little yellow centre, at the end of the stem, in the centre of the flower. By pulling the flower apart, the stamens, or male organs, will be found attached to the hull, but very short and defective. In the male plant, the stamens one-third of an inch long, and like the beard, cover completely what may be called the face of the blossom, with yellow heads, which contain the principle of impregnation. As soon as the white leaf of the blossom falls, every female blossom will show the fruit, whilst in the male blossom, there will generally be no fruit; and where there is any, most of them small and ill-shaped. The reason is, each blossom may be said not to be one, but near one hundred. Each one of the hundred must be impregnated to produce a perfect fruit. The female organs being covered by the stamens—beard—are generally defective, and a portion only, if any, are impregnated; and I have never seen a blossom produce a perfect fruit. The portion impregnated swells out, the other shrivels, and the berry contracts in that part. The white and monthly varieties are an exception. In these both organs are perfect, and, as a consequence, the fruit small. In raising from seed generally, an equal portion of male and female are produced, and their runners never change their character. But the male soon roots out the female, as it increases faster, being the stronger plant, and none of its energies exhausted in perfecting fruit. When the people of the East are not too wise to examine and understand this subject, they too will have gardeners who will supply the market with one

hundred and twenty bushels in a day, and buy the finest of fruit at four to six cents per quart, as is done in the height of their seasons in our market. I am told an Eastern nurseryman, who has been in the business some forty years, pronounces the system absurd.

If the writer had read the works of all botanists who have written on the strawberry, during the life of Linnæus, and since his day, he would speak with more modesty. We have not an ignorant gardener, who attends our market, who does not better understand this plant. The same writer says the Hudson Bay strawberry is thrown by as worthless. Yet this is one of the largest, most productive, and of superior quality, and more cultivated in our State, especially for market, than any other. They are discarded because the character of the plant is not known. An acre of the male or female plants, by themselves, would not, in one hundred years, produce a single perfect fruit. I will give the writer, or any other nurseryman, one hundred dollars for a single root of Kean's seedling, or any other variety, so perfect in stamens and pistils, as to produce a full crop of fruit, equal in size to the discarded Hudson, or Hovey's seedling, where not placed contiguous to male plants. Few nurserymen understand the subject, for a plain reason. Within a narrow space they cultivate some twenty or more varieties for sale. Among so many varieties they will have more or less male plants, and the wind and bees carry the pollen from bed to bed. This I pointed out to Mr. Buist, who set out a bed of female plants, which he supposed would never fail to produce a full crop, one hundred feet distant from all others, and subsequently wrote me they did not produce a single perfect fruit. This subject has been for the last eighteen months before our Horticultural Society, and the question submitted to a large committee of talented botanists and market gardeners. Their report will be made soon after the blossoming season. Those whose past experience did not enable them to give a decided opinion, after one season's experiment, requested another year to make up their report, intending this spring to report their experiments. Mr. Hovey has promised to test the matter as relates to his own seedling, and I shall expect to hear from him as soon as the flowering season is over. I will cheerfully pay him one hundred dollars, for a single root of his seedling, that will, separate from all other plants, yield a full crop, of usual size. It would be worth thousands of dollars to the United States alone.

N. LONGWORTH.

For the Farmers' Cabinet.

Destruction of Grape-vines.

MR. EDITOR,—I have some very flourishing grape-vines of the Isabella, Catawba and Madeira varieties, which in former years used to contribute to my use and pleasure as well as repay all labour and attention to them, by the abundance of excellent fruit which they produced;—but for two or three years past I have scarcely been gratified by the sight of a single perfect bunch.

The failure of the crop has been caused by the depredation of small green worms, in hosts innumerable, which attack and consume the foliage, ranging themselves round the border, on the under side of the leaf, with all the regularity of a drill sergeant.

I have tried all my ingenuity to dislodge and annihilate the enemy, but without success. Smoke, from offensive combustibles, tobacco, &c., and even from brimstone matches, had no effect; soap-suds and lime-water also failed.

I then attempted removing the infected or rather infested leaves daily, with shears, and casting them by the basket full into the fire, but in this I only succeeded in aiding the destruction of the foliage.

Will you please inquire of your numerous subscribers, whether any of them have been so annoyed, and have succeeded in finding the genuine "worm bane?" B.

Coatesville, Pa., April 14th, 1845.

We shall be not a little gratified if some of our readers should be able to answer the wishes of our friend, for it is not in the country alone, but in the city also, that these pests commit their depredations.—Ed.

POTATOE SUGAR.—The growers of potatoes in the British Kingdom are likely to be benefited by the exertions of the home sugar manufacturers, who are now determined to purchase all that comes within their reach. At the manufactory of potatoe sugar at Stratford, in Essex, and other places, we understand that the "fruit of the earth"—potatoe—will be taken in any quantity, and at a fair price. We have no doubt that the juice of the cane is superior to the meal of the potatoe, but we have positive proof that the potatoe can make up in quantity what is deficient in quality, and as no one can question the nutriment in the potatoe, we do not see why potatoe sugar should not be as advantageous to the tea or coffee table as the potatoe is to the dinner table; be this as it may, we have it on good authority that three tons of the raw material will produce one ton of the manufactured article, and consequently the British manufacturer can successfully compete with the foreign and colo-

rial producer, and pay the same duty as that which is levied on the sugar imported from the colonies.—*Mass. Ploughman.*

From the Southern Planter.

Fruit Trees.

I PROMISED to give you the result of an experiment which I had made with tar in preserving the peach and nectarine trees. It is so very simple and cheap that all admirers of good fruit may have flourishing trees and a chance for eating good fruit. As soon as the scion attains the size of a man's finger, which is generally about the first of autumn, remove the earth from about the root and deposit around the stock of the tree a half pint of soft tar, rubbing at the same time the body of the scion for six or eight inches above the surface with tar; then replace the dirt previously removed. This process must be repeated each succeeding year, say in the month of June, increasing the quantity of tar according to the growth of the tree. My own experience enables me to say, that this recipe is infallible.

GEORGE C. DODSON.

Mayoning, Va., Jan. 31st, 1845.

COMPOSITION TO RENDER WOOD INCOMBUSTIBLE.—Take a quantity of water, proportionate to the surface of the wood you may wish to cover, and add to it as much potash as can be dissolved therein. When the water will dissolve no more potash, stir into the solution first a quantity of flour paste of the consistency of common painter's size; second, a sufficiency of pure clay, to render it of the consistency of cream.

When the clay is well mixed, apply the preparation as before directed to the wood; it will secure it from the action of both fire and rain. In a most violent fire, wood thus saturated may be carbonated, but it will never blaze.

If desirable, a most agreeable colour can be given to the preparation, by adding a small quantity of red or yellow ochre.—*Buffalo Com. Adv.*

MALAY APPLE.—The Malay Apple, an East India fruit, is now raised at Vicksburg, Mississippi. Its scientific name is *eugenia jambosia*. In the East Indies, the native clime of this fruit, the tree grows to a height of twenty feet; at Vicksburg it is only five feet in height. The apples are about the size of a small peach, with a similar colour, fragrant smell, and have the taste of a very sweet common apple, with one seed in the centre, of the size and colour of a chesnut.—*Western Farmer and Gardener.*

Saving Manures.

"Nothing must be allowed to run away in the form of a fluid, or to fly away in the disguise of a smell. * * * Mark out a piece of ground on which the dunghill is to be made, on a good slope, if possible, and close by a pond. Cut a gutter all round, and puddle it with clay, so as to make it water-tight. Then, at the lowest part, outside the place where the dunghill is to lie, dig a sink-hole 18 or 20 inches deep; let this be well puddled, and connected with the gutter already spoken of. Things being thus prepared, throw down a layer of manuring substances, about a foot deep; tread them well down, and scatter some fixer over it;—finally, water it well. In this manner go on, with layer after layer, till the heap is the desired height. During the operation of making the heap, some water will have drained away; in that case, it will have run into the gutter, and been collected in the sink-hole. Scuppet the water out, as the work proceeds, and throw it back on the dunghill. If the hole is not large enough, another can be made near it;—none of the drainings *must on any account be lost*. It should have, at least, once a week, for a month, a good quantity of fluid thrown upon it. Pot-boilings, and soap-suds, are much better than common water; but urine is preferable to both. By these contrivances nothing is allowed to leak, but the dunghill becomes a soft mass, holding fast all which belongs to it, except what flies away. To catch the latter is the *purpose of the fixer*. There are many kinds of fixers,—oil of vitriol, green vitriol, blue vitriol, salt and lime,—not either salt or lime by themselves on any account—gypsum, &c., may be used; but some of them at all times, and in some cases all of them, have the fault of costing money. A substitute which costs nothing except labour, is, therefore, to be sought for. Such exists in cinder siftings, charcoal dust, good black earth, peat or bog mould, rotten sawdust, leaf mould, black mud from ponds, bottoms of wood stacks, soot, brick-dust, burnt clay, &c. Some or all of these, may be had in most places."

Mr. H. S. Thompson, of Kirby Hall, at the late meeting of the Yorkshire Agricultural Society, at Doncaster, recommended the plan he adopted, which was "to have a pit dug in the earth in which to throw the manure, instead of having it piled up on a heap. The bottom of the pit is water-tight, and has a slope towards the centre, where a tank is placed so as to receive the drainings from the manure. These drainings are frequently poured over the manure, so as to keep up a regular, but not excessive, fer-

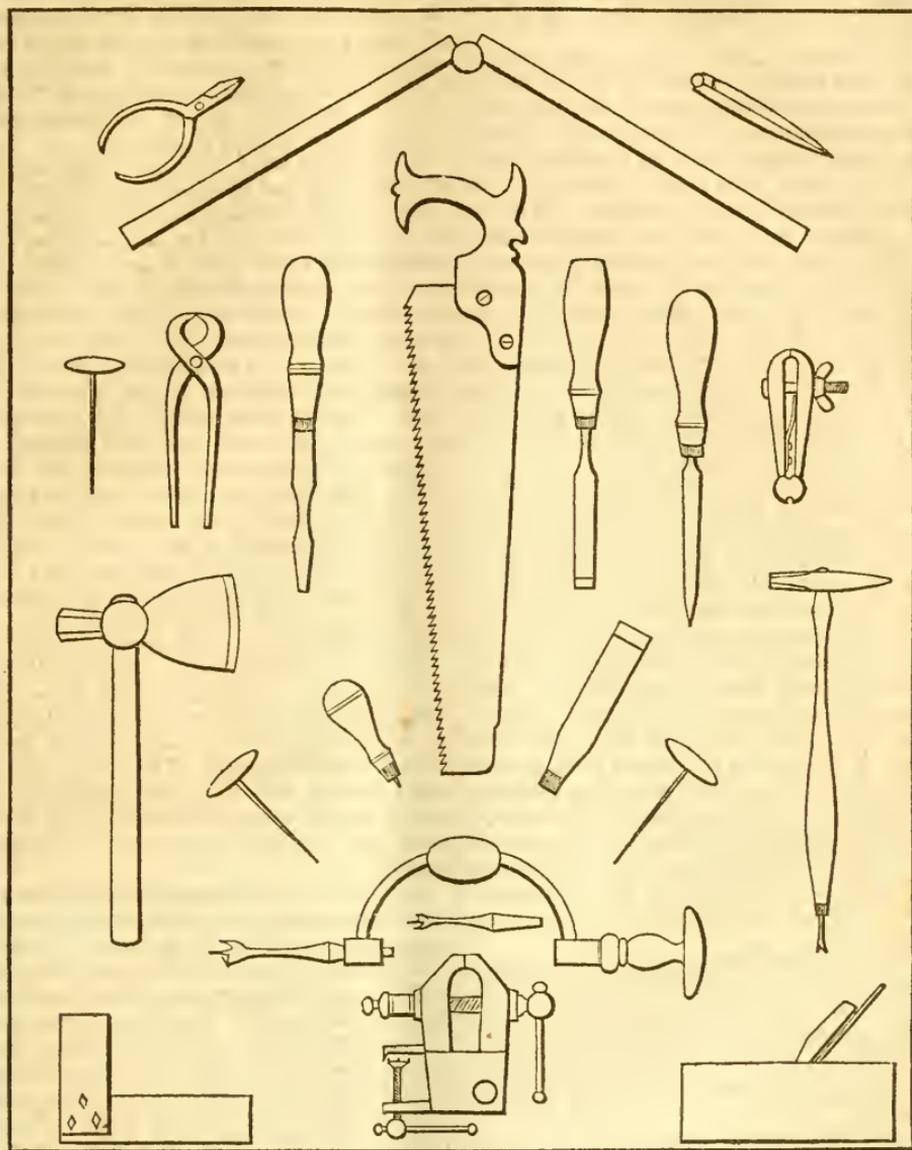
mentation. He was in the habit of collecting all the couch-grass, stubble, and other vegetable refuse which the farm afforded, and spreading it on the bottom of the pit to the depth of six or eight inches. This, when well soaked with the liquor that drained from the manure which was carted upon it, and fermented together with that manure, was, he believed, as good as any other portion of the heap. In this way he had, last year, on a farm of two hundred acres of arable land, increased his manure by two hundred single horse loads, which was equivalent to four additional loads per acre, for his fallow crops. If the manure was wanted for immediate use, it should be lightly thrown together, and, after being well soaked with tank liquor, have a thin covering of soil to absorb the gases which would otherwise escape. In this case, it must be carefully watched and well watered, from time to time, to prevent the fermentation from becoming excessive. If the manure is to be kept six months or more, it should be made solid by carting over it, and have a thick covering of soil, which would nearly exclude the air. In this way manure may be preserved for a year almost without loss. In very dry weather, the drainings from the manure are not sufficient to keep it moist, and it becomes necessary to saturate it with some other liquid. If the farmer has other tanks on his premises, it would be better to use their contents for this purpose, but where such are not at hand, plain water may be used, and has been found to answer exceedingly well."—*Economy of Waste Manures.*

Silk Culture in Ohio.

In a letter from J. W. Gill, of Mount Pleasant, Ohio, to the Ohio Cultivator, under date of "Feb. 25th, 1845," he says:

"We have furnished constant employment in the factory alone, to fifty persons, besides those employed during the summer in growing cocoons; have purchased cocoons and reeled silk to the amount of over four thousand dollars, which were procured from Jefferson, Belmont, Guernsey, Crawford, Washington, Franklin, Harrison, Carroll, Muskingum, Hamilton, and several other counties in Ohio. Also, some from Pennsylvania, Virginia, Indiana and Illinois, with considerable from Kentucky and Tennessee,—we have used no foreign silk whatever—from which, with our previous stock, we have manufactured over eight thousand dollars worth of goods, and have more than five thousand dollars worth in its various stages of progress, from reeled silk to warp in the looms, on which to operate until a new crop is grown."

A SEPARATE PLACE FOR EACH THING, AND EVERY THING IN ITS PLACE.



——“Order was Heaven’s first law,
Earth’s first blessing.”——

For the Farmers’ Cabinet.

Order—Carefulness.

If we properly considered our true interest, and indeed our own convenience, we should be led to see the importance of the moral influence resulting from *habits of order*.

Even children perceive the beauty and advantages of care and neatness; and almost instinctively acquire the practice, from the

example of those with whom they are associated.

Some persons plead, they have no turn for such things; and therefore they are excusable for their neglect. But this is a mistake. The real difficulty arises from a feeling of which some are scarcely conscious; and which few are frank enough to acknowledge. Is it not to save ourselves a little trouble? Is it not self-indulgence? To be plain—is it not indolence? And does not the indul-

gence of this feeling cause more of our troubles and difficulties than many are aware of!

For instance,—if we have unnecessarily neglected a duty, or have left an article out of place, which might as well have been returned at the time; if we have done a thing indifferently which ought to have been done well—or if we have failed to accomplish an object for want of due exertion;—What is the reason? Let us be honest, and examine it fairly. Is it not that we have given way to the feeling spoken of? And do we not find that this feeling gains strength by indulgence? But how are we to get rid of it? The reply is, we must contend against it, and show it no quarter; and little by little we will gain the mastery. Early life is the best time to eradicate it; but it will yield to proper efforts, at all ages.

You ask,—how is this to be effected? The answer is, by *learning to love labour*. But to do this, you must study to make every kind of business a pleasure. To a great extent this can be done. For by carefully digesting, and then adopting, the most simple and systematic mode of performing every duty, greater precision and success will be attained; and being simplified and made easy, the performance will become a pleasure. For no position is more true than this; *Whatever we feel we do well, we take pleasure in doing*: and is not the converse equally so? Whatever we feel is not well done, affords us no satisfaction. If, therefore, we learn to do everything well, will not the doing of everything then be a pleasure? Does not this correspond with our own experience?

Difficulties will frequently occur, but these must not dishearten us, as nothing valuable can be accomplished without effort; and for our encouragement we should always bear in mind that there is a way of doing everything, and if one method fails, we must try another.

The principles of order and of neatness are so simple and so plain, that it needs but moderate attention to understand them; and but reasonable effort to put them in practice: but that effort must be continued and persevered in, until we succeed. For step by step we shall gain on our deficiencies; and the consciousness of some progress will encourage further exertion. We should never forget that to become fitted to train others, it is especially needful we should first discipline ourselves.

An eminent and successful agriculturist, when asked what made a good farmer, replied, "To mind little things." When we visit a neighbour who is remarkable for good

management, we are struck with the peculiar effect and beauty of his arrangements; although perhaps at first we can hardly tell why. But when we come to analyze, we discover it is the result of attention to "little things;" providing places for things, and keeping them in their places.

If, when we enter a house, we see scraps of paper, rags and pieces of thread scattered over the floor—if the dress of the housewife has been thrown upon her without care, and perhaps soiled and torn: if her children are disorderly, uncombed and uncleanly, does it not affect us unpleasantly? and accustomed to better management, do we not turn from it with disgust? Are we at any loss to determine that indolence is the cause of all this? Can we doubt that if the housewife had properly attended to "little things,"—was an early riser, and had made the best of her time—that her room, her dress and her children, would have been entirely the reverse, and instead of an offensive, would have presented an inviting appearance? For what is more becoming than a neatly dressed woman? or more delightfully interesting, than a family of clean and orderly children?

The mere circumstance of a small bag being hung up in each room, and the scraps regularly deposited there, will promote habits of care and tidiness, beyond what could have been anticipated. This may seem a small matter, but it is the *beginning* of order; and if strictly followed up, its influence will be felt throughout the whole family.

But may not the same principles be applied elsewhere? Is there nothing to be done on the outside of the house? Let us examine—how is it with the fences and the hedges, and the appearance of the dwelling? Are they all snug? Have you a supply of choice fruit trees convenient? And of such grape-vines as will stand the winter, and are they kept well trimmed? Have you a wood-house? Is it well supplied with fuel, and neatly arranged? How is it with the garden and the front yard—and the lane—and the barn-yard, and the barn? Are they in good condition? Have you scrap bags there? or in other words, have you suitable places for unsightly things—for such things as cause disorder and litter your premises; and serve as examples of mismanagement and waste to those about you? If you have not, why is it? How can you expect them to be careful, when you are careless; to be industrious, when you are slothful; and to be saving, when you are wasteful? If you permit this state of things, do you not encourage it? and is it not really teaching them the reverse of what your interest re-

quires? Do you not see it? If you do, then rouse up to your duty; and set a better example for the future. For do you not remember that whenever you have done so, how pleasant has been the result? Shall the example of a wise Providence be lost upon us, and shall we not be improved by what was intended for our instruction as well as our benefit? Observe the operations of nature! How beautiful! How admirably adapted to their end!—the order—the regularity—the wonderful economy! nothing in vain—nothing wasted—nothing lost!

But you say you have not time to attend to these things: are you aware how much of your time, as well as your property, will be saved in the end? In laborious matters we may be industrious, and yet omit small ones through negligence.

You rise early of course, but is all your time employed to the best advantage? Do you note the fragments of it that are wasted by yourselves, and by those around you? You see then it is not for want of time; it is for want of properly employing it—it is for want of method; and no one can fill up the full measure of his usefulness without it. You are saving of your money, then why not economize your time.

We should all remember that it is our duty, and indeed our interest, to instruct others as well as to improve ourselves; and it may be truly said, that he who can accomplish and teach others to perform with ease a double amount of duty, is as much a benefactor as he who causes the “two blades of grass to grow where but one grew before.” To assist you in the object contemplated, provide a small book with but *two leaves*, and as they occur to you, note in it such little matters as may require care; you will then be able to attend to many things which are now neglected, because not thought of at a leisure time. But this book must be examined *daily*, and cleaned up as often as possible; for if the items are suffered to accumulate, the book will lose its virtue.

Are there not some other things to be looked after! Where are your implements of labour—your ploughs; your harrows; your hoes and your shovels; your forks; your rakes and your scythes? Are they in good condition, and in their proper places; or are they scattered about and exposed to the weather, and some of them mislaid, or lost?

Have you a tool-house? Have you a workshop? If you have not, there must then be some disorder; and is not that the cause? For a deficiency of care in one respect generally leads to it in others; and it is the *habit* of care you must acquire.

Would you know the secret of having things *keep in their places*? then provide suitable places for them; and have a distinct and separate place for each.

But these places must be convenient and easy of access; and the articles must be arranged with some taste, and so as to produce a pretty effect. This will be pleasant to the eye, and will awaken a feeling of interest in those in your employ, and each one will take pleasure in promoting the object. To *ensure* success, however, you must go further. You must mark in *outline* the exact shape of each article upon the wall or partition against which it may be placed. Try it and you will be astonished at the result; it will act like a charm in restoring things to their places. And from it you will derive a further advantage, as you will thereby be enabled at a glance to see exactly what implements and tools belong to you, and more pains will be taken to keep them fit for use. And if at any time they should be left out of place, or be lent to a careless neighbour, you will be continually reminded of it until they are returned, and thus often saved from loss.

The good effects of the plan will not stop here, for its successful operation will be a valuable example in the neighbourhood, and a practical illustration of the beauty and usefulness of *order*.

It will also serve to fix in the minds of those about you, a *principle* applicable in various other forms, and it will gradually produce an effect upon their habits that will, more or less, influence all their conduct.

MIGNON.

Note.—The diagram at the head of this article is a copy of a closet recently fitted up, and comprises most of the tools that would be needed for a family. For a farmer, a greater variety would of course be required. But the design of the plate, is to show that any set of tools or implements may be so arranged as to present a symmetrical and tasteful appearance; by selecting some prominent article as a point or centre, and radiating, or otherwise arranging the others around it.

The tools are secured in their places by *staples* made of wire, and by small brass or iron hooks, or by nails. One of the awl handles is hollow, and contains about a dozen blades of different shapes, each of which will fit firmly into the other handle. The shape of the tools as there represented, was marked out by a small stiff brush, and with ink. The cost of the tools at retail price, was \$8 67.

The foregoing remarks of our worthy friend may serve as the heads of half a dozen chapters. They

will afford food for reflection to all, but more especially to our younger readers, whose habits are being formed, and who are perhaps scarcely aware of the practical importance of the views here inculcated. We can assure them, they come from one who practices what he preaches, and whose daily habits afford a happy illustration of his sentiments.—Ed.

Silk.

At a meeting of the New York Farmer's Club on the 1st ult., President Tallmadge said: "On the subject of silk, a few words. In the first place, I venture to suggest that it is the most interesting subject that could be brought under the consideration of this nation. Whether as it relates to our prosperity, wealth, or national pride, it has no equal. The question is often asked, why has not silk yet been cultivated in America? Ours was a new country: we were in no condition to undertake it until recently. I maintain that we are peculiar in our national advantages for the silk culture. No country on the globe, except China, can compete with the United States.

The silk worm cannot exist but in warm and dry climates. China and the United States are both on the eastern sides of continents, and the prevailing winds pass from the western board over great tracts of land and mountains, and become dry before they reach the United States on this continent, or China, on the other; while the western shores of Europe, receiving the humidity of the ocean, are all more moist by much than we are. On this subject of climate, as affecting the silk worm, there is no country except China and the United States, in which the silk worm hatches without artificial means. The warmth of the bosom, or some contrivance, is found indispensable to the hatching, in all other countries. This is a most extraordinary natural adaptation for silk in America. We now have numerous and various mulberry trees; the wild *multicaulis* speculation is over, and forever, I hope. We now want more extensively the trees, the domestic rearing of the silk worm, and above all the best filatures. In Georgia cocoons are raised, but for want of filatures, the silk has in some cases actually been used to make *well ropes* and *wagon harness*. I have the pleasure to announce that Mr. Van Epps and Mr. Smith have been encouraged by the American Institute to establish a competent filature. We then shall want the manufacturing process; and I think myself safe in dating from this day the glorious work of American silk! We have persons coming, and some have already

come, from Europe; and we shall learn the arts of making, dyeing, and manufacturing silk fabrics. This great staple has now reached, like the point of the wheel, its passing place, and will henceforward maintain its constant motion. In sewing silks, it is said that in the first process gum is extracted to 26 per cent. of the weight of the silk, and afterwards in dyeing, the French chemists know how to restore 18 per cent. of that lost weight; while our chemists or dyers here can restore but 12 per cent., making six per cent. against us.

"American farmers will erect a monument in their hearts, if not one of marble, to him who shall introduce a new staple. As to our grain, we never can, in any event—corn laws or no corn laws—supply England with grain. Europe is ready in a moment to glut any open port of England with bread stuffs—and they raise the wheat with hands at 18 cents per day—while ours have 75 cents per day. Long may it be so. I avow my purpose to be, to maintain high rewards for labour, to hold it elevated above the depressed labour of Europe. Agriculture is bound to rejoice at this introduction of silk; great will be the individual and national results. Suppose that we had never manufactured a yard of cotton, or of broad-cloth, we should now be wearing the wretched *Hum Hums* of past days, at several shillings per yard, instead of cents—and broad cloth at about double the present prices, and our sheep would be extirpated. Now the moment we began to manufacture cotton—look. England's five per cent duty on American raw cotton disappears! Our farmers are all interested in this, for it brings down prices of manufactured goods. I repeat it—the farmer has the deepest interest in every measure that brings down prices and extends here a home market for the produce of his farm. He must make his market here, for he is shut out of Europe.—*Farmer and Mechanic*.

For the Farmers' Cabinet.

Disease of the Potatoe.

MR. EDITOR.—I have recently read a number of articles upon the "Disease of the Potatoe;" and have been struck with what seems to me a deficiency in the reasoning on the subject. I formed an opinion in relation to the matter more than a year ago, in consequence of some investigations I then made, and subsequent readings and examinations have confirmed that opinion. I will give it to you for what it is worth. If it is

not correct, perhaps it will lead to the truth—in which case I shall be abundantly repaid for my trouble.

It is well known that the substance forming the cells of all plants, is a compound of nitrogenous matter with one or more of the alkalies, together with silex, &c. It is also well known, that if the cellular matter is deficient in alkaline substances, &c., it is comparatively weak, and unable to contain the matters deposited in it. It is well known, too, that the alkalies regulate the formation of the acids in the healthy vegetable, and that when there is not a sufficient supply of alkaline bases, the vegetable either contains a superabundance of acid or its growth is impeded. In the former case the vegetable is not fit for culinary purposes.

Now, I believe, that in the case of the disease of the potatoe, the cause is a deficiency of alkaline bases. This is manifest in the want of power in the cellular substance to perform its office, and it is also manifest in the presence of acid in the potatoe.

In consequence of this deficiency of alkaline substances, the potatoe plant forms an alkali peculiar to itself, which is very poisonous in its nature; and which, I doubt not, produces the fatal effect sometimes consequent upon eating the diseased potatoe.

If this theory be correct, the proper remedy is to supply the alkaline substances, such as lime, good strong ashes or soda, one or more of them; and not use quite so much or so rich manure as is commonly used.

CHEMICO.

Honesdale, Pa.

Inland Navigation to the West.

THE rolling flood of waters now pouring along by the Ohio, and the vast distances to which products are borne by the numerous steamers on its bosom, remind us of the great, and, compared with any other portion of the earth, most extraordinary extent of the inland navigation of the West. Let us take some particulars. It is considered a great voyage from New York to Liverpool; yet one may take a single steamboat trip on the waters of the Mississippi equal to that. Look at this:

	<i>Miles.</i>
New Orleans to Natchez,	294
Natchez to the mouth of Ohio,	718
From the Ohio to St. Louis,	172
St. Louis to Weston,	500
Weston to Council Bluffs,	300
Bouncil Bluffs to Fort Mandan,	824
Fort Mandan to the Yellow Stone,	224
Total voyage,	3032

This is the length of a voyage from New York to Liverpool—all performed inland—the point of departure being one hundred miles from the sea! Such is one of the voyages that may be performed in the great valley of the West.

But take another: suppose a boat takes in produce from Pittsburg to New Orleans, and should there be chartered to take stores to the Fur Company's Fort, at the mouth of the Yellow Stone, and then returns to Pittsburg, what will be her voyage:

	<i>Miles.</i>
Pittsburg to Cincinnati,	498
Cincinnati to Louisville,	137
Louisville to mouth of Ohio,	345
Mouth of Ohio to New Orleans,	1012
New Orleans to St. Louis,	1184
St. Louis to Weston,	500
Weston to the Yellow Stone,	1348
Yellow Stone to St. Louis,	1848
St. Louis to the Ohio,	172
The Ohio to Pittsburg,	980
Total voyage,	8024

Eight thousand miles might a steamboat run on the waters of the West in a regular voyage, before she returned to her original port!—*Cincinnati Chronicle.*

ARTIFICIAL EGG-HATCHER.—Your correspondent "Sessima," (*Gardener's Chronicle*, Nov. 30th,) asks, "Can any one inform us of the success of this instrument? Is there more than one kind of it?" At the late exhibition of the Smithfield Club, there was an ingenious machine for this purpose, exhibited by Mr. Birmingham, and called the Portable Couvoise. It is made of tin, contained in a wooden case—is very portable, and the price very moderate, as a machine capable of hatching two dozen eggs, may be had for 3*l.* 3*s.* or 4*l.* 4*s.* The machine is in extensive use in France—not only for game, but on the farm-yard.

THE Penny Postage, so successful in England, has given rise to another and important reform. Parliament has introduced a provision in the charters of rail-road companies, compelling each to carry third class passengers at a rate not exceeding a penny a mile. Many of the leading roads heretofore incorporated have taken the hint and reduced their fare, and now thousands are in the habit of visiting their friends residing at a distance, seeing curiosities and new places hitherto deemed inaccessible in consequence of high rates.

Sugar Cane in Western Georgia.

Colonel James M. Chambers, of Columbus, in writing to the Southern Cultivator, gives the following description of a visit to the farm of Judge Taylor, in Randolph county:

"The next day I passed to the house of Judge Taylor, in the county of Randolph. The Judge is living on his farm in the neighbourhood of Cuthbert, and is full of the spirit which a personal and practical knowledge of planting is so well calculated to beget. He invited me to see his process of making syrup or molasses, from a little patch of sugar-cane which he had cultivated last year. Everybody knows that molasses may be made from the cane, and this is not therefore the fact which I propose to report, but the yield. This is the point of interest, and I doubt not will be of astonishment to nine-tenths of those who hear it. He had cultivated not quite three-fourths of an acre in cane—common ribbon—on very common pine land, a little manured. At the time of my examination, he was just filling the second hogshead of 80 gallons each; and said he had cane enough to make 40 gallons more—making 200 gallons of good syrup—and he had seed cane enough left to plant two and a half acres. This would be at the rate of nearly or quite 300 gallons of syrup to the acre, appropriating from the crop only seed enough to plant the same quantity of land again. This, at twenty cents per gallon, would be sixty dollars per acre; and he assured me that it was not more difficult of cultivation than Indian corn, and the process of boiling not half so tedious or complicated as the making a kettle of soap. The mill for grinding the cane is a simple and cheap affair, which can be put up by any rough workman, and need not cost a planter more than ten dollars."

TO SWEETEN RANCID BUTTER.—The *Echo du Monde Savant* says: "An agriculturist in the neighbourhood of Brussels, having succeeded in removing the bad smell and disagreeable taste of some butter, by beating, or mixing it with chloride of lime, he was encouraged by this happy result to continue his experiments, by trying them on butter so rancid as to be past use; and he has restored to butter, whose odor and taste were insupportable, all the sweetness of fresh. This operation is extremely simple and practicable for all. It consists in beating the butter in a sufficient quantity of water, in which put twenty-five or thirty drops of chloride of lime to two pounds of butter. After having mixed it till all its parts are in contact with the water, it may be left in it for

an hour or two, afterwards withdrawn, and washed anew in fresh water. The chloride of lime having nothing injurious in it, can with safety be augmented; but, after having verified the experiment, it was found that twenty-five or thirty drops to two pounds of butter were sufficient.—*Chatham (Canada) Gleaner.*

For the Farmers' Cabinet.

Engrafting.

MR. EDITOR,—In the spring of 1844, I put several engrafts on a large apple tree—whip engrafting—and as I supposed, by subsequent observation from the ground—for I did not ascend the tree and examine minutely,—without success.

During the present month I ascended the same tree, in order again to try to alter its character, when to my astonishment, many of the engrafts which had been put on a year previously, were, for the first time, just commencing to expand their buds. Not having seen, in my horticultural reading, any account of such occurrence, therefore my astonishment.

If limbs within reach, or small trees had permitted my engrafts to remain thus dormant, I should have considered it *prima facie* evidence of their failure, and should not have hesitated to remove them with that portion of the *stock* above the best shoot, in order to have a fine branch for inoculation in August or September. But it appears from the foregoing, that the horticulturist may say, as well as the doctor, *dum Spiro Spero*, whilst there is life there is hope. So long as the engraft retains its vitality there is a possibility of its growth.

I shall not now attempt the physiological explanation of the above fact, but shall make further experiments. If it be well known to nurserymen—with whom you often have opportunities to converse—please suppress the above, and oblige
J. K. E.

Paradise, Pa., April 26th, 1845.

MAMMOTH HOG.—S. G. Allen, landlord of the *Franklin House*, Jersey Shore, Pa., slaughtered a hog a few days since, only 18 months old, which weighed, when dressed, *seven hundred and six pounds!* This hog was raised by Mr. Allen, and never received more than ordinary keeping or attention. He was of the John Coursey breed, with a small sprinkling of Berkshire. Had he been kept until the 1st of April, he would, no doubt, have weighed one thousand pounds! Mr. Allen had also in the same pen, a pig three months old, which weighed 86 pounds!—*Exchange paper.*

From the Cultivator.

Experiments in the Culture of Indian Corn.

WE are indebted to our friend George Geddes, Esq., of Onondaga county, N. Y., for the following detailed account of several experiments made by him, with great care, the past season, in the culture of Indian corn. They will be read with interest, and our readers will be glad to learn that these experiments will be continued with the same exactness the ensuing season. Mr. Geddes says:

The soil is a deposit of gravel mixed with sand and clay, resting upon a gypseous shale. The previous course of cultivation has been as follows, viz: In 1837, a crop of corn was raised on a heavy sod turned under that spring, and slightly manured with barn-yard manure. The yield was estimated at 65 bushels to the acre. In 1838, corn was again raised, and without any manure; estimated to yield 50 bushels to the acre. In 1839, it was sown with oats, and yielded a very heavy crop. Grass seed was sown with the oats, which succeeded well. The next four years it was pastured. Plaster was put on both corn crops and on the oats, and once or twice on the pasture.

The ground was ploughed about the first day of May, six inches deep, and planted on the third and fourth days of that month.

The variety of corn was the improved Dutton; that is, Dutton that had been selected from the earliest ears for a series of years.

Experiment No. 1.—One acre was planted in hills three feet apart each way, six kernels in the hill. Fifty loads of half rotted manure was put on this acre after it was ploughed, and harrowed in as well as it could be done; it being so coarse that it piled up a great deal before the harrow. The hills had a hoe full of the best of the manure drawn in by the planter, and the corn dropped into it. It was hoed twice, and a cultivator was run once along each row *both ways*, at *each hoeing*. The account of the cost of cultivation, is as follows, viz:

To ploughing and harrowing one acre,	\$1 50
50 loads of manure, drawing and spreading,	12 50
2 days' work of one man planting,	1 50
cultivating for both hoeings,	50
hoeing twice, 3 days' work,	2 25
harvesting, 3 1/4 days' work,	2 63
	<hr/>
	\$20 88

The product was 70 1/2 bushels—at 4s.= \$35 25—20'88=\$14 37 for the use of the land; or the corn cost, besides the use of the land, \$0 29.6 per bushel.

