MASSACHUSETTS
STATE COLLEGE

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THE

FARMERS' CABINET;

DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND

RURAL ECONOMY.

Upon Agriculture, the foundation of individual happiness and national prosperity must rely for support.—*Clinton.*

Volume 1.---July 1, 1836 to July 1, 1837.

PHILADELPHIA:

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No. 45 North Sixth Street.

JOHN LIBBY, PITTSBURGH, PA.

1837

ILLUSTRATIONS.

TO SUBSCRIBERS.

The present number completes the first volume of the Farmers' Cabinet, and the proprietors would avail themselves of this opportunity of expressing their thanks to those gentlemen who have taken an interest in the success of the work, and who, during the past year, have aided them by their contributions, as well as by their successful efforts to extend its circulation, Our acknowledgments are also due to our subscribers—they have kindly borne with us during our infancy—we have been cheered by daily accessions to our list, and now our little work not only makes its regular visits to thousands of rural homes, in our own country, circulating in almost every state, but it is also sent to regular subscribers in foreign lands.

Friends of our enterprise,—on the first of August, we commence a new year or the second volume of the Cabinet. It remains for you to say whether it shall receive the same measure of generous support as the preceding volume. Nine-tenths of our old patrons, from whom we have heard, wish to continue the work. We do not calculate on parting with many of our subscribers. Some of course we shall lose. In a list of nearly ten thousand, there must of necessity, be changes. We shall endeavor to give all who continue, as well as new subscribers, the full value of their money.

Our subscribers know the object for which the Cabinet was established. The work is intended to be one of *utility* to the farming interests—and if it is calculated to promote the interest, to elevate the dignity, to enlarge the views, to introduce new systems of cultivation, or improvements in the old methods of the farmer, may we not, with confidence, ask the influence of all in extending its circulation? If it be useful, the more extensively it is circulated, the better for the community. But how shall it be done? We answer, let every friend of an enlightened agriculture—every advocate for an agricultural journal, use his influence in obtaining additional subscribers for the coming year, among his acquaintance. Almost any individual can easily procure six subscribers in his immediate neighborhood. Now let all such, if they think the Cabinet should be sustained, procure us six subscribers, and, on sending a five dollar note, free of postage, we will supply the subscribers thus obtained for one year, and send him also a copy for his trouble. In this way our friends may render us essential service in the prosecution of our labors.

BACK NUMBERS.

As many of our subscribers commenced taking the Cabinet at the commencement of the second half year, or number 13, and have expressed a wish to have the preceding numbers, in order that the work might be bound com-

plete, we hereby inform them that we can supply copies of the first thirteen numbers to their order, provided they give us timely notice. All letters on this subject, must be post paid. In all cases when requested by persons at a distance, copies shall be reserved.

BANK NOTE LIST.

In consequence of the frequent and gross impositions practiced upon the community, and especially upon farmers, by the circulation of counterfeit and spurious notes, the proprietors have resolved on issuing, once in three months, a work of sixteen pages, same size as the Cabinet, to contain a full description of all counterfeit notes, fraudulent issues, altered notes, broken banks, depreciated paper, the state of the money market, and whenever practicable, the situation of the principal banks in the United States. The price of this work, will be 37½ cents per year: but to all subscribers to the Cabinet, who pay in advance, or at the time of subscribing, for the second year, it will be sent gratuitously. The first number will appear some time during the month of August, or early in September.

The second volume of the Cabinet will commence on the first of August. Those whose term of subscription commenced during the first year, will receive the whole compliment of numbers, (24,) to which they are entitled. We wish it to be distinctly understood, that 24 numbers, when published, will be considered equivalent to one year's subscription.

MISSING NUMBERS.

We endeavor to be particular in forwarding the Cabinet to all our subscribers. Mistakes may, and no doubt, do occur occasionally in our office. We are not willing, however, in all cases to bear the blame. We know that papers and letters are frequently detained on the way, and generally from unexplained causes. For instance, we have just received a letter bearing the post mark of "Elkton, March 24." We are satisfied that it left the office where it was mailed, on the day designated:—and yet there are, perhaps, no post offices in the country managed with more fidelity and general correctness, than the office in this city and that at Elkton. We request our subscribers not to blame us for all the delay in the receipt of their numbers. And we would ask them when their numbers are received very irregularly, to request the Post Master at whose office they receive their papers, to inform us.—Duplicate copies shall be sent when necessary, and every effort made to remedy the evil.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. 1. **Philadelphia, July 1, 1836.** **No. 1.**

Published by
MOORE & WATERHOUSE,
No. 67 South Second St. Phila.

THE FARMERS' CABINET.

In presenting this work to the public, the Editor would simply say that it is designed to promote the interests of practical husbandry. He is aware that great objections exist among many to what is denominated book farming—all however will admit that great and astonishing improvements have taken place in agriculture within the last twenty years, and that these improvements are fairly to be attributed to repeated experiments, and the diffusion of light and knowledge among the agricultural classes of our land.

It will be his object to furnish the patrons of the Cabinet, with valuable extracts from papers treating on all the various branches of agriculture; and it would afford him no little pleasure, if practical farmers would furnish him with their opinions on agricultural subjects, the results of experiments, &c. By this means, great improvements instead of being confined to individual practice, or to a neighborhood, would be widely diffused to the benefit of many.

We make no great promises—we are willing to rest the success of the enterprise on the merits of the work, sensible that if deserving of patronage, it will be liberally sustained by that enlightened and independent class of citizens to whose interests it is devoted, and to whose fostering care it is commended.

The Cabinet will be published on or about the 1st and 15th of each month. Each number will contain 16 octavo pages on good paper and fair type. The subjects will be illustrated by engravings on wood whevever they can be appropriately introduced.

Terms.—$1 *per year payable in advance.*

For the accommodation of those who wish to subscribe for six months only, the twelfth number will be accompanied by a title page and index in order for binding.

Any person remitting us five dollars, will be entitled to six copies of the work for one year, or twelve copies for six months. The Cabinet is subject only to *newspaper postage;* that is one cent on each number within the state, and within one hundred miles of Philadelphia out of the state,—one cent and a half on each number to any other part of the United States. Gentlemen, disposed to promote the interests of the work, are not only requested to use their influence in promoting its circulation, but also to aid it by their communications.

We have adopted the *octavo* form as it is more readily preserved by stiching the numbers as received, than any other size; it also makes a good sized volume, and can be bound at a much less expense than the quarto or folio size.

On Irrigating Meadows.

Irrigation is extensively practised, and indeed is essentially necessary in southern climates, such, for instance, as Spain, Portugal, Italy, Egypt, &c., where the heat is unremitted, and the land seldom visited by rains in summer. It is a great improvement, but happily it is not necessary to any great extent in our highly favored country. The main, and indeed, we may say the only objection that can be urged against this branch of improvement, is the great expense necessarily attending systematic irrigation, as the entire surface is required to be graduated in order that the water may not only be spread over but completely taken off the surface as occasion may require.

We beg leave to recommend to the attention of our readers, the following paper on this subject, furnished the editor of the Genesee Farmer by E. Wilbur.

The plan he recommends is certainly worthy of trial; it will cost but a trifle, and no doubt produce in return, a hundred fold for the labor and expense devoted to the experiment. Should any of our readers make the experiment, we should be gratified if they would forward the results to us for publication.

As there has been considerable said in thy paper on the subject of irrigation, it may perhaps by some be thought unnecessary to say any thing further on the subject; but, as it is one of considerable importance, perhaps there cannot well be too much said; and the scarcity of fodder for the two past years will be a sufficient excuse for what I may offer on the subject.

In the first place, it is my opinion that if the water in the state of New York should all be used to the best advantage, which is now useless, or perhaps, I might say worse than useless, there might be an addition of hay through that means that would be worth one million of dollars, and perhaps more. This calculation to some may look wild, but it is nevertheless true, for there are but few farms but what have some streams running through them some part of the year—some little swales where water runs for a considerable time in the wet part of the spring. Now all this may be used to advantage where the ground descends enough to take them from their natural channel. Do not be scared for fear it will require some work, but try it and be satisfied for yourselves. I have tried it and know it to true. I once bought a small farm in Yates county, on which there was scarely an acre of natural meadow ground. Its former occupant did not cut any hay on the farm, but used to mow around the neighborhood on shares wherever he could get a chance; and so I had to do the first year, until I ploughed the ground and seeded it, for it was as dry and barren almost as a road; I mean the piece which I selected for my meadow, of perhaps about seven acres, on the lower side of my farm. The farm all descended considerably to the east, and the object of selecting that place for my meadow was that I might get some water on it in wet times. The road run up and down the hill on the side of my meadow piece, and nearly through the middle of it there run a little swale about the same direction, perhaps in some places two rods wide, and in others not so wide.

Well, some may say, what of all this?—What has the road and this little dry swale to do with your meadow? for the water did not run there perhaps half of the year. I have been pretty particular in describing the situation, in order to show the effect of making the best use of water when we have a chance, and that it is not always necessary to have a double stream in order to raise heavy hay. Well, now for the management.—After I had got my piece of land seeded for meadow, the next thing was to make use of the water, which I did in the following simple and easy manner:

I took my team and plough in the spring of the year, when the water run pretty freely in this swale, when I thought I could carry the water on the highest ground in the meadow; after starting a few paces, I stopt for the water to follow, and observe the current, so as not to get so high that the water would not follow, or so low as to give too much current. In this way I carried it on to the highest and dryest part of the ground, and then let it spread over as much as it would. But little more needed to be done to the ditch than to make the furrow and clean it out a little with a hoe. I made several other furrows from the swale below the first one in the same manner, to carry the water that dreans off into the swale again. In this way I loose but very little.

Almost every body has noticed, that in the spring of the year, when the snow is going off, or after a smart shower, that the ditches by the road side will be filled with water, and if the road runs a little up hill, the wash of the road will run off, and generally into some swamp or hollow, where it does but little if any good. To prevent this waste, I made several furrows from the road side to carry the wash on to the meadow.

And what was the effect produced by these few furrows, which at first did not perhaps cost me more than a day's work? Why, the effect was such, that it paid me an hundred fold for the seven acres after the first year.—When the sod got well made so as to grow thick, it produced for several years while I owned it, from two and a half to three tons of hay to the acre; and the man that I sold it to, told me last year that he hardly ever saw such grass; there was hardly room on the ground to make the hay after it was mowed. Now if people could generally be made to believe this, and to pay attention to it, it would soon be found that my assertion was not very extravagant in regard to the additional quantity of hay that would result from it. But perhaps my brother farmers are so taken up with the political slang of the day, that they will do as they always have done, neglect that which most concerns them for

trifles, or that which is of little consequence to them in the way of their business.