Experiment No. 2.—The other acre was cultivated as follows: One-tenth was planted in hills three feet by two apart, six kernels in a hill, and *without any manure*. The account of the cost of cultivation is as follows, reduced to acres.

To ploughing and harrowing one acre,	\$1 50
planting 2 days,	1 50
cultivating,	50
hoeing twice, 4 1/2 days,	3 37
harvesting 3 days,	2 25
	<hr/>
	\$9 12

The product was sixty and one-quarter bushels to the acre, at 4s.= \$30 12—9.12=\$21 00 for the use of the land; or the corn cost besides the use of the land, \$0 15.1 per bushel.

Experiment No. 3.—Another tenth was planted the same distance apart, and the same number of kernels in the hill as the last—and was manured, by filling each furrow as it was ploughed, full of barn-yard manure, *unfermented*—the amount used being at the rate of 150 loads to the acre. The cost of production was as follows, reduced to acres:

To ploughing and harrowing one acre,	\$1 50
2 men to fill the furrows with manure,	1 50
2 days' work planting,	1 50
4 1/2 days' hoeing,	3 37
cultivating,	50
3 days' harvesting,	2 25
150 loads of coarse manure,	18 75
	<hr/>
	\$29 37

The product was seventy bushels to the acre, at 4s.= \$35 00—29 37=\$5 63 for the use of the land; or the corn cost, besides the use of the land, \$0 42 per bushel.

Experiment No. 4.—Another tenth was the same distance apart, and the same number of kernels in the hill as the last, and manured with coarse manure in the same way, and had beside, a top dressing of half rotted manure, at the rate of twenty-five loads to the acre. The cost of production was as follows, reduced to acres:

To ploughing and harrowing one acre,	\$1 50
150 loads of coarse manure,	18 75
25 " " fine "	6 25
2 days' work to put manure in furrows,	1 50
2 days' planting,	1 50
4 1/2 days' hoeing,	3 37
cultivating,	50
4 days' harvesting,	3 00
	<hr/>
	\$36 37

The product was eighty bushels to the acre, at 4s.= \$40 00—36 37=\$3 63 for the use of the land; or the corn cost \$0 45.5 per bushel, besides the use of the land.

Experiment No. 5.—Another tenth was planted in drills, three feet apart, the corn four inches apart in the drills. It was manured with 25 loads of half rotted manure

to the acre, put on after the ploughing. The cost of production was as follows, reduced to acres:

To ploughing and harrowing one acre,	\$1 50
25 loads of manure,	6 25
drilling in seed 4 days,	3 00
two hoeings, 3 days' work each,	4 50
cultivating,	50
harvesting (small ears) 4 days,	3 00
	\$18 75

The product was fifty-five bushels to the acre, at 4s.=27 50—18 75=\$8 75 for the use of the land; or the corn cost \$0 34 per bushel, besides the use of the land.

Experiment No. 6.—The remainder of the ground was planted in hills three feet by two feet, six kernels in the hill, with a top dressing of twenty-five loads of half rotted manure to the acre. The cost of production was as follows, reduced to acres.

To ploughing and harrowing one acre,	\$1 50
25 loads of manure,	6 25
2 days' work planting,	1 50
4½ days' hoeing,	3 37
cultivating,	50
3¼ days' harvesting,	2 44
	\$15 56

The product was sixty-five and one-half bushels to the acre, at 4s.=\$32 75—15 56=17 19, for the use of the land; or the corn cost, besides the use of the land, \$0 23.7 per bushel.

It is proper to say, that the cost of labour for such small parcels, is a difficult thing to determine with perfect accuracy.

The stalks being of such equal value upon each piece, I have supposed it unnecessary to attempt any separate measurement; neither have I kept any separate account of the cost of the seed, for the same reason. The whole was plastered, but the expense being so slight, and costing the same for each piece, no account has been made of it. The manure is charged at its full value in each case, though the land is greatly benefited for future purposes. Hardly a quarter of its cost is justly chargeable to this crop. In No. 2, we have an example, in which the effects of the manure are easily traced through many years. The last manuring this piece had was in 1837—and it now produced 60¼ bushels to the acre. No charge being made against it for manure, it appears to be profitable above every other experiment. But if the account could be stated for a period of years for each piece of land as we have it for this year, I doubt not the manure would be found to pay fully all its cost.

These experiments were made chiefly to determine *how thick* corn should be planted—what is the *most convenient form to place*

the plants—and whether the manure should be rotted and applied to the surface, or ploughed under unfermented. The conclusion that now appears likely to be arrived at is, that hills three feet by three feet apart, put in rows, so that a cultivator can be used both ways, is the most convenient form for cultivation, and that six kernels put into each hill, will make the corn thick enough. I counted, and made examinations that satisfied me, that at harvest my hills averaged five stalks to the hill—no thinning was done, except by insects and accidents. That this is not too thick, is proven by experiment No. 6, where the hills were three feet by two feet, the product being 65½ bushels to the acre, and with one-half the manure that was put on No. 1, which was three feet by three feet apart, and the product only five bushels more to the acre. In fact, I believe that more bushels with the same manuring would have been raised with the hills two by three feet, than three by three feet, but the extra labour of planting, hoeing and harvesting, will more than counterbalance the gain.

The labour required to plough under unfermented manure in any considerable quantity, is so great, and its great bulk compared with its value, making it so expensive to draw, and the fact that it is not felt until late in the season—and that the next ploughing must be deeper, in order to bring it all up and mix it with the soil—are great objections to its use. That the next ploughing must be deeper, in order to bring up all the manure, is evident from the consideration that every time the soil is saturated with water it must sink deeper, unless it is held up by some stratum that is impervious to water. If the contents of the barn-yard are piled up in the spring as soon as the frost is out, and covered with gypsum so as to prevent the escape of any of its gases, and turned and re-piled at midsummer, and again covered with gypsum, the seeds of weeds will be destroyed, and the manure will be entirely rotted in time to put on the corn the next spring. The manure used in these experiments was but half rotted, in consequence of neglecting to turn and re-pile it. From the decrease of the bulk, the expense of handling and mixing the manure with the earth, will be so much lessened as fully to compensate for all the expense of piling and rotting it.

The cost of the gypsum, too, will be but slight, as but little is required; merely enough to whiten the heap. The corn will then have its stimulus at the time it needs it most; and but few weeds will spring up from the manure. All these considerations lead me to prefer fine manure to coarse.

It is worthy of remark that in No. 2, where no manure was used, the yield was 60½ bushels—in No. 3, where 150 loads of unfermented manure were used, the yield was 70 bushels—a gain of 9¾ bushels to be ascribed to the manure; in No. 4, with the like amount of unfermented manure, and 25 loads of fine manure, the product was 80 bushels—a gain of 10 bushels to be ascribed to the fine manure—showing that one load of fine is worth more than six loads of coarse manure. While No. 6, which was manured with the fine only, yielded 65½ bushels—a gain of 5¼ bushels to be ascribed to the same amount of fine manure. Showing that one load of fine is worth about three and a quarter of coarse manure. But the land on which No. 6 was raised, was not as rich as Nos. 2, 3 and 4, owing to the fact that it was so situated in the field that it had not been as highly manured in those years gone by, when manure was only drawn out of the barn-yard “to get rid of it.” Nos. 2, 3 and 4, were nearer the gate, and had been served about alike, and furnish the fairest test of the value of the different kinds of manure.

Some of the results obtained by these experiments were unexpected. The highest yield is very far below the great crops that have been reported. I know not why a hundred or more bushels to the acre were not raised on No. 4, with manure both on top and under the furrow, amounting to 150 loads of coarse and 25 loads of fine to the acre; and that too, along side of land that *without any manure*, yielded more than 60 bushels to the acre.

I purpose the next year to plant all of this ground with corn, and carefully measure the product of each piece, with a view of learning the effects of this manuring for the second year.

GEO. GEDDES.

Soap-suds—Compost.

THIS is, perhaps, one of the most powerfully fertilizing articles produced on a farm. It contains the food of plants in a state of almost perfect solution, and consequently in a condition the most easy to be appropriated and assimilated when applied as a stimulant to vegetable life. In order to avail himself of this important source of wealth, the farmer should provide himself with a tank of a size sufficient not only to contain the suds made in the family, but a large quantity of other materials, such as sods, turf, bones, ashes, straw and muck;—in short any substance not actually and necessarily prejudicial to vegetation, and which may, partly by imbibing the liquid, and partly by chemical action

become an ingredient in the food of plants. The tank or cistern provided for this purpose, should be proportioned to the size of the family, and so situated as to admit of an easy approach with the cart. It should also be so constructed as to be exposed as little as possible either to the washing of heavy rains, or the influence of the sun and air. We have often been surprised on visiting the premises and farm yards of some who have enjoyed an honourable reputation for economy in other matters, to find them cluttered and encumbered with useless rubbish, which a little time, properly devoted, would have reduced to a healthy and valuable assistant in the fertilization of a perhaps unproductive and unproductive farm. Bones, shells, chips, are all excellent ingredients in the compost heap, and will well reward any person for the trouble and expense of gathering them up. It is often the case that soil in low places by the road side, which receives the wash from the highway, may be converted into a valuable stimulant simply by throwing it into heaps. This, however, should be done in the fall, as the wash during the summer adds greatly to its stimulant powers, and the operation of the frost in winter conduces greatly to its improvement, by thoroughly breaking up and disintegrating the earthy particles composing the mass. Such soil, or indeed any other, moderately indued with fertilizing properties, and the powers of imbibing and retaining moisture, may be greatly increased in value by being placed in a situation where it will remain open to the action of rain and the elastic gases.—*Maine Cultivator.*

JUMP UP GIRLS.—An eastern editor, in reading a lecture to the girls, discourseth thus: “Up with you!—Don’t sleep away this beautiful morning. Mary, Ellen, Abbey, Phebe, Sarah, Eliza, Jane, Caroline, Hannah! and all the lazy girls arouse—wake up—rise and see the sun shine, and brush away the dew from the beautiful grass. You not only lose the best portion of the day, while you linger in bed, but you depress your spirits and contract sluggish habits. What if you are sleepy?—Jump out of bed—fly around—stir about, and in a few moments you will be bright as larks. We wouldn’t give a straw for girls that won’t get up early in the morning. What are they good for? Lazy, dumpish creatures—they are not fit for wives or companions. Our advice to young men who are looking out for wives, would be—never select a girl who dozes away the precious morning hours. She may be a help-eat, but will never prove a help-meet.”

From Boussingault's Rural Economy

Butter.

To understand the preparation of butter thoroughly, it is absolutely necessary to know the physical constitution of the milk from which it is obtained. Now the microscope shows us that milk holds in suspension an infinity of globules of different dimensions, which, by reason of their less specific gravity, tend to rise to the surface of the liquid in which they float, where they collect, and by and by form a film or layer of a different character from the fluid beneath; the superficial layer is the *cream*, and this removed, the subjacent liquid constitutes the *skim-milk*. This separation appears to take place most completely in a cool temperature from 54° to 60° F.

Allowed to stand for a time, which varies with the temperature, milk becomes sour, and by and by separates into three strata or parts: cream, whey, and curd, or coagulated caseum. By suffering the milk to become acid before removing the cream, it has been thought that a larger quantity of this, the most valuable constituent of the milk, was obtained; and the fact is probably so; but in districts where the subject of the dairy has been most carefully studied, it has been found that it is better to cream before the appearance of any signs of acidity have appeared. When a knife can be pushed through the cream, and withdrawn without any milk appearing, the cream ought to be removed.

Butter is obtained from cream by churning, as all the world knows; by the agitation, the fatty particles cohere and separate from the watery portion, at first in smaller and then in larger masses. The remaining fluid is buttermilk, a fluid slightly acid, and of a very agreeable flavour, containing the larger portion of the caseous element of the cream coagulated, and also a certain portion of the fatty principle which has not been separated.

The globules of milk appear, from the latest microscopical observations, to be formed essentially of fatty matter, surrounded with a delicate, elastic, transparent pellicle. In the course of the agitation or trituration of churning, these delicate pellicles give way, and then the globules of oil or fatty matter are left free to cohere, which they were prevented from doing previously, by the interposition of the delicate film or covering of the several globules. Were the butter simply suspended in the state of emulsion in the milk, we should certainly expect that it would separate on the application of heat; but this it does not: cream or milk may be

brought to the boiling point, and even boiled for some time, without a particle of oil appearing. Could M. Romanet show any of these pellicles, apart from the oil-globules they enclose, it would be very satisfactory, and would certainly enable us to explain the effect of churning.

Churning is a longer or shorter process, according to a variety of circumstances; it succeeds best between 55° and 60° F. So that, in summer, a cool place, and in winter a warm place, is chosen for the operation. There is no absorption of oxygen during the process of churning, as was once supposed; the operation succeeds performed in vacuo, and with the churn filled with carbonic acid or hydrogen gas.

On being taken out of the churn, the butter is kneaded and pressed, and even washed under fair water, to free it as much as possible from the buttermilk and curd which it always contains, and to the presence of which must be ascribed the speedy alteration which butter undergoes in warm weather. To preserve fresh butter it is absolutely necessary to melt it, in order to get rid of all moisture, and at the same time to separate the caseous portion. This is the process employed to keep fresh butter in all the warmer countries of the world. In some districts of the continent, it is also had recourse to with the same view. The butter is thrown into a clean cast-iron pot, and fire is applied. By and by the melted mass enters into violent ebullition, which is owing to the disengagement of watery vapour; it is stirred continually to favour the escape of the steam, and the fire is moderated. When all ebullition has ceased, the fire is withdrawn, and the melted butter is run upon a strainer, by which all the curd is retained. M. Clouet has proposed to clarify butter by melting it at a temperature between 120° and 140° F., and keeping it so long melted as to dissipate the water and secure the deposition of the cheesy matter, after which the clear melted butter would be decanted. I doubt whether by this means the water could be sufficiently got rid of, a very important condition in connection with the keeping of butter, though certainly all the caseum would be deposited.

The moisture and curd contained in fresh butter may amount together to about 18 per cent.; at least we find that we lose about 18 lbs. upon every 100 lbs. weight of butter which we melt at Bechelbronn.

The information which we have on the produce in butter and cheese, from different samples of milk, is very discordant, so that I prefer giving the results of a single experiment made under my own eye. From 100 lbs. weight of milk, we obtained:

Cream	15.60 lbs.
White curd cheese	8.93 "
Whey	75.47 "

100.00

The 15.60 lbs. of cream yielded by churning:

3.33 lbs. butter, or 21.2 per cent., and
12.27 " buttermilk.

The reckoning with reference to 100 lbs. of milk consequently stands thus:

Cheese	8.93
Butter	3.33
Buttermilk	12.27
Whey	75.47

100.0

Taking the whole of the milk obtained and treated at different seasons of the year, I find that 36,000 lbs. of milk yielded 1080 lbs. of fresh butter, which is at the rate of 3 per cent. From the statement of M. Baude, it appears that near Geneva a proportion of butter so high as 3 per cent. is never obtained, probably because there a larger proportion of fatty matter is left in the cheese. In the dairy of Cartigny, 2200 gallons of milk gave:

Butter	363 lbs. or about 1.6 per cent.
Grucery Cheese	1515 " 6.9 "
Clot from the whey, obtained by boiling	1140 " 5.2 "

In the same neighbourhood, another dairy, that of Lullin, gave from the same quantity of milk:

Butter	418 lbs. or 1.9 per cent.
Cheese	1485 " 6.75 "
Clot from whey	968 " 4.4 "

Safety in Thunder Storms.

PEOPLE are often led to inquire what are the best means of safety during a thunder storm. If out of doors, we should avoid trees and elevated objects of every kind; and if the flash is instantly followed by the report, which indicates that the cloud is very near, a recumbent position is considered the safest. We should avoid rivers, ponds, and all streams of water, because water is a conductor, and persons on the water in a boat would be most prominent objects, and therefore most likely to be struck by the lightning. If we are within doors, the middle of a large carpeted floor will be tolerably safe. We should avoid the chimney; for the iron about the grate, the soot that often lines it, and the heated and clarified air it contains, are tolerable conductors, and should, on that account, be avoided. It is never safe to sit near an open window, because a draught of moist air is a good conductor; hence we should close the windows on such occasions. In bed we are comparatively safe, for the feathers and blankets are bad conductors, and we are to a certain extent insured in such a situation.

Agricultural Premiums.

At a stated meeting of the Philadelphia Society for the Promotion of Agriculture, held on the 7th inst.—Pres't. Doctor Mease in the chair, 19 members present.

The proceedings of last meeting were read and ordered to be recorded.

On motion of C. S. Smith, the premium list for crops for the ensuing season was re-considered, the quantity of ground and rate of premium for each reduced as follows:

For the best field of wheat, not less than three acres, \$8.

For the best field of rye, not less than three acres, \$8.

For the best field of oats, not less than three acres, \$8.

For the best field of corn, not less than five acres, \$8.

For the best lot of potatoes, not less than one acre, \$5.

For the best lot of sugar beets, not less than half an acre, \$5.

For the best lot of ruta бага, not less than half an acre, \$5.

For the best lot of carrots, not less than quarter of an acre, \$5.

For the best lot of parsnips, not less than quarter of an acre, \$5.

For the second best crop of each of the above, a copy of Colman's Agricultural Journal will be awarded.

Several valuable books were presented to the Society, amongst which were Ellsworth's Reports, and the Transactions of the Russian Imperial Economical Society of St. Petersburg.

A box of Peruvian guano of superior quality, was presented for distribution by Mr. R. P. Lardner, being part of a lot obtained by Lieut. Lardner, on the coast of Peru.

Extract from the minutes.

A. CLEMENT, Rec. Sec'ry.

Philadelphia, April 8, 1845.

DRAINING—SUBSOIL PLOUGHING.—Next in order to the drain succeeds the subsoil plough. The water being drawn off the land, it will bear to be deeper dug, or stirred or trenched. The crops which formerly were condemned to draw their sustenance from six or nine inches of soil, can now descend 18 or 20 inches. A double store of food is thus unlocked; and he who opens up, and, by draining, renders wholesome the surface of his fields to a double depth, does, in reality, add in effect to the available extent of his possessions. He makes them capable of yielding him larger returns, and for a longer period of years, without the risk of exhaustion. —*Edinburgh Review.*

Larne School in Ireland.

My next excursion was to the Agricultural School at Larne, where I had the pleasure of witnessing the examination of a class of boys in agricultural chemistry and in practical agriculture. This is not, properly speaking, an agricultural school, but a national school, where the common branches of education are taught; and there are connected with it a department or class of agricultural study, and a small piece of land, which the boys cultivate, and on which, in the way of experiment, the principles of agriculture, and its general practice, are, within a very limited extent, illustrated and tested. The examination was eminently successful, and creditable alike to the teacher and the pupils. It was from this establishment that a detachment of five pupils was sent for examination to the great meeting of the Agricultural Society of Scotland the last autumn, where their attainments created a great sensation, and produced an impression, on the subject of the importance of agricultural education, which is likely to lead to the adoption of some universal system on the subject.

I shall transcribe the account given of the occasion: "Five boys from the school at Larne, were introduced to the meeting, headed by their teacher. They seemed to belong to the better class of peasantry, being clad in homely garbs; and they appeared to be from twelve to fifteen years of age. They were examined, in the first instance, by the inspector of schools, in grammar, geography, and arithmetic; and scarcely a single question did they fail to answer correctly. They were then examined by an agricultural professor in the scientific branches, and by two practical farmers in the practical departments of agriculture. Their acquaintance with these was alike delightful and astonishing. They detailed the chemical constitution of the soil and the effect of manures, the land best fitted for green crops, the different kinds of grain, the dairy, and the system of rotation of crops. Many of these answers required considerable exercise of reflection; and as previous concert between themselves and the gentlemen who examined them was out of the question, their acquirements seemed to take the meeting by surprise; at the same time they afforded it the utmost satisfaction, as evincing how much could be done by a proper system of training."

I confess the establishment at Larne afforded me, in this respect, very high gratification. The agricultural studies are not made compulsory, but voluntary; and one

hour per day, is devoted to agricultural labour. The Board of Education in Ireland, have now under their control three thousand teachers; and it is proposed, wherever it may be deemed useful, to make agriculture a standard branch of common-school education. They already have seven agricultural training establishments; and it is in contemplation to have twenty-five, with which it is proposed shall be connected small model farms, so that everywhere, besides furnishing this most valuable instruction to the pupils of the schools, the farmers in the vicinity may be excited and instructed to improve their cultivation. Thus diffusive is the nature of all beneficence. A good deed, like a stone thrown into the water, is sure to agitate the whole mass. Its strongest effects will be felt where the blow is given; but the concentric circles are seen extending themselves on every side, and reach much farther than the eye can follow them. In the moral as well as physical world, the condition of mutual attraction and dependence is universal and indissoluble. We have reason to hope that no good seed is ever sown in vain, but will sooner or later germinate and yield its proper fruits.

These establishments do certainly the highest honour and credit to the intelligence and philanthropy of Ireland, and their beneficent effects must presently be seen in alleviating the indescribable amount of wretchedness under which this beautiful country and fine-spirited people have been so long crushed to the earth—a wretchedness which, to be understood, must be seen.—*Colman's Agricultural Tour.*

INDIA RUBBER FOR STABLES.—This material is said to be unequalled by anything ever yet tried for this purpose. It prevents the lodging of stale matters and their consequent noxious exhalations. It requires little litter, and preserves the knees and other parts of the horse from injuries which are apt to be received in stone paved stables. The stables at Woolwich dock-yard, have been paved with this material for upwards of two years, and are superior in point of cleanliness, freedom from smell, and healthiness, to what they were previous to laying down the elastic pavement.—*Western Reserve Magazine.*

TO PRESERVE EGGS, dip them in a strong solution of lime, thick whitewash; after letting them dry, pack them away in plaster of Paris. It is said the Germans practice this method successfully.

For the Farmers' Cabinet.

Potatoes—New Varieties.

THERE has for a couple of years past been so widely prevalent over our country a serious disease in the potatoe, and their price now in our market being 75 or 80 cents a bushel, I believe everything having a bearing on this matter, cannot fail to be interesting both to producers and consumers of this royal esculent. I therefore take the liberty to forward the enclosed for the Cabinet. I find it in a late number of the Massachusetts Ploughman. I do not know that there is anything in it that is new, but it may serve to keep all awake to the subject.

P. O.

Philadelphia.

The rot in the potatoe, which prevailed so extensively last fall, has caused a good deal of inquiry into the subject of new varieties of this root. Some farmers are of opinion, that on account of a mysterious something—some unknown law in the physiology of the potatoe, the vital principle of those kinds most subject to the rot has become exhausted, and that it is necessary to renew from the seed and obtain some other variety which shall take the place of the exhausted kind. We do not know how correct this opinion is. Without pretending to know more than other people upon the subject, or of deciding the question in controversy, we may say, that we are inclined to think that the theory which attributes the rot to the uncommonly hot weather in the fall, is as near right as any. But, nevertheless, the subject of renewing existing varieties from the seed, or of introducing new ones in the same way, is worthy of consideration by our farmers. We have been told that some farmer in Brewer, near Bangor, in Penobscot Co., did, some years ago, renew the Chenango or Mercer potatoe, as they are sometimes called, by sowing the seeds from the ball, and selecting those for planting which nearest resembled the original stock, and thereby derived much benefit, having a more healthy and productive kind.

We have been favoured with many specimens of seedling potatoes, by individuals who have amused themselves in producing new varieties. Gen. J. Robinson, of Waterville, has a very fine variety which he produced in this way. Dr. Leach, of Sangerville, sent us specimens of a large variety of his, selecting from numerous varieties, which he obtained from the seed. Rufus Moody, of Monmouth, has several varieties. Other farmers, in different sections of the state, have tried similar experiments with like results. The

principal trouble is to obtain a kind that every body shall like so well as to cause a demand for them, and make them the *pets* of the market.

Among the thousands of varieties that have been produced by the different experimenters with seeds, but very few have been adopted as standards. The Chenangoes, which were produced by Mr. Gilkie, have had a great reputation. The Butmans, first raised by Mr. Butman, of Dixmont, have a good reputation in this vicinity, although they are not so productive as some. We have always done best with them on a moist soil. The Carters, which were first obtained by seed sown by a Mr. Carter, of New York, and which, if we mistake not, are also sometimes called White Farinas, are in good repute.

MORTALITY OF TREES PLANTED WHERE CERTAIN NOXIOUS PLANTS HAVE GROWN.—It has been observed that oil paint on trellis, injures trees in contact with it—often destroys them. It appears that some trees destroy plants of which they are made the props—as, for instance, the Rhus and the Aylanthus, whose juices are capable of poisoning plants as well as animals.

It is known that vegetables during their vitality deposit in the earth where they have lived deleterious juices, which destroy plants put into their places. This fact is new enough to many who find very beautiful plants destroyed in succession in grounds where noxious plants had been growing.

It would be well to know the other suspected plants, besides those above mentioned.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

PHILADELPHIA, FIFTH MONTH, 1845.

THE extract from the Edinburgh Review, on page 306, on the Importance of Manure, will bear two or three readings, not only by all those who make no pretensions to good farming, but it is quite likely by every one who feels the importance of manure to his land. "What merit, as a farmer, can that man claim who, though he annually lays five tons of guano or bones, or rape-dust upon his farm, yet allows what is equal to ten or twenty tons of the same, to run to waste from his farm-yard, in the form of liquid manure." Let every one look to his cow-yard next fall, and see if improvements may not be made around it, and in reference to the saving of the essential parts of his manure, which will be but little expensive, and relieve him from the purchase of costly foreign manures.

EVERY MAN HIS OWN FARRIER:—containing the causes, symptoms, and most approved methods of cure of the diseases of HORSES; by FRANCIS CLATER, with notes and additions by J. S. SKINNER.

This work, which has passed through twenty-eight editions in England, has just been issued from the press of Lea & Blanchard, of this city. While the excellent work of YODATT and SKINNER on the HORSE, which is much more historical and elaborate than this, should be on the shelf of every person who owns one of these noble animals, the *Farricr* should be found for daily reference in every stable, along with the curry comb and the brush. It may be obtained at this office, price 50 cents.

SHORT ADVERTISEMENTS, &c.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

A PACKAGE of seeds—wheats and corn—is acknowledged from the Patent Office, Washington. They will be carefully distributed.

THE first number of the *Western Reserve Magazine of Agriculture and Horticulture*, edited by F. R. ELLIOTT, and published monthly in neat form, at Cleveland, Ohio, has been received. Considerable of the number is devoted to matters connected with the growing of fruits, and promises to be useful to our Western friends. We wish it success.

OUR enterprising friend Hugh H. Bate, formerly of New Jersey, now of Portsmouth, Va., in the neighbourhood of Norfolk, was in our market on the 1st inst., with his fine well filled peas, at 37½ cents a half peck. The facilities of transportation enable the markets in this city, to anticipate by a fortnight at least, the early vegetable productions of our own vicinity.

THE extensive sale of Improved Short-horned Durhams, advertised by E. P. Prentice, in the neighbourhood of Albany, on the 25th of next month, will not fail to draw the attention of cattle breeders. The owner, long known as an importer and breeder, boldly offers the whole of his stock for what it will bring, reserving only to himself the privilege of bidding openly on three or four animals, which shall first be designated. Persons who have contemplated sending to England for stock of this kind, will, in all probability, be equally well suited at this sale, as if they were their own importers, and at lower prices.

GEORGE S. APPLETON, of this city, and D. APPLETON, of New York, have lately published in a neat duodecimo, price one dollar, the *Farmer's and Emigrant's Hand Book*: being a full and complete Guide for the Farmer and the Emigrant. Comprising the clearing of forest and prairie land—gardening—farming generally—farricry—cookery—and the prevention and cure

of diseases; with copious hints, recipes and tables, by JOSIAH T. MARSHALL.

As the title imports, the subjects treated of are various, and of very general interest, not only to the emigrant, but to those also who are stationary on farms in our own vicinity.

JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY. This work is published quarterly under the direction of the *Philadelphia Society for the Alleviation of the miseries of public Prisons*. It is an octavo of 96 pages, and the subscription price \$2 per annum. The object of the work may be readily gathered from the title, and from the high character of the Society who have charge of it. It is published from the office of the Farmers' Cabinet, where subscriptions and payments will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published. The second number is now published, containing a fine likeness of Elizabeth Fry.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay. AARON CLEMENT.

March 15th, 1845.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YODATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestrica,	3 00
RELIQUIÆ BALDWINIANÆ,	1 00
AMERICAN Poulterer's Companion,	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

☞ We are prepared to bind books to order.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrows; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable* and *Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by
D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portorage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.
JOSIAH TATUM.

Seed Store,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red clover, and other grass seeds. Field seeds, consisting of Spring and Winter Wheats, Potatoes, Oats, Barley, and choice varieties of Seed-corn. Also in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL
tf.

Philad., March 15th.

COLMAN'S AGRICULTURAL TOUR IN EUROPE.

It will not be forgotten that subscriptions to this work, are received at the office of the FARMERS' CABINET; where every farmer in the country will be heartily welcome as a subscriber to either the Cabinet or the Tour. Single Numbers will be sold. The subscription price of Colman's Tour, as we have repeatedly advertised, is \$5; single Numbers fifty cents each. The third number has just come to hand, and we are gratified to be able to give an extract from it, which will be found on page 324. We have not found time to look through it, but the table of contents indicate an interesting one.

SALE OF FULL-BLOODED NORMAN HORSES.

THE subscriber having relinquished Farming, will offer at Public Vendue, at his Farm in Moorestown, Burlington County, N. J., nine miles from Philadelphia, on Tuesday, the 30th of May next, his entire stock of NORMAN HORSES, consisting of two imported Stallions, *Diligence* and *Buonaparte*; two imported Mares—three full-blooded Stud Colts, one, two and four years old—two full-blooded Fillies, three and four years old—two Fillies by *Diligence*, from a half-blood Canadian Mare, three and four years old, and one Filley four years old, by *Diligence*, from a well-bred English Mare, broke and kind to harness.

The undersigned deems it unnecessary to speak at large of the qualities of these horses, so much having been said of this particular importation—which is believed to be the only one ever made to the United States—in all the principal Agricultural papers. In a few words, they are the *Canada Horse*, on a larger scale, combining the form, activity and hardihood of that well known race, with greater size and strength. *Diligence* has been a remarkably successful Stallion; he has been exhibited at the Fairs of the Pennsylvania and New York Agricultural Societies, where he was not entitled to compete for the premiums, but received the highest encomiums from the Committees. At the Fair of the American Institute, in New York city in October last, he received the Silver Medal of the Institute.

It is expected that a large number of the Colts of *Diligence* will be on the ground on the day of Sale, some of which, no doubt, may be purchased.

EDWARD HARRIS.

Moorestown, Burlington Co., N. J.,
March 15th, 1845.

THE following premiums will be awarded by the Pennsylvania Horticultural Society, at an intermediate meeting on the 3rd of next month.

For the best Rocket Larkspurs, twelve to be exhibited, \$2.

For the best Strawberries, two quarts, of a named variety to be exhibited, \$2.

For the next best Strawberries, two quarts, of a named variety to be exhibited, \$1.

For the best Cherries, three pounds, of a named variety to be exhibited, \$2.

For the next best Cherries, three pounds of a named variety, to be exhibited, \$1.

For the best Turnips, grown in the open ground, two dozen to be exhibited, \$2.

At the stated meeting on the 17th.

For the best Garden Roses, twelve named varieties to be exhibited, \$3.

For the next best Garden Roses, twelve named varieties to be exhibited, \$2.

For the best Pinks, six named varieties to be exhibited, \$3.

For the best American Seedling Pink, \$2.

For the best Artichokes, six in number, \$3.

For the best foreign Grapes, raised under glass, three bunches, \$5.

For the next best foreign Grapes, raised under glass, three bunches, \$3.

For the best named Cherries, three pounds, \$2.

For the next best do. do. \$1.

EXTENSIVE SALE OF Improved Short-horned Cattle.

HAVING become over-stocked, I find myself under the necessity, for the first time, of publicly offering my cattle for sale; and that the opportunity to purchase fine animals may be made the more inviting, I propose to put in my ENTIRE HERD—such a herd of Improved Short-horns as has never before, perhaps, been offered by any individual in this country.

It is sometimes the practice at sales of this kind, where the interest involved is considerable, for the proprietor to protect himself by bye bidders, or some other kind of management, or for the owner to stop the sale if offers do not come up to his expectations or the requirements of his interest. Such practices have a tendency to lessen the interest in public sales of this character, especially with those who cannot attend without considerable personal inconvenience.

A full catalogue will be prepared and inserted in the May number of the Cultivator.

The sale will take place at Mount Hope, one mile south of the city of Albany, on Wednesday, the 25th day of June next, at 10 o'clock, A. M.

E. P. PRENTICE.

Mount Hope, near Albany, March 15th, 1845.

♣ Gentlemen from a distance, who wish to obtain stock at the above mentioned sale, and may find it in-

convenient to attend in person, are informed that the subscriber will make purchases for those by whom he may be authorized. They can state the sum at which bids should be limited, and if convenient, designate the animals they would prefer; or give such general instructions as they may deem proper, under the assurance that they will be strictly adhered to.

SANFORD HOWARD, Cultivator Office, Albany, March 15th, 1845.

PARTICULAR attention is invited to the Sale of Edward Harris' Norman Horses, at Moorestown, New Jersey. It is very rarely that farmers of the United States can avail themselves of an opportunity for the purchase of such stock.

The quantity of rain which fell during the Fourth month, 1845, was a little more than two inches and a half. 2.58 inches.

Penn. Hospital, 5th mo. 1st.

CONTENTS OF THIS NUMBER.

To make good Butter. PAGE 297
Electricity in Agriculture. 298
Cultivation of Celery. 299
Important to Pork raisers.—Manure.—Gypsum for Stables.—Large Chests.—Subsoil Ploughs 301
To improve the Soil.—Cranberries. 302
Pepper and Mustard. 303
Waste Manures. 304
Milking Cows.—Grafting Currants. 305
Importance of Manure. 306
Poultry Houses. 307
Culture of the Olive, Grape, &c.—A Humble Reading Room. 308
The Improved Safety Girdle.—Hatching double yolked Eggs. 309
Male and Female Strawberries. 310
Destruction of Grape-vines.—Potatoe Sugar.—Fruit Trees.—Malay Apple. 311
Saving Manures.—Silk Culture in Ohio. 312
Order—Carefulness. 313
Silk.—Disease of the Potatoe. 316
Inland Navigation in the West. 317
Sugar-cane in West Georgia.—To Sweeten Butter. Engrafting. 318
Culture of Indian Corn. 319
Soap-suds Compost.—Jump up Girls.—Butter. Safety in Thunder Storms.—Draining, &c. 323
Larne School in Ireland. 324
Potatoes—New Varieties.—Editorial Notices. 325

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

TERMS.—One dollar per annum, or five dollars for seven copies—payable in advance.

All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

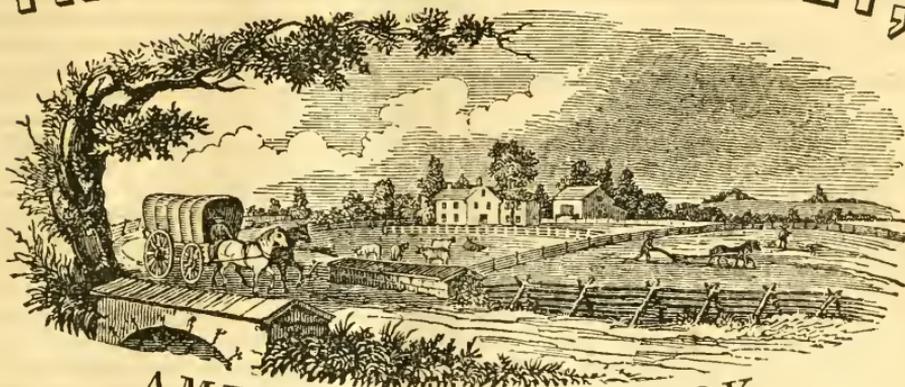
For six dollars paid in advance, a complete set of the work will be furnished in numbers, including the ninth

volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly half-bound and lettered. Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 11.]

6th mo. (June) 14th, 1845.

[Whole No. 125.]

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Colman's Agricultural Tour.

TO THE EDITOR,—I have been so delighted with the perusal of the numbers of this work as they have successively appeared, that I take the trouble to forward the greater part of the thirty-sixth section, which I find in the third number. Perhaps few men could be found more thoroughly qualified for the task he has undertaken, than the author of these Reports. Those made a few years since to the Legislature of Massachusetts, as agricultural surveyor of that State, established the character of our author as a man of great industry, close observation, and sound judgment. Intelligent, affable and communicative, he has been able to sustain himself with great credit in the best social circles of England, as well as to do his country credit by his public Addresses at the great agricultural meetings which are so frequently occurring among our friends on the other

CAB.—VOL. IX.—No. 11.

side of the Atlantic. We obtain from the work in question, an insight into the agricultural character and habits of the people, which, so far as I know, we would fail in seeking elsewhere. And when we recollect that his inquiries will embrace not only a detailed view of the husbandry of England, Scotland and Ireland, but likewise of French, Flemish, Swiss, German and Italian husbandry, we perceive the field over which he will labour, is not only of great extent, but will have also the advantage of being a great part of it almost new to us. We know comparatively but little of French farming; or indeed of that of the continent generally. We may anticipate in this branch of the subject a particularly rich treat. In Great Britain we feel more at home—more among our kinsmen and familiar acquaintances, than we can do on the continent, and it will be exceedingly interesting to observe how the farming operations and general economy of these strangers shall strike our tourist.

The extract which I submit for insertion in the Cabinet, will not fail to interest every one of its readers: though I could wish that every subscriber to the Cabinet was also a subscriber to Colman's work, for I am sure it will hardly be read by any one without pleasure and instruction. Before I close, I may just observe, that while we must commend the care in our author to do justice both to himself and his readers, by not too rapidly publishing his work, some of us get pretty impatient at the interval between the

numbers. Please excuse these hasty remarks, and accept my good wishes.

S. L.

Delaware co., Pa.

Elevation of Agriculture as a Pursuit and a Profession.

THE pursuit of agriculture is almost universally considered as merely a profession of commerce or trade, the farmer looking wholly to its pecuniary results. In a trading community, pecuniary considerations are always liable to control the judgment and predominate over every other consideration. Where the means are limited, and the farm must be cultivated as the only source of subsistence, pecuniary returns must, of course, be the main object. Where, as in England, the cultivator is not the owner of the soil, but an annual rent must be paid, and he is liable, as in most cases, to be compelled to quit his occupancy at the pleasure or the caprice of his landlord, farming must be conducted merely as a matter of business, and there is no inducement to pursue the profession as matter of taste or sentiment. In many cases in my own country, it must, of necessity, be followed wholly as a means of support and of profit, and in some cases as a struggle for life.

But there are innumerable other cases, in which men have the power, under the most favourable circumstances, and I am most anxious they should have likewise the disposition to devote themselves to it as an elegant and liberal profession, worthy of a mind gifted even with the finest taste, and enriched by the highest cultivation. The United States present not many examples of very great wealth, at least when estimated by the standard of wealth which prevails in England, where, indeed, are to be found individual accumulations which distance all the dreams of oriental magnificence. But, on the other hand, no country upon the globe, and no condition of things since the establishment of society, ever presented more favourable opportunities than the United States for any one, by active and wholesome industry and a proper frugality, to acquire a competence, and that respectable independence, in which, with a full supply for the necessities of life, and an abundant provision for its comforts, there will be found within reach as many of the elegancies, and ornaments, and luxuries of life, as a well-disciplined and healthful state of mind can require. I have seen too frequently such beautiful examples in our country villages, and scattered over several parts of a land in many respects favoured by Heaven above every other, not to be deeply im-

pressed with a condition of life which, where its blessings are properly and gratefully appreciated, seems to leave little more on earth for a rational and reflecting, a benevolent and truly religious mind to ask. Happy is it where its waters are not poisoned by an insatiate avarice, nor disturbed and thrown into confusion by ambition of political office or distinction, or a feverish thirst for notoriety and excitement; but in a quiet, yet not stagnant repose, they reflect everywhere the tokens of that divine goodness, which seems in such examples to have poured out its richest earthly treasures. Now, I am anxious that agriculture should occupy that place among the liberal professions to which it can be raised, and to which, from its importance, it is entitled. But this can only be done by improving the education of farmers as a class,—by multiplying, through the means of a most liberal and extended education, the charms of the country, and the subjects of interest which would be constantly more and more developed to a cultivated and inquisitive mind; and by showing that its successful pursuit, either as matter of business or recreation, where a moderate fortune is possessed or a moderate professional income is secured, is not incompatible with the highest improvement of taste, and even a vigorous and successful pursuit of learning; and that, where so pursued, under favourable circumstances, it affords as fair a chance of rational enjoyment and quiet usefulness, as any situation which the most lucrative trade, or the most successful political ambition, or even the highest professional eminence, can command.

But I fear, how much soever I may satisfy the sober and reflecting minds on this point, my opinions and persuasions will scarcely be heard, and far less heeded, in that rush for wealth, for office, and for notoriety, which, like a torrent sweeping over the country, carries every movable object in its course. It seems, however, not less my duty to record my strong convictions, which the experience of a life not short has served only to confirm. I see in my own country every where proffered to an honest industry, a wise frugality, and a wholesome self-government, the most ample rewards: I see a wide extent of rich and beautiful territory waiting the improving hand of skill and labour, to be had in many cases almost for asking, with every man free to choose where he will pitch his tent, not only without injury, but to the advantage of his neighbour: I see the means of education, of competence, and of substantial independence, held out to all who will avail themselves of them. In the midst of all this, I see thousands and thou-

sands of young men, blest with education and fortunes adequate to supply all reasonable wants in the country, rushing into cities, exhausting their small means in the extravagances and dissipations of fashionable life; crowding all the professions to repletion; pressing on, with vexation and disappointment heaped upon vexation and disappointment, into all the avenues of political office and distinction, and into all the bitter strifes of political controversy; forcing their way into the pursuits of trade without talents for their prosecution, and almost sure to involve themselves in bankruptcy and ruin; and, in one form and another, dragging on through life without satisfaction to themselves and without usefulness to others, and too often a ruinous burden upon those whom it is now their turn to succor and relieve. I cannot, therefore, help wishing that the pursuits of agriculture might be made attractive to such persons; and that, with education, and that moderate fortune which would give them the command of the best advantages of rural life, they might find in it, as far as rational happiness and humble usefulness are concerned, that philosopher's stone which in other places they are almost sure to search for in vain.—*Colman's Agricultural Tour No. 3.*

Study of Botany by Ladies.

Extract from a Lecture read before the Ladies' Botanical Society, at Wilmington, Delaware, March 2nd, 1845; by Dr. William Darlington, of West Chester, Pennsylvania.

OF all the intellectual exercises, kindly provided for us in this stage of being, few are more instructive, or more agreeable to contemplative minds, than the *study of nature*,—or, the investigation of the history, character, relations and purposes, of the material objects which a wise and beneficent Creator has placed around us: and, of the several departments of what are called the Natural Sciences, perhaps one of the most useful—certainly one of the most elegant and attractive—is that which embraces the varied products of the *vegetable creation*.

The *science of Botany* has for its objects the most lovely of all the inanimate works of God. It treats of those beautiful forms which annually unfold themselves to our admiring gaze—which everywhere clothe and decorate the teeming surface of the earth; affording, directly or indirectly, the sustenance of all animals, and regaling every sense, of every creature, that has a capacity to be gratified. It is a science pe-

culiarly appropriated to gentle minds. Its cultivation imposes no tax upon the feelings—involves no cruelty—shocks no sensibility; all its incidents and attributes are promotive of corporeal health, and pure intellectual pleasure. Why, then, should not a rational acquaintance with those interesting products, which surround us on every hand, and are literally strewed along our paths, why should not such a science be made an indispensable branch of female education? As a mere *accomplishment*; it is entitled to rank with any of those ornamental acquirements to which so much time is devoted. As a means of enlarging and disciplining the mind, training it to habits of correct observation and profitable reflection, the study of plants is far superior to many of the fashionable and fugitive attainments which now so generally engross the attention of young ladies. It is a pursuit, too, which carries with it its own reward. The knowledge which it affords, is at once pleasing in the acquisition, and of enduring value. It is continually called for, and always at command, ready to minister to the instruction and gratification of the possessor—whether in the garden, the field, or the forest.

“These studies,” said the Roman orator, on another occasion,—and it is even more emphatically true on this—“These studies are the intellectual nourishment of youth, and the cheering recreation of age; they adorn prosperity, and are the solace and refuge of adversity; they are pleasant at home, and are no incumbrance abroad; they abide with us by night—go with us in all our travels—and lend additional charms to the attractions of our rural retreats.”

Those who make only occasional visits or excursions in the country, will find their pleasure greatly enhanced by an acquaintance with the plants which mainly contribute to the beauty of the scenery. But, by those whose constant residence is in the midst of the vegetable tribes, a reasonable knowledge of Botany should be regarded, not merely as an accomplishment, but, as one of the indispensable qualifications for the duties of rural life. I have often insisted that an American farmer should blush to be ignorant of the objects of his peculiar care; and I know not why a farmer's wife or daughter should be entirely excused for a like deficiency in her attainments. On the contrary, I believe it is to *wives and daughters* that we must look for the commencement of a thorough reformation. A competent knowledge of the character and properties of those plants which interest the gardener and the agriculturist, is unquestionably desirable for both sexes: and I sin-

cerely believe that the most effectual method for diffusing such information, will be to invoke the friendly aid and countenance of the ladies. Their salutary influence has been felt and owned, in many a noble cause; and I cannot for a moment doubt its efficacy here.

Some of my young friends—although perhaps assenting to the justice of these views—may yet be inclined to object, that the science of botany is so encumbered with uncouth terms and barbarous names, as to obscure its charms, and even render it repulsive to the youthful student. I am free to admit that appearances, at a first glance, seem to warrant the objection. I have experienced all its force, and can fully appreciate its influence upon others. But I can truly add, for the encouragement of beginners, that, when the study is properly conducted, and the subject comes to be rightly understood, the difficulty is rather *seeming*, than *real*. It undoubtedly appears enormous to the uninitiated,—just as strange objects are apt to be magnified, when encountered by twilight, or viewed through a mist; but there is no ground for dismay or apprehension. The supposed obstacle will either vanish, when approached, or prove itself to be an aid, rather than an impediment, in the way of the learner. It is, indeed, impossible to describe objects, or to communicate definite ideas, without the employment of terms and names; yet these are not science. They are but the *implements*—the mere machinery with which the mind operates; and should only be taken up, or resorted to, as they are wanted for use. It is worse than idle, to commence by lumbering the memory with hard words—of which the student comprehends neither the meaning, nor the application. Such a plan, I admit, is calculated only to dishearten and disgust. But let him begin—where all true knowledge begins—by a practical acquaintance with *things*, rather than with *names*—by observing features and examining structures; and he will soon perceive the importance of *terms*, by which to designate and distinguish the objects of his attention. When the investigator of plants comes to take a discriminating view of the vegetable tribes, and observes the varied, yet definite forms and arrangement of the organs, which constitute their botanical character,—so far from complaining of the burthen of names and terms, he will eagerly seek and adopt them, as indispensable aids in his progress: and he will find, moreover, that although many appear harsh and arbitrary, the greater number are remarkably significant and appropriate. A moment's reflection will con-

vince any of us, that even in the common occurrences of life, we cannot dispense with the use of names, and what may be called technical terms; and that new ones are continually added to our stock without an effort, and almost without our consciousness. When we make new acquaintances among our own kind, especially if they are agreeable, we never think of such an objection, as that of having to learn or remember their *names*; and even in the minor gratifications of dress and personal comfort, we are all very expert in acquiring the nomenclature—strange though it be—of such articles as attract our notice or suit our fancy. The facility with which young ladies become familiar with the vocabulary of taste and fashion—their admirable tact in discerning, and their fluency in discussing the qualities and patterns of *Gimps* and *Ginghams*—*Gros des Indes* and *Mousselines de Laine*—satisfy me that *technicalities* have no real terrors for them; and the *language of botany* can never present any serious obstacle to their progress in the science,—*provided*, that they have the will and the application; and I desire no better evidence of the requisite disposition and effort, than that which I have now the pleasure to witness.

A Dream—yet not a Dream.

IN one of the recent numbers of Parley's Cabinet Library, entitled "*Enterprise, Industry and Art of Man*," says the *National Gazette*, the author furnishes us with a preface in the form of a dream. It appears to us to be hit off with great felicity, and taken in connexion with the contents of the book, is in a high degree significant and striking. The preface is as follows;

"I was dozing by my evening fire-side, when one of those hasty visions passed before my mind, which sometimes seem to reveal the contents of volumes in the space of a few seconds. It appeared as if every article in the room became suddenly animated with life, and endowed with the gift of speech: and that each one came forward to solicit my attention and beseech me to write its life and adventures.

"The portly piano, advancing with a sort of elephantine step, informed me that its rosewood covering was violently torn from its birthplace in the forests of Brazil; its massive legs of pine grew in the wilds of Maine; the iron which formed its frame was dug from a mine in Sweden; its strings were fabricated in Rouen; the brazen rods of the pedals were made of copper from Cornwall, mixed with silver from the mines of Potosi; the covering of the keys was formed of the

tusks of elephants from Africa; the varnish was from India; the hinges from Birmingham, and the whole were wrought into their present form at the world-renowned establishment of Messrs. Chickering & Co., Washington street, Boston.

"While I was musing on the singular fact that the four quarters of the globe had been ransacked for the materials of which to construct this single instrument, I heard an extraordinary rattling in the china closet. On opening the door and looking in, I beheld with amazement, every article—plates, platters, bowls and tumblers, casters and cream pots, salvers and salt dishes—attitudinizing, as if inspired with some extraordinary emotion. All began to speak at once, and a confusion, worse than that of Babel, saluted my ears. Amid the din, I could gather only a few detached sounds. The set of phials in the caster-stand seemed to have the advantage of lungs, and I therefore gathered the following sentences: 'I,' said Mustard, 'was raised by an old woman in France, and manufactured in Paris.' 'And I,' said Pepper, 'was cultivated by the swarthy Malays of Sumatra, and made a voyage half round the world to get here!' 'And I,' said Ketchup, 'came into existence as a mushroom, and was pickled by Underwood, of Boston.' 'And I,' said Soy, 'was reared and manufactured in Japan!' 'And I,' said Sweet Oil, 'came from the sunny climes of Italy.' 'And I,' said Vinegar, with a scowl and a scream, 'I came from hard cider!'

"Bewildered by the clamors of the china closet, I shut the door in the face of the insurgents; but if I silenced one source of annoyance, another was before me. The carpet rose and fell like waves beneath my feet, and at length one of the large circular figures stood erect, and with goggling eyes and enormous mouth, addressed me as follows:—'I was born on the backs of sheep that were fed in Asia Minor; I was spun by those who pray five times a day to Mahomet, the colours that decorate me were gathered from the three kingdoms of nature, and I was woven in a machine, the invention of which consumed twenty centuries!'

"Scarcely was this speech ended, when I saw the mirror swaying rapidly back and forth, and after a moment it exclaimed: 'Listen to me! The glass which forms my face was once the waste sand of the pit: this was purified and exalted by fire. I was then polished by the artisans of Paris. The quicksilver which gives me my magical power, was dug from the mines of Almaden, a thousand feet below the surface of the earth: the gold which gilds my frame was washed from the Mountains of the Moon by

the Niger, and having passed through the purse of the king of Ashantee, was beaten to the thinness of the thirty thousandth part of an inch.' Hardly was this burst of rhetoric ended, when the Argand lamp declared that its oil once dwelt in the head of a whale seventy feet in length, and which had ploughed the Pacific for half a century. A book that lay upon the table, spoke of containing in its leaves a variety of rags, gathered from the four winds, each of which could tell a tale: and a sofa said something of hair from the tails of wild horses, caught on the Pampas of South America, and lofty trees of mahogany cut down amid the mighty forests of Campeachy. The scene grew more and more bewildering—and as each object seemed to be endowed with a fiercer aspect and a louder tone, my heart beat violently, and I awoke! Looking around, I saw before me a note from the printing office, which ran thus:

"Dear Sir,—Please furnish us copy for the preface to the 'Enterprise, Industry, and Art of Man.'

Yours, J. R.

"If the kind and considerate reader will bear in mind that a preface, though placed at the beginning, is the last thing written; and if, moreover, he has the patience to peruse the following pages, he may come to the conclusion that the preceding dream was neither unnatural, nor a very unapt interpretation of the contents of the volume."

The pages which succeed this fanciful introduction are designed to exhibit the enterprise, still continues the Gazette, industry and art of man, as displayed in fishing, hunting, commerce, navigation, mining, agriculture and manufactures. They are replete with entertaining sketches, likely descriptions, and striking reflections. We make two or three extracts, which will be read with interest, and give some idea of the scope of the subject, and the happy style in which it is treated by the author.

Whale Fishery.—But if the dangers and privations of the whale fishery are great, its beneficial results are an adequate compensation. It is impossible to compass in a single view the blessings bestowed upon mankind by this branch of enterprise. There is no member of society who is not indebted to this source for many of his enjoyments. Let the ladies consider that the perfection of their stays is derived from whalebone, and let him who carries an umbrella, make a similar reflection. Let the traveller who glides along twelve miles an hour in a steamboat, or twenty-five in a locomotive, consider that he is under obligation to the

whaler for the oil, which thus smoothes his way and expedites his journey. Let the man who buys cotton for a shirt, at ten cents a yard, thank the whaler, for it was whale oil that lubricated the machinery which produced it. Let every human being that wears cloth, or consumes any other article produced by machinery, acknowledge the obligation he owes to the daring perseverance of the whaler, for these are all, in some degree, the results of his toil and enterprise. Let even the dainty readers of books consider that by the light which is the product of the whaleman's skill, their pages are, perhaps, composed; and let every family circle, happy and cheerful in the blaze of the astral lamp, remember that they too, owe their enjoyment, in part, to these adventurous men of the harpoon. Let even the members of the brilliant evening party remember that the light which gleams from ranges of spermaceti tapers, and bestows on beauty more bewitching charms, is the fruit of the seaman's danger and the seaman's privation. Alas, how "little does one part of the world consider in what manner the rest live!" While the dance and the song enthral the gay circle of the saloon, how far are the joyous throng from reflecting that thousands of their fellow-beings are upon the treacherous wave, toiling and suffering to provide a luxurious light to shine upon their pleasures!

The Seal Fishery.—We are little apt to consider the romance which is involved in the history of many of our commonest comforts. The boy with his seal-skin cap is content to feel its warmth in the bitter breath of winter, without reflecting upon the tale that cap could tell, if it were gifted with speech. Its original owner was born and nursed upon an Arctic shore, where winter holds an almost eternal dominion. There, amid fields of ice, and in daily familiarity with the whale, the walrus, and the white bear, it pursued its joyous and sportive career. Diving in the depths of the sea, or migrating on floating fields of ice, it seemed forever happy in companionship with its fellows, and gave even to the ghastly scenes of the Arctic world an aspect of cheerfulness. At length it was slain by the spear of the Esquimaux, or the club of the sealer; the skin was stripped off and transported to Europe. Having undergone a process of dressing, it crossed the Atlantic, passed under the hammer of the auctioneer, reached the shop of the furrier, and after due conformation from the shears and needle, arrived at its ultimate destination on the school boy's pate.

Extent of Agriculture.—If we reflect that about

800,000,000 of human beings,
50,000,000 domesticated horses, asses and mules,
150,000,000 domesticated cattle,
300,000,000 domesticated sheep,
80,000,000 domesticated swine,
12,000,000 domesticated goats,

are to be fed every day by the industry of man, we shall have some faint conception of the vast scale upon which the operations of agriculture are conducted. If we conceive that the sun, in its daily course, wakes up the whole human race to their labours, and imagine ourselves as accompanying his morning rays in their flight over the world, we may easily fancy the spectacles of activity we should witness, on the hills, and in the valleys, and spreading out from the arctic to the antarctic circle!

Wonders of the Cotton Manufactory.—Nor will our wonder be abated, when we consider the results of these establishments. A single cotton factory—that of the Merrimack at Lowell—produces 250,000 yards of cotton cloth a week, or 12,500,000 yards a year. There are about 5000 yards of thread in a yard of cloth; thus every working day, this factory spins 600 million feet of thread; 50 millions every working hour, and nearly one million every minute! Thus, a cord of sufficient length to belt the world at the equator, is produced by a single factory, in two hours. This is the work of one establishment, and is not more than a two-hundredth part of the whole manufacture of the United States! The length of thread drawn out by the cotton factories of the world, cannot be less than fifteen millions of feet every working second, or every time the heart beats! Such is the bewildering magnitude of the scale upon which this single branch of human industry is conducted.

Wonders of the Iron Manufactory.—The amount of iron annually produced in the United States, is 300,000 tons, all of which, and much more, is consumed in this country. The amount of nails alone is supposed to be 50,000 tons. Forty thousand casks, or four million pounds, are annually made by the Boston Company, on the mill-dam. If we suppose that the nails will average 160 to a pound, the number here produced each working day, would be nearly two millions! This is supposed to be but the twenty-fifth part of the nail manufacture of the United States! It seems incredible that about fifty millions of nails are made, bought, sold and used, every day, in the United States—yet such seems to be the fact.

HE who has no bread to spare, should not keep a dog.

The Soiling System.

FROM an account of the farming of R. L. Pell, of Ulster county, N. Y., in the American Agriculturist, we make the following extracts:

Treatment of Milk Cows.—During the summer, Mr. Pell's cows are kept in the barn-yard, soiled. They are fed three times per day, at stated hours, and in addition to their ordinary food, receive at 12 o'clock, each day, about eight quarts of wheat-bran, wet with water. The general feeding is dry hay, green grass, green cornstalks, occasionally a few potatoes, and salt whenever the cows feel a disposition for it. Water they have access to at all times of the day and night, and should never be without it. An experiment was tried of giving the cows water only three times a day, immediately after eating their food, and they seemed satisfied. They were then constantly supplied, and drank freely nine times in one day, taking apparently as much at each draft as when allowed water only three times; so that when permitted to drink only three times a day, they must have suffered from thirst in the intervals.

When the weather is very hot or rainy, the cows have sheds made partially under ground, into which they can retire and ruminate undisturbed. With this treatment they constantly take on fat, and secrete twice the quantity of milk that they would if allowed to run at large. During the last summer, the cows gave an average of sixteen quarts of milk daily, and in the fall were fit for the butcher.

In the winter they are kept in stalls in a warm barn, littered freely, as occasion requires, and daily curried and rubbed. When the weather is fine, they are turned into the barn-yard for exercise, in the middle of the day. Twice a day they are fed on cut oat and wheat straw, with a small quantity of bran sprinkled over it, for the sake of which they eat their allowance entirely up, and once a day cut hay; they are salted four times a week, and have roots, such as beets, carrots, potatoes, or turnips, once a week. By cutting the straw and hay, cattle are enabled to eat their meal in twenty-three minutes; whereas, if uncut, they are engaged in masticating their food half the night, the labour and fatigue of which deprive them of the necessary time required for their rest.

Advantages of thus Soiling Stock.—Mr. Pell carted from his barn-yard 230 loads of manure on the 10th of May, which was made in the preceding six months. On the 10th of November, from the same yard, he carted 236 loads more, averaging 30 bushels per

load, made within the six months following the 10th of May. Five cows only were kept, which thus made 466 loads of good manure in one year. During the summer, leaves, straw, &c., were constantly thrown into the yard, and occasionally covered with charcoal dust. Each cow voided in six months, 6,000 lbs. of urine, which was absorbed by the refuse, and its strength retained by the charcoal dust, gypsum, &c.; the manure, therefore, was intrinsically worth the New York city price, viz: \$1 the wagon load, or \$466.

In addition to making this great quantity of manure, the other advantages of soiling are:—1. No cross-fences are required on the farm. 2. The cows give twice as much milk as when running at large. 3. They are fit for the shambles in the fall, being fat. 4. They are always ready to be milked. 5. They are never worried by being driven to and from the pasture. 6. They eat all the refuse grass, which would otherwise be lost. 7. Eight acres will keep them longer and better than forty would depastured. 8. The fields are always in order, not being poached by their feet in wet weather. 9. Manure enough is saved to pay the interest on a large farm. Numerous other good reasons might be given, if the above are not considered sufficient.

The above experiment of Mr. Pell, showing the superiority of the soiling system, is strongly corroborated by others made in Europe, though probably unknown to Mr. Pell when he commenced his. We quote from a speech recently made before a meeting of the Larne Farming Society, in Ireland, by Mr. Donaghy, superintendent of the Agricultural Department of the Larne National School:

“Mr. Smith, of Deanston, a gentleman whose scientific and practical knowledge as an agriculturist, has placed him in the first rank of the improvers of the soil, is no mean authority in support of the soiling system. In the summer of 1841, he made an experiment on a dairy of twenty cows, pasturing the one-half and house-feeding the other. He selected them as equally as possible, in point of carcass, condition, and milking quality. The result of his experiment was, that the cows house-fed, gave their milk more plentifully and more uniformly, and continued throughout in excellent health, and improved in condition from 30s. to 40s. per head over those at pasture. The cows house-fed were kept on three-quarters of a statute acre each, whilst those that were pastured, required one and a quarter acre of pasture, and a quarter acre of cut grass and vetches, making one acre and a half for each; so that, upon the whole,

about one half the extent of ground necessary for the keep of cows at pasture, was sufficient for those kept housed.

I could adduce abundance of other proof, from equally respectable gentlemen, in support of the superiority of this system to that in general use; but I shall content myself with merely saying, that if, according to Mr. Blacker, a gentleman who deserves the best thanks of the agricultural community, three cows could be kept on the same extent of ground as is at present required to keep one—the benefit thus resulting to the farming interest would be immense. But the increase of milk and butter consequent on its adoption, would not be the only resulting advantage—the increase of the manure heap would be equally advantageous. No farmer, I care not how good his practice may be in other respects, can farm *profitably*, without a plentiful manure yard. Now, it has been calculated, that on an average, cows are not kept in the barn at present, more than eight hours each day, throughout the year. If such be the case, and I have no reason to question the correctness of the calculation, would not a cow that is housed summer and winter, produce three times as much available manure as one pastured? If, according to Mr. Smith's opinion, two cows could be kept in the place of one, six times as much manure could be made—if Mr. Blacker's views be correct, nine times as much manure could be realized. I contend, therefore, that the general adoption of this system would do away with a great deal of the poverty, privations and misery, with which the small farmers are at present beset. And how? By increasing the means of subsistence."

Communicated for the Farmers' Cabinet.

Philadelphia Agricultural Society.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held at their Room on the 4th instant, Doct. MEASE, President, in the chair,—fifteen members present.

The minutes of the last meeting were read and adopted.

The following named gentlemen were appointed a committee on Crops for this year, viz: C. S. Smith, I. W. Roberts, George Blight, Dennis Kelly and Isaac Newton.

Dr. Emerson having informed the Society, that a *machine for crushing bones* had been erected on his farm in the state of Delaware, and was now in use, the following gentlemen were appointed to view its operations, and report thereon to the next Stated meet-

ing, viz: A. S. Roberts, Dennis Kelly and Aaron Clement.

The following gentlemen were appointed a committee of arrangement, for the purpose of making the necessary preparations for holding the annual exhibition and cattle show of the Society, in the approaching autumn; viz: John Lardner, Isaac W. Roberts, Dennis Kelly, Owen Sheridan, C. S. Smith, George Blight, John S. Haines, Isaac Newton and Dr. A. L. Elwyn.

The following Report was on motion adopted:

The committee on farms, appointed by the Philadelphia Society for promoting Agriculture, respectfully report, that after due notice had been given to farmers in the spring of 1843, of the intentions of the Society to award premiums to successful competitors for the best managed farms, under certain regulations and requirements, they proceeded, as they were notified by the occupants or owners of farms, to examine them. During the two years allowed for the purpose of application and examination, your committee regret to state, that they have been called on in the line of their duty, but by six persons, whose farms they have visited and examined; viz: Messrs. Levi Morris, John Hunter, Jesse George, David George, Samuel C. Ford, and James Gowen. But as the five first named gentlemen have failed to furnish the committee answers to the inquiries made of them on the subject of management, expenditures, profits, &c., of their farms, or having since declined competition, they can only express their opinions in regard to the appearance of their farms, stock, &c.; a compliment which they think is justly due to those gentlemen for their polite and hospitable reception, and kind treatment of the committee.

The farm of Mr. Morris is situated in Lower Merion, Montgomery county, and contains about 600 acres of land, well watered, and has a fine Southern exposure. It is divided into large fields, with good fences, and was at the time, occupied by three tenants; the two Messrs. Johnson and Mr. Coulter, who have separate establishments and different parts of the farm. They keep large dairies, and attend the markets regularly with butter, and other articles of produce, besides raising large crops of grain and hay—they are evidently good and successful farmers.

In the old mansion yet standing on this place, formerly resided the venerable Charles Thompson, Secretary to the first American Congress, during the Revolution. Mr. Mor-

ris, the present owner of the estate, has erected a neat and tasteful cottage on a pleasant part of the farm, in which he resides.

The farm occupied by Mr. Hunter, is in Blockley township, near the Lancaster turnpike, and contains over 200 acres. Mr. Hunter keeps a large number of fine cows of improved breeds, principally Durham, from which he furnishes a great supply of milk to customers in the city. And although his grass fields were not as clean as the committee could have wished, they are pleased to state, that his crops appeared to be abundant, and his farming operations managed with skill and good judgment; and on both occasions of their visits they were shown the largest collection of manure that they had seen on any farm, neatly put up in an oblong heap, and protected by being properly covered with earth. His farming utensils, &c., were under cover and all in their proper places.

The farms of Messrs. Jesse and David George, are both in the neighbourhood of the above, and also on and near the same road. These gentlemen each have their fine milk dairy establishments, and farm but a small proportion of their land. They have been, as they informed the committee, in the practice of top-dressing their pasture and hay fields, in turn, for some years back; and in addition to the manure produced by their large stock, find it to their advantage to purchase street dirt and other fertilising substances from the city, which enables them to dispose of a large quantity of hay annually, besides keeping their stock of cows and horses. The committee were highly gratified in viewing their farms, abounding with the finest and most luxuriant grasses of different kinds, of any that they had seen—free from weeds or other objectionable matter. The buildings are substantial and tasteful, the fences in excellent order, and all in character with the high condition of the farms, reflecting great credit on the skill and industry of the owners.

Mr. Ford's farm is situated in Philadelphia county, on the Second street road, about five miles from the city. The buildings are extensive and substantial; his handsome lawn, and highly cultivated garden, both display a great number of the finest fruit trees of different kinds. They appeared to be producing abundantly, and were in fine condition. The farm showed evident signs of improvement, considering the short time that it had been in the possession of the present spirited owner; and the committee felt assured, that a great reformation was in pro-

gress, and that Mr. Ford's farm would in time be an ornament to his neighbourhood.

The neat and highly cultivated farm of Mr. James Gowen, of Mount Airy, contains upwards of 100 acres, and with its substantial and extensive buildings, beautiful garden, fine fruit and ornamental trees, hedges, &c., high bred and superior Durham cattle, pens of swine of the most approved breeds, &c., was viewed by the committee with great satisfaction. The improvements made by Mr. Gowen on his farm, are of the most substantial and tasteful character; and although some of his operations may have been attended with great expense, the work has been well done, and will not again require another outlay.

His system of soiling appears to have been highly successful, and his root crops, the admiration of the country. Much might be said by the committee in attempting to describe the improvements made, the management and condition of the farm, and all matters connected therewith; but they rather choose to refer the Society to the statement made by Mr. Gowen himself. After mature reflection on the subject, the committee have unanimously arrived at the conclusion, that it would be most proper to grant no premiums at this time, as there appears to be but one qualified competitor.

AARON CLEMENT,
ISAAC W. ROBERTS,
CORNELIUS S. SMITH,
HENRY CHORLEY.

On motion it was resolved, that the following premiums be offered for farms the present year:—

For the best managed grass or dairy farm, over 50 acres, \$30.

For the second best managed grass or dairy farm, over 50 acres, \$20.

For the third best managed grass or dairy farm, over 50 acres, \$10.

For the best cultivated farm over 50 acres, \$30.

For the second best cultivated farm over 50 acres, \$20.

For the third best cultivated farm over 50 acres, \$10.

Applicants for the above premiums will be required to answer such questions as the committee may think requisite, regarding the mode of management, expenditures, products, profits, &c. Committee for the above, Aaron Clement, I. W. Roberts, C. S. Smith.

Extracted from the minutes,

AARON CLEMENT, *Rec. Sec'y.*

Philadelphia, June 5th, 1845.

For the Farmers' Cabinet.

**James Gowen's Report to Philadelphia
Agricultural Society.**

TO THE COMMITTEE ON FARMS:

GENTLEMEN,—It is known to most of you, that since I became a farmer, I have spared no pains to fulfil the duties of the calling, in a manner creditable to the community in which I live, as well as to myself and the Agricultural Society to which I belong—that while improving my own practice, I have endeavoured, by sundry means, to stimulate others to compete with me in spirited efforts, to arrive at excellence in the highly useful and delightful pursuits of agriculture; and to promulgate as far as in me lay, such improvements and results, as were likely to promote the general interests of the farmer. In carrying out this object, I have as part of the system, always been found competing in crops and cattle, for the premiums offered by "The Philadelphia Society for promoting Agriculture." It is therefore in accordance with this practice, that I now present my farm, as worthy of note, when you come to award the premiums committed to your distribution: in view of which, and in fulfilment of the rules and regulations of the Society, I submit for your consideration a general statement of its character and condition.

The Homestead Farm contained, when I removed to it in 1834, about 60 acres; since then I have added to it by purchase, some 40 acres, all of which is contiguous; making over 100 acres, exclusive of the Woodland Farm in Cheltenham township, Montgomery county, part of which is cleared and worked by me, and is in fine condition, as you may recollect from my communication on the crop of rye, raised there in 1842.

From long neglect and a bad practice, previous to my coming on the Homestead, I found it in every respect in a wretched condition. The results of bad ploughing and bad seeding, were visible in the unevenness of the surface; and the pernicious weeds that seemed to have entire possession. I at once took up the old fences which divided about 40 acres into small fields, ploughed it up, eradicated the briars and brambles that filled so large a space along those fences, and removed the stones within ploughing depth. It was cropped according to circumstances—alternately with potatoes, corn, grain, &c., until the soil had been brought into proper subjection in the fall of 1839; when it was laid down for grass, by sowing it with grain and timothy; since which it has not been disturbed, with the exception of about eight acres in rye,

this year; and yet this last summer it cut, I may safely say, two tons to the acre, and expect it to do as well next summer, should the season prove favourable. By this practice I brought every inch of the land to bear, and saved ten years expense, or wear and tear of the six fences which formerly stood inside this section. The fields in future will be divided by hedges of the *Maclura thorn*, or *Osage Orange*, raised by myself; four of these hedges already in, with plenty of quicks on hand to supply the remainder. These remarks you will please observe, apply to the land lying on the south-east side of the lane that divides the farm. The land on the north-west side, opposite, called the Spring fields, was, if possible, in a still worse condition. Owing to the swampy nature of part of it, and the washings from the higher lands on the other side the lane, the posts were every spring thrown out of place as the frost left the ground, while the ravines furrowed out by thaws and heavy rains, set at defiance all attempts at cropping or farming. To obviate the yearly setting up of the fences, which was not only expensive, but vexatious, I substituted a stone and lime wall for the post-and-rail fence. The wall is about half a mile long, is two feet below the surface at every point, two feet broad at base, and averages over six feet high from bottom, ending with an eighteen inch coping. One large under-drain, with grating at mouth, takes the water from the lane, while several smaller drains keep the surface of the land perfectly dry. The ravines were well filled up, and ever since, for a series of years, good crops of potatoes, corn, grain and grass, have been taken, where formerly grew spatterdock and rushes.