Now to ceonclude. If thee can make any thing out of this that thee may think will be worth the trouble, thee can do it, if not, commit it to the flames; but it really does hurt my feelings to see the loose manner in which farmers generally manage their business.—I could say much upon the subject of farming in general, but feel myself incapable of doing any thing like justice to the subject, and therefore I forbear at present, and subscribe myself thy friend. E. Wilbur.

Indian Corn.

All, or nearly all the accounts we have published of great productions of Indian corn, agree in two particulars, viz: In not using the plough in the after culture, and in not earthing, or but very slightly, the hills. These results go to demonstrate, that the entire roots are essential to the vigor of the crop; and that roots, to enable them to perform their functions as nature designed, must be near the surface. If the roots are severed with the plough in dressing the crop, the plants are deprived of a portion of their nourishment; and if they are buried deep by hilling, the plant is partially exhausted in throwing out a new set near the surface, where alone they can perform all their offices. There is another material advantage in this mode of cultivating the corn crop; it saves a vast deal of manual labor.

There is another question of interest to farmers, which relates to the mode of harvesting the crop, that is, whether it is best to top the stocks, cut the whole at the ground when the grain is glazed, or cut the whole when the grain has fully ripened. We have stated that the experiments of Mr. Clark, of Northampton, one of the best practical farmers of our country, and of other gentlemen, showing that the grain suffers a diminution of six or eight bushels the acre, by topping the stocks; and there seems to be no counterbalancing benefit in the fodder, unless at the expense of carrying the stocks to the borders of the field, that they may be secured before the crop is gathered, and before they become blanched and half ruined. And it is no protection against early autumnal frosts, but rather exposes unripened grain to be more injured. Hence, so far as regards these two modes, all who have made a comparison, seem to concur in the opinion that stripping the corn of its tops and leaves is a bad practice. William Carmichael, of Virginia, has given us in the Farmers' Register, his experiments in this matter, which go to corroborate the conclusion we have drawn. He took, promiscuously, 100 ears from corn that had been topped, and 100 ears from that which had not been topped, growing side by side. The first weighed on the cob 50 lbs., shelled 41 lbs., and measured 21 qts., 1 pt. The other, 54 lbs.; shelled 46 lbs., and measured 25 qts.; showing a difference of nearly one-fifth in favor of unstripped or untopped corn. The fact is, that topping not only prevents the the further elaboration of the sap, which can only take place in the leaves. and which is necessary for the growth of the corn, but it deprives the grain of much that is already elaborated, and on its way to the grain, if a fruit tree is deprived of its leaves, before the fruit has attained its growth, or mature flavor, the fruit will no longer grow, nor will it attain high flavor, for its supply of elaborated food, or vegetable blood, is cut off by the loss of leaves. We have noticed this particularly in the plum.

Satisfactory experiments have not been made to determine whether it is most advantageous to cut the crop when the grain is merely glazed, or to wait till it is perfectly ripe. This will depend upon the amount of loss, if any, in the grain, by early harvesting; the relative value of the grain in fodder, and the prospect of both being injured by early frosts; for neither are liable to suffer from frost after the crop has been cut and put into shocks. It is to be noticed, that in early cutting, the stalks are succulent, and abound in elaborated sap, on its descent from the leaves to the grain, and that this supply of food to the grain continues to flow probably for some days after the corn is in the shock, and if so, the grain itself continues to improve, though we think it likely that the crop undergoes some trifling diminution. But if frost is likely to intervene before the complete maturity of the crop, there is no doubt but the corn will suffer less in shock than it will standing, while the fodder will be materially injured by frosts. Admitting that there is a small loss in grain by early cutting, though it is undoubtedly less than when it is topped, the difference in the value of the fodder, under the two modes of management, is vastly in favor of early harvesting. We do not pretend to calculate to a nicety the difference in nutritious properties, of corn stalks cut in a succulent state, early in September, well cured and well housed, and those left standing till October or November in the field, but we should think it fifty per cent. Well cured corn stalks afford an excellent winter food for neat cattle; and when fodder is likely to be in demand, they may be made to contribute largely to the profits of the farm. Several of our acquaintance have kept their neat stock almost entirely upon this fodder during the past winter, and we have done the like, having first cut ours in a cutting machine; and

so far as we can learn, the cattle kept upon them are in excellent condition.

The preceding consideration justifies us in recommending, that in the management of the Indian corn crop, the following rules be observed, at least partially, so far as to test their correctness:

1. That the corn harrow and cultivator be substituted for the plough in the culture of the crop.

2. That the plants be not hilled, or but slightly so; this not to prevent the soil being often stirred, and kept clean. And,

3. That in harvesting, the crop be cut at the ground as soon as the grain is glazed.—*Cultivator.*

Progress of Agriculture in England.

The introduction of fallows between successive corn crops, was a very great improvement on the previous practice; but the substitution of green crops for fallow, on all but stiff clay lands, has been the greatest of improvements ever made in agriculture; and has effected as great and beneficial a revolution in it as the introduction of the steam engine and of the spinning frame, has done in manufactures. There is abundant evidence to show, that the culture of turneps, as a field crop, was carried on to some extent in several English counties, in the latter part of the 17th century. But the practice spread only by very slow degrees; and it was not till its introduction into the county of Norfolk, in the reigns of George I., and George II., when it was prosecuted on a large scale by Lord Viscount Townshend and others, that its signal importance become obvious.

At the period referred to, the whole north-western part of the country, which has long been one of the best cultivated districts of the empire, consisted of mere sandy wastes, sheep walks and warrens, worth little or nothing. These were converted into highly productive arable land, by enclosing, marling, and the aid of the turnep husbandry, which is as it were the corner stone of the Norfolk, or improved system of husbandry. The same practices that had produced such splendid results in Norfolk; that had made sandy wastes yield the most luxurious crops of wheat and barley, have been gradually extended, with similar effects, to many other parts of the kingdom. The produce in corn of the light soils in all the moderately well cultivated districts of the empire, has in consequence been more than trebled; at the same time that a vast supply of green food has been obtained for the feeding of cattle and sheep, and the production of the most valuable manure.

But, signal as has been the improvements in arable husbandry since 1760, the improvements made in stock husbandry, or in the breeding and fattening of cattle, have been still more considerable. No efforts for this purpose seem to have been made with judgment, and proper perseverance till after 1760, when Mr. Bakewell, of Dishley, in Leicestershire, began his career. Mr. Culley, of Northumberland, soon after entered on the same course; and the signal success by which their efforts were attended, roused a spirit of emulation in a host of others. But the rapid increase of manufactories and commerce, and consequently of the town and population, after the peace of Paris, in 1763, by creating a corresponding demand for butchers' meat, gave the principal stimulus to the improvements that have been made in stock husbandry. It was not easy to over-rate their importance.

We have already seen that, at an average, the weight of cattle and sheep have been a great deal more than doubled since about 1760; so that a stock of 5,000,000 head of cattle at present, would be more than equal to 10,000,000 at that epoch. But the number, as well as the weight of the cattle, having been materially increased in the interval, the supply of butchers' meat must have increased in a corresponding proportion, or been at least trebled. There has also, owing to the same cause, been a very great increase in the produce of wool. The supply of the latter article, propuced in England and Wales, in 1800, was estimated at about 384,000 packs, at 240 lbs. each. But, owing to the increased size of the animal, and the greater weight of the fleece, the same number of sheep that produced 384,000 packs, in 1800, were estimated by the best wool-growers and wool-staplers, to produce 453,000 in 1830, being an increase in the interval of no less than 20 per cent. It is too true that the quality of the wool has rather deteriorated, for it seems to be impossible to procure both a heavy and a fine fleece. Taking, however, the increased weight of the carcass and the increased weight of the fleece into account, sheep are believed to be more profitable at present than at any former period; and, for the last three or four years, they have been the most productive species of stock kept in the kingdom.—*Edinburgh Review.*

Flemish Husbandry.

From our earliest recollections of agricultural matters, Flanders has been considered proverbial for fertility; and it would seem from the examination which we have given to the work before us, that its agriculture justly merits the high character which it has acquired. And yet, with partial exceptions, the

soil is not naturally rich; it is POOR, such as we should denominate very poor. It is mostly a flat, wet, cold, sandy district. Whence then its productiveness? The answer which may be gathered from our notes may afford useful lessons in American husbandry. Its productiveness arises,

1. From the small size of farms, and keeping them constantly in crop; no man attempting to manage more than he can manage well.

2. From a just estimate of the value of manure, the food of plants, and a judicious husbanding and application of it, frequently for years in succession to the same field.—The urine, sweepings, and other animal and vegetable matters, which we waste or disregard, contribute more to the fertility of their soil, than all the manure we apply, does to the fertility of our soil.

3. From a rotation of crops, two of the same kind never following each other, found, from long experience, to be best fitted to promote the farmers' ultimate profits.

4. From the extensive introduction of clover and root crops, which meliorate the soil, feed and fatten the farm stock, and make large returns in the form of manure.

5. From the cutting the forage, and grinding the grain, for their cattle, thereby greatly lessening the expenditure.

6. From the farmers giving their individual attention to their farms; and from their industrious, frugal habits of living. No lumbering, no fishing, no speculation, no hankering after office.

In the work under consideration, there is one sentence worth quoting entire, for the good example it holds out to us, viz: "No farmer is without a well cultivated garden, full of the best vegetables, which all appear at his own table." "A beggar is scarcely to be seen, except in the towns, and but few there."

Manure is an article of commerce; and the demand for it is so great, that every material for it is sought after with avidity, and the towns and pavements are hourly resorted to, with brooms and wheelbarrows, as a source of profit, and even the chips which accumulate in the formation of wooden shoes, are made to constitute a part of the compost dung heap. Hence the towns and farm buildings are remarkably clean and neat. In winter, cows receive sixty pounds of turneps, sometimes boiled with straw, per diem.

Destructive Insects.

Not only thorns and thistles, but hosts of noxious insects have been inflicted on degenerate man. My attention has been chiefly directed against the latter evil.

The character of some of these insects will be described in treating of my warfare against them.

The first in my series, is probably of American origin, as in no system of entomology can I find a description of the insect which has proved so destructive to our peach trees. I have to rely on my own observation for its history and description. It was probably unobserved by us prior to the present century.