The land added to the farm at sundry times within the last five or six years, was, in the general, in as bad a condition in many respects, as the worst of that already described; indeed, it could furnish material for a more repulsive picture than any that has been drawn yet; but as most of you have repeatedly seen it in its original state, I need not trouble you with a description. To show its condition now, I need only remind you, that two years ago I obtained a premium for raising upwards of four hundred bushels of Mercer potatoes to the acre, on this land; and that on the succeeding year, from the same potatoe land I took upwards of fifty bushels of wheat to the acre, without any additional manure. Also, that last year I submitted a field of some seven acres of corn, on another portion of this land, which yielded at the rate of 200 bushels of ears, equal to 100 bushels shelled corn to the

acre. My reports on the condition of these fields, and the aforesaid crops, are in possession of the Society. The corn land was in this year with potatoes and oats. The potatoe, four acres, yielded over 200 bushels to the acre; the oats were very good—it is now laid down with wheat and orchard grass. This sketch, with your own personal observations, will afford you some idea of what I had to contend with, and what I have accomplished in the way of improving land, and the present condition of my farm.

From the difficulty and expense in procuring manure from the city, and after three or four years experience in that mode of supply, I gave it up, and adopted the plan of making a supply on the place, by an increased stock of cattle; from which I have derived my sole supply ever since, with the exception of light dressings of lime and gypsum, and a small lot of stable manure which I was tempted to purchase a few weeks since at auction, and which I can dispense with, should I meet with a purchaser before its removal in the spring. The keeping and breeding fine stock had in itself strong claims upon my judgment, as well as my taste; as I could never think a farm was what it should be, unless it could exhibit fine cattle, as well as an improved culture. To maintain this stock, and bring my land to a high state of cultivation, by the most efficient and economical practice, has been a leading object; and to accomplish this, required no ordinary management on such a farm. The stock in cattle has ranged for years, from forty to fifty head, in addition to the necessary horses, with a large stock of swine for breeding and fattening; and these I have fed from the produce of the farm, except the purchasing occasionally of some straw, and supplies of mill-feed for the horses and swine, and some meadow hay for the cattle, selling frequently its equivalent in timothy. During the same period I have sold hundreds of bushels of rye, some wheat, and on an average, four hundred bushels potatoes annually, with some three to four hundred bushels of carrots, besides providing for the family. But the chief income was derived from the cattle, of which I shall speak more at large presently.

My expenditures during the whole period, could not be otherwise than large; as I could not put up so much stone fence, and picket-fence, as enclose my farm, without incurring a heavy outlay; but I view these improvements as cheap in the end. It may be safely inferred, that there is not at this day, any farm of the same extent in this part of the country, that can so easily be worked, or will require so little expense for a series of years

in keeping the fences in order, especially when the hedges are taken into account. I am also of opinion, that taking in view the condition of the soil, as to depth and richness, as well as its being entirely free of stones and other impediments, that I can make it produce as much as any farm of its size in any part of the country, for a series of years, and at as small an expense.

The secret of keeping so large a stock on so little land, consists in my practice of partial soiling, and green crops, whereby I make some four to five acres do the work of thirty acres, in the "slow and easy go way." From May to August, my cattle are confined to one or two fields, most commonly one, to which they are driven, more for exercise in the cooler parts of the day, than for pasture; they being fed in the stables, early in the morning, at noon, and at night, with food cut for them from a lot adjoining the barnyard. This food is generally of lucerne, orchard grass and clover, oats and corn. The patches from which the corn and oats are cut, are always sowed with turnips in August. No one can credit, unless he has had proper experience in the matter, the quantity of food that one acre of lucerne, one of rich orchard grass and clover, and one of oats and corn, afford from May till August, nor can he estimate the great saving in manure, much less the comparatively good health of the cattle, from not being exposed on naked fields, under a fervid sun, toiling all day in search of food. This practice allows me to crop almost the whole of the land, and to make some 120 to 150 tons of hay annually. In the fall, from August till November, the cattle have the whole range of the mowed lands, as I do not cut second crop grass for hay. Then for winter feed, I have always an acre of sugar beet, half an acre of sugar parsneps; half an acre or more of carrots, for my horses; and generally three to four acres of turnips. I report to the Committee on Crops this season, over 100 tons of these roots. In 1843, I gathered from one acre, 1078 bushels sugar beets, 60 lb. to the bushel; carrots at the rate of 687 bushels; sugar parsneps 868 bushels. This year 972 bushels sugar beets; 970 bushels carrots; 700 bushels sugar parsnep; and from three and a half acres, 2500 bushels of turnips, sowed with timothy seed.

The farm buildings consist of three substantial stone barns, one 70 feet by 33, another 50 by 26, and another hipt roof with cupola, 57 by 25, besides a large overshoot stable and hay house, stable-high of stone, 60 feet by 30—the lower floors of all these are made of broken stone and lime, planked, being vermin proof. There are also a corn

crib capable of holding 1200 bushels corn, one barrack, ample hog pens, and sheds for carts and wagons. The barn buildings have been filled this fall to their utmost limit, except the corn crib.

A substantial stone wall encloses the principal manure heap; the drainings from this heap are led into a place of deposit, in which are received also a drain that runs under ground from the kitchen, as well as drainings from the pig pens, and the washings from all the yards. These drainings form an important item in the supply of manure to my land; it is a saving which I cannot estimate at less than \$200 a year. This liquid by a simple process is applied to the patches of roots, &c., and to this may be ascribed my great success in raising such crops.

The dwellings, green house, shrubbery, and gardens, I need not describe; but it is in point to notice the nursery of young ornamental trees, and *Maclura* for hedges, raised on places mostly waste on other farms, from which I have an ample supply for my own setting out, and a considerable stock to spare of *Magnolia Tripetala*, or Cucumber tree, and Silver Maple, of fine size, suitable for transplanting. I sold over fifty dollars worth last spring of these trees, and have several hundred dollars worth still on hand, for sale.

Of *Improved Cattle*, my first effort was with the celebrated "Dairy Maid," still owned by me. Her first calf, LEANDER, by *Whitaker's PRINCE OF NORTHUMBERLAND*, was reared, and kept by me, for breeding. DAIRY MAID's calves alone, exclusive of Leander, have already sold for more than \$500. It would be curious to trace her profit at this day, by stating an account of her first cost, her keep, and that of her son Leander; crediting her by sales of her own calves and grand calves; deducting for the portion of capital which was invested in the dams that produced the grand calves. To do this would extend this paper to an unusual length—suffice it to say, that Dairy Maid has long since paid for herself, and that those who laughed at me for giving \$540 for one cow, may turn this statement over in their minds, and think, whether since 1838 any investment of theirs, to same amount, in any other branch of husbandry, has paid so well. But they may exclaim, "I cannot do the like again;" yes, I can—for if the price of fine cattle be reduced through their becoming plentier, (thanks to those who made them plentier,) the principal invested may not be so large, in the purchase of one animal to begin with, but there cannot be a doubt if she be superior or superlative, the produce of such an animal will realize as good a percentage in future, as did that of Dairy

Maid. But there is a satisfaction beyond that of the pocket, and that is, that Dairy Maid's breed will be of infinite service to the country. Her calves and grand calves, are pretty well scattered already—and I make no doubt, but where ever found they will demonstrate the high character of the parent stock.

My sales for the last two years, exclusive of Dairy Maid's calves, amount to over \$2000. The stock now on hand is about 40 head, principally Durhams, among which are Dairy Maid, Cleopatra, Walnut, Victoria, Ellen Kirby, Miss Model, Victorina, Judy, Bessy Bell, &c., &c. The butter sold for the last two years exceeds \$750; this is a respectable item, when the calves that were reared, and the supply for my family are taken into view. From early fall to spring, the butter averaged 70 lbs. per week—the quality highly appreciated abroad, as well as at home. In butter, cream and milk, there is no stint at Mount Airy; so of fruits, vegetables, hams, &c. If I be a large producer, I may be also classed as a large consumer, and did I not produce, the markets would have to suffer accordingly.

In the hog line, I have been quite successful, at least in bringing the animal by judicious crossing, to great perfection. I fattened off my old Lincoln, and Berkshire Boars, and my Hampshire and Chester county Sows, last month; they weighed from 400 to 450 lbs., sold for \$86.24. Have sold the last two years of pigs, designed for breeding, \$150. Bacon, lard, &c. over \$120, besides, having on hand 14 fine young barrows, last fall's pigs, now ready for slaughter, which will weigh from 250 to 300 lbs. each, value \$150. The stock on hand consists of one fine boar of Lincoln, Hampshire and Berkshire breed; one brood sow of Berkshire breed, 12 shoats and seven pigs. The sow and pigs are the same that took the premium at the last Agricultural Exhibition.

Building and work, independent of the farm, induced to the keep of a heavy stock of working horses, consisting of five employed occasionally hauling stone, sand, &c. They are the same horses originally purchased, at and since the commencement of my farming operations; having neither sold, lost, nor exchanged one. The two carriage horses average 20 years old each; my favorite of these, is quite 25—so much for management in this department. The implements—wagons, carts, ploughs, harrows, &c., &c., are in keeping with the farm, and are well kept as you may have observed.

I keep no farmer on the place, in the character of manager, having never as yet been able to find a man qualified to conduct the operations of the yard and field, in man-

ner as they should be. My practice is, to hire one man for general work, at \$20 to \$25 per month, also, two hands for out-door work alone, who are capable to work at any job of farming; they have employment from early spring till first of December, at 75 cents per day—these three find themselves. Then, there are two men engaged constantly, feeding and taking care of cattle, feed, manure, &c., who receive from \$10 to \$12 per month, and found. By this arrangement I have always a pretty strong force to act on emergencies, and to avail myself of seasonable operations. My work is generally well done and timely done.

I have thus given you a general insight into the condition of my farm, and the system by which it has been brought to its present state of perfection. If substantial fences, clean fields, well worked land, good crops, good barns, and splendid cattle, be essential to constitute a good farm, I trust you will find none of those features wanting on mine.

Very respectfully, your obedient servant,
JAMES GOWEN.

Mount Airy, Dec. 24th, 1844.

Art of Mowing easily.

JOHN R. PITKIN gives the following directions for mowing, in a late number of the *N. Y. Farmer and Mechanic*, which he says he has long practised to advantage, and ease to himself. . . Ed.

The scythe should hang natural and easy, and it must be kept in first rate order.—As you approach the standing grass, let the point of the scythe move to the very point of commencement, and let it stop the instant it has done its work. Thus there is nothing lost by a backward or forward swing. If the grass stands up so as to admit of moving on, measure the utmost capacity forward of your scythe, take a quick easy gait, moving your right foot well up towards the standing grass, and your body with it, though leaning back, by bending the knees a little forward, so as to bring your whole weight to bear upon the scythe, without twisting the body from right to left, as many do; thus giving ease to each clip, and ability to repeat in an advanced position, without fatigue.

If you swing six inches too far back, and six inches too far in pointing out, it makes twenty-four inches loss! Then apply the same strength to a proper forward motion, and you will find it difficult for ordinary mowers to keep up.

Woodville, L. I., May, 1845.

The Southern Planter says that *Pennyroyal* mixed in with the nests of hens, will certainly protect them from the annoyance of vermin.

Preservation of Peach Trees.

THE Conversations at the New York Farmer's Club, are generally of quite an interesting character. Some valuable hints may probably be gathered from the following remarks made at its meeting on the 20th ult., on a subject in which almost all have an interest. The use of tobacco around the roots of peach trees was recommended by a correspondent of the *Farmer's Cabinet*, in the 9th No. of our last volume, page 274.—Ed.

CHEEVER NEWHALL, Esq., Vice-President of the Massachusetts Horticultural Society, in the Chair.

Mr. Wakeman—I present a paper on the Peach tree, from my worthy friend Geo. F. Hopkins. The well known havoc made by its enemies upon that delicious fruit tree, renders every suggestion for its defence and preservation most acceptable. The letter recommends tobacco tied around the bodies, and the application of alkalies, of whale oil, and of blacksmiths' cinders, to the roots. I noticed a case in Philadelphia, of a tree on the roots of which hot water had been poured, and soot and lime applied, and the tree bore good fruit every year for 20 years. I refer to Mr. DePeyster's statement at a former meeting, of his success in consequence of placing anthracite coal ashes around the roots of peach trees.

Col. E. Clark—Lime recently burned, placed at the root of a tree, has the effect of killing worms; many of them are dissolved, when in contact with the lime; being moist, they afford the means of their dissolution. Common tansy, planted next to the roots, is said to keep off the worms. When lime is sprinkled at the root, it must be wet either by rain or by hand. I know of no better remedy.

Mr. Wakeman—I ought to mention that the tree in Philadelphia was annually white-washed.

Ethan Campbell, Esq.—I applied quick-lime to the roots of 10 peach trees, annually since 1839, and those trees are healthy. I planted tansy at the roots of 20 peach trees; they were not attacked by worms. The worm bores a hole through the bark at the edge of the ground; its eggs are hatched in June, and I have taken 30 worms out of the bottom of a single tree. The trees protected by tansy, give me full crops of fruit, and fine too, annually. Ten peach trees to which I applied nothing, all died the third year.

Col. Travers—I planted on my farm in Jersey, 900 peach trees. I treated them every way, ashes, lime, I cleared the roots—and had 120 left. One near my home, I cultivated as I would a cabbage, leaving no grass or weeds near it, that one is a healthy and vigorous fruit bearer—*cultivation does*

that for it. The tree and all plants must, like animals, have good and proper food. The grub worm does not mind ashes, or lime, or salt, he will crawl out of it, and I have tried by wrapping him in these substances to kill him, and he don't mind it. I tried it on bots taken alive from a dead horse—the bots were not killed by it, nor by any of the articles given to a horse as remedies for bots. This animal does not die either in or out of a horse, by being enveloped in the articles. As to the peach tree, I wrapped a bandage and a mat over that, around the body of the tree, just under the forking of the branches, yet the worm eat down to the ground. All the remedies applied at the roots of the trees were I have no doubt useful to the soil—they invigorated the tree, but they do not kill worms.

Mr. Wakeman—There may be some ingredient in certain soils, which mixed with soot, ashes, or lime, may be disagreeable to the worm. At all events, we are looking for useful results in all our inquiries. Contradiction is itself often highly useful, in bringing out the truth which we desire.

Chairman—I have adopted the following plan for my peach trees, during the last four or five years. I bound a piece of sheet lead, about six or seven inches wide, around the bottoms of the trees—putting the lower edge of the lead about an inch in the ground. I then filled the space between the tree and the lead with anthracite or wood ashes—or with sand. My trees so treated are healthy and bear well.

Col. Travers—Mr. Woolsey put wooden boxes around the roots of his peach trees and filled the space between the box and tree with charcoal—these trees he says, lived twenty years.

Chairman—Mr. Vose takes tarred paper, puts it around the tree, six, eight, or ten inches above the ground—takes it off in the autumn, he also gives his trees special attention, his peaches are excellent. I applied the lead plan to at least 40 of my peach trees.

Mr. Townsend of Astoria—Being on a visit to a friend in Norfolk street in this city, last summer, I was struck with the fine healthy look of a peach tree in the yard; on enquiry, the lady of the house told me, that every spring she poured a tea-kettle of hot water upon the trunk of the tree, which ran down to the ground. This had been done for fifteen years, and the fruit was always good.

Col. Clark—I have no doubt that lime in the boxes would have a good effect, when moistened it is powerful enough to affect the hand, and will destroy insects.

Ethan Campbell—Lime would prevent

the approach of insects, I apprehend, and prevent them from depositing their eggs. I recommend a sprinkling of lime once a week around the roots of peach trees from the beginning of April.

Oliver Smith—Those insects which injure fruit deposit their eggs in the fruit itself.—Lime does not reach or prevent that. When the insect is hatched, it then descends the tree and enters the ground.

Col. Clark—The Curculio preys on pear, plum and some others, but does not touch the peach. The worm which destroys enters at the bottom of the peach trees and bores between the bark and the wood.—*N. Y. Farmer and Mechanic.*

From the American Agriculturist.

Culture of Tobacco.

THE growing of tobacco is becoming an important business in the valley of the Connecticut, and yields a better return to the farmer on rich land, than almost any other crop. This crop was greatly increased the last season, and I think I do not exaggerate, when I estimate the amount grown in the towns bordering on the Connecticut, between Hartford and Northampton, from 1,500 to 2,000 tons. The price, the last season, for large growth, and in good condition, was eight cents per pound. We have two varieties—the narrow, and the broad leaf. The latter is the most productive, and sells in market much more readily than the former.

Soil Preparation and Sowing.—We select for our tobacco plants a rich, moist (but not wet) spot, and sow the seed as early in April as the ground can be prepared for it. Our beds are well manured, made mellow and fine, and the seed should be sowed at the rate of one table-spoonful to the square rod, before the earth gets dry; after this it is raked so that the dirt may stick close to the seed. It should not be covered, but let a man go on and tread the surface of the bed as hard as possible. The bed must be kept free from weeds. The plants should get leaves two or three inches long before being transplanted. They grow faster in the beds at first than in the field, and are less exposed to the cut worm.

Transplanting.—We commence transplanting the fore part of June, and often set out the plants as late as the 20th or 25th. The ground should be made mellow and level. The broad leaf plants should be set in the rows two and a half feet distant from each other, and the rows be three feet four inches apart. If it rains at the time of setting, we take advantage of it, and get out as many as possible. If not, we make

the hills, and pour in to each about half a pint of water, and follow immediately after and set the plants. They will live as well set in this way in sunshine as in the rain.—The ground should be looked over two or three times afterwards, and re-set the vacant plants.

After Culture.—As soon as the plants are well growing, we go through with the cultivator, and again fill up the vacant places. The crop should be hoed three or four times without hilling the plants. When the green worms appear, they must be watched and killed, or they will in a great measure destroy the crop.

Topping.—Commence topping the tobacco when it is in the bloom, and manage to top as much as possible the first time going over, that it may all ripen at once. Leave about twenty leaves to the stalk, and make the field as even on the surface as possible. If you have late plants in consequence of re-setting, break them low, and they will grow faster and ripen sooner for it. The suckers should all be broken off and the plants kept clear of weeds till they are cut.

Cutting and Curing.—We should never cut more than can be hung the same day and next morning, while the dew is on. After cutting, it should lie and wilt on one side, then turn it and wilt the other; then throw it into heaps of six or eight plants each, and let it lie till carted to the sheds, where it is hung with cotton twine on poles twelve feet long, and about twenty plants on each side. It must hang till the stem of the leaf is thoroughly cured to the stalk. It is then taken down in a damp day (to prevent the leaves from crumbling,) and stripped and tied in three small hands, keeping the broken and poor leaves by themselves. It is then packed, and pressed hard with the hands in a double row, with the butts out, and if not sufficiently cured in a few days, it must be shaken up and re-packed, to prevent heating. When fit for market it is brought in large quantities and pressed in boxes containing about four hundred pounds each, and sent to the seaports and shipped to foreign countries.

Value of Poudrette.—I used one barrel of poudrette on my plants while on the bed, leaving a small piece without it. The effect was astonishing. The plants at the time of setting were twice as large where the poudrette was used as where it was not, and they were not as much attacked by the worms, which is an important consideration. I set the last season about two and a half acres in tobacco, which produced 5,100 lbs. I sold it for \$408. P.

South Hadley Falls, Mass., March 3, 1845.

We had the pleasure of visiting our intelligent correspondent above, last year, and saw his tobacco crop growing. We recently met with an enterprising farmer from Windsor, who estimated the crop grown the past year in the valley of the Connecticut and its vicinity, at 5,000,000 lbs. He said he could get from 12 to 16 cents per lb. for his; and although it was used for a different purpose, he did not know why it was not as good as the Cuba, which sells from 25 to 35 cents per lb. Prime tobacco land rents high at present in the valley of the Connecticut—from \$25 to \$50 per acre per annum. A rich, friable loamy clay is considered the best soil for this crop, which must be highly manured, and deep and well worked. We think it ought to be subsoil-plowed, and that guano as well as poudrette would be an excellent manure for it. The latter is the most lasting, and is said to keep off the fly. Coarse barn-yard manure makes too rank a growth of stalk and leaf, and injures the quality of the tobacco; whereas, poudrette, guano, and other fine and highly concentrated manures, would add to its aromatic flavor. We should be glad to see carefully conducted experiments made the present season with these manures, on the tobacco crop. The different kinds might be tried side by side on separate rows, with a view of testing which was best for that particular locality and kind of soil. We should be pleased to learn whether the culture of the finest Cuba tobacco has ever been attempted in New England. This is frequently worth from 50 cents to \$1 per lb.—*Ed. Agriculturist.*

EARLY RISING.—Late rising is not the habit of the very highest classes, for royalty itself sets the contrary example; and we have met, before now, princes taking their ride before breakfast at six o'clock. The present king of Hanover we have repeatedly seen out at that time. We have known Lord Brougham, when chancellor, make appointments on matters of business at his private residence for eight o'clock in the morning; his own time of rising being four in summer, and half past six in winter. Supposing that a man rises at six, instead of eight, every morning of his life, he will save, in the course of forty years, twenty nine thousand hours, which is a great accession of available time for study or business despatch; being, in fact a gaining of three years, four months, two weeks, and six days. To any person of foresight, calculation, and industry, this fact will prove a sufficient temptation to practise the healthy and useful habit of early rising.—*Chambers' Journal.*

From Hovey's Magazine of Horticulture.

On the Production of hardy Seedling Grapes by hybridizing the Native with the Foreign Grape.

It is abundantly manifest that horticulture is attracting just now a very large share of public attention. Experimental attempts have been at various times made, to improve or modify the character or quality of fruits and flowers; in some instances with a full or limited measure of success, in others with no good results whatever. It is highly interesting, even though we fail, to endeavour to make good *better*, nor can there be presented to the mind of an intelligent man, a subject more worthy of a liberal portion of his attention, than the probability of succeeding by *hybridization*, in producing a fruit superior to its parents, and at the same time so changed in its character, as to be hardy, where it has been previously known only as partially so, or not at all.

For how long a time has there been an anxiety to possess a grape as vigorous as the Isabella, of as free growth in the open air, requiring as little care,—some think they require *very little*—and as good a bearer, with the additional quality of the fruit's being as far superior to that variety as the Black Hamburg is acknowledged to be. Frequently have we been told that the desideratum has been obtained, and under a host of *names* have these *new* sorts been offered to us with not one quality to recommend them but the change of appellation; it has been "Napoleon," alias "Isabella," and every thing else to no purpose, but that of falling back "*ab origine*" and taking a fresh start.

Where an attempt is made to produce a vine of the kind so much wanted, and ripening a superior bunch of fruit, something more must be done than merely *changing names*, however high sounding these may be. Our operations must be conducted upon correct principles, under favourable circumstances, and with every possible care. We must clearly understand what it is we are aiming at, and bring the matter to a reasonably satisfactory conclusion, ere we may indulge the hope of ultimate success, or lead others to believe that we have accomplished any thing more than those who have preceded us.

With every facility for bringing about a most important result, we have succeeded in fertilizing the Black Hamburg with the pollen of the Isabella, and so guarding our operations from first to last, as to obviate the possibility of any mistake. The bunch of grapes ripened to perfection, were of great

size, and most delicious flavour. From the seed *thus* obtained, we have now about a dozen plants in perfect health, and remarkably handsome looking. The leaves are beautifully shaped, of a bright green, and *very deeply serrated*. Many of our friends have seen them, and by several they have been immediately noticed as peculiar in their appearance. To say at this stage of our proceedings what *may* be the properties of these vines as fruiting plants cannot be deemed too much in advance of a fair calculation, based upon the known qualities of their parents, the one for its hardiness and strong growth, the other for its superb fruit. They may, and in all probability will be, as good as the Isabella for such qualities as are in its favour, and bear fruit, though perhaps not fully equal to the Hamburg, yet as far superior to the male parent, as that is to the common Fox grape. Should this turn out to be so—and we think it will—the point at which we have been long aiming will have been attained, and a vine possessing every desirable quality put within the reach of all for general cultivation.

We shall take care to ascertain all particulars as soon as practicable, and make them known when we are satisfied fully of their perfect correctness; not speculating carelessly with the credulity of our co-labourers or the public, but giving them the true result whatever that may be.

W. W. V.

Flushing, L. I., March 3rd, 1845.

Premium on Diseases of Cattle.

Read before the Farmers' Club May 6th, and communicated to the Farmer and Mechanic.

Paris, February, 1845.

THE Minister of Agriculture has placed at the disposal of the Royal and Central Society, the sum of 1500 francs, (\$300,) as a premium for the author of the best written or printed memoir upon the typhus of cattle and other domestic animals. The Society, on the report of a special committee, has adopted the following programme:

Art. 1. The memoir must contain the explanation of the characteristic symptoms which at the beginning distinguish the typhus from the other diseases of cattle, and a description of the modifications which those symptoms undergo in the three periods of the attack, the greatest extent and the decline of the disease, and finally the various modes of treatment for the disease, and the results.

Art. 2. And very particularly the *lesions*, on opening the body, the alterations of the

liquids during life and after death, the nature of the disease, and its nosological classification.

Art. 3. The probable causes of the disease, its mode of appearance in one district, its contagion, modes of communication to others, and all the circumstances which seem to give the disease intensity. Among the predisposing and predominant causes, and those causes which may be considered generating, and those which extend the disease, the author ought to search for those which relate to our climate, to modes of keeping, to feeding, and also whether peculiar breeds are peculiarly liable to the disease; and finally, whether by reason of all these causes or any of them, it is to be feared that this disease may show itself spontaneously in France.

Art. 4. The difference of symptoms (diagnosis) between this disease and the other known diseases of cattle, or what analogy there is between them, and the probable cause or causes of the disease.

Art. 5. The relations—if there are any—between this disease and other diseases of cattle, sheep, horses and hogs; and more particularly as relates to the causes of the diseases.

Art. 6. To point out the best measures to be taken relative to the meat of such diseased animals as have been butchered, or which have died a natural death.

Art. 7. The best means to be used by farmers to preserve their animals, when the disease is spontaneous and *enzootic*,—in the animal itself—and above all where it does not show itself as by contagion; and finally, those means which have or which seem to have had the most success—1st, in preserving a threatened district from it; 2nd, in circumscribing and confining the disease in an affected district; 3d, to extinguish it where it does exist; 4th, to prevent its renewal, and at the same time to disinfect not only the particular localities where it has been, but also all the utensils made use of by the diseased animals.

The Society will decree the prize, if opportunity then presents, in the public sitting of April, 1846. If any memoir is not adjudged worthy of the full prize, a part of it will be decreed, or medals of gold to such authors as shall have resolved some of the questions here put, particularly those comprised in Articles 2, 3, 4, 5 and 7. The Society must own all the memoirs presented to it, and dispose of them as may seem proper.—*Translated by H. Meigs, Esq.*

Great alarm exists in Europe as to the progress of this disease; regulations in the

nature of quarantine are in contemplation, to arrest it; and it is proper that we should prepare our own country on this interesting subject.

For the Farmers' Cabinet.

Russian Imperial Economical Society.

THE following letter has been kindly handed for publication in the Cabinet by Aaron Clement, the Recording Secretary, of our Agricultural Society. Such communications, leading to an interchange of opinions and kindly offices, are in a national point of view, highly interesting. With an Empire spreading over so vast an extent of territory, and a corresponding population, we cannot but give to Russian agriculture our best wishes for its improvement. If more than these can be made available, we are sure the Philadelphia Agricultural Society will embrace with alacrity, every opportunity to do so.—Ed.

Perpetual Secretary's Office, St. Petersburg,
January 29th, 1845.

To the State Agricultural Society of Pennsylvania, in the U. S. of America:

The Russian Imperial Economical Society, established in the year 1765, having for its object the improvement of different branches of rural economy, desires to enter into correspondence with your honorable Society for mutual exchange of different experiments, observations and discoveries, in order to promote the national welfare of both countries. The Almighty having blessed the United States and Russia with immense tracts of fertile lands; has pointed out to us that the principal occupations of both countries should consist in rural pursuits. Therefore we feel real sympathy towards your great nation; and the more so, because our Society has the honor of counting among its active and useful members one of your distinguished citizens, the Honorable Col. Todd, the representative of your country in Russia.

Our Economical Society has for a long time expressed the wish of communicating with Economical Societies in other countries; but as our annual accounts of proceedings and the transactions of our Society are published in the Russian Language, which is very little known abroad, so the Society commenced publishing extracts of the annual reports, and of the transactions in the German language, which is generally understood in civilized countries; and the Society conceiving that these publications would be the means of communication between the two countries, has therefore charged me, as its perpetual Secretary to forward to you a copy of the said publication; and I take this opportunity to add that I am very happy to be the organ of express-

ing the sentiments of the Society towards your great nation.

ALEXANDER DJUNKOVSKY,

Knight and perpetual Secretary of the Society, actual
Counsellor of State of the Emperor of Russia.

For the Farmers' Cabinet.

Disease of the Potatoe.

MR. EDITOR:—In perusing the last number of your paper, I noticed an article over the signature of CHEMICO; purporting to give a correct reason for the cause of the disease in potatoes—and, also proposing a remedy.

It is a well known fact, that the disease in potatoes is of recent origin,* and, it is also well known, that the soil in which they grow, contains the same quantity of alkali, and no less nitrogen than formerly. If a want of the alkalies, or a redundant supply of "nitrogenous matter," can be the only cause, then, the disease might be confined to one district alone; but, observation, reports, and evidences from well authenticated sources, affirm that the whole continent is alike affected: even in Europe the potatoes have not escaped the contagion. Lands, which now yield but a poor and sickly crop of potatoes, a few years ago brought an abundant harvest. It has, furthermore, been ascertained, by men of high professional repute, that potatoes contain properties capable of accumulating the alkalies, and repelling a redundancy of nitrogen. Hence, it is easy to be seen, that they are formed in such a peculiar way, as to reject and throw off every substance detrimental to a vigorous and healthy growth.

Where, then, lies the true cause? It must be some uninvestigated agent, so powerful in its nature, as to destroy the capability of the repulsive properties, and so poisonous in its effects, as to paralyze the cellular organs, so as to prevent their performing their allotted task. Now, whatever may be the cause of the disease, it certainly cannot be the want, or the redundancy of the above mentioned properties, to which CHEMICO attributes it.

I have noticed, particularly, that the first indications of the disease, commence in the stalk; and, by an examination, I have found, that the potatoes are fit for all culinary purposes, even when the stalk assumes a dark, rotten color, and emits a putrid odour. As the disease follows down the stalk, the potatoe is at length affected, its health destroyed, and it becomes a useless vegetable. I have

heard learned men say, it is caused by an unusually large quantity of caloric coming in collision with a sudden and severe shower of rain; thereby creating a large quantity of hydrogen and sulphuric acid gas. How far these doctrines are correct, I will not vouch—but suffice it to say, they seem to me plausible,
A FARMER.

Honesdale, Pa., June 2.

Bees.

I HAVE often heard complaints of bees going off soon after being hived, and the owners could assign no reason. I have lost several swarms in that way, but I have learned how to prevent it.

In the first place, never put a swarm of bees into a hive made of green boards, nor until it is well seasoned; nor into a hive in which there is any foul or musty smell. The boards of which it is made should be clean. Do not plane the boards for the inside of the hive, unless to get off some extraordinary roughness; and then do not make them smooth. After hiving the swarm, raise the hive a little, by putting under the bottom small sticks, say as large as your little finger, to give them plenty of air. Then procure a quantity of green bushes, and lay them over and around the hive, especially on the sunny side. Then take half a pail full of cold water, and spatter it all over and around the hive, till the bushes are quite wet. The bees will collect in the top of the hive, and remain quiet. I have practiced this method for many years, and have never lost a swarm since I commenced it. It is not necessary to rub the inside of the hive with any kinds of herbs or leaves—it would do more hurt than good. I commonly throw, say a pint of water, into a hive, so as just to wet the upper part, and sprinkle a little salt into it. This I do to amuse the bees for the time being, and to make them more contented.

It is not necessary to make any noise to settle the swarm when they come out. They will settle of their own accord. But it is prudent to hive them as soon as convenient.
—Michigan Farmer.

GYPNUM IN SOUTH CAROLINA.—The Southern Agriculturist says "a specimen of Gypsum was lately sent to Dr. Gibbes of Columbia, from Mr. Ingraham's on Cooper river. It resembles the gypsum of the Paris basin, which is extensively quarried for the manufacture of plaster of Paris, and as the geological position is the same, it is hoped it will be found in abundance."

* The recent origin of this disease, is we think doubtful—see the translation of a paper in the 7th No. of current vol. of Cabinet, page 212.—Ed.

Horticulture.

IF the admiration of the beautiful things of nature has a tendency to soften and refine the character, the culture of them has a still more powerful and abiding influence. It takes the form of an affection; the seed which we have nursed, the tree of our planting, under whose shade we sit with delight, are to us as living, loving friends. In proportion to the care we have bestowed on them, is the warmth of our regard. They are also gentle and persuasive teachers of His goodness, who causeth the sun to shine, and the dew to distil; who forgets not the tender buried vine amid the snows and ice of winter, but bringeth forth the root long hidden from the eye of man, into vernal splendor or autumnal fruitage.

The lessons learned among the works of nature are of peculiar value in the present age. The restlessness and din of the railroad principle which pervade its operations, and the spirit of accumulation which threatens to corrode every generous sensibility, are modified by the sweet friendship of the quiet plants. The toil, the hurry, the speculation, the sudden reverses which mark our own times, beyond any which have preceded them, render it particularly salutary for us to heed the admonition of our Saviour, and take instruction from the lilies of the field, those peaceful denizens of the bounty of Heaven.

Horticulture has been pronounced by medical men, as salutary to health and to cheerfulness of spirits; and it would seem that this theory might be sustained by the happy countenances of those who use it as a relaxation from the excitement of business, or the exhaustion of study. And if he, who devotes his leisure to the culture of the works of nature, benefits himself—he who beautifies a garden for the eye of the community, is surely a public benefactor. He instils into the bosom of the man of the world, panting with the gold fever—gentle thoughts, which do good like a medicine. He cheers the desponding invalid, and makes the eye of a child brighten with a more intense happiness. He furnishes pure aliment for that taste which refines character and multiplies simple pleasures. To those who earn their substance by labouring on his grounds, he stands in the light of a benefactor. The kind of industry which he promotes, is favourable to simplicity and virtue.—*L. H. Sigourney.*

LIME that is the most profitable for making mortar, is the most valuable for agricultural purposes.

Butter.

THERE are few departments of rural industry in which there is so much room for improvement, as in the business of *converting milk into butter*. This will be admitted, readily, by all who reflect on the very small proportion, which really pure, well-flavoured butter bears, to the whole quantity exposed for sale in the common market, or to that which is produced in the country.

The defective quality of butter arises no less from want of care and skill in the management of the milk—probably much more from that cause, than from any effect upon the milk, resulting from the difference in the pasture and food of the cow; although the latter has, doubtless, a powerful influence. So sensible are they of this influence in Scotland, that we observe among other curious objects, never thought of in this country, a premium has been offered there for the best essay *on the influence of food on milk and butter*. We cannot but suppose that the superiority of the butter in the Philadelphia market, arises, in a great degree, from the nature of the pasturage; consisting of long established “English grass” meadows. He who will take the trouble to make the calculation, will be struck with the increase of national wealth, which would accrue from an improvement in the quality of our butter, from whatever cause, that should add a few cents to its price, without saying anything about the increase of the quantity which could be easily obtained by more careful milking, and a better system of dairy management.—*New York Albion.*

RHUBARB OR PIE PLANT.—This is another highly esteemed esculent for early spring use, and of the easiest possible culture. The plants continue many years in full bearing, and occupy very little room—a small number being sufficient for a family. The seeds may be sown any time in spring, and will make good strong plants in one year; when they should be transplanted to a rich deep border, or any convenient spot—placing them three or four feet apart. The stalks should not be cut until the plants are at least two years old.—*Ohio Cultivator.*

WILD BIRDS should be sent to market in their feathers, and they should never be drawn if the weather is cool. No salt should ever be put upon any kind of wild game until it is cooking. It is the practice of all sportsmen to hang their birds up in their feathers and undrawn, and never to clean them until wanted for the gridiron.

Economy.

The following *lecture* is copied from the *Southern Planter*, and though it was intended, and may seem more particularly adapted to the meridian of Richmond, many a one of us on this side of "Mason and Dixon's line," may draw, if we will, a good lesson from it.—Ed.

PERHAPS the most marked trait in the character of the Southern farmer is the want of economy. Many reasons have been assigned for the depressed state of agriculture in the South. That our country enjoys the most unrivalled advantages for the prosecution of agricultural pursuits, is undenied, and undeniable: that the improvements in this art have not kept even pace with other departments of science, is universally admitted. The inquiring mind, which seeks for reasons for every fact, has been engaged in the explanation of this phenomenon. Some have declared that the light of science was wanting to the pursuit of agriculture; some have attributed the stationary character of this pursuit to the existence of a slave population, &c., &c.

That the science of agriculture is in its nature one of the most complex and intricate, a little consideration must satisfy the most careless observer; and the fact that a *season* is required to test an experiment, proves, that experience, which is the foundation of true knowledge, is more difficult of attainment in this than in any other art. But this is true of agriculture everywhere, and only accounts for the retarded progress of the art when considered in relation to the world generally. It has been asserted, however, that in the Southern part of the United States, the portion of the whole globe perhaps best adapted to the pursuit of agriculture, improvement languishes most. Whilst we are not prepared to admit this charge to its fullest extent, we will confess that agricultural improvements encounter peculiar difficulties in their progress through the Southern States; not, as some imagine, for want of knowledge of the scientific discoveries in agriculture, for they, we believe, in truth, are very few, and are as well known to the enlightened farmers of the South as to any other portion of this Union. But the fact is, that amongst the highly favoured, wealthy farmers of the South, a state of financial embarrassment prevails, that offers an insuperable bar to agricultural improvement. It is not uncommon to find a Southern farmer with real estate and negroes worth fifty thousand dollars, sadly embarrassed with a debt of twenty thousand. Our Northern friends will wonder how a man with fifty thousand dollars worth of property

can be seriously embarrassed with a debt of twenty thousand, but a Southern man will readily understand the feelings and sentiments which make it so distasteful to part with that peculiar kind of property in which a large portion of his funds is vested. But unless he sell his slaves, the farmer cannot part with an acre of his ground, which is, in his opinion, hardly sufficient to keep them employed. Thus it is, that the debt is not only retained, but perhaps from the same cause from which it originated, it is increased, and to provide for the interest alone, absorbs all the funds and much of the time of the improvident farmer. It were bootless to look to the origin of this state of things; it could perhaps be traced to the fact of expensive habits derived from a wealthy ancestry, whilst the enormous profits that justified them in former years, has altogether ceased in later times; for whilst there is no difficulty in expanding your expenses in prosperity, the contraction in adversity is not quite so easy. Be that as it may, the fact of a very general pecuniary embarrassment amongst even the wealthy portion of the agricultural community in the South, is not to be denied; and this circumstance alone, when fully considered, will be found sufficient to account for the retarded state of agricultural improvement in the South. Money is the great lever with which the world is both raised and lowered. Suggest to a farmer a system of cultivation by which his exhausted fields may be rested and restored; he is fully aware of it, but he tells you that the corn from that field is devoted to the liquidation of a debt already incurred; prove to him that if he is deprived of this resource for a year or two, it will only be to double the product in after time; he knows it; but even with the yield of that field, he fears that his income for the year will fall short of his expenses. He hopes that it will be better after a while, but *this* year, he must "make every thing tell." Show him a valuable labour-saving machine, an investment in which would be equivalent to an interest of fifty per cent., his answer is, "my dear sir, I am a borrower, not an investor of money;" and so he is, poor fellow. It is not the want of scientific knowledge that keeps that man's fields poor, and induces the most skinning system of cultivation, but it is the want of pecuniary means.

What is the remedy for this state of things? We answer emphatically, *retrenchment* and *economy*. Begin with yourself; curtail your individual expenses, go through every member of your household, cut down and pare off everywhere; teach your children that

the conveniences and elegances purchased of the milliner and the mercer, may be substituted, in a great measure, by their own handicraft. Your own part is nothing, but to deprive those you love of that to which they have been accustomed, is, we know, a bitter pill; but it must be taken. In the great fall of agricultural products, there is no help for it.

Do not tell us that you already practise economy to its fullest extent. My dear sir, you don't begin to know the meaning of the word. What is your income? About \$1,500—well, go to the North and see how a farmer with an income of \$2,000 lives, compare your expenditures with his, and then see if you know anything about economy. And whilst you are there, observe the difference between his case and yours—he probably has at the end of the year eight hundred or a thousand dollars to devote to the improvement of his land, which improvement probably secures him a surplus of twelve or fifteen hundred dollars at the end of the next year, and so he goes on, getting richer and richer, whilst you are getting poorer and poorer. Suppose your situations to be nearly the same in 1845, work this thing out, and see where you will both be in 1855.

There is one point upon which we will take the liberty of giving you the gentlest hint in the world. Be not afraid in this proposed system of reform of any opposition from your wife. Come out like a man and explain to her the necessity for it; women are always more frugal and self-denying than men; we will answer for *her*.

It is astonishing how not only the *price*, but the *real value* of land, is affected by the economical habits of a neighbourhood. We were sensibly struck with this fact in a conversation last summer with an intelligent gentleman from Rockingham. We were both at the time in the county of Albemarle, and something was said about the high price for which land was sold in that county. The Rockingham gentleman remarked, that similar land in his own county, not at all more productive, farther from market, would sell for one-third more money. He was then asked, why he did not sell in Rockingham and purchase in Albemarle. He replied, because he found, upon a fair calculation, that the land was cheaper in Rockingham than in Albemarle; that is, that owing to the different habits and customs of the people, he could lay up more money from an investment in the one than the other. This is sound reasoning, and it is the reasoning upon which men act. This is the reasoning by which men are induced to give a hundred dollars an acre for lands in New York

or Pennsylvania, whilst lands equally productive can be purchased in Virginia for half the money.

From the Cincinnati Farmer and Gardener.

Culture of the Grape.

As public attention at the present time seems to be somewhat enlisted in the culture of the grape, and as its success is pretty well established in the vicinity of Cincinnati, where it is rapidly extending, a brief sketch of the most approved mode of establishing a vineyard, may be acceptable to some of your readers.

The first step, then, is the preparation of the ground. The sides or tops of limestone hills are generally chosen for the location, where the water runs off readily. South and south-eastern exposures are the best in this climate. Three modes of preparing the ground are usually adopted here. The first consists merely in deep ploughing, with a common plough, as for potatoes, and making the surface fine and mellow with the harrow. The second method goes one step further, and a second furrow is cut in the bottom of the first; in the bottom of the second furrow a subsoil plough is run, which breaks the ground altogether to the depth of sixteen or eighteen inches; it is then harrowed and prepared as in the first. The third method is, by thoroughly trenching with the spade to the depth of not less than two feet. If the hill side is steep, say at an elevation of twenty or thirty degrees with the horizon, terraces are also raised from two to four feet in height, and extending up the hill from twenty to sixty feet each, according to the acclivity of the surface. By this last mode, the top soil is all thrown into the bottom of the trenches, and the subsoil, which is generally clayey, thrown upon the top, and left sufficiently smooth for planting. Where stones are found in the soil, they are thrown out on the surface, as the trenching progresses, up the hill; and, if in sufficient quantity, are laid up in walls to support the terraces. The terraces are made to run horizontally along the hill-side, or nearly so, with an open ditch for a drain at the upper edge of each terrace, and a similar horizontal ditch as often as once in eighty or a hundred feet, where the ground is not terraced. These drains should lead to the lowest point in the vineyard, where a suitable drain should be constructed down the hill, to carry off the surplus water in heavy showers, and may be covered like a culvert, or left open. In each case, the vines are planted in rows, four feet apart, if to be

worked with the hoe and spade, and from five to six feet, if to be worked with the plough or cultivator, and should always run horizontally with the terraces and drains. The distance between the vines in the row varies from two and a half to four feet, according to the mode of training which is to be adopted.

Cuttings of the vine, with three or four eyes, are sometimes planted, at proper distances, in the vineyard; but the usual practice is, to plant them first in a nursery, in rows, about eighteen inches apart, and from four to six in a row, to strike root; here they are to be well cultivated, and allowed to grow one or two years, when they are taken up in the spring and planted out in the vineyard. The fourth year from the cuttings, that is, after they have had three summers' growth, two in the nursery and one in the vineyard, they may be allowed to bear a full crop, or nearly as much as they ever should be allowed to bear thereafter, which is about one-fourth of a peck of grapes to each vine. One acre of ground, planted six feet by three apart, will contain about twenty-four hundred vines, consequently will yield about one hundred and fifty bushels of well assorted grapes, which will make three hundred gallons of wine, sometimes a little more. An acre of good ground, well trenched, and planted with Catawba vines, after it has acquired six or seven years growth, may be made to yield a much greater quantity; and some small vineyards below Cincinnati, on the hills of the Ohio river, have produced at the rate of eight hundred gallons per acre, but the vines were planted four feet each way, making twenty-six hundred and forty vines to the acre; but the proprietor admitted that his vines were injured by overbearing, and that his wine was inferior in quality when allowed to produce that quantity.

I give three hundred gallons as the full average quantity of wine made to the acre in the neighbourhood of Cincinnati; of course, much variation will depend upon the manner of establishing a vineyard, and its subsequent treatment.

The comparative merits of the different modes of preparing the ground for a vineyard, cannot, as yet, be settled by experience in this part of the country, as the oldest vineyard, I believe has not been established more than twelve or thirteen years. Vineyards planted at Vevay, in Ind'a, by the Swiss, merely on deeply ploughed ground, failed in fifteen years. When the ground is ploughed eighteen inches deep, it may bear tolerably well for twenty years; but a vineyard planted on ground well trenched

two feet deep, and properly drained and cultivated, may be expected to last fifty or one hundred years, perhaps more. The crop also, is much more certain when the ground is well trenched, not being so liable to suffer from droughts or rainy seasons.

The advantages of deep trenching have become so apparent to those who have had the most experience, that nearly all who can afford it, are now preparing their ground in this manner, although done at an expense varying from eighty to one hundred and twenty-five dollars per acre, according to the character of the ground. This, with the addition of twenty-four hundred vines, at sixty dollars per thousand for one year old vines, the customary price in this market, with the cost of planting, will make the expense of one acre, exclusive of land, stakes, &c., at least three hundred dollars, or without trenching about two hundred.

S. MOSHER.

For the Farmers' Cabinet.

Industry Needed.

"The author of a series of essays at the south," says the South Western Farmer, published in Mississippi, "is sounding an alarm among the people of that region, upon the state of public feeling in that section of the country in relation to *industry*." In the course of one of his essays he says:

"My recent visit to the northern states has fully satisfied me, that the true secret of our difficulties lies in the want of energy on the part of our capitalists, and ignorance and laziness on the part of those who *ought* to labor. We need never look for thrift while we permit our immense timber forests, granite quarries and mines, to lie idle, and supply ourselves with hewn granite, pine boards, laths, and shingles, &c., furnished by the lazy dogs at the north—ah, worse than this, we see our back country farmers, many of whom are too lazy to mend a broken gate, or repair the fences, to protect their crop from the neighboring stock, actually supplied with their axe, hoe, and broom-handles, pitch-forks, rakes, &c., by the *indolent* mountaineers of New Hampshire and Massachusetts. The time was when every old woman in the country had her gourd, from which the country gardens were supplied with seeds. We now find it more convenient to permit this duty to devolve on our careful friends, the Yankees. Even our boat-oars and handspikes for rolling logs, are furnished ready made, to our hand, and what gimcrack can possibly be invented of which we are not the purchasers! These are the drains which are impoverishing the south; these are the true

sources of all our difficulties. Need I add, to further exemplify our excessive indolence, that the Charleston market is supplied with fish and wild game by northern men, who come out here as regularly as the winter comes for this purpose, from our own waters and forests, and often realize, in the course of one winter, a sufficiency to purchase a small farm in New England."

Now I have been not a little amused with the home truths expressed in this rather rough specimen of *gentle* reproof; and I have suspected it would do no hurt if they were thrown before all the readers of the Cabinet, which I know circulates south as well as in other directions. It is more than probable too, that many a one of your northern farmers might take a hint from it in relation to the close employment of his own time, and that of his boys. The great object of the farmer, it is allowed even here, should be to lay out as little money as possible, for any thing he may want. Of course an employment of all the leisure moments and rainy days in making or mending the tools will supply him, not only with hoe handles and ax heives, but also with many far more important items among the expensive implements needed in the prosecution of his business. Furthermore, the effect produced in making his boys handy and expert in the use of tools is of great importance.

I have been much pleased with the communication of Miquon in the last number; and consider that single article alone, of more worth several times over, than the subscription price of the Cabinet for a year.

L. P.

Fredericksburg, Va. 1845.

For the Farmers' Cabinet.

Destruction of Sheep by Dogs.

TO THE EDITOR.—As the manufacturing establishments of the country are rapidly increasing, and the demand for native productions appearing to keep pace therewith, it behoves the agricultural community, to do all in their power to produce the necessary raw material requisite to meet the demand. Most parts of this state are well adapted to the keeping of sheep for the growth of wool, as well as for the supply of mutton and lamb for the markets. Many farmers are desirous of keeping those useful animals, but are deterred by the fear of having their flocks destroyed by some of the great number of half starved and worthless dogs that infest their neighbourhoods. And such dogs are generally owned by persons having little or no use for them, and who allow them to range over the country regardless of the

mischief they may do: the consequence is that many valuable sheep are destroyed annually, one of which would be of more value to the country than half of the dogs in a township. I very recently witnessed the most distressing sight on a farm of a friend in Chester county, where some twenty sheep, from the beautiful imported Leicester, to the valuable native stock, were killed or mangled in the most shocking manner. It was a sight distressing to witness, and no redress could be had, as there is no tax on dogs in that neighbourhood.

It is quite time for the owners of flocks to take this affair earnestly in hand. If a tax cannot be levied on all dogs sufficient to pay for the injury done to sheep by them, or the owners of such offenders made responsible for the mischief they do, the farmers owning sheep should at once come to the determination to kill all dogs found running at large on their premises; for the question to be decided appears to be, whether the most useful and valuable animals in the country shall be destroyed by the most worthless, or otherwise. C.

Philadelphia county, May 30th, 1845.

The subject spoken of above, is seasonably introduced. We have always believed that there is in this vicinity, scarcely an article of luxury that could more legitimately be subjected to a *high tax*, than dogs. We are no friend to their extermination; for we sometimes come across individuals among them, who manifest a nobility that might put many an "unfeathered biped" to the blush. But they are in the general, useless to the community—they are even worse than useless—they prowl upon it, and it ought to be reimbursed for that prowling, by those who keep them. And certainly there should be no doubt on the subject of holding the owners of dogs responsible for particular damages committed by them, when they can be identified. It is excessively annoying, as we well know by experience, to have a fine flock of sheep, which you have perhaps been for years selecting, and raising to your mind, killed, and wounded and worried by your neighbours worthless curs. It is not merely the killed understood by sheep masters, that even those which may not be touched by the dog, are nevertheless so and the wounded that constitute the loss—it is well frightened and worried, that a flock hardly ever recovers from it.—ED.

TO DRY YOUR BOOTS.—If you wish, after tramping through snow and water all day, to have a pair of dry boots to put on the next morning—instead of leaving them by the stove to burn or half dry—hang them up near the ceiling of the room where the warm air is.

A hog upon trust, grunts till he is paid for.

Farmers' Club of Newcastle Co., Del.

THIS valuable association is still kept up, we learn with much spirit by its members; and this is now the third year of its existence. It is composed of twelve members, who meet alternately at the houses of each other, every month in the year, when they review the farm, stock and implements of each other, dine together, and after dinner generally some interesting agricultural essay is read. Conversations and discussions connected with their avocations always ensue. The latest improvements in implements, tools and machinery are examined and tested; new and rare seeds distributed; and agricultural books, journals, &c., exchanged or distributed. Thus is the run and account current of modern agriculture kept by them, and the *first Tuesday* of each month agreeably and profitably spent, by a portion of our farmers of this vicinity. Why has not their laudable example been followed by each neighbourhood or hundred of the county? The entertainments of the first Tuesday of the month are not confined to the members, for frequently distinguished strangers, and farmers from the county and State are to be seen at their board, and few meetings pass without some inventor or improver of agricultural machinery being present, and oftentimes with his invention for examination and trial. Being a guest at *Woodside*, the residence of Mr. Samuel Canby, on Tuesday last, we were forcibly struck with the practical utility and social character of this Club. In the morning the improved and improving fields of the proprietor were passed over,—his fine stock, barn, and tasteful grounds examined. After dinner the merits of "Guano" and other manures were discussed. The importance of agricultural chemistry concurred in, and the knowledge displayed evinced that Liebig and Johnston had not written in vain. A general interchange of opinions of the different growing crops ensued, from which we learned that the wheat was universally fine and promising from this vicinity as far South as the James' river bottoms. In this county it was considered that the peaches might reach a half crop, and that there was a fine prospect for apples and other minor fruits. The company then adjourned to witness the operation of a drilling machine, made by Mr. John Groundsell, of Chester, Pa, made after a pattern of one imported sometime since by Mr. Francis Sawden, a member of the Club. This drill is intended for seeding with great accuracy wheat and oats, and can also be arranged for dropping and covering corn. It is worked by one horse, weighs from 1200 to 1500 pounds, and costs, all

complete, about \$100. So important is drill husbandry being viewed by this Club, that several use it altogether, and others ordered this machine. Its advantages were stated to be, economy in the use of seed, great certainty in seeding the ground regularly; despatch in pitching the crops—one hand putting in about twenty acres a day. It has connected with it in front a manure or "management box," for applying guano, ashes, plaster, poudrrette, or woodearth, along with the seed. Such have been the improvements in the drill in England and the United States, that comparatively hilly and uneven ground can be seeded with it. The practical working of this machine elicited the praise of all present, and we would earnestly call the attention of all our farmers to it:—of what immense importance and value such a machine would be upon the large wheat and corn farms of the South, where hundreds of acres are hand-sown. Let them look to it. Already in Delaware, Maryland and Virginia, are the reaping machines of Hussey, and McCormick, well known and duly appreciated;—and by the by, at the dinner a drawing of Hussey's improved horse power reaping machine was exhibited by Major John Jones, of St. Georges hundred, much improved from his old pattern; and the Club invited to witness its operation in June among the fine wheat fields of that rich and improving hundred. The invention of another horse power reaping machine was described by one of the company as forthcoming from a Mr. Gallaher, of Jefferson co., Va., said to be very simple and efficient, and highly spoken of by those who have examined it. Thus with the use of the drill and the reaping machine,—the recent application of guano, a natural and concentrated manure; also the artificial manures, such as poudrrette, alkaline salts, &c., with the general taste and diffusion of chemical knowledge applied to agriculture, what may we not expect in the course of a few years in the way of crops, from our mother earth, and of profits to our worthy farmers. Let, therefore, these Clubs be multiplied throughout the land—the new impetus given by science and these implements to agriculture, increase its votaries everywhere, and peace and plenty must await all classes in a country so largely agricultural as ours.—*Delaware Journal*.

A PLATE or two of honey and water placed near to the bee-hive in the evening, during the active season of the bee-moth, it is said will serve as a trap to this annoying insect, and many may be thus destroyed.

For the Farmers' Cabinet.

Remarkable Discovery—Electricity and Agriculture.

TO THE EDITOR.—Her Britanic Majesty's Consul in this city, placed in my hands yesterday, a copy of the London Economist, for the 26th of last month, a quarto sheet of 23 pages, and drew my attention to the interesting article in it "on the influence of electricity on agriculture," an abstract of which I have the pleasure to send for the Farmers' Cabinet, with the hope that the experiment detailed will be repeated by some American farmer, and the result given to our countrymen through the medium of your excellent work. Science is at last made to aid the operations of the practical farmer, but in no instance has this aid been so truly scientific as in the experiment to be related. It has called to my recollection a fact communicated to me more than forty years since, by a very intelligent lady of this city, viz: the very rapid growth and flourishing state of a grape vine, which was planted in the immediate vicinity of the lightning rod attached to her house, to which circumstance she ascribed the vigour of the vine.

With best wishes, I remain very respectfully,

JAMES MEASE.

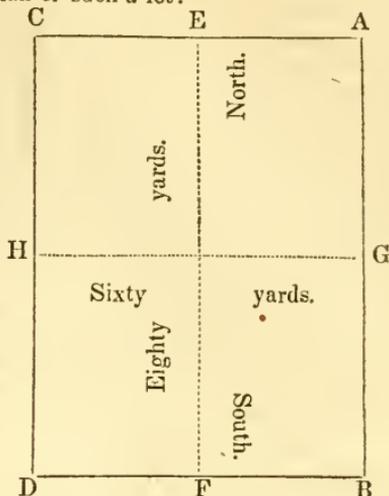
Philadelphia, May 27th, 1845.

Of all the uses to which this new and marvellous agent has been applied, none promises such remarkable results as its application to agriculture. It is a principle which has been long admitted and understood, that electricity had a considerable effect on vegetation, but it has not been till now that any practical application of that aid, has been attempted. Of late, many experiments have been made, in a manner too, which affords means of judging, not only the comparative result, but comparative cost. And we are bound to say, that they are such, that we look upon this new agent, as one likely, before long, to produce as great a revolution in agriculture, as the inventions of the steam-engine or the spinning-jenny have done in manufactures.

We have before us the result of one experiment on a considerable scale, which, we think, cannot prove otherwise than highly interesting to our readers. It took place in the north of Scotland.

A portion of a field of barley, to which the electric application was made, produced last year at the rate of *thirteen quarters and a half* to the acre, while the surrounding land, similarly treated in other respects, produced the usual quantity of five to six quarters to the acre. The following is a detail of the very simple mode in which the electric fluid

is collected and applied to influence the land. A field is divided into oblongs 80 yards long and 60 yards wide, and containing, therefore, just about one acre each. The following is a plan of such a lot:—



At each of the points A, B, C and D, pegs are driven into the ground; the external lines represent strong iron wires, extending from, and fastened to each of the four pegs, and communicating with each other, so as to form an oblong of wire, sunk three inches below the surface; at the points E and F, poles are fixed in the ground 15 feet high; a wire is connected with the cross wire beneath the surface at the point E,—carried up the pole at E, and thence to the pole at F, down which it is conducted and fixed to the cross wire beneath the surface at that point. We must here remark, that the oblong must be so formed, to run north and south, so that the wire passing from E, to F, shall be at right angles with the equator. It is well known that a considerable body of electricity is generated in the atmosphere, and constantly travelling from east to west with the motion of the earth. This electricity is attracted by the wire suspended from E to F and communicated to the wires forming the square under the surface of the ground, from the points A, B, C and D.

It has, however, been suggested to us by a very competent authority, who has at this moment a number of experiments going forward to test this extraordinary new power in a variety of ways, that any quantity of electricity could be generated that might be required, by placing under the ground, at the point G, a bag of charcoal, and plates of zinc at the point H, and connecting the two by a wire passing over two poles similar to those at E and F, and crossing the longitudinal wire passing from those points.

The cost at which this application can be made, is computed at *one pound* sterling per acre, and it is reckoned to last ten to fifteen years, the wires being carefully taken up and replaced every year.

We may mention the result of an experiment on a small scale, of the effect of electricity on vegetation. Two small parcels of mustard seed were sown—to one electricity was applied, the other was left to its usual course: the result was, that while the former grew three inches and a half, the latter grew only one inch. We shall also state, that the barley produced at the rate of thirteen quarters and a half to the acre, weighed nearly two lbs. more to the bushel than any other in the neighbourhood.

This discovery is certainly likely to present a very full compensation for the exhaustion of Ichaboe. The results of the further experiments which are going forward, are promised to be reported.

For the Farmers' Cabinet.

Lightning Rods No. 2.—See page 247

It was my intention to have continued the pictorial illustrations in my future numbers; but the heavy expense of procuring the necessary wood engravings, forbids my doing so. I exceedingly regret the circumstance, but can only avail myself of the figures already given.

An apology may also be due to my readers, for the delay of this number. I can only say, that my time has been occupied in the discharge of more imperative duties.

"Let the thunder teach us."

There are very many persons—intelligent, honest-hearted and pious, who are nevertheless strangers to electrical science, and who imagine that the phenomena of electricity, to them so mysterious and incomprehensible, differ altogether from the ordinary operations of nature; and that they are in fact, *extraordinary* agents, which Providence has reserved in His hands as the special instruments of retributive justice. Hence they dare not employ a means of protection—even if they could believe that it would avail them any thing, when opposed to the power of Omnipotence—which they conceive to be in open defiance of Him. To such as these it is bold presumption and daring impiety to erect a lightning-rod. But when the scion of *veneration* is engrafted upon the unnatural stock of *ignorance*, we may reasonably look for an equally unnatural growth of *superstition*, which can only be eradicated by a better *knowledge* of the subject. I hope that my readers will bear with me, and not call this language presumptuous. What I wish

to impress upon their minds is—that electrical phenomena, like all other natural events, are produced in accordance with established principles, and governed by certain and determinate laws. Laws too which fall within our observation, and admit of being verified by the clearest evidence and with as much ease as any of the laws of nature. Having once ascertained these laws, we can then speak with as much confidence and certainty, of the *attraction of electricity* which solicits the lightning from the cloud and directs it to the earth, as we can of the *attraction of gravitation* which draws "the stone projected, to the ground." There is no more presumption in reasoning upon the one than the other. There is no more presumption in using any available means of protection against a stroke of lightning than in clothing ourselves against the piercing blast of winter, or seeking shelter from the violence of the passing storm. There is no more presumption in raising a rod over us to avert "the thunder-bolt of Jove," than to step aside from being crushed by the falling bough, which has been torn from the parent trunk by the tempest which He has raised. Neither was it presumption when

"Led by the phosphor light with daring tread,
Immortal Franklin sought the fiery bed,
Where nursed in night, incumbent tempest shrouds
His embryo thunders in circumfluent clouds;
Besteget with iron points their airy cell,
And pierced the monsters slumbring in the shell."

No!—it was the voice of that divine intelligence which was implanted in man by the Creator himself, for wise and noble purposes, which

"Bade his bold arm invade the lowering sky,
And seize the tiptoe lightnings e'er they fly."

All the movements of the electric fluid are in obedience to the same governing laws, whether they are brought into play by the drawing of a silk stocking—by stroking the back of a cat—by working an electrical machine, or by the more grand and terrific movements of a thunder storm. They occur with the same regularity, whether elicited by the agency of an amber bead—a silk ribband, or the sable mantle of the skies, as it hurls the dread artillery of heaven upon a devoted world.

The keen perceptions of a Franklin could not fail to perceive the strong similitude between the electricity of his machine, an explosion from which had laid him sprawling on the floor,* and the lightning which

* The Doctor charged his electrical battery for the purpose of experimenting on a gobbler, when by some unlucky oversight he received the whole charge himself, which threw him senseless on the floor. A friend who chanced to enter the room, inquired what was the matter—his laconic reply was, that he had been trying to kill a turkey, but he had liked to have killed a goose.

glared in the gloom of the tempest, and rent the rugged oak with its resistless force—and the inventiveness of his genius soon devised the means to prove their identity. Though both Dalibard and Delors appeared to have preceded him in the execution of this interesting experiment, yet they only acted upon his suggestion, and with a magnanimity as creditable as it is rare, they awarded to him the full honour of the discovery.

Having satisfactorily ascertained the identity of cause producing the two sets of phenomena, and referred them to the same governing laws—and being at the same time familiar with the facts explained in No. 1, Propositions 20 and 21, *fig. 3* and 4—that the electricity of a charged body will always pass to a ball in form of an explosive spark, but that it will pass to a point in a silent and imperceptible manner even at several times the striking distance of the ball—consequently, that when both are presented as in Prop. 22, *fig. 5*, the point will discharge the electrified body, and prevent the explosion—it immediately occurred to him, that this knowledge might be applied to the purpose of protecting life and property from injury by lightning. He compared the electrified body, *fig. 5*, to the thunder cloud—the ball to the top of the building, and the point to the lightning-rod, and the parallel was complete. The two arrangements consisted of precisely the same series of parts; they were necessarily subject to the same governing laws—and therefore similar results must be produced. Thus he arrived at the highly important conclusion, that a properly constructed rod placed in connexion with a building, would silently draw off the electricity from the cloud, before it could approach near enough to do any injury.

Every one is aware that the object sought by the employment of lightning-rods, is protection—but there are still very many who do not know *how* that protection is afforded, and *what* conditions are necessary to secure it. They believe that the rod is intended to present an attractive point for the lightning to strike to, and then to conduct it silently into the earth. If this was merely an erroneous inference from correct data, it might be allowed to correct itself. The premises however are false, otherwise the reasoning would be just and the conclusion true—for if the rod did possess the power thus ascribed to it, of drawing the *stroke*, it certainly might sometimes draw it nearer to them and thus do injury, when it would otherwise have passed at a harmless distance. But from what has been shown, it appears that a pointed conductor never can draw a *stroke*—only a *silent and harmless*

stream. I do not hesitate to repeat the strong language of Observer, “*that it is absolutely impossible for the lightning to strike to a conductor which is properly constructed in all its parts.*”

1. *The material and construction of the rod.*—There is so much diversity of opinion among teachers and writers upon the subject, that the inquirer may often despairingly exclaim—“who shall decide when doctors disagree?” Thus Dr. Comstock says, “*as the electric fluid occupies the surface of bodies only*, the most perfect lightning-rods are made of copper tubes, left open so as to conduct on the inner as well as the outer surface.” J. M. C. says, “the larger the rod the greater the security, as *the conducting power is in proportion to the solid mass.*” Professor Olmstead quotes authorities to support the latter opinion, and then adds, “it is admitted that the fluid pervades only the surface—still it is maintained that the conducting power depends on the mass.”

Again—Dr. Comstock says, “*lightning-rods should not be painted*—oil being absolutely a non-conductor of electricity.” J. M. C. says, “*the rod should be well painted with several coats of black paint*, which not only protects it from moisture, but also tends to increase its conducting power.” Professor Olmstead says, “a coating of black paint, the basis of which is charcoal, is essential to the permanent efficacy of the rod.”

I will not go into the inquiry whether the electricity in its passage pervades the surface or the substance of the rod, because it is unnecessary to do so. It has been shown, Props. 17 and 32, *figs. 2* and 15, that the fluid is attracted with a force proportioned to the quantity of matter contained in the charged body. The solid rod containing more matter than the tube, it will exert a stronger attractive force, and will consequently hold a larger quantity of the fluid within the sphere of its attraction. Hence it is practically true that the conducting power is in proportion to the mass of the rod. From Prop. 31, *fig. 14*, it would also appear, that the tube recommended by Dr. Comstock, could not conduct on the inner surface, for the simple reason, that the strong mutual repulsion of the electrical particles would not allow them to enter. A solid rod of sufficient size is therefore to be preferred.

The question of paint may soon be disposed of. As the *point* of the rod only derives the electricity from the cloud, its *attracting power* cannot be affected by either a coating of paint or rust upon the surface below. And so long as it remains to be the case that the electric fluid will freely pass

along a rod, however closely it may be invested by glass, resin, wax, sulphur, or other nonconducting substance, we need not fear any material diminution of its *conducting power* from either rust or paint.

Experiments seem to show, that copper is a better conductor of the electric fluid than iron, and is therefore preferred for conductors, but the high price of that metal is a valid objection to its general employment, so long as a cheaper material is found fully to answer the purpose.

In view, therefore, of all that appears to have been ascertained in relation to this subject, I would recommend common *five-eighths* or *three-fourths* round iron, without paint or any other extraneous covering, as being entirely sufficient for the purpose—and believe that it never has failed to afford the desired protection, when the *other conditions* necessary to a *perfect conductor* have been attended to.

Where it can be conveniently done the bars should all be welded into one; but as this can seldom happen in long rods, great attention should be given to make neat joints. The *top of the lower bar* should be drawn into a conical point three inches long or more, and a corresponding socket formed on the *lower end of the upper bar* to sit close upon it. When the joint is accurately made in this manner, the fluid can readily pass from one bar to the other—water cannot enter the joint, and where the attachments of the rod are properly made, so as to allow it to slide in the fastenings, the weight of the upper portion will keep the surfaces in complete contact.

2. *The foot of the rod.*—As the rod is more exposed to corrosion from moisture near to and beneath the surface of the earth, it is proper to make the lower part of larger iron. It should be so bent at the surface as to pass off from the foundation of the building at an angle of about 45 degrees. And it is a good precaution to place a few pieces of old stove or plough castings, or other old iron in contact with the bottom of the rod, and then partially to fill the hole with charcoal or blacksmith's cinders. These substances being more retentive of moisture, and better conductors of electricity than mere earth, especially when dry, will form a more perfect connexion between the rod and the ground. But whatever precautions of this sort may be adopted, it is always absolutely essential to the successful operation of the rod, that its foot shall communicate with moist earth. Unless it penetrates deep enough to do this, it will afford only a precarious protection. And it is necessary that it should do this in all situations and seasons

however dry, for it is in these that the greatest danger is incurred. From six to ten feet may be a sufficient depth in ordinary situations, but in very dry banks where barns are frequently located, this depth will be insufficient. In all such cases I would advise the rod—or a branch communicating with it—to be carried into a well or spring of water, wherever it can be done. I do not hesitate to affirm, that a very large proportion of the accidents which have occurred where conductors were in use, have been occasioned by a defective communication between the rod and the earth. Owing to this defect, the rod is often placed in the same condition as the wire *e*, fig. 8, Prop. 25. It cannot discharge the electricity from the cloud—an explosion takes place to the point as the nearest object, and then passing down the rod its progress is arrested at the foot, by the want of a better communication with the earth, and it is forced to pass by a *lateral explosion* to the nearest and best conducting part of the building. This is a very frequent occurrence, and is fully explained by the beautiful experiment just referred to. While such accidents ought to teach us the necessity of due attention to every particular in the construction of conductors, they should also inspire us with full confidence in their efficacy when properly constructed. I would refer the reader to the *Farmers' Cabinet*, vol. 5, p. 199, for some *appropo* remarks upon the subject by Observer.

3. *Support and attachments of the rod.*—It is usual to attach conductors to the end of the buildings by means of iron eyes or blocks of wood with bottle necks, or pieces of horn inserted in them. The attachments are of little consequence so long as the rod performs its legitimate duty of silently discharging the electricity; but they may become of much greater importance, if from any cause an explosion should take place. In case of a *stroke*, the attachments ought to be of a nonconducting material, so as to prevent the fluid from passing into the building. A greater degree of security may however be obtained by attaching the conductor to a pole instead of the building, and supporting it with stays from the barn. It may be remarked in this connexion, that in many situations the back of the barn at one side of the door affords more moisture and a more eligible site for the rod.

FRANKLIN.

Sixth month 1st, 1845.

ROSES that bloom the whole season may be propagated by budding, grafting or layering—the latter is preferable, and makes very permanent plants.

Annual production of Iron in the World.