In the autumn of 1800, I first saw the fatal malady in the peach trees about Philadelphia; the next year it had reached Burlington, and thence continued its march northward about twelve or fifteen miles a year. In 1807, in a choice collection of fruit of my own, every tree had the premonitory symptoms of the yellows: a few miles north escaped that year. Having made a careful dissection by splitting and barking several trees, I could discover no cause, but ravages of the worms between the bark and wood. Collecting a number of the worms, I confined them in glass and hatched from them the perfect insect; a moth or miller, small in comparison with the worm; white or light grey, with dark spots, wings convolute, like the section of a crow-quill split longitudinally. This phalœna or moth lays its eggs on the leaves of the peach tree; when hatched, the larva or maggot subsists itself first on the leaf, until it has acquired sufficient size and energy to migrate to a more suitable and permanent home for winter: this is between the bark and wood of the tree, near the ground. Here it enlarges its domicil; a sickly state of the tree follows, and if they congregate in sufficient numbers to circumvent the tree, certain death is the consequence, by intercepting the communication between the root and body of the tree.

The larva of the peach insect is herbivorous, and in this state of existence subsists on the tender lining of the bark; living in a cleanly manner, it deposits all filth outside the door, by the dark powdery appearance of which its abode may be detected. In its chrysoiloid state, its appearance is smooth and glassy. It frequently happens when seeking these worms, a chrysalis very different is found; this is the sirex or tailed wasp, the natural enemy of the peach worm; the sirex is a restless, fidgety insect, resembling the wasp; its young, like that of the other wasps and hornets, is carniverous. It may be observed about the neighborhood of the peach worm's habitation, at the door of which it lays its eggs; the product, a worm, creeps into the bowels of the peach worm, feeds on its carcass and occupies its coat. Its chrysalis, unlike that of the peach worm, is rough

and filthy, caused by the sweat and writhing of the victim of its rapacity.

I have been thus particular in noticing the sirex, because, being a usurper of the abode of its foster parent, it has been falsely accused of being the mother of mischief, instead of a friendly ally, which should be patronized. Among others, the Sussex New Jersey Register, had, about six years ago, a belligerent article against this supposed enemy.

Knowing that, even in a moderate degree, *heat* proves fatal to the cut-worm, I was led to try its effect on the peach worm; having placed several in the hollow of my hand, I found that water not uncomfortable to my skin, killed them. I thence commenced applying boiling water from a watering pot, (without the nose,) pouring it around the tree, about 18 inches above the ground in sufficient quantity to heat the bark; the quantity was varied according to the thickness of the bark and size of the tree; this proved completely successful for several years, and as long as it was continued.

The time for using the heat, was the last of summer, and again the middle of the autumn, lest some might have escaped or more recently arrived.

The Cut-worm.—This is the offspring of the *phulana devastator;* wings horizontal; white with small dark spots; under wings orange; conceals itself from the sun during the day; lays its eggs near the root of grasses. These worms are of a bluish color, and they travel only in the night; they cut off young cabbages, beans and corn; the latter is injured, but not destroyed by them.

To shun its depredations in gardens, be careful to plant at a distance from any grass plat or lawn. I have lost an entire crop of late planted beans by them, by planting near a grass plat. Frequent superficial hoeing, in he middle of the day, by exposing to the sun, proves fatal to many of them.

Turnep fly, is another familiar enemy. I have witnessed many a crop of cabbage and cauliflower plants, also melon and cucumbers destroyed by these minute insects. To obviate this, on the first mentioned small seeds being sown, I have wetted the ground to the depth of an inch or more with boiling hot water; thus destroying the flies and their eggs, and at the same time expediting the germination of the seed. For melons and cucumbers, I sow and rake radish or turnep seed, on and around each hill; the flies are attracted by these, their more favorite food, from the melons, &c. Against the striped bug, another destroyer of melons, a brood of young chickens is a sufficient protection for a whole garden.

Mr. Editor.—I do not presume to think the above the only or best means of abating the evils we suffer from insects; my object is rather to elicit from others the result of their observation and experience; the subject, in my view, is important. Has any one, more fortunate than myself, discovered the insect, for insect it most probably is, that produces the deforming warts and threatened destruction of our plumb trees?

A knowledge of the agent might lead to the means of counteracting the influence. May we not hope that some means may be discovered for palliating the impending evils from the wheat insect, by fire or smoke of some offensive kind, as of horns or hoofs of animals, made in the evening, at a particular stage of the opening ear. Many remedies and some of much practical utility have been suggested against the Hessian fly. We ought not to submit to nor look lightly on these pests.—Ants, insignificant as they appear in our view, have been suffered to multiply to such an extent on the island of Granada, that a premium of £2,000 sterling has been offered from the public treasury, for the best plan for their destruction. Poison and fires are employed.

Let us exert our energies against the whole race of these *destructive insects;* let us devote a few hours each year to this warfare, and although we may not gather laurels, we shall assuredly reap a rich bounty. Senex.

Kinderhook, March, 1836.

Milch Cows.

The attention of farmers is invited to the consideration of the character and condition of our milch cows.

How much ought a cow to yield to be worth her keeping? What is the average time that our cows are in milk? Is there much if any waste of fodder among us by keeping cattle that yield little or no return of profit? Questions like these, and there are many such, ought to be put and answered:—it may turn out that our dairy stock is extremely low in character, and its management wasteful.

If something like an average quality of milch cows could be settled to afford a standard, and it should be understood that no good farmer would keep an animal for milk that fell below it, all the cows in the country would soon come up to the standard and go beyond it.

A milch cow of *medium* quality, in this State, will give, it is supposed, 12 quarts of milk per day for two months after calving, and 7 quarts per day on grass for the next 4 months, and 4 quarts per day for the following 2 months, and perhaps two quarts 1 month longer. Altogether 1500 qts. in a year.

It takes 9 quarts of milk to make a pound of butter, and 4 quarts to yield a pound of

cheese. The skim milk and dairy whey may be valued at $3 a cow per annum.

Now a cow that gives 1500 quarts of milk in a year, produces 166 pounds of butter, worth 16 cents per pound, $26 55
Skim milk, say 3 44

$29 99

Or, 1500 quarts of milk will give, at four quarts to the pound of cheese, 374 pounds, which at 8 cents per pound will be $30 20
Whey, say 3 00

$33 00

Nothing is said of the worth of the calf, as all the milk the cow gives is credited. A milch cow's keeping one year cannot be short of $25 in the interior.

Suppose a farmer to resolve that he would keep no cow that did not hold out a good milker, 9 months in the year—and that did not give 16 quarts of milk per day for two months after calving, and 12 quarts per day the next four months, and six quarts per day the next three months, and two quarts per day the month following. Such a cow would yield per annum 3000 quarts of milk.

Here it may be remarked, that with the addition of five dollars per annum to the cost of food estimated for a cow, the net profit would probably be four fold.

Is it not practicable to have throughout the country, as common dairy stock, animals as good as the last described?

This question is submitted to farmers for consideration. The probability is, that in taking some pains to get stock as good, they would get even better.

If the various modes of obtaining this object were resorted to at once with zeal throughout the country, there would be a prodigious improvement in a very short time. No young animal of promising appearance for milk would go to the butcher. More care would be taken of young stock. More young stock would be retained to insure a better selection for milch cows. Farmers would think more of the advantages of employing bulls of the improved breed. Heifers would be milked with great care and very thoroughly, to get them into the habit of holding out longer as milkers. If they once dry early, no care and keeping will afterwards correct this fault. Heifers with the first calf will be fed well, and with some additional care the last three months they are in milk, to make them hold out.

The profit of a milch cow is not generally understood. Milk is not only the most nutritious but the cheapest article of food. The food necessary for a cow in full milk, does not exceed in price, one third of what is necessary in feeding for the butcher.

These few remarks are hastily made to draw out farmers on this subject. There is a great deal to be said upon it, and a great many facts to the purpose, which should come to light.

Cream.

The peculiarly rich cream of Devonshire, Eng., called clouted cream, is obtained by using zinc pans of a peculiar construction, consisting of an upper and lower apartment. The milk is put into the upper apartment; and after it has stood 12 hours, an equal quantity of boiling water is introduced into the lower one. At the end of another 12 hours, the cream is taken off much more easily and perfectly than in the common way, and is also more abundant and richer. The result of 12 experiments carefully made was as follows: 4 gallons of milk treated as above, gave in 24 hours, four and a half pints of cream, which yielded, after churning 15 minutes, 40 ounces of butter; 4 gallons treated in the usual way, gave, in 48 hours, 4 pints of cream, which yielded after churning 90 minutes, 36 ounces of butter. The increase in the quantity of cream is 12½ per cent.

The same principles may be applied in the use of common pans. It would be very easy, for instance, to prepare some kind of trough, or tin, perhaps, or even wood, into which the pans could be set, and hot water afterwards introduced.

As a close trough would be much better than an open one, you may have a cover with holes in which to set the pans. An ingenious yankee tinman would soon make a range in this way, sufficient for a common dairy, at no very great expense. It would last indefinitely. If it is true, that you would thus get some two pounds more butter a week from each cow, the apparatus and the trouble would soon be paid for,—to say nothing of the time saved in churning. We do not see why zinc pans—which are said to be decidedly preferable to any other for the dairy—with the tin range as above, would not be quite as good as the complicated and expensive Devonshire pans. And it would be easy for a dairy woman to satisfy herself respecting the *principle*, without either. By using cold water instead of hot, the range would serve to keep milk sweet in warm weather.—*Vermont Farmer.*

I was at old Fort Hunter, on the Susquehanna, above Harrisburg, in 1828. The highly respectable owner of this beautiful situation, Col. M'Allister, a gentleman of science and refined observation, treated my fellow-travelers and myself with great courtesy, and showed us some household conveniences worthy of imitation; and among oth-

ers, his Milk-house, Smoke-house & Clothes-line. I thought much of these, and have in part profitted by my observation. That the readers of the Cultivator may profit also by these improvements, I will briefly detail them in part.

The Milk-house was built in the north-east side of a slope near the well, and not far from the mansion. It was composed of stout stone walls, and the roof, which rose six or eight feet above the surface of the ground, appeared to be covered with earth or tile, and was deeply shrouded with the scarlet trumpet creeper, (*Bignonia radicans*,) then in splendid bloom. The interior of the house, principally under ground, was fitted up with cisterns, in which water stood nearly to the tops of the pans of milk, which were arranged in them.

The house was entered by a flight of steps on the south, and there was a window on the north, which could be opened or darkened at pleasure, to give ventilation. For want of a natural spring, which many Pennsylvanians consider almost indispensable in a milk-house, the water was conducted in a pipe from the well-pump, and after filling the cisterns to a certain height, passed off at the opposite side. The object was to obtain a cool temperature, in the heat of summer, which greatly facilitates the separation of the cream from the milk, and this object was amply effected, with the labor of working occasionally at the well pump.