Statistical tables published in Prussia and in the United States, give the following as the annual product of iron in the world:

Great Britain, 1,481,600 tons; United States, 443,100 tons; France, 338,150; Russian and Ural Provinces, 119,000; Belgium, 145,867; Germany—Customs Union, 127,538; Sweden, 72,772; Austrian Monarchy, 59,100; Spain, 12,500; Sardinia, 12,250; Poland, 9,200; Germany, not in Customs Union, 7,175; Tuscany, Norway, 5,371; Saxembourg, 3,000; Parma, 1,400; Modena and Naples, 750; Switzerland, 700; Portugal, 420. Total number of tons, 2,839,893.

Great Britain produces about half of the iron in the civilized world; the United States stands next to Great Britain, and France next. The United States produce about half as much as is produced on the continent of Europe. About two-thirds of all the iron trade in the United States is smelted from the ore in Pennsylvania.—*Ledger.*

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, SIXTH MONTH, 1845.

We would invite particular attention to the Report of James Gowen, which is found on page 338. Every farmer who is at all ambitious in his calling, will, we think, pore over its details with more than common interest. Notwithstanding what may be said about the all importance of the *practical* part of agriculture, there is nevertheless abundance that is necessarily *theoretical* in the operations of the successful and experimenting farmer. Indeed if we would point to the good farmer and the thrifty one, we must point to a man who accommodates his practice to a sound *theory*, based upon the circumstances which have a bearing upon his pursuit, in his particular situation. It does not require that we should say,—because every one knows it of himself—that the man of slender means must farm differently in some respects, from him whose resources are ample: there is however, the more imperative necessity for him to exercise his judgment—to *theorise* and *calculate*, and thus make all his operations tend to the replenishment and lengthening of his purse. Although we may not be prepared to advise the man who supports his family solely from the land for which he has perhaps not yet paid, to farm just as James Gowen farms, yet neither are we prepared to advise him to farm differently. The great point is to lay your plans with reference to your means, your soil, your location and your market, with such calculating discretion and forethought, as shall insure the greatest

profit. We insist upon a continual exercise of the judgment, and upon an abandonment of the plan of following a certain routine, because it happens to have been followed on the land from time immemorial. Read—think—contrive.

THE following premiums will be awarded by the Pennsylvania Horticultural Society, at an intermediate meeting on the 1st of next month.

For the best Flake Carnations, four named varieties to be exhibited, \$2.

For the best Bizarre Carnations, four named varieties to be exhibited, \$2.

For the best Picotee Carnations, four named varieties to be exhibited, \$2.

For the best American Seedling Carnation, four named varieties to be exhibited, \$2.

For the best Cauliflowers grown in the open ground, without protection, four heads, \$3.

For the next best Cauliflowers grown in the open ground, without protection, four heads, \$2.

At the stated meeting on the 15th of next month:

For the best Raspberries, two quarts, \$2.

For the next best do. do. \$1.

For the best Red Currants, do. \$2.

For the best White Currants, do. \$2.

For the best Black Currants, do. \$2.

For the best named Gooseberries, in a ripe state, one quart, \$2.

For the best named Apricots, two dozens, \$2.

For the next best named Apricots, two dozens, \$2.

For the best named early Apples, half a peck, \$2.

THE late dry weather has hastened the mowing season, as well as shortened very considerably the crop of grass. There is room for the exercise of a good deal of judgment in the curing of hay, as well as in choosing the time for cutting it. The scythe should be put into *clover* while it is generally—say, three-fourths of it—in blossom. It is however esteemed preferable to leave *timothy* till a later period—till it is pretty well in the seed. It is perhaps hardly enough remembered that a redundancy of sunshine in making hay, should be avoided. Clover will cure nicely in cock, if put up when clear of moisture. The waste will be much less than if dried altogether in the sun. Farmers differ in opinion about salting hay—some think it best to salt it when put in the mow, while others prefer to cure it properly, and give the salt to the stock by itself, and as it may be required. If, however, from any circumstance it should be necessary to put the hay in the mow rather green, then four or six quarts of salt to the ton will be highly useful.

There is no doubt that grain is often left to stand too long. The risk from storms, &c., is thus prolonged—more is lost in the shattering—it does not handle so well: and it is moreover very generally conceded, that more and better flour is yielded, if the wheat or rye is cut before the berry is fairly hard.

WITH the thermometer at 96 degrees in the shade, this 9th of Sixth month, at 3 o'clock, P. M., and very dry weather, it is feared the wheat and rye will suffer in the filling.

In walking one day last week, over the farm of Samuel S. Richie, which lies some eight miles from this city, and a mile east of the Germantown road, we were highly gratified with its general appearance, and with the proofs over every part of it, of the close attention and good management of the owner. His lot of wheat—five acres—was really splendid, and the best we have seen this spring, unless it may be rivalled by William R. Tatum's field of fifteen acres, at Woodbury, N. J. The lot had wheat in it last season, and produced a miserable crop. All parts of it were manured last fall, either with Poudrette, Guano, Charcoal from the sugar refiners, refuse from the Glue factory, or with Salt. These applications are now on their respective portions, doing credit to themselves to the evident satisfaction of the farmer. He mentioned a little anecdote, which shows at any rate, that there is virtue in Guano. While he was applying some this spring on another part of his farm, one of his neighbours came along and ridiculed the idea of looking for a compensating return for such an expenditure. After he left him, he took a very small quantity—say half a pint—into the middle of his neighbour's oat field, which was near by, and strewed it around, so as to make on the ground in large size, the initials, S S R, of his own name. The editor accompanied him to the spot, and there were the letters in bold relief, shown by the rank growth and dark colour of the oats, as plainly, and as distinctly as they appear on this page.

Several acres of low land, thoroughly drained with stone, and reclaimed from a worthless bog, really afford a beautiful specimen of what labour properly applied can effect in transforming nature's wildness into the garden's productiveness. This lot will, we think, be a continual source of gratification to the owner, as well as one of the most profitable divisions of his farm.

The cows are partially soiled. We noticed in each of their mangers a lump of rock salt, to which of course they always have access when in the stable. The milk is taken to Germantown twice a day.

The foul state of the fields generally, in the neighbourhood, from being sadly overrun with the daisy now in full blossom, is not a little offensive to the eye of a stranger unaccustomed to such negligence. It is due to our friend to state that his farm is an exception in this particular. He wages war without quarter, to the daisy, the dock, and their associate pests.

We regretted to see the grass and the oats in the neighbourhood suffering so badly from the continued drought: and some rust was observed on the rye.

We learn from the *American Farmer*, that GREELY & McELBATH, of New York, have made arrangements with our highly valued friend, J. S. SKINNER, late Assistant Post Master General, and for the last twenty years well known as an assiduous labourer in the cause of agricultural improvement, to edit for them a MONTHLY JOURNAL OF AGRICULTURE, which they confidently anticipate will not be inferior to any Agricultural work now published. The price will be five dollars a year, payable in advance. Each number will consist of two distinct parts.

I. The *Farmers' Library*, in which will be published

continuously the best *standard works* on Agriculture, embracing those which, by their cost, or the language in which they are written, would otherwise seem beyond the reach of a large proportion of American farmers.

II. The *Monthly Journal of Agriculture*;—this will comprise, 1. *Foreign*: selections from the higher class of British, French, and German periodicals, devoted to Agriculture, with extracts from new books, which may not be published in the *Library, &c., &c.* 2. *American*: Editorials,—communicated and selected accounts of experiments—improved processes—discoveries in Agriculture, new implements, &c., &c. The two parts will contain about fifty pages each per month, and the work will be liberally illustrated by engravings.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
SKINNER'S Every Man his own Farrier,	50
AMERICAN Poulterer's Companion,	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
BEVAN on the HONEY BEE,	31½
BUIST'S ROSE MANUAL,	75
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
“ ANIMAL CHEMISTRY,	25
“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

☞ We are prepared to bind books to order.

OUR friend SAMUEL SANDS, of the *American Farmer*, which has been long published at Baltimore, is about to change it from a weekly quarto, at \$2 50 a year, to a monthly octavo of 32 pages, at \$1. He promises to furnish one of the best agricultural journals of the day: and as we entirely believe him to be “a man of his word,” we wish him all success. We have no doubt the change will be a judicious one.

GOOD sized round potatoes from the South were in our markets on the 31st ult.—price from 8 to 12½ cents per lb.

THE quantity of rain which fell during the Fifth month, 1845, was a little more than one inch and a half. 1.6 inches.

Penn. Hospital, 6th mo. 2nd.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrows; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable and Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by
D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. It is now seasonable for turnips, &c.
JOSIAH TATUM.

JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY.
This work is published quarterly under the direction of the *Philadelphia Society for the Alleviation of the miseries of public Prisons*. It is an octavo of 96 pages, and the subscription price \$2 per annum. The object of the work may be readily gathered from the title, and from the high character of the Society who have charge of it. It is published from the office of the Farmers' Cabinet, where subscriptions and payments will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published. The second number is now published, containing a fine likeness of Elizabeth Fry.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public; that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.
AARON CLEMENT.

March 15th, 1845.

Chester County Farm for Sale.

THE subscriber offers for sale the valuable farm on which he has resided for a number of years past, situated on the Brandywine, two and a half miles from the borough of Westchester, and about twenty-five miles from Philadelphia. It comprises 136 acres of naturally fertile and highly improved land, and equal to any of that which has made this vicinity so celebrated as a grazing district. It has been well limed, fenced and drained, and every field contains a spring or run of water for the stock. The buildings are large, with every convenience attached. The mansion is of modern finish, five rooms on the first floor, with entry running through the middle. The spring water is introduced by iron pipes into the kitchen and bath room in the second story, and also flows into the barn-yard. The grounds around are handsomely laid out with fruit and shade trees and shrubbery. There is an orchard in prime bearing, and a young one of Apple, Pear and Peach trees, is just coming into productiveness. The barn is double floored, with straw house, granaries, wagon house, and shedding attached.

This property presents the advantages seldom met with, of combining a beautiful country seat with that of a highly fertile and productive farm. Application to be made to the subscriber, residing thereon, or to Anthony P. Morris, No. 23 Filbert street, Philadelphia.

PASCHALL MORRIS.

Allerton Farm, near West Chester, Chester co., Pa.,
Sixth month 14th, 1845. 3t.

COLMAN'S AGRICULTURAL TOUR IN EUROPE.

WE announced a month ago, the appearance of the third number of this highly interesting work. It will be published in ten numbers, at \$5, or fifty cents a number, and may be procured at this office. We give the contents of the last No., which will show the nature of the subjects treated of, viz:

Agricultural Education.—Glasnevin Agricultural School.—Templemoyle Agricultural School.—Brookfield Agricultural School.—Larne School.—School at Ealing.—Agricultural College at Cirencester.—General views of Agricultural Education.—Influence of Knowledge upon Agricultural Improvement.—Sciences to be taught.—Chemical Science.—Analysis of Soils.—Natural Science.—Model Farm.—Experimental Farm.—Economic Arrangements at the Agricultural College.—Plan of an Agricultural Institution for the United States.—Elevation of Agriculture as a Pursuit and a Profession.—Rural Manners in England.—A Pencil Sketch.—Life in the Country.—Veterinary College.—Museum of Economic Geology.—Chemical Agricultural Association in Scotland.—Chemical Agricultural Lectures.—Employment of Agriculturists.—Guano.

SHORT ADVERTISEMENTS.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

EXTENSIVE SALE OF

Improved Short-horned Cattle.

HAVING become over-stocked, I find myself under the necessity, for the first time, of publicly offering my cattle for sale; and that the opportunity to purchase fine animals may be made the more inviting, I propose to put in my ENTIRE HERD—such a herd of Improved Short-horns as has never before, perhaps, been offered by any individual in this country. The sale will embrace about fifty animals, Bulls, Cows and Heifers; all, either imported, or the immediate descendants of those which were so, and of perfect pedigree. Those imported, were from several of the best stocks in England, selected either by myself or my friends.

It is sometimes the practice at sales of this kind, where the interest involved is considerable, for the proprietor to protect himself by bye bidders, or some other kind of management, or for the owner to stop the sale if offers do not come up to his expectations or the requirements of his interest. Such practices have a tendency to lessen the interest in public sales of this character, especially with those who cannot attend without considerable personal inconvenience. But in this case, assurances are given that no disappointment shall arise to the company from either of the causes mentioned, and a good degree of confidence is felt that there will be no dissatisfaction from the character of the cattle themselves. They shall all be submitted to the company, and sold at such prices as they choose to give, without any covert machinery, effort, or understanding with any persons; reserving to myself only the privilege of bidding openly on three or four animals, which shall first be designated. This reservation is made that I may not get entirely out of the stock of some particular families which I highly esteem, and that could not probably be replaced.

A full catalogue will be prepared and inserted in the May number of the Cultivator.

The sale will take place at Mount Hope, one mile south of the city of Albany, on Wednesday, the 25th day of June next, at 10 o'clock, A. M.

E. P. PRENTICE.

Mount Hope, near Albany, March 15th, 1845.

☞ Gentlemen from a distance, who wish to obtain stock at the above mentioned sale, and may find it in-

convenient to attend in person, are informed that the subscriber will make purchases for those by whom he may be authorized. They can state the sum at which bids should be limited, and if convenient, designate the animals they would prefer; or give such general instructions as they may deem proper, under the assurance that they will be strictly adhered to.

SANFORD HOWARD,
Cultivator Office, Albany, March 15th, 1845.

Seed Store,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red clover, and other grass seeds. Field seeds, consisting of Spring and Winter Wheats, Potatoe-Oats, Barley, and choice varieties of Seed-corn. Also in season, Fruit and Shade Trees, Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL,
tf.

Philad., March 15th.

CONTENTS OF THIS NUMBER.

Colman's Agricultural Tour.	PAGE 329
Elevation of Agriculture as a pursuit, &c.	330
Study of Botany by females.	331
A Dream—yet not a Dream.	332
The Soiling System.	335
Minutes of Philadelphia Agricultural Society.— Report of Committee on Farms to do.	336
Premiums on Farms, offered by do.	337
James Gowen's Report of his Farm.	338
Art of Mowing easily.—Preservation of Peach Trees.	341
Culture of Tobacco in Connecticut.	342
Early Rising.	343
Seedling Grapes.—Premium on Diseases of Cattle.	344
Russian Economical Society.	345
Disease of the Potatoe.—Bees.	346
Horticulture.—Butter.—Rhubarb Plant.	347
Economy.	348
Culture of the Grape.	349
Industry needed.	350
Destruction of Sheep by Dogs.	351
Farmers' Club, New Castle Co., Del.	352
Electricity in aid of Agriculture.	353
Lightning Rods, No. 2.	354
Editorial Notices.	357

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

TERMS.—One dollar per annum, or five dollars for seven copies—payable in advance.

All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

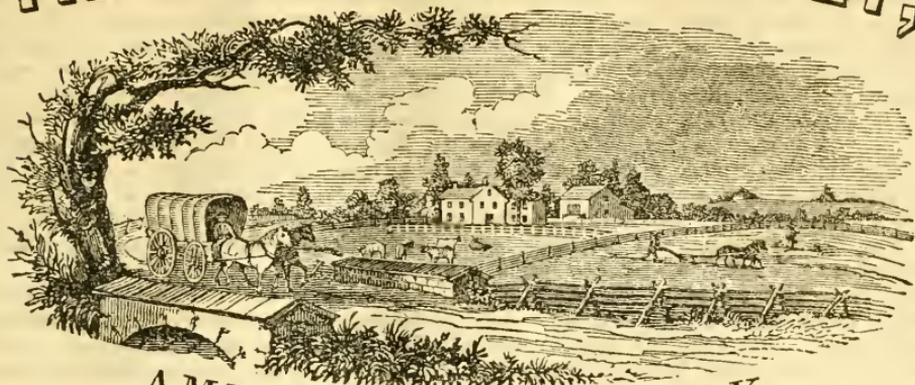
For six dollars paid in advance, a complete set of the work will be furnished in numbers, including the ninth

volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly half-bound and lettered. Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Bakestraw, Printer.

THE FARMERS' CABINET, AND



AMERICAN HERD-BOOK.

DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

Vol. IX.—No. 12.]

7th mo. (July) 15th, 1845.

(Whole No. 126.)

PUBLISHED MONTHLY,

BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

The Potatoe Rot.

MR. EDITOR,—Any information on the subject of the rot in the potatoe, that even approximates to the truth, is much needed at present. I hope you will not consider a column of your paper unworthily filled which contains a communication devoted to that object.

I stated in your May number, that the rot in the potatoe was caused by a deficiency of alkaline substances. It is found by burning the tops of the potatoe, that 10,000 parts yield 1,500 parts of ashes, while oak wood in equal quantity, yields only 250 parts. This will serve to show the great quantity of alkali contained in potatoes over other vegetable matter.

The cellular tissue of all vegetables is composed partly of alkalies. They exist therein in a variety of forms: sometimes as carbonate of lime, at others as silicate of pot-

ash, at others in the form of phosphate of lime, &c., &c.

It is plain that if a plant has not sufficient alkali for the formation of the cellular tissue, its growth will be impeded, or the cellular substance will be so weak and thin, as not to be able to perform its function of holding the starch and other matter contained in the potatoe. When the plant has not enough alkali therefore, we may look for the cellular tissue to be broken and otherwise injured. This is actually the case with the potatoe that is affected with the rot. Mr. Teschemacher, a scientific gentleman of Boston, who has examined the rotten potatoe with a microscope, says: "The cells appeared lacerated." This is what we would expect, especially when the substance contained in the cells is swollen by wet, or heat, and the tissue is thin. In another place he says: "Indeed, it appears to me that the injury takes place by the rupturing of the cellular parts of the potatoe."

When the cells are ruptured the health of the potatoe is destroyed, and death and decay follow in the parts so ruptured. The decayed matter gives food to fungi and insects, and thus gives rise to the theory that the disease is caused by the fungi or insects, instead of the want of alkali.

Again, when there is sufficient alkali to neutralize an acid, the acid is not to be found as such. It has entered into a chemical combination with the alkali, and assists in forming a salt. There is carbonic acid

in a rotten potatoe, which is evidence that there is not alkali enough to operate upon it. If an alkali is placed upon some of the rotten potatoe, it instantly changes. Mr. Teschemacher says in his letter to the *New England Farmer*, dated Boston, October, 1844,* while speaking about his experiments, "A portion of the dark substance was placed upon a piece of glass on the microscope stand, in a drop of distilled water, and then thoroughly examined. A little salt on the fine point of a penknife, was then added. A nearly instantaneous change took place. The dark coloured masses separated; much of them seemed to pass away; and instead, there appeared numerous dark slate coloured globular bodies, which I easily recognized as the spores or reproducing bodies of the fungus. With the grey, slimy substance, the effect was still more striking. All the indistinct slime disappeared; the mass became clear and transparent, and left nothing but these innumerable dark globules floating about in the drop of water."

Salt is well known to be a muriate of soda. It appears evident from Mr. Teschemacher's experiment, that the soda of the salt left the muriatic acid and entered into combination with the carbonic acid of the rotten mass, forming a carbonate of soda, and setting the muriatic acid free.

This carbonic acid is highly infectious, and hence the reason that a potatoe slightly rotten soon becomes wholly so, and infects those with which it is in contact. Any alkali will neutralize it, forming with it a carbonate. Consequently any alkali will cure the rot in the potatoe. This it will effect in two ways. First, by strengthening the cellular tissue—thus preventing the rupturing and consequent disorganization of the potatoe, which would result in death and decay; and secondly, by neutralizing the carbonic acid, and thus destroying its infectious principle.

But let us leave off philosophizing, and turn to *facts*—a mode of operating adopted by persons who are too lazy to reason, or who cannot or will not. I will take some extracts from numerous articles on the subject contained in the Report of the Commissioner of Patents. I could take more, but perhaps these will be sufficient, and more would only fill up your paper to no purpose. The first instance I shall notice is one that came under the direct notice of the Commissioner of Patents, and is thus related: "Mr. James Camack planted with potatoe cuttings three separate pieces of land—two

of which were sand and gravelly loam—all on the 20th of June, 1844. Those on the first piece were rolled in plaster of Paris or gypsum, and sprinkled in the hill with the same before being covered; another piece was prepared with compost and stable manure; and a third covered with horse dung. In this experiment the first alone escaped the disease and gave an excellent crop; the second was not quite so bad as the last, but both were comparatively useless. The soil for the first two pieces was exactly alike—in one field."

In the same article I find the following: "An instance is related where on planting, a table-spoonful of lime was placed in each hill; and after the potatoes were up, there was applied about a gill of a mixture—of lime two bushels, plaster three, and ashes eight. In this case there was not one rotten potatoe in the fall, while in the fields of his neighbours they were much diseased."

Mr. S. F. Perley, a correspondent of the *Massachusetts Ploughman*, under date of October, 1844, says among other things, "The rot has prevailed most in ground most highly dressed with barn manure, especially if placed in the hill. When potatoes were planted without any manure, they have rotted very little. Two pieces on similar ground—rather wet—were manured, the one from the barn, the other with hair, lime, fleshings, &c., from the tannery, both applied in the hill: the first rotted badly, the other very little. Two pieces, the first dressed broadcast and in the hill, from the barn; the other broadcast, with a compost of barn manure and swamp muck—muck and ashes and clear manure, both dry—the first was planted early, the latter late; the first rotted in the field, and being dug in the hot weeks of September, rotted after being put into the cellar; while the latter, dug at odd jobs from the middle of September to the middle of October, suffered very little. This piece had plaster put on at the time of planting and after the potatoes were up."

Mr. Netteville, a correspondent of the *Boston Cultivator*, writing from Palatine Bridge, Montgomery county, New York, gives the information before mentioned, of the advantage to be derived from a mixture of ashes, lime and plaster.

At a meeting of the *New York Farmers' Club*, Mr. Butler says, "I found that both potatoes and corn grow soft and unhealthy when manured with the ordinary barn-yard manure, but that they grow uniformly dry and mealy, with lime-prepared manure."

At the same meeting Dr. Gardener stated that "Many diseased potatoes have been

* See current vol. of *Farmers' Cabinet*, p. 179.

brought from Germany for seed, to the United States. Mr. Anderson has tried lime broadcast; his crop is good."

In a communication addressed to the Farmers' Club, just mentioned, Mr. Butler says, "We are informed by Mr. Blakesley, that lime in the hill has been tried upon old land, and the crop proved to be much rotted. In this instance,—as I have been personally informed by Mr. B., the lime was put immediately upon the seed potatoe. In the presence of caustic lime, plants will to a certain degree, be deprived of one of their main constituents—oxygen. Had perfectly mild lime been used, the result would have been far different. By the president we are informed that lime, together with manure, had been spread upon a garden the previous year; the garden was then tilled, and this last season planted with potatoes. The crop proved good."

Mr. Walton, of St. Andrews, N. B., says, "I notice complaints made about the rot in potatoes. I was troubled with it for many years, and having found a remedy, give it for the benefit of others. The rot in potatoes in this section, commenced about ten years ago. One-third of a crop was frequently lost by it; and often in the spring, hundreds of bushels have been thrown from the cellars quite useless. For some years past I have used slaked lime, which I sprinkle upon the potatoes as soon as they are cut for seed, and shovel them over in it, and plant them immediately. Since I have adopted this plan, I have not lost a potatoe, either in the ground or after they were put in the cellar, and such of my neighbours as follow my example are alike fortunate, and in no way troubled with the rot."

In a report of a discussion in Glasgow, Scotland, where the rot in the potatoe prevails as extensively as it does in this country, the following paragraph occurs: "Mr. Anderson, from the north of Ireland, as appears from his statement, has been most successful in his efforts to avoid failures; and the means he adopted, viz; liming the ground, planting only in drained land, pulverizing the soil well, and not leaving either the manure or seed exposed to the effects of the sun and wind—are based on said practical knowledge."

In a communication from Ulster county, New York, dated December 18th, 1844, by R. L. Pell, and addressed to the Hon. H. L. Ellsworth, Commissioner of Patents, I find the following account of experiments: "In the year 1843, I planted a field of several acres in drills, harrowed the ground level, and top-dressed it with 200 bushels of oyster

shell lime and charcoal dust to the acre. The yield was 432 bushels per acre. At the same time the potatoes throughout the country were more or less decayed; likewise a parcel of the same seed planted contiguous to the above, not limed, were also decayed.

"This year, 1844, I planted the same seed in the following manner: the ground was thrown into drills, and manured heavily with barn-yard manure. The potatoes were cut into single eyes, fourteen days before required for planting, and covered with plaster. Limed a few for the sake of experiments specified. They were sprinkled with small white and almost imperceptible insects, and were consequently rejected. Those limed were free. I planted them in the drills on the manure, nine inches apart, tops, centres and ends separately, to mark the difference in growth, which was not very great.

"The first three drills—300 feet in length—were covered with dry charcoal dust; the second with oyster-shell lime; the third with bone-dust; the fourth with poudrette; the fifth with unleached ashes; the sixth with new mown grass and plaster; the seventh with fine salt; the eighth with silicate of potash, the ninth with guano. And so on throughout the field, each alternate three drills with a different substance, except six drills, in which the same seed was planted without any other composition, than the barn-yard manure; and adjoining them, six drills planted with superior French potatoes, received three weeks before directly from Havre.

"*Cultivation.*—When they were four inches above ground, the earth was ploughed from them. After an interval of six days, it was ploughed to them again; the field being in perfect order, required no other attention during the season. On the 3rd of October they were ploughed out, and proved to be perfectly sound, with the exception of the twelve drills of pink-eyed kidneys and French potatoes, without composition, which were entirely rotten. Six hundred bushels were pitted immediately, and not examined before the 5th of December, when they were found to be perfectly sound."

It is well known that poudrette, bone-dust, silicate of potash and guano, contain one or more of the alkalies. I am disposed to think, Mr. Editor, that the above extracts prove conclusively the theory, that the rot in the potatoe is caused by a want of the alkalies. At any rate, I should strongly recommend their use. They can do no harm,

unless abundantly used, and they may do an immense amount of good.

Yours, &c., CHEMICO.

Honesdale, Pa., June 6th, 1845.

The foregoing we consider a valuable communication. Partly in corroboration of some of the views expressed, the editor recollects that in the use of lime on his farm, there was no crop, unless perhaps it was the oat crop, on which that material had so uniformly a beneficial effect, as that of potatoes. The hints may be easily made use of, and at little expense.—ED.

The Hessian Fly.

Observations communicated at the request of the Hon. H. L. Ellsworth, by E. C. Herrick, Librarian of Yale College, Connecticut.

THE insect commonly called the *Hessian fly*, which has for so many years ravaged the wheat fields of our country, appears to have been wholly unknown here before the American revolution. It is usually stated that the insect was first noticed in the year 1776 or 1779, on Staten Island and the westerly end of Long Island, and was generally supposed to have been introduced among straw brought hither by the Hessian troops in the service of Great Britain. The ravages of the insect soon attracted general attention; and as early as the year 1788, serious apprehensions were excited in England that the destroyer might be conveyed thither in some cargo of wheat. The alarm there was so great, that the government took up the matter; "the privy council sat day after day, anxiously debating what measures should be adopted to ward off the danger of a calamity more to be dreaded, as they well knew, than the plague or pestilence; expresses were sent off in all directions to the officers of the customs at the outports, respecting the examination of cargoes; despatches written to the ambassadors in France, Austria, Prussia, and America, to gain that information, of the want of which they were now so sensible; and so important was the business deemed, that the minutes of the council, and the documents collated from it, fill upwards of 200 octavo pages." Kirby and Spence. On the 25th of June of that year, an order in council was issued, prohibiting the entrance into Great Britain, of wheat raised in any of the territories of the United States; intending, by this measure, to keep out the much dreaded enemy. Soon after the arrival of the news of this order, the supreme executive council of Pennsylvania addressed a letter of inquiry to the "Philadelphia Society for promoting Agriculture," which promptly replied that the

plan of the wheat alone was injured, and that the insect was not propagated by sowing the grain which grew on fields infected with it. The prohibition was doubtless based on the erroneous representation of Sir Joseph Banks and Dr. Blagden, which they continued to enforce even after they were better instructed by Dr. Currie. It is sufficiently remarkable, that, although the wheat was prohibited an "entry," it was allowed to be stored; so that the Hessian fly, if concealed among the grain, would, after all, have had a good opportunity to escape into the country. In eight or ten months, the government bought the imprisoned wheat at prime cost, kiln-dried it, and resold it at great loss, and almost immediately took off the prohibition. *Memoir of Currie.*

In the course of a few years after this, the Hessian fly was found in every part of our country where wheat was cultivated. From the period of the revolution down to the present time, no insect in the land has received so much public attention, or has called out so many scores of pages of observation and speculation. These are to be found scattered through magazines, agricultural journals, and common newspapers. But, in defiance of them all, the Hessian fly continues its destructive work, and is probably, as little under the actual control of man as it was half a century ago.

Whether this insect was an original inhabitant of this country, or was imported by the Hessian soldiers, is a question not yet settled. At the time of the discussion which led to the prohibitory order, an extensive inquiry in Europe resulted in the conclusion that the insect was wholly unknown there. Yet, in the year 1834, it was found existing in several places in Southern Europe; and injuring the wheat in the same manner as in this country. This important discovery was made by my friend, Mr. James D. Dana, who had previously been engaged with me in the examination of the Hessian fly, and was well qualified to decide upon the case. *American Journal of Sciences*, xli, 153. Moreover, we have an account from the vicinity of Geneva, in Switzerland, reported by Duhamel, of an insect destroying the wheat there as long since as 1732, in the manner of the Hessian fly; and an account, in 1823, by Raddi, of what is probably the same insect, in various places in Italy. No traces have been detected of any insect of the habits of the Hessian fly, in our country, earlier than the year 1776; and if this insect is a native of North America, what plant sustained it before wheat, rye, and barley were imported? On the other hand, we have no proof that the Hessian fly has

ever been found in Germany; and it is certain that, if the wheat were reaped in the ordinary manner, nearly all the available insects would be left in the stubble; and, further, the straw alleged to have been brought by the Hessians, must have been that which ripened in the summer of 1775, and from which most of the insects which it contained would have escaped before August, 1776. On a question of such uncertainty, no one need quarrel with another's opinion.

The first scientific description of the Hessian fly was published in the Journal of the Academy of Natural Sciences of Philadelphia, for July, 1817, No. 3. i. 45, by the late distinguished entomologist, Thomas Say. He there gives it the systematic name of the *cecidomyia destructor*; and to his description adds a few remarks relative to its habits, and furnishes, also, an account of another insect, by which the fly is often destroyed. Without going into a minute and tedious technical description, the following account is offered as probably sufficient to enable an observer to identify the insect in its various transformations: the Hessian fly is a two-winged insect, with head, eyes, and thorax black; the head is small and depressed; the palpi, or mouth feelers, are three or four jointed—the basal one being the smallest; the antennæ are about half as long as the body, and consist each of 14 to 17 oval joints, besides the basal joint, which appears double; the wings are large, hairy, rounded at the tip, and have each two or three longitudinal nervures; the abdomen is of a tawny red, and furnished, irregularly, with many black hairs; consists of seven rings or segments, besides the ovipositor, which is of two sides, and of a rose-red colour; the ovipositor, when extended to the utmost, is about one-third as long as the abdomen; length of the body, from the front of the head to the end of the abdomen, about one-eighth of an inch; the legs are long and slender, pale red, and covered sparsely with dark hair. The male is equal in size to the female, but generally less black, with antennæ somewhat longer, and about three-fourths the length of the body. The joints of the antennæ are globular, and slightly separated from each other. Several other species of the genus *cecidomyia*, or one closely allied to it, are common in this region. But the Hessian fly is the largest and darkest of our species with which I am acquainted.

The eggs are laid in the long creases or furrows of the upper surface of the leaves,—i. e., the blade or strap-shaped part—of the young wheat plant.

While depositing her eggs, the insect stands with her head towards the point or extremity of the leaf, and at various distances between the point and where the leaf joins and surrounds the stalk. The number found on a single leaf varies from a single egg up to thirty, or even more. The egg is about a fiftieth of an inch long, cylindrical, rounded at the ends, glossy and translucent, of a pale red colour, becoming in a few hours, irregularly spotted with deeper red. Between its exclusion and its hatching, these red spots are continually changing in number, size, and position; and sometimes nearly all disappear. A little while before hatching, two lateral rows of opaque white spots, about ten in number, can be seen in each egg. In four days, more or less, according to the weather, the egg is hatched; the little wrinkled maggot, or larva, creeps out of the delicate membranous egg-skin, crawls down the leaf, enters the sheath, and proceeds along the stalk, usually as far as the next joint below. Here it fastens, lengthwise and head downwards, to the tender stalk, and lives upon the sap. It does not gnaw the stalk, nor does it enter the central cavity thereof; but, as the larva increases in size, it gradually becomes imbedded in the substance of the stalk. After taking its station the larva moves no more, gradually loses its reddish colour and wrinkled appearance, becomes plump and torpid, is at first semi-translucent, and then more and more clouded with internal white spots; and, when near maturity, the middle of the intestinal parts is of a greenish colour. In five or six weeks—varying with the season—the larva begins to turn brown, and soon becomes of a bright chestnut colour. In that state, the insect bears some resemblance to a flax-seed; and many observers speak of this as the *flax-seed* state. The larva has now become a chrysalis, or pupa, and takes no more food. The pupa within gradually cleaves off from the outer skin, and, in the course of two or three weeks, is entirely detached from it, so that the skin of the larva—now brown and hardened, and of a sort of leathery texture—has become a case or shell for the pupa inside. The *pupa shell* is, of course, in size and form, like the larva: it is oval, bulging out beneath, and of the same curve above as the outside of the stalk; divided by cross lines into twelve segments, and is about an eighth of an inch long. Within this shell the pupa gradually advances towards the winged state; it contracts in length, but not in breadth; and its skin appears covered with minute elevations. Just before evolution, we find the pupa invested in a delicate

membrane, or scarf,—which, not long previous, was its outer skin—through which many parts of the future fly may be distinctly seen. Finally, this scarf splits along the thorax, or back, and the insect comes forth, both from this and the pupa shell, a perfect two-winged fly.

This is, in brief, the history of an individual which has been so fortunate as to escape all the numerous enemies with which its race is surrounded from the moment the egg is deposited; but of these more hereafter.

In the northern and middle States, at least, winter wheat is sown in September or October. Soon after the plants have appeared above ground, the Hessian fly begins to lay her eggs upon them; and this operation is continued during several weeks, according to the season. The eggs laid on the green leaves are in a few days hatched, and the young larvæ crawl down the stalk, and take their stations; generally clustering around the stalk at the nearest joint below. Here, by sucking the plant, they increase in size, become full and hard, and pressing deeply into the stalk, they impair its growth; and if their number about one joint is large, the stalk is killed. Frequently the plant, although impoverished, advances far enough to head out; but when the grain begins to fill, its own weight, or perhaps the wind, causes the stalk to break down. The injury done to the wheat is occasioned by the exhaustion of the sap, and by the pressure on the yielding stalk.

In five or six weeks the larvæ stop feeding, the outer skin turns brown, and within this brown and leathery case the pupæ pass the winter—generally a little below the surface of the earth. In April and May the fly is again found depositing her eggs on the same wheat,—viz: that from grain sown the preceding autumn,—and also on the spring wheat which has just come up. These eggs hatch, and the larvæ therefrom operate in the same manner as those of the autumn previous. These larvæ become pupæ about the middle of June. The flies which lay their eggs in the spring are probably in part from the pupæ which became such late in the preceding autumn, and partly from pupæ contained in stubble left the preceding summer. The period of the existence of the Hessian fly in the pupæ or flax-seed state is exceedingly variable. After much observation my own opinion is, that in general, pupæ which become such late in the autumn, evolve the winged insect partly during the next spring, and partly in the summer and autumn following. Those pupæ which become such about June, evolve the winged

insect partly during the next autumn and partly during the year succeeding.

The Hessian fly is attacked by numerous foes, which, in various stages of its existence, destroy a large part of every generation. Whether it has, in its winged state, any enemies, except the ordinary destroyers of flies, I know not. The eggs, while lying on the leaves of the young plant, are visited by a very minute four-winged insect,—a species of *platygaster*—which lays in them its own eggs. From later observation it appears that occasionally, as many as five or six eggs of this parasite are laid in a single egg of the Hessian fly. The latter egg hatches and becomes a pupa, as usual; but from the pupa case, instead of the Hessian fly, issues one or more of these minute parasites.

The pupæ, while imbedded in the stalk, are attacked by at least *three* different minute parasites,—four-winged hymenoptera—which, boring through the sheath of the stalk, deposit their eggs in the body within; and the latter is finally devoured by the parasite larvæ. These are the principal means by which the multiplication of the Hessian fly is restrained within tolerable limits.

Although the loss annually sustained by the wheat growers of this country, in consequence of the ravages of the Hessian fly, is severe, yet it is well nigh impossible to ascertain even its probable amount. As long since as 1800, Dr. S. L. Mitchell, of New York, affirmed that the “insect is more formidable to us than would be an army of twenty thousand Hessians.” In 1804, President Dwight, of Yale college, remarked that “this insect is feeble and helpless in the extreme, defenceless against the least enemy, and crushed by the most delicate touch; yet, for many years, it has taxed this country, annually, more, perhaps, than a million of dollars.” At the present day, the amount of the injury inflicted probably far exceeds what it was forty years since; and to discover some feasible mode of exterminating the insect, or at least of arresting its ravages, is an object of great importance to this country.

Various remedial measures have, from time to time, been proposed; most of which I will here state.

1st. Steeping the seed-wheat in elder juice, solution of nitre, boiling water, or other liquids; or rolling in lime, ashes, or some other substance, in order to kill the eggs. But as the eggs of the Hessian fly are not on the seed, they will never be hurt by such processes. So far as these means give vigor to the plant, they may be of some little service.

2nd. Sowing seed obtained from places in which the insect has not made its appearance—American Museum iv. 47. This recommendation also assumes the error, that the eggs are laid on the grain, and will be found, as it has often proved, useless as respects this insect.

3rd. Abstaining rigidly throughout the whole grain growing region of North America from planting wheat, rye, barley, or oats, for one, two, or three years, and thus to starve out the insect! This plan might be effectual, but would obviously involve some inconveniences.

4th. Manuring the land very highly, so that the plants will grow vigorously, and be sooner out of the way of the insect, and also better able to resist it. This proposal has some merit, but does nothing towards destroying the insect.

5th. Sowing some variety of bearded wheat, flint wheat, &c., supposed to have a harder and more solid stalk than common wheat, and better able to withstand the impression of the larvæ. A suggestion of some value, but, equally with the 4th, leaves the insect unharmed.

6th. Fumigating the wheat field, and sprinkling the young wheat with infusion of elder and with other steepes. If successful, which is quite uncertain, it is plain that these measures are impracticable on a large scale.

7th. Sowing winter wheat very late in the autumn, so that the fly shall have mostly disappeared before the plants are large enough to be attacked. No doubt this plan is to some extent useful, but the wheat sown late is in great danger of perishing during the winter. The fly will of course attack it in the spring, yet one attack will do less damage than two.

8th. Sowing oats early in autumn on the intended wheat field. It is supposed the fly will lay its eggs on the plant; then let them be ploughed in, and the wheat sown. The fly having nearly exhausted itself on the oats, the wheat will suffer less. This plan may possibly be of some partial utility.

9th. Drawing a heavy roller over the young wheat both in autumn and spring. This process must be useful in crushing many eggs and larvæ.

10th. Permitting sheep and other animals to graze the wheat fields while the insects are laying their eggs. By these means, large numbers of the eggs will be devoured with the leaves.

11th. Burning the stubble immediately after harvest, and ploughing in the remains. This is by far the most practicable and effectual mode of exterminating the insect,

or, at least, of checking its increase. In the stubble are many pupæ of the fly, at this time completely in our power; if, in reaping, the stubble is left high, the fire would sweep rapidly over a field and destroy nearly all these pupæ, the few which escaped the fire, would, by the plough, be buried so deep as to perish in the earth; mere ploughing in of the stubble must be highly useful. If the two recommendations last named were thoroughly put in practice over the whole country—not only upon wheat, but also on rye and barley, and any other plants attacked by the Hessian fly—the ravages of this insect would, in all probability, ere long, become scarcely worthy of notice.

It may not be improper, in this place, to state that the foregoing account of the habits of the Hessian fly is derived from my own long continued observations, and that I have moreover endeavoured to consult all the papers of any importance which have been published on the subject.

There are in the United States, besides the Hessian fly, several other insects which attack the wheat while in the field. Those persons who assert that the former lays its eggs on the grain in the spike or head, have undoubtedly mistaken for the Hessian fly some one of these other insects. The following brief notices of the more important of these enemies, I have abridged from the accounts comprised in Dr. T. W. Harris's "Treatise on some of the insects of New England, which are injurious to vegetation;" (Camb. 1842: 459 pages, 8 vo.,) a work of great interest and value.

In it the inquirer will find a faithful digest of all the reliable information we have on the numerous insects which injure our plants, fruits, and trees; and, in addition, he will learn the means of defence, so far as any have been discovered. The book ought to be in the hands of every intelligent farmer and orchardist.

1. A grain moth (Angoumois moth—*alucita cerealella*, Oliv.) probably the same as described by Colonel Carter, in the Transactions of the American Philosophical Society, volume i, 1771; and by J. Lorain, in Mease's Archives of Useful Knowledge, vol. ii, 1842. It is about three-eighths of an inch long when its wings are shut. The upper wings are of a light brown satin colour and lustre, covering the body horizontally above, but drooping a little at the sides. The lower wings and the rest of the body are ash-coloured. The moth lays her eggs usually on the young and tender grain in the field; each caterpillar from these eggs selects a single grain, burrows into it, and

remains concealed, devouring the meal within. Subjecting the grain to a heat of 165° Fahr., for twelve hours in an oven, will kill the insect.

2. The English wheat fly (*tipula tritici*, Kirby) is a small orange-coloured two-winged gnat, which lays its eggs in the head of wheat while blossoming. The maggots from these eggs are without feet, tapering towards the head, at first perfectly transparent and colourless, but soon becoming orange-yellow; and when mature, are each about an eighth of an inch long. It is supposed they devour the pollen, and prevent the setting of the grain, the maggots fall from the spike to the earth, within which they undergo their final transformations. This insect—or one very similar to it—has done much damage in the northern States and in Canada for several years past; but no effectual mode of preventing the mischief, or of destroying the insect, appears to have been devised.

3. The wheat caterpillar.—This is a span worm of brownish colour, with twelve feet—six near each end of the body. It feeds on the kernel in the milky state, and also devours the germinating end of the ripened grain. It is said to be found in the chaff when the grain is threshed. We have little certain knowledge concerning the parent insect or its transformations.

In addition to these three, there are probably other insects more or less injurious to our wheat crops. Much has been published in our journals relative to these depredators; yet their habits are imperfectly understood, and many of the accounts are confused and contradictory. It is greatly to be desired that all who have the opportunity should endeavour to make careful observations, and communicate them to the public.

These observations must be accompanied by accurate descriptions of the insect under examination and in its various stages; otherwise, most of the labour will be spent in vain.—*Ellsworth's Report for 1844.*

Accidents to Indian Corn.

MESSRS. EDITORS.—I have not the arrogance to suppose that any wisdom of mine will be greatly valuable to your agricultural readers; but as I feel a lively interest in their pursuits, and as the physiology of vegetation is with me a favourite study, I will, with your permission, suggest two or three hints in relation to the culture of *Indian corn*, hoping they may be of some practical benefit.

In the flowers of all plants—unless the ferns, mosses, and similar forms of vegetation, be exceptions—the organs that perform

the principal office in reproduction, are the *stamens* and *pistils*, the former being barren, the latter, in favourable circumstances, fertile. In many plants, as the radish, the potatoe, the clover, these different organs are located in the same individual flower or floret. There is another race, in which the staminate and pistillate organs are on the same plant, but are in separate groups by themselves. The cucumber and the mulberry are specimens of this class, and so are most of our forest trees. Here also belongs the Indian corn. There is a third class in which the barren or staminate flowers are on one individual plant, and the fertile or pistillate flowers on another. The hemp and poplar are well known examples.

In each of these three classes there is upon the stamens a dust which botanists call the *pollen*; and though most kinds of vegetation may be propagated from the root, and many from layers or cuttings, like the mulberry, the seed or germ of the new plant cannot be produced unless this dust is scattered upon the pistil. Hence, by the way, as only the staminate tree of the Lombardy poplar has been introduced into this country, it has never been reproduced from the seed. Its propagation has been effected only by means of layers or roots; and this is the reason, I have little doubt, that this species of the poplar, which, when first introduced into the country, was a beautiful tree, and commanded a most extravagant price, has now so far deteriorated as to be entirely worthless.

In the Indian corn the staminate flowers are those arranged in a semi-conical form at the top of the plant. Every one who has passed through a corn-field in the flowering season, must have observed a profusion of dust from these stamens. The fibrous, silk-like appendages at the end of the ear, the base of each of which is enclosed by the husks, are the pistils. These threads lead along the rows, and *each one is connected with some embryo kernel of corn.* Now in order to the impregnation, formation, and growth of these kernels, it is necessary that the fructifying dust from the flower above fall upon these filaments projecting from the end of the ear. But this is not all. It is supposed to be indispensable to the formation of each kernel, that the filament leading to it should receive a portion of the pollen. Experiments have been made, which to my mind clearly prove this fact. When I remove the silk entirely from the ear before the plant is in flower, there will not be a kernel produced. You will observe a sort of receptacle for the seed, but the ear, for all practicable purposes, is destroyed. The

same is true, when instead of removing these filaments we girdle the end of the ear tightly with a cord, though the dust is allowed to come in contact with the pistils. So if before the dust from the stamens begins to fall, one of these threads be destroyed, the particular receptacle or germ to which it led, is not impregnated, and no kernel will be formed there.

Of these facts it is believed many intelligent and judicious farmers are ignorant. When a boy, I used often in the flowering season of corn to amuse myself by gathering the silk, sometimes in considerable quantities from the newly formed ear, without the least suspicion of the injury I was doing; and I have since seen the farmers themselves, as they were passing through their corn-field, pulling off these delicate fibres, as carelessly as they would remove a fungus or a moss from a tree. It is mainly to suggest a word of caution to the farmer generally, and his more thoughtless children especially, that these facts, in themselves it is hoped, not entirely destitute of interest, are communicated.—*Farmer and Mechanic.*

A Simple Green-house—Tulips—Parks of London.

THE editor of Hovey's Magazine of Horticulture,—a highly valuable periodical published at Boston, and which should be in the hands of every gardener and florist,—says in his notes and recollections of a tour through part of England, Scotland and France, in the autumn of 1844, that he "noticed at the nursery establishment of Mr. Glendenning, at Chiswick, a mode of making pits or frames, which answers a good purpose. It is simply to cut and pare sods of the width of six inches; these are carefully and firmly piled up, the grass side downwards, to the proper height, making allowance for settling, and when they become dry the sashes are put on, and the whole is completed; in our climate, on the approach of cold weather, they could be banked up, and would be much better for many things than ordinary wood frames, which are expensive and more likely to suffer from cold. We would recommend a trial of this plan. In Philadelphia, among the nurserymen, great quantities of plants are wintered in ordinary frames, and valuable room is saved in the green-house; besides, plants kept in a low temperature, especially roses, azaleas, camellias, &c., start with more vigor, and often make a stronger growth, than those kept in the green-house. To protect half hardy shrubs and plants, which will not stand the open winter, pits,

such as we have noticed, will be found useful in the smallest collection of plants. Many plants, which are now only seen in green-houses, may be taken up in the autumn and planted again in the spring; and by such yearly removals, they soon acquire so large a mass of fibrous roots that they do not suffer in the least, and flower as freely as if they had not been taken up; in this way, azaleas, kalmias, rhododendrons, magnolias, ericas, &c., &c., may be managed with entire success."

He also says, "Mr. Groom, of Clapham, has long been well known for his splendid collections of tulips, ranunculuses, &c. He was formerly located at Walworth; but the land becoming valuable, he removed to his present place a few years since, and his grounds here are yet but partially under cultivation. The situation is on the Clapham road, about four or five miles from St. Paul's, and convenient from the omnibuses, which run directly by, many times a day.

"Mr. Groom's principal trade has been in tulips and other florist's flowers, but within a few years he has turned his attention to the production of the newer and more choice green-house plants, and at the present time he had a good collection."

"Preparations were making for planting out the great collection of tulips in October. For this flower Mr. Groom is famous; he has raised several very splendid seedlings, some of which are priced as high as *five hundred* dollars, and a great number at *one hundred* dollars each,—£21 sterling. It would seem to those who know little of the tulip that this was something of a tulip mania; but the tulip is a most gorgeous flower, and when once a love for it takes possession of the amateur, and he obtains a knowledge of its properties, there is scarcely any thing he would not sacrifice to obtain the choicest kinds. In England, there are many collections valued at thousands of pounds. In this country the tulip is but little valued, and a bed of the most common kinds attracts nearly as many admirers as one of the choicest and high-priced flowers. It is gratifying, however, to see the dawn of a better taste, and within a few years, especially in the vicinity of Boston, some very fine collections have been obtained, and the present season we anticipate a better display than has ever before been seen."

"Many individuals are not aware of the immense extent of the parks of London. St. James's, Hyde Park, Green Park, Regent's Park and Kensington Gardens, contain upwards of 1200 acres. In each of them are lakes or ponds of water, oftentimes crossed by handsome bridges. Each of the

parks has been judiciously planted with trees, and there are many splendid specimens of lindens, oaks, elms, &c. Kensington Gardens have been recently greatly improved by the removal of a brick wall about ten feet high, and the erection of an ornamental iron paling. The effect of this can at once be imagined; the long line of splendid dwellings, which border on the Bayswater road, now command a view of the Park, while before they looked against a solid wall. In certain parts of the Park, the public are allowed to drive, and, in the gay season, immense numbers of elegant carriages may be seen rolling through these sylvan places, where as much of the country is enjoyed in the heart of London as may be found within ten miles of many of our cities or large towns. How long will it be before this false idea of crowding buildings together, even in the country, will be abandoned? it is no uncommon occurrence to see gentlemen remove to the country, and take a house with less than *one quarter* of an acre of land,—but little better, indeed, than the crowded streets of the city.”

“The root pruned pear trees were the next objects of attention; and, as Mr. Rivers has written so much on this subject, and reduced the system to practice, we anticipated much satisfaction from an inspection of them in bearing; but the exceedingly dry season had been quite too severe for the trees, and but a few were in fruit. The trees were from three to five feet high, well branched, and but for the drought would have presented a fine appearance. The trees are set about five feet apart, and by means of liquid manure or guano, they are induced to ripen a large crop.

“Mr. River’s general stock of ornamental trees is large, and contains many new things, the results of his travels among the continental nurserymen. A great number of oaks are included in his collection, and we noticed the new Lucombe in great abundance. A weeping variety, called *pubescens pëndula*, was very beautiful, particularly for a lawn, where it shows with good effect. All the weeping trees are now much sought after for planting as single specimens. Among the ornamental shrubs we noticed a purple leaved variety of the berberry, which, with the copper beech, the purple oak, and the purple-leaved nut, are acquisitions to every collection of shrubs or ornamental trees; their dark and singular foliage contrasting prettily with other trees.

“Mr. Rivers cultivates great quantities of seedling trees and shrubs, as well as pines, spruces, larches, &c., &c., and we saw numerous beds of them in full growth. In the

houses we saw fine plants of the weeping *Thùja*, *T. filifórmis*, and also *Cèdrus Deodàra*. *Thùja filifórmis*, if it should prove hardy in our climate, will be a highly beautiful evergreen; its long slender trailing stems, reaching quite on to the ground.”

For the Farmers’ Cabinet.

Ploughing in September for Corn.

TO THE EDITOR,—In this county the heart worm and the wire worm have made great destruction in the corn for the last ten years. I have accidentally found out a remedy that has succeeded twice in preventing the worm from destroying the young corn. In September, 1842, I ploughed a part of a clover sod for wheat, but the great drought prevented my finishing the field, so that I concluded to put the clover sod field in corn in the spring of 1843—the part ploughed in September, 1842, escaped the ravages of the worm, while the land alongside, ploughed in the spring of 1843, was nearly all taken by the worm; this induced me to try again, which I did in the month of September, 1843, with the same success as before stated. To plough in November or December, will not, as I believe, be of any use whatever as a preventive against the worm. I have known a field part ploughed in September—part in December, and the residue in March following, with the following results: The first escaped the ravages of the worm, the second and last were both destroyed in greater or less degree—all in the same field. Now it is worth a fair trial; and if September ploughing will prevent the destroyer, it will save the farmer much trouble and loss: it has succeeded in three instances to my knowledge; the reason of which I leave for others better qualified to ascertain—the facts are worth attending to, as it may save many bushels of corn to the farmer.*

* The foregoing observations remind the editor of a fact which occurred some eight or ten years ago. He ploughed about one third of a field of fourteen acres for corn very late in the autumn; the plough was then stopped by the frost, but the weather being remarkably mild for a few days in the second month, the plough was again started, and some four or five acres more were ploughed, when the cold weather again suspended operations. The remainder of the lot was not finished till the latter part of the fourth month, just before planting time. One half the field was limed with 35 bushels to the acre—the other half had no manure. The *cut-worm* was exceedingly troublesome all over the field. There was no perceptible difference in its ravages, either where the ground had been ploughed at different periods, or where the lime had, or had not been applied. The corn was replanted, and replanted,

The Mediterranean wheat has succeeded the best with me for the last few years. I would recommend July or August plowing—wheat to be sowed by the first of September, pure clean seed in all cases, of the best quality, fully ripe before cutting for seed. Cheat and cockle will grow if sowed, if none is sowed little will be reaped; none after your land is clear of such filth.

The loss farmers sustain in consequence of the filth sowed in wheat is enormous. Many contend "wheat will turn to cheat;" this may be so, yet I do not believe it—as well might corn turn to cheat, or oats to wheat. It is a law of nature "that like will produce like;" every thing contains its seed within itself. If it was not so where would we be; and what interminable confusion would such changes produce? I say sow clean seed, and no other; at all times of the best quality, and you will soon have your land clear of cheat, cockle and many other injurious seeds that are a pest to the country, and which ought to become extinct. But they never will, unless you teach farmers their true interests. The way to wealth is as plain as the way to the corn field, if we only exercise common sense, and use intelligent industry aright. Our country is unequalled; though prices are low, large good crops make up for them! The farmers ought to take your paper,* generally, and learn that their true interests consist in a well informed and well governed community.

Yours, &c.,

HENRY CAZIER.

New Castle Co., Del., June 4th, 1845.

Indian Corn.

"THE colours of Indian corn depend on that of the epidermis, or hull, or of the oil; the latter, when yellow, showing its colour through a transparent epidermis, while, if the hull is coloured and opaque, the grain presents the same colour. It appears that

till it seemed useless to do it more. Late in the Fifth month the ground was marked out between the rows, and again planted as if it had not been previously done, under the apprehension that the former plantings were so thoroughly cut down that they would produce little or nothing. The old rows however were left to take their chance—they subsequently took a start, and the double set of rows produced one of the heaviest crops of corn we ever raised.—Ed.

* We shall not be suspected of dissenting from this opinion of our correspondent. In endorsing it however, as we do most heartily and thoroughly, an expression may be given to the wish that every farmer in Delaware would show his acquiescence in it, by forwarding his name as a subscriber to the Farmers' Cabinet. He can hardly lay out a dollar better.—Ed.

the superiority of one kind of corn, as the Baden and Canada, over another, as the Tuscarora, is surprisingly manifest; one is filled with oil, the other has no trace of it, hence the superiority of the former, and the yellow of most kinds, for fattening animals. People of weak digestion should not eat the meal of the yellow kind, containing so much oil, because it is more difficult to digest. The yellow colour of the Golden Sioux, an eight rowed corn, is due to the colour of the oil. Brown corn has a darker colour, dependent on the *combined* colours of the oil and epidermis. Red and blue corn owe their lively hues to the colours of the epidermis, and not to the oil. In the Rhode Island White Flint, —a favourite corn in that State—the oil is transparent and colourless, and the epidermis is likewise free from colour, and is nearly transparent; hence the meal is white, and the quantity of oil being large, it is less liable to ferment, and become sour, than some other varieties, as the Tuscarora, and is in very good repute."

We extract the above from Dr. Jackson's communication on analysis of grains, published in the Commissioner of Patents' Report. We have corrected it in one particular, where he speaks of the Golden Sioux being a twelve rowed corn, whereas it is only eight; it is the Dutton that is twelve rowed. There is an explanation of the cause of some corn popping, which probably is known to very few. "The oil in the horny portions of the grain is contained in little six-sided cells, in the form of minute drops, visible in a thin section, under a good microscope. When a grain of corn is heated to a temperature sufficient to decompose the oil, a sudden explosion takes place, and every cell is ruptured by the expansion of gaseous matters arising from the decomposition of the oil, and the grain is ruptured at the weakest point in the arch, and is completely evolved and folded back. Now, on examining the cells again, they will be found lacerated, and swollen much out of shape. If an attempt is made to pop Tuscarora corn, it will be found never to succeed; hence, the curious phenomenon, so familiar to every child, though seldom, if ever, understood by its parents, is to be attributed entirely to the decomposition of oil, and the formation of carburetted hydrogen gas, such as is sometimes used in lighting large cities." It seems by this that the most popping corn contains the most oil, therefore what is called pop corn, or that corn which pops the most, must be, according to this statement, the best for fattening animals. Mr. Ellsworth says: "The culture of the grape for the table is increasing, and promises to be a

source not merely of pleasant luxury, but in many parts of our country of very considerable profit." In this neighbourhood, Cincinnati, and on the Kentucky side of the river, both natives and Germans are planting the vine in very considerable numbers, and we doubt not that we shall see good wine, equalling in flavor, and generally excelling in richness the medium choice wines of Germany.—*Western Farmer and Gardener.*

The Romance of Insect Life.

WE take the following beautiful extract from an Historical Lecture by Judge Charlton, of Georgia:

"The earth teems with mysteries—the sky shines with them—they float in the air—they swim in the deep—they flash from the dark robed clouds—they whisper in the gentle tones of the summer wind—they speak in trumpet tongues, in the voice of the tempest and the thunder. Cease thy longings for the ancient days, oh, dreamer! Close thy book and look about thee upon the volume of Nature. See there, before thee, is a tiny insect that thou canst scarce distinguish from the grains of sand that surround it—watch it—it moves on with an energy and an instinct that enable it to overcome or avoid all obstacles. See—it has seized some object larger than itself, and still it goes bravely on—nothing daunts it—nothing stops it—tread it under foot,—if thou canst have the heart to attempt such a murder—and it will rise up again beneath the ocean of sand and turn once more to its labour. Dost thou know it? It is the ant, that lion-hearted ant, toiling amid the heat of summer; and though the season's brightness and its warmth are bringing up and producing ten thousand enjoyments for the little traveller, he is busy gathering together his provender for the long winter time, when frost and snow and cold shall have locked up the granaries of nature.

"Thou wilt tell me that I am mocking thee; that thou canst see this daily and hourly; and is this a mystery therefore? If thou hadst read in those ancient legends before thee, of an insect so courageous, that it would attack an animal of ten thousand times its magnitude; of industry so indefatigable, that it would climb house-tops and mountains to pursue its course; of perseverance so unflagging, that though repulsed a thousand times, it would still return and overcome the obstacle that impeded it—thy eyes would have sparkled with interest and amazement; it is because it is constantly before thee—because it belongs to the pre-

sent time—that thou lookest so disdainfully upon it. When did the Knight Errants of thy heart do half so much? When did their bosoms beat as high with valor and determination as this poor insect? 'But it has no loves—no burning jealousies—no blood-stained victories!' How knowest thou that? I warrant thee, even that tiny breast has grown gentler for some fond one that lived within its little world; that its blood has flowed quicker when some Adonis ant has flirted around the little coquette; that its path has been stained by the trophies of its mimic battles.

"But thou wilt say why dost thou lure me from my glowing page, to point me to this moving atom? Why not show me the majestic mysteries of nature? Why waste my time with a topic so insignificant? I answer because it is insignificant. I point thee there to one of the smallest of earth's creatures, to ask thee if the atoms contain such wonders, how much more the noble and lofty works of Nature? Follow me, if thou wilt. Let us dive into the caverns of the earth, and mark the sculptured halls—the rocky avenues stretching miles and miles below the busy haunts of men. Let us plunge into the deep, and see the huge leviathan sporting amid the waters; or, the rainbow-hued dolphin, as she flings back bright rays of the glorious sun. Let us climb into the air, and behold the eagle with his untiring wing, and his unflinching eye, the noble image of indomitable perseverance and of brilliant genius, soaring proudly and gazing fixedly toward Heaven's brightest luminary! Oh, dreamer! if the moments of thy life were multiplied by the sands of the desert, they would be all too short to unravel these mysteries that are around thee and above thee."

Russian Mode of Making Butter.

I HAVE for several years had the entire care of the milk department in my father's family. I therefore read, with great interest, whatever related to making butter and cheese, and I found much that was different from what I had been in the habit of practicing. One case of this kind was, directions for making butter in winter, according to what is called the Russian method, by which it was said butter could be made in winter as sweet, and with as little churning, as in summer. So I set about trying the experiment, and the result exceeded my expectations. My new practice is as follows:

Before I go out to milk, I put a kettle, say one-third full of water, and large enough to let the milk pail into it, on to the stove,

where it will get boiling hot by the time I have come in with the milk. I then strain the milk into another vessel, and wash the pail,—which should always be of tin—then pour the milk back into the pail, and set into the kettle of boiling water till the milk becomes scalding hot, taking care not to let it boil, then pour it into crocks or pans, and set it in the cellar for the cream to rise in the usual way. As little time should be occupied in this heating process as possible: hence the advantage of having the water ready hot when the milk is brought in.

Cream procured in this way, will seldom require more than twenty minutes churning, while by the common practice, the poor dairy-maid may have to churn for hours, and then, perhaps, have to throw it away, as I did myself on two occasions, before I happened to gain this valuable piece of information.—*Ohio Cultivator*.

For the Farmers' Cabinet.

Disease of the Potatoe.

MR. EDITOR.—In your last number I noticed a communication on the above subject from this place, and signed "Farmer."

The author of said communication seems to differ with me in *toto*, in regard to the cause of the disease in question. He objects to my *reasoning** in the matter and substitutes the *opinion* of some *learned men*.

Before proceeding to answer the objections of my courteous opponent, I would beg leave to correct one mistake that occurred in my first communication. The word *nitrogenous* should have been *carboniferous*. The mistake was mine, not yours. I wrote the communication containing it in a hurry; and like other things done in a hurry, it was done imperfectly. My mind was filled at the time with the subject, and I find I was not sufficiently careful about my words. Your readers will please excuse the error. As bad as the error was, however, it had but little to do with the import of the communication, as its object was to show that alkalies would prevent and cure the disease of the potatoe.

After stating that the disease of the potatoe was of recent origin—by the way Mr. Editor, your hint that this was doubtful, was timely and proper, as we hear of the disease as far back at least as 1815, some thirty years ago—your correspondent, "Farmer," says "it is also well known that the soil in which potatoes grow, contains the same quantity of alkali and no less nitrogen than formerly. If a want of the alkalies, or a redundant supply of nitrogenous matter can

be the only cause,† then the disease might be confined to one district alone." I may be shortsighted, Mr. Editor, but I must confess I cannot see the *rationale* of this. I cannot for the life of me, understand why "the disease might be confined to one district alone," unless that district should comprise nearly the whole earth, when the want of alkaline matter is so general.

"Farmer" lays it down as a "well known" fact, that "the soil in which potatoes grow, contains the same quantity of alkali, and no less nitrogen than formerly." Now, however much I might be disposed to differ with "Farmer" in this matter, and say that when a soil has been deprived of a portion of its alkaline matter, by taking off its large crops of hay, fodder, &c., and none, or but little has been returned to it, that it has less than it had before, I will, for the sake of making the subject clearer, omit doing so for the present. It is a "well known" fact, that all salts have a relative proportion of acids and alkalies. Therefore, notwithstanding the soil may have as much alkali now as it had formerly, still it does not follow as a matter of course, that it has now a sufficiency. The soil formerly may have had enough alkali for the acid it contained at that time, but in consequence of the farmer supplying large quantities of manure, which produce an abundant supply of carbonic acid, the soil needs a greater supply of alkaline matter than it before contained to form a salt by union with the extra quantum of carbonic acid. This is the main reason, in my opinion, that the rot in the potatoe is more general now than it was a few years ago. It has been the practice until recently, to skin the soil as closely as possible, and supply but little manure; but since 1836, "a great change has come over" agriculture, and farmers have been brought to think that they must give the soil something, while they are constantly taking away from it. They have since that time been throwing on large quantities of manure; and not supplying proper proportions of alkaline matters, they find that diseases infest their plants, such as the rust in wheat, and the rot in the potatoe.

I must plead guilty to the charge, that I

† I did not say, Mr. Editor, that "a redundant supply of nitrogenous matter" was the cause of the disease of the potatoe; I said that "the substance forming the cells of all plants is a compound of nitrogenous (I should have said carboniferous) matter, with one or more of the alkalies, together with silic. &c.; this has nothing to do with the cause of the disease of the potatoe, which as I said before, was owing to a want of the alkalies.

* See page 316, current vol. of Cabinet.

an ignorant of the fact that "potatoes contain properties capable of accumulating the alkalies." The sentence in "Farmer's" communication containing this idea, is very ambiguous to me; I do not understand it.

Again, he says "it is easy to be seen that potatoes are formed in such a peculiar way, as to reject and throw off every substance detrimental to a vigorous and healthy growth." Not so easy to be seen after all, Mr. "Farmer." If this was the case, how is it that the potatoe does not expel the "hydrogen and sulphuric acid gas," that "Farmer" seems to think is the cause of the disease? If they possess the power to reject and throw off EVERY substance detrimental to a vigorous and HEALTHY growth, how is it that they suffer the "hydrogen and sulphuric acid gas" to destroy their organism? It cannot be supposed that such destruction is one of the indicatives of a "healthy growth."

In regard to this matter of "hydrogen and sulphuric acid gas" being the cause of the disease of the potatoe, I have a few words to say. It strikes me that hydrogen cannot have anything to do with the disease, for if hydrogen be in contact with oxygen, the gas that *must be present* where decay is, they will unite and form water, and consequently the oxygen could not carry on the work of decay, and therefore the decay must stop. It seems more likely to me, after a few minutes consideration of the subject, that the presence of hydrogen, so far from causing the decay of the potatoe, would have the effect of preventing it.

Respecting the other part of the theory of the "learned men" alluded to by "Farmer," that "sulphuric acid gas," thrown to the earth by those "sudden and severe showers of rain," is the cause of the wide spread injury sustained by the potatoe; I would ask what is there, in the whole formula of chemicals, that will destroy the effect of sulphuric acid, in a more effectual manner than the very substances I propose for the prevention and cure of the rot in potatoes!

I am sorry that my communication is of so great length; I find that it requires fewer words to raise objections, than it does to answer them in a plain and explicit manner.

I should like to say more about the communication of "Farmer," particularly on the subject of the appearance of the stalks of the diseased potatoe. Their appearance justifies my idea of the cause of the rot, but I shall have to postpone it for the present.

CHEMICO.

Honesdale, Pa., June 19, 1845.

For the Farmers' Cabinet.

Bees.

MR. EDITOR,—I am induced to offer you the present communication, because having read your excellent paper of the present month, in which you present us with an article on preventing the loss of swarms in hiving bees, and another on the destruction of the bee moth,—I conclude you have not yet examined the *Patent Endless Bee-hive*, described in the Cabinet of May last year, and now exhibited in this city, at No. 169 Callowhill Street.

Having made it a visit, I confess myself entirely delighted; for it seems to contain every thing desirable in a hive. All the trouble and risk of swarming and hiving the bees, appear to be entirely got rid of, by simply making the whole family pass through the new hive placed along side; which the surplus population, finally takes possession of, and go to work. And when this is found to be so, the former avenues are opened and the new hive separated. The moth is entirely got rid of by the inclination of the bottom of the hive, on which, in common with the offspring of the hive, they cannot rest.

My object is not to describe, but to draw your attention and that of your readers, to the subject.

W. G.

Philadelphia, June 18, 1845.

We have lately looked in upon the Bee establishment as above, and certainly found it nicely in operation. The Hives seem well adapted to their purpose.—Ed.

Sale of E. P. Prentice's Short-horns.

AGREEABLY to previous notice, the sale of Mr. E. P. Prentice's herd of improved Short-horned cattle, took place on the 25th of last month, as advertised in the Cabinet. The day of the sale proved favourable—the occurrence of showers on the day preceding having produced a delightful purity of air, and an increased greenness and freshness of vegetation, which seemed to invest Mount Hope with more, even than its usual attractions.

A numerous and highly respectable company from this and several other States, assembled early in the day, and after spending several hours in the examination of stock, and having partaken of refreshments, which were served in a beautiful grove, the sale commenced. It was conducted in a very spirited manner, by L. F. Allen, Esq., assisted by Mr. Jones, as auctioneer. The cattle were in fine condition, and passed rapidly under the hammer. Forty-one animals were sold at prices varying from \$25 to \$225, and averaging \$112 75 per head. The prices, in general, may be considered low, when the high cost of the original stock and the acknowledged excellence of the herd

offered, are considered; yet it should be remembered that the sale was positive, and that there was no underbidding, or buying in.

COWS.

Flora—8 years old, J. B. Nott, Guilderland,	\$215
Moss Rose—8 y'rs, J. W. Wheeler, Hyde Park,	140
Catharine—6yr's, M. Bates, N. York,	105
Snow Ball—11 years, E. H. Smith, Smithtown, L. I.	110
Melissa—8 years, W. S. Packer, Brooklyn,	120
Cora—4 years, Dr. J. McNaughton, Albany,	125
Daisy—7 years, “ “ “	105
Diana—6 y'rs, J. W. Bishop, Berkshire co. Mass.	155
Charlotte—5 y'rs, do. do.	190
Ada—4 y'rs, R. H. Green, Winslow, Me.	170
Appolonia—10 y'rs, J. P. Brayton, Bethlehem,	160
Louisa—5 y'rs, R. H. Green, Winslow, Me.	150
Splendor—11 y'rs, W. S. Packer, Brooklyn,	190
Jenny—4 y'rs, Edward H. Smith,	105
Aurora—10 y'rs, J. B. Nott, Guilderland,	145
Miss Smith—8 y'rs, P. W. Tuthill,	80

HEIFERS AND HEIFER CALVES.

Caty—11 months, W. S. Packer, Brooklyn,	\$100
Comely—4 months, Wm. Kelly, Rhinebeck,	70
Nun—3 years, “ “	110
Meg—1 year, “ “	65
Nell—3 y'rs, M. Bates, N. York,	225
Betty—6 months, Wm. Kelly, Rhinebeck,	55
Rover—1 year, V. P. Douw, Albany,	70
Calf, 2 weeks, J. H. Prentice, Brooklyn,	50
Calf, 2 months, W. S. Packer,	45
Burley—1 year, V. P. Douw, Albany,	80
Peggy—3 years, J. P. Brayton, Bethlehem,	200
Peggy 2nd—4 months, V. P. Douw, Albany,	110
Ramble—1 year, W. S. Packer, Brooklyn,	75
Jilt—10 months, Wm. Kelly, Rhinebeck,	60
Calf, 1 month, J. P. Walker,	77 50

BULLS AND BULL CALVES.

Calf, 1 month, W. S. Packer, Brooklyn,	\$ 40
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Blaise—4 months, R. H. Green, Winslow, Me.	\$55
Tyro—5 months, J. B. Nott, Guilderland,	55
Tecumseh—1 year, W. S. Packer, Brooklyn,	200
Calf, 2 weeks, J. P. Walker,	30
Calf, 1 month, W. Kelly,	75
Duke—6 months, Gen. Kimball, Newfane, Vt.	200
Calf, 3 days, J. P. Walker,	25
Timour—11 months, M. J. Hayes, Montreal,	80
Fairfax—5 years, W. S. Packer,	205

\$4,622.50

41 animals, averaging \$112.75

Of the other 9 animals on the catalogue, 4 (Matilda, Sally, Judy and Esterville) were reserved by Mr. Prentice, agreeably to the terms of his advertisement; 1 (Caroline) was withdrawn for want of a bid; 1 cow (Duchess) and a calf died; another (Dora) was sick; and O'Connell, by a vote of the company, unsolicited by Mr. P., was withdrawn.—*Cultivator*.