The Smoke-house was a wooden octagon building, perhaps 16 feet in diameter, perfectly tight, except the door-way. The peculiarities of this building were, it was set a foot or more above the ground, and was perfectly dry, and bacon, hams, &c., were kept hanging around its walls all summer without becoming damp or mouldy, or being injured by flies; and in the second place, no fire was admitted into the building, the smoke being conveyed into it through a tube from the outside, where it was generated in as above.

The Clothes-line we saw had been six years in use, without sensible injury, though it had remained all this time in the open air. It had always been wound up, upon a small windlass, as soon as the clothes had been taken from it, where it was protected from the rain by a roof. Several posts, with notches near their tops, were placed in a range upon the grass plat, upon which the line could be drawn and fastened in two minutes, and from which it could be loosened and wound up in as short a time. It is but a small affair, but such small affairs make a large aggregate in ordinary life. "Take care of the cents, and the dollars will take care of themselves."

Judge Buel.

Knowledge.

Why should not a Farmer know a thing or two?—Why should not a farmer know more than other folks? They certainly ought to, for they have in this country more to do than others. They have to make more use of the powers or laws of nature than other folks;—they have to use the elements for tools—they are indeed practical chemists (whether they are aware of it or not) for they have to make use of the various substances which Nature gave them—they have to combine, separate, modify and change both simples and compounds. Their farm is at one and the same time a laboratory and a workshop, and in proportion as they operate in such a way as to afford the several elements of which the substances are composed, and upon which they are operating, to disunite or to combine, will be their success.

They depend upon the vegetable world for subsistence—their labor is among and upon the plants of the earth—why should they not know the proper names and nature of every tree and herb and plant? They have to contend with insects and animals—why should they not know the habits and the natures of these as well or better than any other class of people? They have to work upon the earth, they have to put it in a condition to bear a good crop, they have to change the state of it and adapt it to the various purposes and crops—why should they not know more and better respecting the ingredients of their soil—the various mineral and fossil substances which they may find either upon their own or others' farms? They have to "discern the face of the sky," and watch the changes of the atmosphere, and regulate their movements in accordance to the changes of the weather, temperature, &c.—why should they not know as much or more of the composition of the air or atmosphere, and the science of mineralogy than any other people? They must use tools or implements of labor. They must take advantage of the principles of mechanics to practical life. Is there any good reason why they should not know as much or more than others respecting the science of Mechanics or Natural Philosophy? In this country they have to contribute largely to the support and formation of the government, and upon them depends the election of rulers and lawmakers—why should they not understand the fundamental principles of national law, political science and political economy! They have to administer to the sickness of animals under their charge—why should they not perfectly understand comparative anatomy, at least, and also, physiology and the symptoms and treatment of diseases, as well as any others.

Indeed, so wide is the field of his labors, so numerous the objects with which he is connected, so various the operations which he has to perform, that we verily think that a farmer ought to be the most learned man upon earth. But can a man conquer or make himself perfectly familiar with every science and every thing? By no means—yet nevertheless he should have his mind so well stored with the general principles of all the sciences, that he can be guided by them when it becomes necessary to be more particular, and to know when he employs a man devoted particularly to any one branch, whether he is competent to the task, and will discharge his duty to him with fidelity and precision.—*Maine Farmer.*

From the Ohio Farmer.

Sweet Potatoes.

This excellent vegetable would be more extensively cultivated but for the great labor of planting and cultivating them in the usual mode, and for the difficulty of keeing them in the winter.

To obviate the first difficulty, I have, for about twenty years, ceased making hills altogether, and planted in ridges. I break up the ground well, and if necessary, harrow it—then with a barshear or cary plough, throw three furrows together. To complete the ridge, take a weeding hoe or fine rake and draw the dirt up first on one side and then on the other, to about the height potatoe hills are usually made. Open a trench on the top of the ridge and drop the slips five or six inches apart, cover with the hand about two inches deep.

This mode is attended with several advantages—requiring less ground, less labor in preparing the ground, less in cutting the seed roots, less in bending ridges than hills, and greatly less than digging. The last operation is done mostly with the plough. After clearing off the vines run a furrow along the ridge, taking down about two-fifths on one side, return and throw off as much on the other side, leaving about one fifth in the middle, nearly full of potatoes, which can be easily torn to pieces with the hand. A hoe will be necessary to move the dirt thrown out by the plough, so as to facilitate the picking out of the potatoes.

This mode of cultivating and taking up the crop, reduces the labor in my estimation nearly one half.

To obviate the difficulty as to keeping, I put my potatoes in a garner in the cellar, putting chaff or dry dirt around and on them—put them up the same day they are dug. When freezing weather comes on, close the cellar windows. In this way I had sweet potatoes for the table throughout the last cold winter.

Plant about the first of April, and be sure to dig after the first frost hard enough to bite the leaves.

Though the following communication appeared in a Connecticut paper in 1830, its suggestions may be new and important to many who are at present interested in the culture of the peach tree:

The Peach Tree.

From a desire to encourage the culture of the Peach Tree, we offer the following as the result of experiment and observation.

It is generally known that worms, near the surface of the earth, destroy them by eating the bark; the object is, therefore, to find a preventive, in order that the trees may become aged in a healthy state.

It is evident that these worms pass through the common change and assume the form of *millers*, early in the summer, and deposit their eggs in the bark as low as they can find access to it; and that the worms proceeding from them begin to operate in the latter part of the summer, when they have been found the size of a common pin. If suffered to remain they grow to the thickness of a rye straw; each of them girdles the tree about an inch, and the wood from the wounds to the heart dies. Hence it is, that a single wound impairs the vigor of the tree and a number of them will kill it. The point to be gained, is to protect the tree from the millers, and by a simple method, we have succeeded for several years, which is recommended with full confidence.

About the first of May remove the earth from the body of the tree, and shift it to the height of 15 or 16 inches, in such manner as to exclude the millers, burying the lower part of it in the earth. We have used straw cut to the length and about half an inch in thickness, bound on with twine. This should be removed about the first of September, as we have sometimes found the young worms in the upper part of the straw, being then readily discovered on the surface of the bark, covered by a little gum. The process should be commenced when the tree is young—they have been found in a rapid growth the first fall after it sprouted. Thus a few minutes in a year devoted to a tree, will protect it against this cause of decay—a very trifling expense compared with the value of this healthy and delicious fruit.

JONATHAN BRACE,
JOHN I. WELLS,
WM. H. IMLAY.

Hartford, Conn. Sep. 8, 1830.

From the Cultivator

Value of Fruit

Good fruit will be admitted by all, to be one of the most indispensable comforts of life.—Then why do so many farmers neglect to procure it—when, with a little *p'easure* (I will not call it trouble) in grafting and inoculating it could be so easily effected. Many farmers live—or rather get along from year to year, without making any effort to accomplish so desirable an object. To such, these remarks are directed, (for to no others would they apply) in order to stimulate them to action. And as this month (May) is the season for transplanting fruit trees, I presume none will neglect to obtain a supply, and those of the most approved kinds.

We should always be well provided with young trees, particularly the peach,—as this is a short lived tree at longest, that as the old ones decay, we may replace them, and thus keep our stock good. I have noticed with regret that many peach orchards are suffered to decay, and some have entirely disappeared, without a single effort of the proprietors to replenish them. Surely so delicious a fruit is worth paying the utmost attention to. What incalculable benefits may be derived from a little attention—for instance—one in inoculating, another in transplanting fruit trees—how he is rewarded ten-fold for his labor in beholding his efforts crowned with success—to say nothing of the profits and enjoyment to be derived therefrom.

I am inclined to believe, that an orchard of well selected fruit, where we are not contiguous to a good market for it, might be made profitable in fattening our pork. If farmers would keep an accurate account of the expense of fattening their pork in the usual method of feeding corn, I think they would readily find that they were losing money. Hence the necessity of devising some cheaper method. I propose to make an experiment with boiled apples, mixed with a given quantity of meal.

Will some other farmers make some experiments of this kind, and communicate the result. Respectfully, GEO. WILLETS.

Skaneateles, Onondaga Co.

The Grub, or Cut-Worm.

The ravages of this insect last spring, particularly in our corn fields, give an importance to every suggestion which may promise a preventive. The remedy suggested below, has the sanction of philosophy as well as experience, and promises the further benefit of being decidedly beneficial to the growth of the corn.

The labor and expense of making the application are comparatively trivial. It is probably the caustic qualities of the alkali afforded by the ashes and lime, that keep the worm from the circle of its influence, or destroy it. We copy the article from the Tennessee Farmer.

"As soon as the corn is covered with earth, let a hand follow, having a bag at his side, containing ashes and plaster mixed, one third of the latter, and two thirds of the former, or ashes alone, either bleached or unbleached.—The latter would probably be preferable—and let him drop a handful on each hill of corn. We would recommend, where it can be obtained, the partial substitution of lime for ashes, in which case, to preserve the hands of the dropper from injury, it will be necessary for him to use a cup, shell, or gourd, with which to take up the lime—each bag should be large enough to contain as much of the substance used as the dropper can conveniently carry.

We request our readers in this vicinity to give the foregoing a fair trial, and to furnish us with an accurate account of the result, both as to its effects in preventing the ravages of the Cut-Worm and in increasing the crop. In our use of ashes and plaster, they were dropped on the seed corn, and covered with it. The effect on the crop was decidedly and greatly beneficial. For preventing the ravages of the Cut-Worm, there is good reason to believe that it would be best to deposit the ashes on the hill after the corn is covered, and this mode will probably be found nearly, if not quite as beneficial in increasing the crop."

Woodside's Revolving Harrow—Depth of Ploughing—Spirit of Agricultural Improvement.

SIR.—I am attached to the office of the Registry of the Treasury of the United States. A portion of my duty as a clerk was to record Inventions Patented. In doing which I perceived many improvements offered in the plough, &c. This led me to remark that no improvement had been made in the Harrow; and having somewhat of a mechanical turn of mind, I concluded there was much room for improvement in that implement, and accordingly set to work to devise a new method of harrowing, or more properly speaking, of pulverizing the earth. It affords me pleasure to state that yourself and very many others have borne testimony to the valuable improvement which I have made in that implement.

After having tested my improvement, and giving it the name of Revolving Harrow, I concluded I might also make some improvement by sowing the grain from the cart to

which the harrow is attached, and flatter myself that the method devised will prove far superior to that of sowing by hand, so that I now call the implement Revolving Harrow and Seed cart, calculated to sow the grain, harrow it in, and cast it into drills of 2½ inches apart at one operation.