For the Farmers' Cabinet.

The late Frost—The Wheat Crop.

Much has been said in the papers of the effects of the frost which occurred in this section of the country, on the night of the 31st ult. Perhaps it would not be uninteresting to the readers of the Cabinet to have, in a few words, a sketch of what has fallen under my own observation in this neighbourhood.

The day preceding the night on which the frost happened, was cold and rather windy, but the wind falling near night, frost was expected, and some of the more tender things in our gardens, such as beans, &c., were covered by our more careful neighbours. As was expected, there was a frost, and a heavy one; at what point the thermometer stood at sunrise, I am not certain, but believe it was about 30°; one of our neighbours, who lives on the banks of the Brandywine reported his at that temperature. The tenderer plants in the gardens, which were left uncovered, were cut down to the ground, in the low lands; beans, one of the easiest affected, suffered the most: potatoes, also in many places shared the same fate. The twigs of the locust trees and black walnuts were also observed to be killed, and the grape vines also lost their early twigs and fruit.

I mention these things to give an idea of the strength of the cold. The corn fields in the low lands, along the course of our small streams, were also severely handled,

so that in many cases the plant was cut off at the ground; but as it was out of the ground but a few inches, the corn does not now seem to have been injured further than being retarded in its growth, and occasionally a hill destroyed.

The most severe loss falls on our wheat fields. The wheat mostly grown about here is the Mediterranean, which is a very early variety. The crops were quite promising, and our farmers calculated confidently on more than an average yield, but those hopes were unexpectedly cut off. Most of our wheat was in blossom: I had walked through a fine field within a day or two of the frost, in company with one of our farmers, and we were admiring the regularity of the blossoms on the plants. The morning after the frost, he observed to me, that it was his opinion, such a night would kill the wheat. Within forty-eight hours the evident tinge of brown which showed deeply in the hollows and faded away up the hill sides, proved that his fears were well founded. The idea of a frost so late in the season injuring so hardy a plant as wheat, was new to most of us, but we had to admit the fact, since it was so plainly before us. It is evident that the action of the frost was entirely on the *blossom*; the plant itself is yet as healthy looking as ever, but no grain has formed. Such an occurrence is so unusual as to be almost unknown to farmers, and indeed most with whom I have conversed on the subject, were inclined to doubt it having ever occurred, though a few think it did happen slightly, two years ago in this neighbourhood.

The effect of trees in protecting the grain was not a little remarkable. Woodland on the north served to keep off the frost some distance beyond where the shade of the trees would be cast in the day, and in one instance a small grove of chestnuts in the bottom of a hollow, where the frost was the heaviest, completely protected the wheat for many yards, beyond the shadow of the trees. A small patch of potatoes, which ran up into some woodland, forcibly illustrated this also; under the trees the tops of the plants were untouched—further from them they were just tipped, while further portions of them were cut to the ground.

On the higher hills many escaped untouched, and those which were injured, suffered but slightly. The Mediterranean wheat was almost the only kind injured, though in some places some other varieties did not escape; the later kinds around us promise a very fine yield, having escaped by not being in blossom at the time.

Some of our farmers cut down their wheat, so fully were they convinced of the destruc-

tion of their crops. This was the case in Doe run and East Marlborough townships, and probably in other places.

As the occurrence of such a loss from such a cause, is so unusual a thing, I have thrown together a few observations occurring under my own eye, to call attention to the matter, and would request others in other places to add what may have been noticed by them, so that we may have all the facts we can on the case, for that is the only way to get at any good results from such occurrences. W.

Chester County, Sixth mo., 1845.

We have understood from different neighbourhoods, that the wheat affected by this frost was generally, though perhaps not quite exclusively, the Mediterranean. This is an early ripener: and it is possible that this circumstance, subject as we are occasionally to pretty hard frosts late in the season, may prove a serious objection to it.—Ed.

Song of the Soil.

BY J. H. R. BAYLEY.

I start the bull of the beautiful flower,
And feed the bloom of the wild wood bower;
I rear the blade of the tender herb,
And the trunk of the stalwart oak I curb;
I force the sap of the mountain pine,
And curb the tendrils of the vine;
I robe the forest, and clothe the plain
With the ripest of fruit and the richest of grain.

The cheek of the peasant I flush with health,
And yield the sturdy yeoman wealth;
I give the spirit of commerce wings,
And prop the tottering thrones of kings.
The gorgeous palace and the humble cot
Owe every atom to me they've got—
And the prince at the banquet, and hind at his board,
Alike must depend on the fare I afford.

Man may boast of his creaturely might—
His talents in peace, and prowess in fight;
And lord it over beast and bird,
By the charm of his touch and the spell of his word;
But I am the sole and mighty source
Whence flows the tide of his boasted force—
Whatever his right, and whoever he be,
His pomp and dominion must come from ME!

I am the giver of all that's good,
And have been since the world has stood;
Where's there wealth on ocean, or beauty on land,
But sprung from the warmth of my fostering hand?
Or where the object fair and free,
That claims a being, but's traced to me?
Cherish! then cherish, ye sons of toil,
The wonderful might of the fruitful soil!

And whence, says the Christian, dost thou obtain,
This power so mighty, of which thou art vain?
Thou boastest of that, which is furnished to thee,
By Him who is Lord, both of land and of sea,
For know that the treasures which come from thy sod,
Are only thine own, as the gift of thy God.

Feed for Horses.

IN the account given by Mr. Stevenson, in the Quarterly Journal of Agriculture, of his experiments respecting the feeding of farm horses, on which he received a premium of ten sovereigns from the Highland and Agricultural Society of Scotland, we find the following statements:

"As to the modes of feeding while the inquiry was going on: 1. The fodder during the winter was wheat straw. 2. During spring, bean straw; none of which was chopped or cut, as the labor was thought to counterbalance the advantage. He places hay first, as the best fodder for the horse; next, bean-straw, when well got in, but it is dangerous when given damp; next, wheat straw; then, oat-straw. The grain fed out to the horses was as follows:

"1. Three horses fed on bruised oats, (15 lbs. daily,) with 42 lbs. of Swedish turnips, also daily.

"2. Two horses fed on a mixture of bruised grain, of which two parts were oats, one part barley, and one part beans; also, Swedish turnips 42 lbs. daily.

"3. Three horses fed on the same mixture; two feeds given raw and one feed boiled—the boiled portion unbruised; also, 42 lbs. of Swedish turnips daily.

"4. Two horses more on the same mixture, all boiled, and 42 lbs. of Swedish turnips daily.

"5. Two horses fed on boiled Swedish turnips, with one feed of five lbs. of the bruised mixture daily. These horses consumed about 150 lbs. daily, each, of Swedish turnips. The ages, weight, &c., as well as results, are given in the table," (which we here omit.)

Mr. Stevenson remarks that those horses which were fed on bruised oats were evidently less energetic than the others. Two of them (Nos. 1 and 2) performed less work, were dull in the yoke, and their coats looked unhealthy. Those on raw mixed grain were the most energetic. Variety of food seems to have a beneficial effect—an opinion corroborated by the observations of Liebig and others. Those on boiled food, whether turnip or otherwise, showed a healthy glossy coat. Their perspiration did not seem more abundant than usual, with the exception, perhaps, of those fed on boiled turnips. Those on boiled turnips consumed more straw; they scarcely ever tasted water. They are also said to have had a quicker step, and performed more labor.

In regard to cost, he says the results are in favor of boiled turnips with one feed of bruised grain.—*Ellsworth's Report, 1844.*

Rare Cows in the West.

WE frequently have accounts from the East of great milkers and butter cows. We can now and then produce animals here, remarkable for their productive qualities. We lately saw a cow belonging to Mr. Jacob Hoffner, of Cummingsville, of part Patton and Durham stock, (the Durham from the importation of 1817,) which goes beyond even what her promising appearance, and particularly the enormous size of her finely shaped udder, would indicate, giving, for a length of time, without pushing, or any other food than grass, thirteen and a half pounds of butter a week. Dr. Martin, of Kentucky, had a cow, now dead, which yielded, with very high keep, forty-two quarts of milk per day, for two months after calving. This cow, too, was of the Patton and Durham stock mixed. Mr. Hoffner's cow gives a very large quantity of milk within two weeks of calving. We know, too, of a cow in Newport, Kentucky, of the same breed as the two above named, which gives for six months after calving, eight gallons of milk a day.—*Western Farmer and Gardener.*

Agricultural Exhibition.

PREMIUMS offered by the Philadelphia Society for promoting Agriculture, for the Exhibition to be held at the *Lamb Tavern*, (Thompson's,) on the Lancaster turnpike, one mile West of the Permanent Bridge, on Wednesday and Thursday, the 22nd and 23rd of October, 1845, and the trial of ploughs to take place on Friday, the 24th.

HORSES.

For the best thorough-bred stud-horse,	\$10
For the next best do. do.	5
For the best stud-horse adapted to the field and road,	8
For the next best do. do.	4
For the best thorough-bred brood mare,	8
For the next best do. do.	4
For the best mare adapted to the field and road,	8
For the next best do.	4
For the best horse colt, between two and four years old,	6
For the next best do. do.	3
For the best filley or mare colt, do.	6
For the next best do. do.	3
For the best horse colt between one and two years old,	4
For the next best do. do.	2
For the best filley or mare colt, do.	4
For the next best do. do.	2

NEAT CATTLE OVER 2 YEARS OLD.

For the best Durham bull over three years old,	\$10
For the next best do. do.	5
For the best do. between two and three years old,	8
For the next best do. do.	4
For the best bull of Devon blood,	6
For the next best do.	3
For the best Ayrshire bull,	6
For the next best do.	3
For the best Alderney bull,	6
For the next best do.	3
For the best Durham cow over four years old,	8
For the next best do. do.	4
For the best do. between two and four years old,	8
For the next best do. do.	4
For the best Durham heifer between two and three years old,	6
For the next best do. do.	3
For the best heifer of mixed breed between two and three years old,	4
For the next best do. do.	2
For the best heifer of native breed,	4
For the next best do.	2
For the best cow of Devon blood,	6
For the next best do.	3
For the best Ayrshire cow,	6
For the next best do.	3
For the best Alderney cow,	6
For the next best do.	3
For the best cow of mixed blood,	4
For the next best do.	2
For the best cow of native breed,	4
For the next best do.	2
For the best yoke of working oxen, reference being had to their performance,	8
For the next best do.	4
For the best fat ox or steer,	6
For the next best do. do.	3
For the best fat heifer over 3 years old,	4
For the next best do. do.	2

NEAT CATTLE UNDER TWO YEARS OLD.

For the best Durham bull between one and two years old,	\$6
For the next best do. do.	3
For the best Devon bull, do.	4
For the next best do. do.	2
For the best Ayrshire bull, do.	4
For the next best do. do.	2
For the best Alderney bull, do.	4
For the next best do. do.	2
For the best bull calf between four months and one year old, of each of the above breeds,	2
For the best Durham heifer between one and two years old,	6
For the next best do. do. do.	3

For the best Devon do. do.	\$4
For the next best do. do. do.	2
For the best Ayrshire do. do. do.	4
For the next best do. do. do.	2
For the best Alderney do. do. do.	4
For the next best do. do. do.	2
For the best heifer of mixed breed, do. do. do.	4
For the next best do. do. do.	2
For the best heifer of native breed, do. do. do.	4
For the next best do. do. do.	2
For the best heifer calf of each of the above breeds, between four months and one year old,	2

SHEEP.

For the best Bakewell or Leicester buck over one year old,	\$4
For the next best do. do. do.	2
For the best do. do. do. under one year old,	2
For the next best do. do. do.	1
For the four best ewes over one year old,	4
For the four next best do. do. do.	2
For the four best ewe lambs between four and twelve months old,	2
For the next best do. do. do.	1
For the best Southdown buck over one year old,	4
For the next best do. do. do.	2
For the best do. do. do. under one year old,	2
For the next best do. do. do.	1
For the four best do. ewes over one year old,	4
For the next best do. do. do.	2
For the four best ewe lambs between four and twelve months old,	2
For the next best do. do. do.	1
For the best Merino buck over one year old,	4
For the next best do. do. do.	2
For the four best do. ewes, do. do. do.	4
For the next best do. do. do.	2

HOGS.

For the best Berkshire boar,	4
For the next best do. do. do.	2
For the best Berkshire sow,	4
For the next best do. do. do.	2
For the best boar of other breed,	4
For the next best do. do. do.	2
For the best sow of any other breed,	4
For the next best do. do. do.	2
For the best litter of pigs of any breed not less than six in number,	4
Stock entered for these premiums cannot compete for others.	

No animal that has previously taken the Society's first premium, will be allowed to compete in the same class.

Ample evidence will be required as regards the pedigree, age, and character, of all stock entered for premiums.

POULTRY.

For the best pair of fowls of improved breed,	\$2
For the next best do. do.	1
For the best pair of capons,	2
For the next best do.	1

AGRICULTURAL IMPLEMENTS.

For the best plough, the merits thereof to be decided by trial,	\$10
For the next best do.	5
For the best Drill Machine,	4
For the next best do.	2
For the best Straw or Hay Cutter,	4
For the next best do.	2
For the best Corn Sheller,	4
For the next best do.	2
For the best display of Agricultural Implements,	8
For the next best do. do.	4

The ploughs intended for trial, must be at the Exhibition during the whole time. Premiums will be awarded to the best ploughmen:

For the best,	\$5
For the next best,	3

AGRICULTURAL PRODUCE.

For the best 5 lbs. of fresh butter, a silver butter knife, value,	\$5
For the next best do.	3
For the best firkin or jar of salted or preserved butter, not less than 20 lbs., a silver butter knife, value,	5
For the next best do.	3
For the best sample bushel of wheat,	3
For the next best do. do.	1
For the best do. do. rye,	2
For the next best do. do. do.	1
For the best do. do. of corn in ears,	2
For the next best do. do.	1
For the best do. do. of oats,	2
For the next best do. do.	1
For the best do. do. of potatoes,	2
For the next best do. do.	1
For the best display of Agricultural produce generally,	4
For the next best do. do.	2

A statement of the mode and manner of making and preserving the different kinds of butter, will be required of competitors. The preserved or salted butter must have been put up at least two months previous to the Exhibition.

A PLOUGHING MATCH,

For the trial of ploughs and ploughing, will take place on Friday, the 24th of October, at 10 o'clock.

Premiums will be paid in money or Agricultural publications, as may be preferred. The judges are authorised to withhold

premiums where the object is not entitled to distinction; and where but one of a class is exhibited, they will award such premium as they think it merits. Those persons who intend bringing animals for competition, must inform the Committee of Arrangement before 10 o'clock on the first day of the Exhibition.

Competition is open to the whole Union.

All stock, &c., contributed, must remain on the ground during the two days of Exhibition.

JOHN LARDNER,
ISAAC W. ROBERTS,
DENNIS KELLY,
OWEN SHERIDAN,
C. S. SMITH,
GEORGE BLIGHT,
JOHN S. HAINES,
ISAAC NEWTON,
DR. A. L. ELWYN,

Committee of Arrangement.

July 2nd, 1845.

THE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK.

PHILADELPHIA, SEVENTH MONTH, 1845.

CALLING at Dr. Brinklé's, in Chesnut street, about the middle of last month, it was a matter of no small interest to witness the skill and success with which he managed his strawberry plantation, in a yard perhaps barely twenty feet square. The Doctor's plants are all seedlings; and in obtaining them he is very nice and curious in his crossings. He has pots and boxes with considerably more than a hundred varieties; some of them both for size and flavor, equalling any strawberry we have ever seen or tasted. Others were as remarkable for their extraordinary productiveness. Of the male and female character of the strawberry plant, the Doctor has not the shadow of a doubt.

AMONG the various articles enumerated as making up the cargo of the fine ship Thomas P. Cope, which sailed from this port on the 25th ult. for Liverpool, we were gratified to notice wool, leather and window glass.

THE following premiums will be awarded by the Pennsylvania Horticultural Society, at its stated meeting on the 19th of next month, viz:

For the best Peaches, half a peck,	\$3.
“ “ next best do. do.	\$2.
“ “ best Pears, do.	\$3.
“ “ next best do. do.	\$2.
“ “ best Plums, 2 dozens,	\$2.
“ “ next best do. do.	\$1.
“ “ best Figs, 1 dozen,	\$2.

The Autumnal Exhibition will be held as usual at the Museum building in Ninth street, on the 24th, 25th and 26th of Ninth month next.

THE FRUITS AND FRUIT TREES OF AMERICA: or the Culture, Propagation and Management in the Garden and Orchard, of Fruit Trees generally; with descriptions of all the finest varieties of Fruit, native and foreign, cultivated in this country. By A. J. DOWNING.

Our author is already well known by his beautiful works on LANDSCAPE GARDENING, and COTTAGE RESIDENCES: and this which has recently issued from the press of Wiley & Putnam, will add to his reputation as a man of skill and sound judgment, entirely disposed to be useful to the community. Every farmer and gardener should have this book. We heartily wish it could be more strongly impressed upon the minds of our readers, that there is not proper attention paid to the propagation of good fruit, that most charming of luxuries on a farm. It has been said that he who plants a tree, does something for posterity: and certainly he who leaves behind him a good fruit tree, leaves something to increase the enjoyments of those who come after him. "He who owns a rood of proper land in this country, and in the face of all the pomonal riches of the day, only raises crabs and choke pears, deserves to lose the respect of sensible men." The first object of this work is to increase the taste for the planting and cultivation of fruit trees. The second is to furnish a manual for those, who, already more or less informed upon the subject, desire some work of reference to guide them in the operations of culture, and in the selection of varieties. Apples, Pears, Peaches, Plums, Cherries, Grapes, and all our fruits common to the orchard or the garden, are treated of, and illustrated by a great number of engravings. The chapter on Grapes, spread over about forty pages, will be found particularly interesting and valuable to many. We shall always have the work for sale, as will also J. W. Moore, Chesnut street. Price \$1 75.

Since our last number was issued, the new Post-office law has gone into operation. We can no longer avail ourselves of the Post-master's frank in the remitting of money. The postage, however, is much reduced: and subscribers will please continue to forward by mail, all sums which may be due from them. We would like them to pay the postage—this would be no more than fair—the amount is trifling to each individual, while the aggregate, from the large number of letters received, would be a pretty round sum to us. Let them however, remit the money—if they do not pay the postage, we know a person who will.

The Editor gladly avails himself of this opportunity to acknowledge to the Post-masters throughout the country, his obligations for their continued and uniform kindness. He has no knowledge of a single exception to this kindness, and he trusts it is properly appreciated.

A. B. ALLEN, of the *Agriculturist* has published his Almanac for 1846. It is adapted to the meridian of the middle States, and contains a good deal of agricultural information, in addition to the usual matters of such an annual.

A WRITER in the Mark Lane Express, recommends sugar as an excellent and cheap manure for turnips!

WHEAT is principally gathered in our neighbourhood. We have been told of some fields in Gloucester county, N. J., that were exceedingly smutty. Several persons from different neighbourhoods on this side the river, have called to say that the frost on the morning of the 1st ult., seriously injured the wheat in spots in many fields. The blossom was killed—the head turned white, and would of course yield nothing. We have no recollection of such a circumstance occurring before in this vicinity. With these exceptions, the average crop is a fair one. We hear very little indeed, of either rust or fly. The drought shortened the crop of grass—many think, 50 per cent.

OUR friend Sands, appears this month with his *American Farmer* in a new dress. What is new, is not always an improvement. In this case, however, we think it is decidedly so.

A COMMUNICATION was received here in the spring from a correspondent in Surry co., North Carolina, enclosing a few brown beans perforated by bugs; and stating that their ravages threatened seriously to interfere with the crops of that article. We have made considerable inquiry among our scientific friends, and are unable to gain any definite information about this insect. We may just state, that the bug very closely resembles our *pea-bug* in shape, colour, &c., but seems to be a trifle larger. The beans sent had mostly two and even three insects in each. If this notice should meet the eye of any one who can give us information of the habits, &c., of this apparently new comer, or suggest any mode of culture which would prevent their thus attacking the fruit, we would feel much obliged by receiving an article on the subject. We know that the bug in the pea does not prevent it from vegetating—but from the appearance of the beans forwarded, we should very much apprehend the germ was destroyed. We are not aware of beans in this section of the country having been thus attacked. Peas are rarely seen in the spring without either a bug occupying them, or the hole whence he has escaped, but no injury seems done.

Since the above paragraph was written, we have received a letter from Hunt's store, in North Carolina, which says that "by mixing salt with the garden beans as soon as they are dry enough to put away, the worms are effectually prevented from destroying them."

BOMMER'S MANURE METHOD.

Interesting communication from Mr. Bommer, relative to his well known method for making manure.

TO THE AGRICULTURAL PUBLIC.

PRICE OF THE METHOD GREATLY REDUCED.—Until now I have maintained the prices fixed upon by myself and Abbott & Co.; prices which varied from six to twenty-five dollars, according to the size of the farms, and this I was obliged to do, because in accordance with our agreement, I was not at liberty to alter them. It was principally to gain this end that I bought out Messrs. Abbott & Co.

To render my work really popular, I have fixed its price so low, that each member of the whole agricultural community can purchase it. Henceforth it will be sold at the uniform price of \$5 for every farm in the Union—that is,

One Right with one copy of the Method for any one Farm, \$5 00.

PRICE FOR WHOLESALE.—Agents, farmer clubs, book-stores, seed-stores, agricultural repositories, offices of agricultural papers; in one word, such persons as will take a certain number of "Methods" at a time, either to be divided among their neighbours who have clubbed together, or for single sales at the price of five dollars, will have the "methods" for the following prices, viz.

For 5 Rights with 5 Methods or books, . . .	\$20
" 12 " " 12 " " . . .	40
" 30 or more " 30 or more " 40 per cent.	

(Making only \$3 per piece.)

All orders must be accompanied by the amount in cash, and directed to my office, 113 Greenwich St. New York city, or to my empowered Agents; in which case the "Methods" will be sent immediately.

Each package of "Methods" will contain a good number of Prospectuses or handbills, containing 1st. A Synopsis of the matter contained in the "Method;" 2d. Documents and Reports from several authorities of the United States, approving the "Method" and acknowledging its practicability; 3d. Certificates from respectable, scientific and practical men, attesting the results which have been obtained from its application; 4th. Editorial articles, expressing the opinion of the press.

A word to Enterprising Men.

Having succeeded in making known the advantages and the practical utility of my method to competent and disinterested men, whose characters are sufficiently known to the public to place their testimony beyond doubt; my "method" being patronised by the most eminent men of this country, Messrs Martin Van Buren, Gov. J. H. Hammond, Gen. Wade Hampton, Gen. J. L. Means, Col. Singleton, Col. Hugh Lawson, Hon. J. R. Poinsett, W. B. Seabrook, Andrew Stevenson and others, who have adopted it; several thousands of the method having already been spread throughout the Union, the greater part of the purchasers being eminent agriculturists; and all subscribers being satisfied with the work, my end has been attained, my task stops here; it is now a mere business matter, ready to receive the developments of which it is susceptible.

For these reasons, and desiring to employ my time in new researches and experiments, especially upon the subject of *transmutation* of dead into living vegetables, a highly important subject in agriculture, already hinted at in my work, but which is still in a problematical state, not reposing upon any solid basis; and to enable me also, in accordance with my former promises, to impart the results of those experiments to the subscribers of my method, I have resolved to cede my patent and method, either by Town, County, or by State, to single persons or to companies, on the most reasonable terms, the price of which will be fixed according to the agricultural importance of the Towns, Counties, or States.

Every purchaser of the patent for a Town, County, or State, will be supplied with such number of copies of the method, gratis, as may be agreed on.

NOTE.—The patent right for the State of New-York, (Long Island and Staten Island excepted;) for the ten

eastern counties of New Jersey; for Frederic county, Maryland; and for about 40 towns in New England, have been ceded by me to several persons and companies. For all other states and territories in the Union, I can now dispose of the patent and method.

Herein I present a new branch of industry to enterprising, intelligent, and active men. It would be superfluous to enlarge upon its advantages, for it will be seen at a glance, by perusing documents, mentioned in the prospectuses, that my method enjoys a high reputation in the Union, and that this enterprise is in its nature as honorable as it is lucrative.

Important Notice.

Having now given the best plan, taken the best measures for the prompt introduction of my "method" into agriculture, and done every thing, on my part, to enable every one to procure it at small expense, I notify those who should feel tempted to use this system, without being furnished with a right and a "method," that they will not only expose themselves to be prosecuted for an infringement of the patent, but lose their time and their money in vain trials, of which the result will be, if not totally unprofitable, at least very incomplete. Therefore, do not deceive yourselves, but be assured of *this truth*, that my large method is to this day, the sole work in existence which contains the improved and complete system, and in which its application is rendered easy and profitable in all its branches. In a word, its possession is the main condition of your success; first, because the whole work constitutes one chain of facts and principles, which are linked together and sustain each other, and form an inseparable whole which is indispensable to the proper comprehension of the system, enabling you to apply it in a really profitable manner. Secondly, because it contains, besides the process in question, a great number of other instructions not less useful, the knowledge of which will aid and guide you, so as to put you in a way to derive from the system the greatest advantages and profits.

For these reasons, those who have formerly bought my small method, can have the large one *gratis*, by an application at my office, (post paid,) or to my agents.

Those among you, who have faithfully tested the method and obtained satisfactory results, are respectfully requested to communicate with me. To those who have not tested its advantages, I recommend, by all means, carefully to conform to the instructions contained in the large method, in which case their success will be infallible.

Statements and Explanations concerning the "Method," and the Rights attached to it.

When I first introduced this method into American agriculture, I judged it prudent, for many reasons, to publish at first but a part of it; enough, however, to enable the intelligent farmer to succeed in the experiment. Before encountering the expense required to publish in full the fruits of my labors, I was anxious to ascertain if this system would be well received and properly appreciated by the agricultural public. My expectations were not disappointed, that trial having been crowned with entire success. Thus encouraged, it became my duty to persevere, and to give you the result of all my researches and experiments. This you will find in my

new work, which I can say with confidence, is the key with which you can, by the exercise of a little intelligence and industry, double the product of your farms; for, in this work, the system is so much improved, its application rendered so easy, the whole so clearly explained, and so fully detailed, that if you conform to its prescriptions and instructions with scrupulous exactness, *success is certain*.

In the main, my method is based upon that known for some time in France as Jauffret's system; that is to say, I use the same materials; for, in my researches and experiments it became my duty to consult not only the small French pamphlet of Jauffret, but all other writings which have appeared upon the subject of agriculture, and especially of manure, in order to extract from them whatever, by experiment, should prove to be good, valuable, and useful to the object I had in view. The merit of this new system does not consist either in the materials, or in their combination. These materials have been known for ages as possessing fertilizing qualities, and every person at all acquainted with chemistry, knows that in mixing alkalis with animal matter, a mordant can be obtained which will produce fermentation in a heap of vegetables. This then, is not new; it is the numerous improvements and ameliorations connected with the application of these materials which give real importance to this new system. Therein lies the real progress of the art in the preparation and the application of manures, and therein consists the merit of the new edition of the *method*. True, Jauffret also undertook the application of this mixture, but he stopped half way. His process, such as described in his pamphlet, cannot be used with profit and success, and that for three cogent reasons. The first is: the meagre and incomplete instructions he gives to the operator upon the application of the system; the second, because the hand labor is too painful and expensive; and the third, because he did not discover, and consequently could not tell how to employ the air as a second agent of fermentation—a very important point in the operation, because without this aid, it is impossible to attain that degree of heat which is necessary perfectly to reduce vegetable matter into manure in a short time. Therein he failed, and therefore it remained for others to accomplish the work he had left incomplete. But although I have perhaps gone much farther than all others who have hitherto devoted their attention to this subject, I do not pretend to have closed the door to improvement by my method. The question of manure is so extensive that it embraces nearly the whole agricultural art, and will in due time advance to fullness by relying upon science and practice. In the meanwhile the great step is made, the fundamental bases are established, and the system, as explained in my new work, has been so well matured by my experiments, that I can affirm without fear of misleading any one, that any farmer, who will undertake to operate on my plan, will succeed, and I assure him that he will considerably augment the products of his farm by following my economical process in the preparation and application of his manure. Here the word "*economical*" is seriously intended. The system taken altogether is essentially economical; for except a small quantity of lime, all the ingredients which enter into the composi-

tion of the caustic lye, (which, with the air, form the two agents of fermentation,) are found upon all farms, and cost nothing but the labor of gathering them.

Concerning the patent attached to my method, it is evident that it could only be granted for the improvement connected with the application of materials already known. You should know then, that the patented process is of the greatest advantage to the farmer, being the most economical, and the most easily reduced into practice. It is also the process now in use in every section of the Union. You should also understand, that in the patent this process is only described in general terms, and that, isolated from the "*method*," it is not likely to be of any value. To apply it with success, it is necessary to have my work for a guide.

According to an agreement between myself and my agents, Messrs. Baer and Gouliart, the patent was issued under their name, and a part of it, comprising the right for the northern and eastern States, was immediately ceded to me by them, which transfer is duly recorded in the patent office, in Liber M. page 250 of transfers of patent rights. Then by a second transfer, made to me the 6th Nov. 1844, by Abbott, Baer and Gouliart, known as the firm of Abbott & Co., the remaining part, comprising the right in the southern and western States, has also been ceded to me, which transfer is also recorded in the patent office, in Liber S, page 373; so that by virtue of these two acts, the patent, issued under the above names, now belongs entirely to me.

With regard to the "*method*" itself, that is to say, the book which contains the directions and instructions indispensable to the farmer who wishes to apply the process; in a word, which contains the system complete in all its details, the property and the copyright appertain to myself exclusively, according to two legal acts entered in the clerk's office of the southern district of New York. Thus, these two rights, although distinct, are inseparable; that is, the patent cannot be profitable to any one without the method.

I was compelled to give these explanations and to make these statements, because all these matters have been agitated by the press as well as by private correspondence; and also, that for the future, each one may know to whom to apply in regard to this patent and method.

You should not lose sight of the fact that all the copies of the method are *signed and sealed* with my own hand,—a measure I have adopted to prevent imposition and fraud.

A call to the Press.

Editors of agricultural periodicals, and of other papers having at least 400 farmer subscribers, are invited to publish the above communication; for which entire insertion, and perhaps some other articles to be sent by me afterwards, I offer every one three copies of the method; to be delivered to him immediately after the receipt of his paper containing the whole article. Such editors of agricultural papers of which I am not yet a subscriber, will please to send me their paper, and consider me as such, GEO. BOMMER.

Office 113 Greenwich street, New York city.

July 1st, 1845.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrow; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable and Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by
D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, \$1 75 per barrel, containing four bushels—\$5 for three barrels—\$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of portorage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. It is now seasonable for turnips, &c.
JOSIAH TATUM.

WATER MELONS from the South were in our market on the 25th ult. Tomatoes we had some time previously.

DR. GEIB, of this city, showed us a fortnight ago, a simple, yet ingenious machine, which he calls the *CHRONOGRAPHER*, designed to assist young beginners in acquiring the art of *properly holding the pen*. The youngsters, we should suppose, would thank the Doctor. Some of us who recollect the raps our unlucky knuckles were in the habit of receiving half a century ago, and which after all, only taught us to scratch unsightly marks, ourselves can but just decipher, can appreciate the benefit to be conferred by an instrument of this kind upon the uninitiated.

Agency for the Purchase & Sale of IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.
AARON CLEMENT.

March 15th, 1845.

Chester County Farm for Sale.

THE subscriber offers for sale the valuable farm on which he has resided for a number of years past, situated on the Brandywine, two and a half miles from the borough of Westchester, and about twenty-five miles from Philadelphia. It comprises 136 acres of naturally fertile and highly improved land, and equal to any of that which has made this vicinity so celebrated as a grazing district. It has been well limed, fenced and drained, and every field contains a spring or run of water for the stock. The buildings are large, with every convenience attached. The mansion is of modern finish, five rooms on the first floor, with entry running through the middle. The spring water is introduced by iron pipes into the kitchen and bath room in the second story, and also flows into the barn-yard. The grounds around are handsomely laid out with fruit and shade trees and shrubbery. There is an orchard in prime bearing, and a young one of Apple, Pear and Peach trees, is just coming into productiveness. The barn is double floored, with straw house, grauaries, wagon house, and shedding attached.

This property presents the advantages seldom met with, of combining a beautiful country seat with that of a highly fertile and productive farm. Application to be made to the subscriber, residing thereon, or to Anthony P. Morris, No. 23 Filbert street, Philadelphia.

PASCHALL MORRIS.

Allerton Farm, near West Chester, Chester co., Pa.,
Sixth month 14th, 1845. 2t.

SOME farmers were cutting their wheat in Salem and Burlington counties, N. J., on the 18th ult. The harvest was no doubt hastened by the long continued drought. The editor recollects beginning to cut his rye on the 24th of Sixth month, in 1826. This was the earliest he ever commenced harvesting.

WILLIAM PARRY, of Burlington co., N. J., left at this office two or three weeks ago, a couple of stalks of wheat, with remarkably large and well filled heads. They were a part of the produce of a single head of 21 grains, which was sent him from the seat of government, by his uncle O. H. Smith, of the U. S. Senate, from Indiana, and which came from Italy with Greenough's statue of General Washington. He planted those grains on the 19th of First month, 1842, and has been nursing their increase ever since. Last year he had three bushels lacking one quart, on one-twelfth of an acre. This season he will probably have 50 or 60 bushels. He stated that some of it would be for sale at J. P. H. Coates' Seed store, in Market street. It is a white bearded variety, and our friend proposed calling it the *WASHINGTON* wheat. A few stalks of this wheat were left by S. L. Clement at the room of our Agricultural Society, at its meeting on the 2nd inst.

SHORT ADVERTISEMENTS.

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	\$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
Downing's Fruits and Fruit Trees of America,	1 75
SKINNER'S Every Man his own Farrier,	50
AMERICAN Poulterer's Companion,	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
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“ FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions received for Colman's Agricultural Tour—or single numbers sold.

☞ We are prepared to bind books to order.

Seed Store,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red clover, and other grass seeds. Field seeds, consisting of Spring and Winter Wheats, Potatoe, Oats, Barley, and choice varieties of Seed-corn. Also in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

Philad., March 15th. M. S. POWELL. tf.

COATES' SEED STORE,

No. 49 Market Street.

FRESH TURNIP SEED,

Of the most approved varieties for Cattle and Table use, with a complete Assortment of

GRASS & GARDEN SEEDS,

Of the finest Quality and best Varieties—Bird Seeds, &c.

JOS. P. H. COATES,

Successor to George M. Coates.

THE second number of the *American Journal of Agriculture*, edited by Drs. Emmons and Prime, and published at Albany, was received some time ago. It contains much valuable matter, and we will with pleasure receive subscriptions for it at this office.—\$3 per annum.

THE quantity of rain which fell during the Sixth month, 1845, was nearly three and three-quarter inches. 3.72 inches.

Penn. Hospital, 7th mo. 1st.

CONTENTS OF THIS NUMBER.

The Potatoe Rot,	PAGE 361
The Hessian Fly,	364
Accidents to Indian Corn,	368
A Simple Green-house.—Tulip.—Parks of London,	369
Ploughing in September for Corn,	370
Indian Corn,	371
Romance of Insect Life.—Russian mode of making Butter,	372
Disease of the Potatoe,	373
Bees.—Sale of E. P. Prentice's Short Horns,	374
The late Frost.—Wheat Crop,	375
Song of the Soil,	376
Feed for Horses.—Rare Cows in the West.—Agricultural Exhibition,	377
Editorial Notices,	379
Bommer's Method,	380

THE FARMERS' CABINET,

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It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

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