Since having patented my invention, I have been at much expense in travelling with the implement, and have discovered to my surprise a great want of agricultural spirit wherever I have been, say from Albany, N. Y., to Norfolk, Va. It is a fact that our farmers, generally speaking, forget the old adage that, "that which is well done is twice done." And it is astonishing to me that 19 out of 20 are averse to deep ploughing, for I find the average depth to be five inches, and in many instances not four, particularly on the eastern shore of Maryland. The reason assigned by many for shallow ploughing is, that they are afraid to bring to the surface the clay soil. In my humble opinion, I would say plough six inches deep, clay or no clay. Would it not be wiser to cover the good soil by bringing the clay on the top, so that it would be protected from the heat of the sun, and the roots of the grain which naturally shoot downwards will then come in contact with a soil far better calculated to nourish them than that of the clay which they cannot penetrate, and which in shallow ploughing they must inevitable have to contend with.

Another reason which I would suggest in favor of turning the clay soil on the surface is, that the heat of the sun, the atmosphere and rain, &c., will have a tendency to convert it into a soil of some nourishment. I am persuaded that any soil will be soon worn out by shallow ploughing, or more properly speaking, by skimming over the surface as is generally done. There is in my opinion a very wide field open for improvement in agriculture. The common harrow or drag, moving no faster than the horse which propels it, is poorly calculated to pulverize the earth; and it is the poor opinion I have ever had of the implement, which caused me to view it as a half-and-half kind of an article; its effect on the earth I consider very deceptive, as it leaves the surface fair to the eye, so much so, that farmers are apt to think the work is well done, when at the same time beneath this smooth surface there are clods without number hid from their view. This cannot possibly be the case with my Revolving Harrow, which certainly pulverizes the earth honestly, or in other words, as deep as the ground is ploughed.

In using the drag for turning in grain, a great quantity is lost by the number of clods which are upset on clusters that cannot move the clods nor force their way through it. I am decidedly of opinion that eight bushels of grain turned in with my harrow will produce more in the crop than ten put in with the drag. And why! Because the earth is well pulverized, and the grain uniformly sown in drills, which admit of a circulation of air calculated to prevent the stalks from mill dew.

I have remarked that those who are the least indebted are the best cultivators, as they are compelled in a measure to make the most of what they possess. Having witnessed the effect of the drag very closely since my harrow has been in operation, and without the least disposition to boast of my improvement in harrowing, I do say that the *drag* is a drag, and not a harrow; but my Revolving Harrow, which revolutionizes every thing it comes in contact with, may with propriety be called a harrow.

Permit me to remark, that I have recently received a letter of some length from the President of an Agricultural Society in Easton, on the eastern shore of Maryland, who appears to take great interest in any improvements in agriculture, having offered me every facility in their power to get my improved harrow introduced among the farmers in that neighbourhood.

In my reply to that letter, I could not refrain from tendering my thanks to the Society for the encouragement offered therein.—When travelling through the country, I looked for and expected to find societies established for the benefit and promotion of agriculture, but found none until I received the very welcome letter which I did from the Hon. Robert H. Goldsborough, President of the Society above alluded to. It is true there are many Societies formed on paper which prove of but little benefit.

The foregoing remarks I hope will prove of some service in having a tendency to revive the spirit of agriculture which not only interests the farmer, but the community at large. "Bread is the staff of life."

Respectfully, your ob't servant,

JAMES D. WOODSIDE.

Washington, Jan. 17th, 1836.

The Corn Planter.

A machine of this name, for which a patent has been obtained by Henry Blair, a free man of color, of an adjoining county of Maryland, is now exhibiting in the Capitol.

It is a very simple and ingenious machine, which, as moved by a horse, opens the furrows, drops (at proper intervals, and in an exact and suitable quantity) the corn, covers it, and levels the earth so as, in fact, to plant the corn as rapidly as a horse can draw a

plough over the ground. The inventor thinks it will save the labor of eight men. We understand he is about to modify the machine, so as to adapt it to the planting of cotton. If it will accomplish (as we are inclined to believe it will) all which he supposes, it will prove to be an invention of great utility.—*Nat. Intell.*

Manure for Farms.

The following suggestions are from the Northern Farmer and well worthy the attention of our farmers, and the rather since manure is to a farm what blood is to the human body.

In the spring, when the manure is conveyed into the field, it should be ploughed in immediately, and spread no faster than becomes necessary for ploughing; because at this season the warmth of the sun produces a rapid fermentation, the most valuable or liquid part of the manure escapes in the form of gas, as it is often expressed, by evaporation. Should a heap of manure at this season be covered with earth two feet deep, in a short period the whole mass of earth would be enriched by the gas, arising from the fermented manure.

To put neither fresh or rotted manure in the season of planting potatoes and corn, as a general practice is injudicious, but half the quantity of fresh, unfermented manure, in the hill well mixed in the soil, would afford probably more nutriment than double the quantity of old rotten manure.

Manure being the life of a farm, every exertion should be used to procure all kinds of it. Compost, soot, ashes, lime, gypsum, burnt clay, or soft bricks pulverized, decomposed vegetable substances, weeds, leaves of trees, coarse grass, &c., will all tend to fertilize the soil. None are ignorant that such as is taken from the vaults, afford the greatest quantity of nutriment to plants. On farms it ought never to be lost. The yards for swine, ought always to be excavated, or be in the form of a basin, so that this manure in richness next to the last, should be preserved in a moist state. The same remark applies to the barn yard for other cattle, except that the latter ought to have a level and dry margin for feeding cattle occasionally.

Farmer's Arithmetic.

Profits of Agriculture.—If the great Franklin had ever lived in the country, his observing eye would have noticed, and his discriminating judgment have solved the following difficult problems:

1. Farmers are more imposed on than any other class of the community: they pay nearly the whole expense of the State Government; are oppressed by a heavy tariff, and other onerous measures of General Government, and by the commercial regulations of foreign nations; never have much money —yet every industrious, the prudent farmer grows rich!

2. The mechanic receives his 75 cents a day, yet remains poor; the farmer earns his seventeen cents a day, and grows rich!

3. Merchants, Physicians, Lawyers, and others, receive their thousands per annum and die poor, while the Farmer scarcely receives as many tens, and dies rich!

How are these strange results produced? All calculations in dollars and cents fail to account for it. Those who are determined to bring every thing to the standard of dollars and cents, pronounce agriculture to be wholly unprofitable, when the fact that nearly all the wealth of the country has been obtained by agriculture, stares them in the face. In the opinion of these calculators, agriculture is the proper pursuit of such only as have not sense enough to pursue any thing else!

The mischiefs which such calculations are doing in our country, first induced me to call the public attention to the *Farmer's Arithmetic.* But having been more accustomed to handling the plough than the pen, I am altogether unable to do justice to the subject. If some abler hand would take it up dispel the mist now resting on the subject, and show us clearly the whole truth of the matter, it would do sufficient good to compensate the labors of the ablest patriot.

When the *mechanic* lays down his tools and the *professional* man is idle, they are sinking, because their expenses are going on and their profits are suspended. Not so the *farmer;* while he sleeps, his crop grows and his stock continues to increase, and when he 'spends a social evening with a neighbor, every thing continues to advance. The *Farmer's Arithmetic* shows that the farmer grows rich by saving, while others continue poor by spending. Others have first to make money, and then give it for meat, and drink, and raiment, while the farmer obtains all these at home. If he wants a fat lamb or pig, he has it without loosing a day or two in trying to buy one. If he wants a new coat, the industry of his wife supplies it. In short, he wants but few, very few things which he cannot obtain on his own farm. Why then should the farmer repine because he has not the *money* to buy abroad? or measure his wealth by comparing his *money* with that of others, who must give it all for things which he has without buying? Surely a Farmer may without a sigh resign to others the gaudy fabrics of foreign artists, while he is clothed by the labor of the hand that soothes his cares and strews with pleasures his journey through life. When I see

a Farmer appear in company genteely dressed in homespun, I think of Solomon's description of a good wife—" her husband is known in the gates when he sitteth among the elders," and most cordially do I congratulate the possessors of such a prize.

JACK PLANTER.

Things a Farmer should not do.

A farmer should never undertake to cultivate more land than he can do thoroughly; half tilled land is growing poorer; well tilled land is constantly improving.

A farmer should never keep more cattle, horses, sheep, or hogs, than he can keep in good order; an animal in high order the first of December, is already half wintered.

A farmer should never depend on his neighbor for what he can, by care and good management, produce on his own farm; he should never beg fruit while he can plant trees, or borrow tools while he can make or buy; a high authority has said the borrower is a servant of the lender.

The farmer should never be so immersed in political matters, as to forget to sow his wheat, dig his potatoes, and bank up his cellar; nor should he be so inattentive to them as to remain ignorant of those great questions of national and state policy which will always agitate, more or less, a free people.

A farmer should shun the doors of a bank as he would an approach of the plague or cholera; banks are for men of speculations, and theirs is a business with which farmers should have little to do.

A farmer should never be ashamed of his calling; we know that no man can be entirely independent, yet, the farmer should remember, that if any one can be said to possess that enviable distinction, he is the man.

No farmer should allow the reproach of neglecting education to lie against himself or family; if knowledge is power, the beginning of it should be early and deeply laid in the district school.

A farmer should never use ardent spirits as a drink; if, while undergoing severe fatigue, and the hard labors of the summer, he would enjoy robust health, let him be temperate in all things.

A farmer should never refuse a fair price for any thing he wishes to sell; we have known a man who had several hundred bushels of wheat to dispose of, refuse 8s. 6d. and after keeping his wheat six months, was glad to get 6s. 6d. for it.

A farmer should never allow his woodhouse to be emptied of wood during the summer months; if he does, when winter comes, in addition to cold fingers, he must expect to encounter the chilling looks of his wife, and perhaps in a series of lectures, to learn, that the man who burns green wood has not mastered the A B C of domestic economy.

A farmer should never allow his windows to be filled with red cloaks, tattered coats, and old hats; if he does he will most assuredly acquire the reputation of a man who tarries long at the whiskey; leaving his wife and children to freeze or starve at home.

There are three things of which the man who aims at the character of a prosperous farmer will never be niggardly, manure, tillage and seed; and there are three things of which he will never be too liberal, promises, time and credit.—*Genesee Farmer.*

Sweet Corn.

This article has been prepared by the Shakers of Lebanon in great perfection. If cooked properly, it is as sweet and fresh as though just in the milk and from the stalks. Let it be soaked 24 hours in water, and then boiled in milk and water for the table.—Nothing of the kind can be better.

To drive bugs from Vines.—The ravages of the yellow striped bug on cucumbers and melons may be effectually prevented by sifting charcoal dust over the plants. If repeated two or three times, the plants will be entirely free from annoyance. There is in charcoal some property so obnoxious to these troublesome insects, that they fly from it the instant it is applied.

Plastering Corn.

The following experiment, performed many years ago by John Taylor, of Virginia, suggests a practice which may be adopted at the present season with great propriety by almost every farmer:

"Sowed twenty-three bushels of plaster on twenty-three acres of corn, in a large field. Ploughed in part immediately, harrowed in part, and left part on the surface ten days before it was worked in. The corn was four inches high. The weather moist. There was no difference between the three divisions. The seed of the whole field had been rolled in plaster. These twenty-three acres exceed the adjoining crop 25 per cent; its blades and tops also dried sooner.

Starch from Potatoes.

We are informed that the manufacture of Starch from potatoes has engaged the attention of our enterprising neighbors in Vermont, and already become an important article of commerce, it being employed to a great extent by the New England cotton manufacturers and calico printers, with much success, as a substitute for wheat starch for

the purposes of sizing and finishing cloths. Its superiority over wheat starch is conceded, we learn, by many of the principal manufacturing establishments. It gives to fabrics a more brilliant and elastic finish, requires less in quantity and bears a less price; three important considerations, which we should suppose would induce every manufacturer to try the experiment of its use. The mode of preparation is similar to that observed in wheat starch, except that it requires a slight fermentation, which is produced by exposing it to the air for a short period.—*Troy Whig.*

Sugar from Beet Root.

M. Isnard, French Vice Consul at the Port of Boston, has addressed a letter to the Daily Advertiser, containing some interesting statements respecting the manufacture of sugar from Beets. This manufacture it is generally known, was commenced under the auspices of Napoleon, protected by high duties, and sunk at once when those duties were withdrawn after the return of the Bourbons in 1813. It appears however that the manufacture was resumed in 1816, that it has increased ever since, and that it now produces annually, from eighteen to twenty millions of pounds of brown sugar, and instead of requiring further protection from the government, it is now proposed by the French Ministry to lay a tax upon it. It is found in France that one ton of Beets costs on the average three dollars: that one hundred pounds of sugar may be extracted from it for an additional cost of four dollars; a pound of sugar may be manufactured thus for seven cents. M. Isnard describes the business as having been exceedingly profitable in France for the few years past.

The Husbandman.

No man, one would think, would feel so sensibly his immediate dependence upon God, as the husbandman. For all his peculiar blessings he is invited to look immediately to the bounty of heaven. No secondary cause stands between him and his Maker. To him are essential the regular succession of the seasons, and the timely fall of the rain, the genial warmth of the sun, the sure productiveness of the soil, and the certain operation of those laws of nature which must appear to him as nothing less than the exertions of Omnipotent energy. In the country, we seem to stand in the midst of the great theatre of God's power; and we feel an unusual proximity to the presence of our Creator.

The blue and tranquil sky spreads itself over our heads, and we acknowledge the intrusion of no secondary agent unfolding this vast expanse. Nothing but Omnipotence can work up the dark horrors of the tempest, dart the flashes of the vivid lightning, and roll the long resounding thunder. The breeze wafts to his senses the odors of God's beneficence—the voice of God's power is heard in the rustling of the forest, and the varied forms of life, activity and pleasure, which he observes at every step in the field, lead him irresistibly, one would think, to the source of being, beauty and joy.

How auspicious such a life to the noble sentiments of devotion! Besides, the situation of the husbandman is peculiarly favorable, it should seem, to purity and simplicity of moral sentiment: he is brought acquainted chiefly with the real and native wants of mankind. Employed solely in bringing food out of the earth, he is not liable to be fascinated with the fictitious pleasures, the unnatural wants, the fashionable follies and tyrannical vices of more busy and splendid life.

A Good Suggestion.

As a great number of things are always to be done on a farm, let every farmer carry in his pocket a paper and pencil, and as soon as any thing requiring early attention occurs to him, which cannot be done immediately, let him make a memorandum of it, and thus in a short time he will have a list of whatever is necessary to be done; and at any leisure moment, by consulting this list, he determines at once what next needs his attention most. It is a good practice also to write down every evening whatever is to be done next day and at the end of every week what is to be done the next week. By pursuing this course, the farmer has the whole of his business at one view under his eye, and knows how to spend every hour to the best advantage; and he rarely finds any unexpected business to call him suddenly away from his present employment, and thus a great deal of time and vexation are saved, which would otherwise be wasted in being perpetually hurried from one kind of labor to another, leaving every thing but half finished in the bustle.

Maturity of Grain on Old and New Lands.

I believe it will be found that the richer the land the longer all the crops will be in coming to maturity. On poor sandy soils, vegetation is rapid and short; on new lands, the soil, being charged with vegetable food, will of course be richer, whereas, old lands, exhausted of vegetable food by cultivation, is consequently poorer; and I conceive it makes little difference whether land be elevated one hundred or a thousand feet above the level of the sea. If it be rich, the crops will be longer in coming to maturity.

Agricultural Hymn.

Great God of Eden! 'twas thy hand
That first clad earth in bloom,
And shed upon the smiling land
Nature's first rich perfume:

Fresh at thy glance the flowers sprang,
Kiss'd by the sun's first rays—
While plain, and hill, and valley rang
With life, and joy, and praise.

God of the clouds! thy hands can open
The fountains of the sky,
And on the expectant thirsty crop
Pour down the rich supply.

The farmer, when the seed time's o'er,
Joys in the mercies given—
Thinks on thy promis'd harvest's store,
And smiling, looks to heaven.

God of the sheaf! to thee alone
Are due our thanks and praise,
When harvest's grateful labor's done,
On plenty glad we gaze:

Then shall our thoughts on Heaven rest,
Thy grace we will adore,
And thank that God, whose mercy's blest
Our basket and our store.

From the Greenfield (Mass.) Advertiser.

Beautiful Incident.

The Cliff Swallow is not, we believe, a regular summer sojourner in these parts. His visits are believed to be only occasional—few and far between. At any rate, we are informed that he has no regular haunts. The farm, that he gladdens this year, may not be again cheered by his presence for many coming seasons. We have an excellent anecdote to tell of a pair of these interesting birds. It was related to us, if not by an eye witness, by one who received it from an undoubted source. These birds, as do nearly all the birds of this latitude, take their departure hence with the summer, for warmer skies. Several years since, a large number of them had their nests upon a barn in the south part of Deerfield. At the usual period their nothern dwellings were abandoned, and the tribe took its flight for the tropics. After a time a solitary individual was observed lingering among the forsaken habitations. Various conjectures were started to account for his tarrying. It might be that he had not strength enough for so distant an expedition; or he might have been accidentally left behind in the general migration, and feared to encounter the perils of the journey alone. The autumn passed away, and still that solitary stranger remained, braving the frosts and the pelting of the storms of winter. Spring came, and yet he was there. An occurrence so singular, and contrary to the habits of the migrating tribes, caused his motions to be watched with more attention. At length another head was observed, protruded from one of the nests, which seemed to be the abode of the bird, which had been remarked with so much interest. On examining that nest the mystery was beautifully solved. Another swallow was found there a prisoner. One of its legs had become entangled by a thread or horse hair, which had been used in the lining of the nest, and held it there a captive. Yet it was not deserted by its faithful mate. Through all the long and dreary winter, this patient, self-devoting love supplied her wants. He saw without regret but for his hapless consort, the deepening gloom of the fading year; he felt, with ont feeling, but for her, the advancing rigor of winter; and if he, at times, remembered the sunny skies of the South, and the pleasure his tribe were there enjoying, it was only to sigh that she could not partake them. By night, and by day, in sunshine and in cloud, in the calm and the tempest, he was with her, ministering to her wants, and cheering the hours of her hopeless captivity by his caresses, and untiring devotion. Now do you suppose that the vulture is capable of such heroic constancy, and generous self-sarifice? Or did you ever hear any thing like this authenticated of the featherless vulture?

Moreau, 24th of 2d Month, 1836.

I have been gratified by occasionally seeing productions of the female mind inserted in your truly valuable paper. I say gratified, because it is an evidence of the march of improvement; I therefore take the liberty of forwarding to you a compilation from female authors, and if you think them consistent with the plan of your work, and worth attention, they may perhaps by publication be serviceable to some of our farmer's wives.

"There's naught our higher progress doth preclude
So much as thinking we're already good."

Very respectfully, &c.

A FARMER'S WIFE.

In the management of domestic concerns order and method should be observed, and all hurry and confusion ought to be carefully avoided. If we would begin at the right end of the thing, it must be in the morning of the day and the morning of life; this is an essential point.

Sleep should never be considered a luxury, but as only a necessary refreshment to invigorate the body and prepare it for further exertions. Therefore the propriety and advantage of early rising should be, by example and precept, fixed on the youthful mind.

When these ideas are fixed, and the practice of them becomes habitual, business may be pursued without anxiety, and scolding,

and hurrying, which tend to irritate the temper, avoided. By pursuing this method, the numerous cares in a farmer's family are rendered easy and agreeable, and to a woman who has been properly instructed, and who has a knowledge of her own concerns, it is a source of peculiar satisfaction to know, that what she requires of her domestics, is consistent with the obligations they are under to her.

The mistress who treats them with mildness and suitable attention, is generally much better served, than she who treats them with harshness and severity. Their love and attachment create a desire to please, and these mutual interests contribute very much to the quietude and happiness of all around.

By this mode of procedure, there is much time for literary pursuits, which are highly important.

It is from the mother, that the early education of children is mostly received. It is the example at home that will educate them:—your conversation, the business they see you transact, the likings and dislikings they hear you express; these will educate them, employ what teachers we may. The influence at home will have the mightiest influence in education.

Schoolmasters may cultivate the intellect, but the things done and said at home, are busy agents in forming the character; hence the importance of our families being well regulated; and if a mother would faithfully perform her duty to her offspring, she must be willing to make many sacrifices. The comfort and improvement of her family must be her principal object. Social visiting and virtuous intercourse with those we love, are some of the greatest comforts of life, yet even these must be under such restrictions that nothing may suffer from her absence.

While her children are young, and their minds susceptible of suitable impressions, she should sow the seeds of virtue, benevolence, and all those amiable qualities that will in riper years, render them honourable and dignified in their pursuits, respectable and useful members of community, and virtuous and exemplary heads of families.— *Cultivator.*

Culture of the Ruta Baga.

The following is an account of the method I pursued in the cultivation of Ruta Baga. I sowed three-fourths of an acre, the most of which had been well manured the year preceding: soil, a deep sandy loam. The land was ploughed three times, and then thrown into low ridges, about twenty inches apart. These were smoothed down with a hoe, and a man followed with a sharpened stick to make a light drill in the top of the ridge. The seed was sown in these drills with a tin cup, which had two small holes punched in the bottom; in the top was fixed a tight wooden cover, to which was attached an upright handle two feet in length. The sower should walk at an even pace, shaking the cup gently. A boy followed him with a light roler, which completed the work. Several rows were sown on the ridges as they were left by the plough, and no difference could be observed between them and the others. A rain however followed the sowing. Had it continued dry, I doubt whether these rows would have succeeded as well as the others. I used a pound of seed. This I am aware would be considered a great deal;—but the cost of the seed is trifling in comparison with the value of the privileges of having a plant just where we want it. As soon as they were in the rough leaf, I thinned them out at from eight to twelve inches distance from each other.

1834.	*Expense of Cultivation.*	Dr.
4 mo. 26—	Ploughing $\frac{5}{8}$ of a day, 12s.	$1 60
6 " 2—	do. do. do.	1 00
6 " 30—	do. $\frac{1}{2}$ day, do.	75
6 " 30—	Ridging, $\frac{1}{4}$ day, do.	38
6 " 30—	$\frac{1}{2}$ day sowing, 3 men and 1 boy, at 5s.	1 25
	Seed, 1 lb. 8s.	1 00
7 " 12—	Weeding and thinning, 12 days, 5s.	7 50
7 " 21—	Weeding, $2\frac{5}{8}$ days, 5s.	1 50
8 " 16—	do. $1\frac{1}{2}$ days, 5s.	94
9 " 8—	Drawing from the ground, 5 days, 5s.	3 12
	Covering, 1 day, 5s.	62
	Interest on land at $50 per acre,	1 75
		$20 89

	Cr.	
By 40 bushels,	sold at 2s.	$10 00
By 486 do.	certainly worth 1s.	60 75
526 bushels,		$70 75
	Net gain,	$49 88

But in my opinion, when corn is worth 50 cents the bushel, turneps ought not to be estimated as low as 12½ cents. I have not, however, made experiments sufficiently decisive to show what the relative value is, but I have fattened three oxen upon them, and those who had opportunities of judging, acknowledged that animals could hardly thrive better than they did.

I think, unless for house use, they should not be sown later than the 15th of 6th mo.—The first weeding was put off much too long—labor more than double on that account.—They should be sown 2½ or 3 feet apart, that the cultivator may be used.

WM. R. SMITH.

Macedon, 3 mo. 6, 1835.

THE FARMERS' CABINET,

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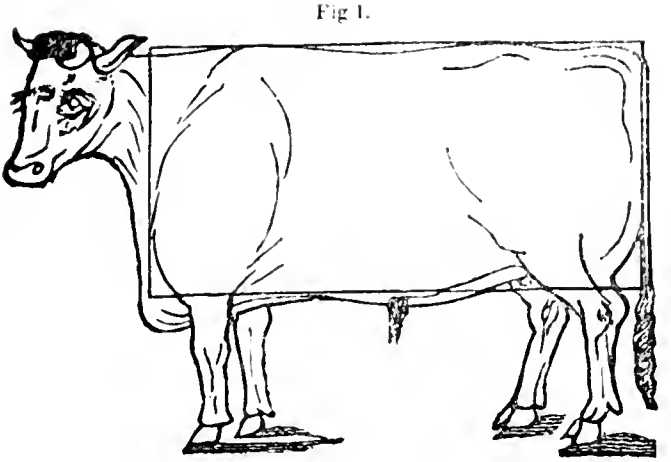
Fig 1.



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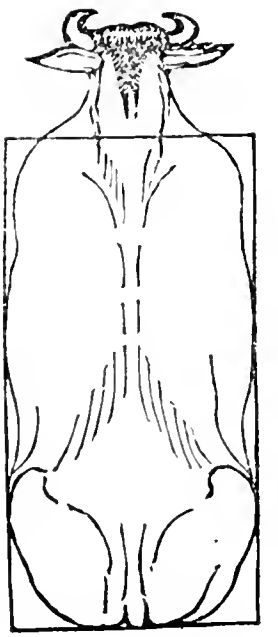

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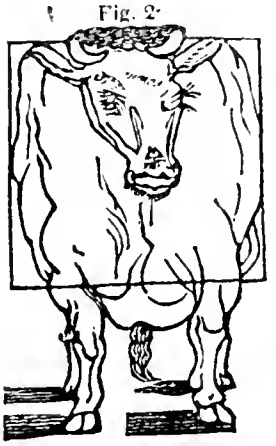
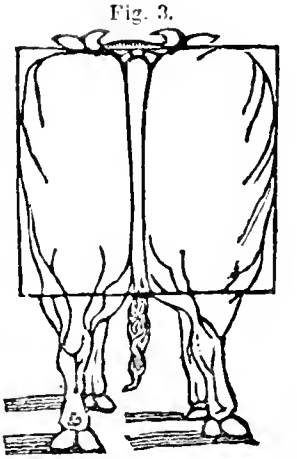


Fig. 3.



On Improved Short Horns.

From a valuable paper on the "Points by which Live Stock are judged," contained in the Edinburgh Quarterly Journal of Agriculture, furnished by JAMES DICKSON, an eminent cattle dealer, we make the following extracts:—

"When we survey the frame of a short-horn ox, we have a straight level back from behind the horns to the top of the tail, full buttocks, and a projecting brisket; we have, in short, the rectangular form, as represented in a side view by Fig. 1; we have, also the level loin across the hook bones, and the level top of the shoulder across the ox, and perpendicular lines down the hind and fore legs on both sides, these constituting the square form, when the ox is viewed before and be

hind, as represented in Fig's 2 and 3; and we have straight parallel lines from the sides of the shoulders along the utmost points of the ribs to the sides of the hind quarters; and we have these lines connected at their ends by others of shorter and equal length, across the end of the rump and the top of the shoulder, thus constituting the rectangular form of the ox when viewed from above down upon the back, as represented by Fig. 4. We have in this manner, the form of the short-horn ox and heifer in perfect accordance with the diagrams of the rule.

Further, I should be inclined to assert, although I have not directed my attention to the fact sufficiently to be able to prove the assertion from examples, that the cross of a full fed symmetrical short-horn ox, included within the rectangle, is in length double its depth, and its depth equal to its breadth. Hence, Fig's. 2 and 3 are squares, and Fig's. 1 and 4 each two similar squares, placed in juxtaposition. The short-horn bull deviates from the rule in a rising of the neck, a dependence under the brisket, and a fullness of the neck vein; the cow only a little from the ox or heifer, in a thinness in the buttocks; and besides this, when aged, in an enlargement of the belly, and mostly, though not always, in a hollowness in the loins. The *form*, therefore, of the short-horn breed is perfect according to the rule.

In its *points* that for quantity and well laid on beef, the short-horn ox is quite full in every valuable part, such as along the back, including the fore ribs, the sirloins and rumps, in the runners, flanks, buttocks, and twist, and in the neck and brisket as inferior parts. In regard to quality of beef, the fat bears a due and even preponderating proportion to the lean, the fibres of which are fine and well mixed, and even marbled with fat, and abundently juicy. The fine, thin, clean bone of the legs and head, with the soft mellow touch of the skin, and the benign aspect of the eye, indicate in a remarkable degree, the disposition to fatten; while the uniform colors of the skin, red or white, or both, commixed in various degrees—bare, cream-colored skin on the nose and around the eyes, and fine tapering white or light-colored horns—mark distinctly the purity of the blood. The points of blood and quality, and quantity of beef, apply equally to the bull, the cow, and the heifer, as to the ox. Combining all these properties of points and form, we shall find that the short-horn breed illustrates, in a very satisfactory manner, the application of the general rule which has been explained. On account of its valuable properties, this breed demands further illustration.

The external appearance of the short-horn breed is irresistibly attractive. The exquisitely symmetrical form of the body in every position, bedecked with a skin of the richest hues of red and the richest white, approaching to cream, on both colours, so arranged or commixed as to form a beautiful fleck on delicate roan, and possessed of the mellowest touch—supported on small clean limbs, showing, like those of the race-horse and the grey-hound, the union of strength with fineness; and ornamented with a small lengthy tapering head, neatly set on a broad firm deep neck, and furnished with a small muzzle, wide nostrils, prominent "mildly beaming" eyes, thin large veiny ears, set near the crown of the head, and protected in front with semicircularly bent, white or brownish colored short, (hence the name,) smooth, pointed horns;—all these several parts combine to form a symmetrical harmony, which has never been surpassed in beauty and sweetness by any other species of the domesticated ox.

Enthusiastic as this language may be considered when applied to the exteral beauty of cattle, it is not more so than the beauty of cattle is entitled to; for when it is considered that symmetry of form generally accompanies mellowness of touch in the skin, and that both constitute the true index to a disposition to fatten, the most *useful property of all*, beauty of external appearance is too valuable a criterion to be overlooked. Fortunately, indeed, beauty cannot be overlooked in cattle: for even were it useless, it is so irresistibly engaging, that the judgment of a stoic would be biassed in its favor. To my taste, nothing can be so attractive a spectacle of the kind as a show of fine bred short-horns in high condition."

No nation deserves as much praise as the English for its endeavors to improve the breeds of all our domestic animals, and the great success which has resulted from their exertion, is truly a noble, and may almost be assigned as their exclusive reward. With them the dog, the horse, the sheep and the ox, have attained a singular degree of perfection. All our fine breeds of the latter animal have been derived from that country.—We will subjoin a short description of the various improved English breeds.

1. The *long horned* or *Lancaster breed*.—This breed has long horns, thick hide, short hoofs, large and much depth of the fore quarter. Not remarkable for quantity of milk, but its milk yields a great deal of cream. Variously colored, but generally has a white streak along the spine. The *improved Leicester* is a variety of this breed.

2d. The *short horned*. These include the *Holderness*, *Teeswater*, *Yorkshire*, *Durham*, and *Northumberland* breeds. They are con

sidered the most improved kinds, producing the greatest quantity of milk, and arriving at the greatest weight, and are generally preferred over all others for the dairy and the shambles. Some individuals have been fed to twenty-one hundred the four quarters.

3d. The *middle horned.* These include the *Devon*, *Hereford* and *Sussex* breeds. They do not produce as much milk as the former, but generally fatten well, younger. The flesh on the Devon is the most esteemed, but it is not so large a race as either of the others.—They are all active and hardy animals, and fine for the yoke.

4th. The *Polled* breeds. The most valuable of these is the *Galloway.* It is not large, weighing, generally, about five hundred *when not regularly fattened*, of a fine form, and is said to retain its flesh and not to lose weight by driving to market. The *Suffolk Duns*, are a variety of this race.

5th. The *Highland* breeds. These are variously colored, and generally badly formed, but they are said to yield milk abundantly, and to fatten rapidly.

6th. The *Welch* breeds. Of these there are two distinguished; one considered a cross from the long-horned, and esteemed next to the Devon for the draught; the other is lower in stature, black in color and well made, and fine for the dairy.

7th. The *Alderney* or Guernsy, is a small breed, with crumpled horns, and frequently badly formed. In this last peculiarity they have been lately much improved. Thin colors generally yellow or light red. The genuine Alderney is described as having the color within the ears yellow, also the root of the tail and the tuft at the end of the tail. Are good milkers and make fine beef.

Although the French have not bestowed the same attention upon the improvement of these animals as the English,they have, however, several fine breeds. All of these have been classed into two divisions: the first called "*Bœfus de haute crue*, or those of a middle or small stature; have a fierce look, thick hide, large dewlap, black or greenish horns, and live in the mountainous departments." The second are called "*Bœfus de nature.* Stature large or middle sized, head and body small, horns white, hide thin, hair soft, and of a mild aspect. Belonging to the low and level lands, and constitute the Cholets, Nantz, Anjou, Marcais, Breton, Mans, Dutch, Cotentin, and Bomtois breeds."

We are disposed to consider the hardy and active cattle of New England as belonging to the middle horned, and probably the Devon breed. If so, they have much improved in that climate, as they frequently develope great size. Attention to breeding from those of the best characters and forms of animals, already acclimated and showing propensities to improve, is always a successful course, and is the basis of the improvements in England. Foreign crosses from improved stocks are doubtless advantageous, but these should be introduced with caution into climates differing essentially from that from which the improved stock is derived, and great care should be observed that the stock introduced is not of a tender family, requiring much attention and stall-feeding, so opposed to the habits of our country, and so much beyond our general means, and also from the prices of labor and food, rather an unprofitable course.

The fine breeds of the South branch and upper parts of the Potomac, also appear to be improved Devons. They have, however, generally, well developed horns, as have also the greater part of the cattle of the western country, but those with small horns are considered a better race and more easily fattened.

The polled races are also frequently met with in our country.

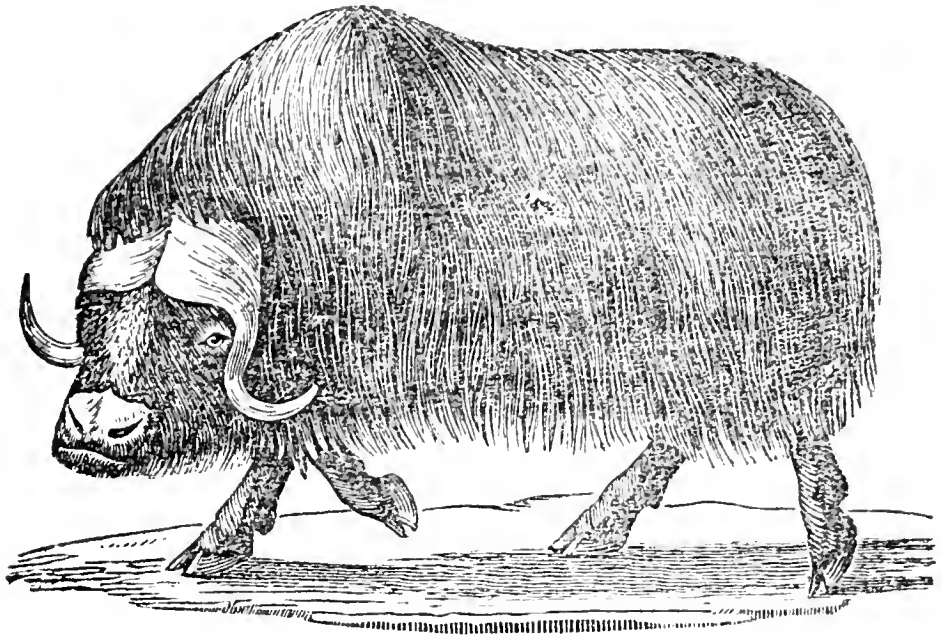
The hunched races differ from the straight backs, not merely in the hunch, but in their voice, and they possess also greater liveliness and activity. These last properties might adapt them admirably for the draught, where quick and active motion is so desirable. They are common in Asia and Africa, have generally crumpled horns, and much white in their coloring. Many suppose these to have originated from a species different from the straight-backs.

There are animals indigenous to N. America, which have a strong resemblance to those about which we have been treating. One of these is classed as of a different genus from the *Bos*, and is called of the genus *Oribos.* It stands as the only species of this genus. We allude to the *Musk Ox*, (O. Moschatus) of the northern regions.—See fig. 5.

It is described as in "size equal to the Guernsy cow, with brownish black hair, occasionally marked with white spots, and it grows to a very great length. Its legs are generally white." It is a very fierce animal, particularly in the rutting season, when the bulls frequently fight until one is killed.—They live in small herds, seldom exceeding forty. They emit a strong musky smell, but their flesh is considered good,particularly that of the calves and heifers. Three hundred to three hundred and fifty pounds of beef is the general yield of a carcass. No endeavors have yet been made to domesticate these animals, and our knowledge of them is rather limited, derived principally from the hunters of Hudson's Bay and the few travelers who have penetrated into that region.

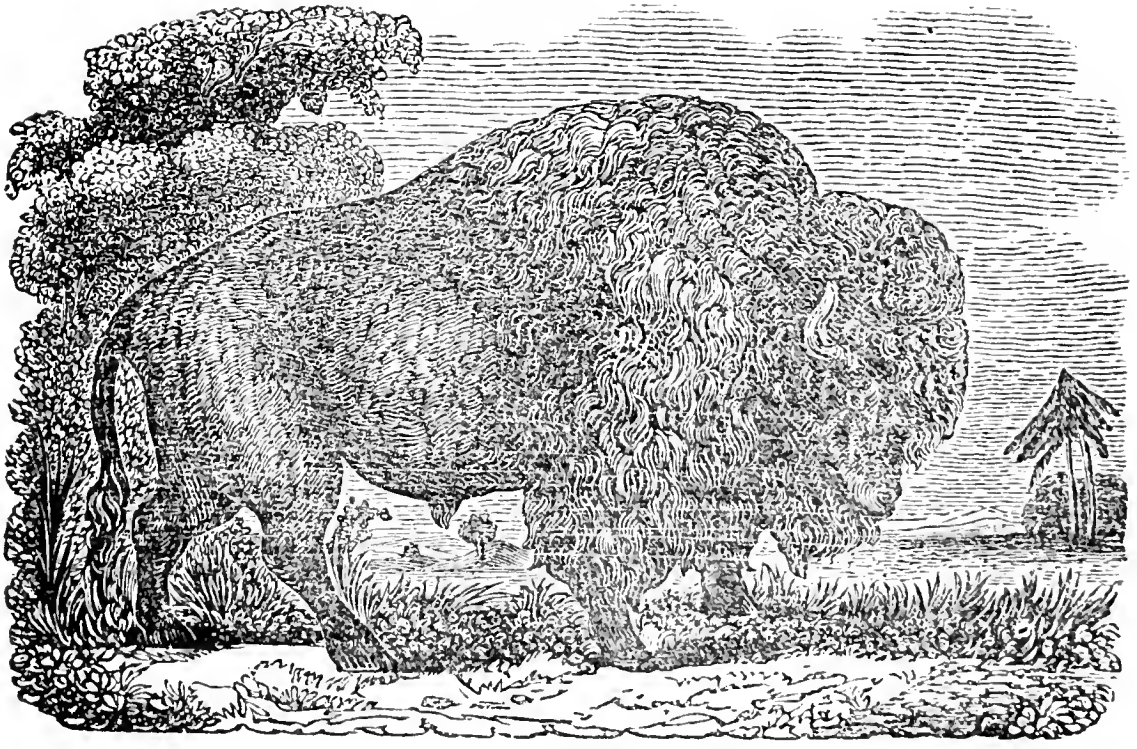
The other animal to which we alluded,

[Fig. 5.]



Musk Ox—*O. Moschatus.*

[Fig. 6.]



American Bison—*Bos Americanus.*

but which is, however, of the genus Bos, is the American Bison (*Bos Americanus.*) Its common and well known name is the buffalo. —See fig. 6.

It has small black horns, very distant, turned sideways and upwards, height at the shoulder about five feet, at the croup four, and length from nose to tail eight. But these dimensions no doubt vary considerably, from the weights which have been reported of some individuals. The disposition of its hair and its general aspect are well known in our country, from frequent exhibitions of the animal, and the many excellent prints of it which exist. Its structure forward, is extremely robust and heavy, but light and weak behind. The body is long, having fifteen pair of ribs, and but four coccygian vertebræ. They are active and irritable, but not vicious, except in the rutting season, and might, I have no doubt, be easily tamed;—many have been, particularly at our frontier posts, and endeavors have been used to produce a cross between the buffalo bull and the domestic cow, but with fatal effects to the latter, as she has been found unable to relieve herself from the calf.

Greater success would without doubt follow the experiment of a cross between the domestic bull and the buffalo cow, as the probable change of conformation of the issue would facilitate the delivery from a mother, formed to relieve herself from a full hunch. But the success is hardly desirable, as the issue would in all probability be unprolific. The parents are evidently, and with great propriety so considered by naturalists, of different species. At least the known differences in osteology justifies such a conclusion, until the unequivocal experiment shall prove to the contrary. The period of gestation is said to be different from that of the domestic ox.

All these are ruminating animals, or animals which chew the cud. While mentioning the cud, it may not be amiss to notice a common error in relation to this animal, and which I have found to prevail in the minds of many intelligent farmers of our country.

When indisposed, it is frequently said that they have lost their cud, as they are not at such times observed to chew it, and a cud or ball of grass or hay is made up and placed in the mouth as a remedy. Now this is an error.

No disease of the kind can exist, nor any such remedy be efficacious. The chewing of the cud is merely the masticating of the dry food previously swallowed and deposited in the paunch. All ruminating animals have four stomachs, so disposed that the food can pass from the gullet into either of them. The first is the largest, and is called the paunch. In this the food, after a slight grinding between the teeth, is first received as in a storehouse for future use, and is there subject to but little change. The second is called the honeycomb, or bonnet, from its peculiar formations. The drink of the animal, which does not enter into the first, passes directly into this second stomach, into which also passes, gradually, the food from the paunch, where it probably undergoes more completely a formation into balls or ends, and where it also becomes moistened from the drink of the animal. From this second stomach, the food, properly prepared, is ejected upwards into the mouth, there to undergo its second and more perfect mastication, after which it passes down the gullet again into the third stomach.

The third stomach is called the *manyplies* or *trype*. Into this the food is received after its last mastication. Here it first completely changes its character, and emits an offensive smell, and from this it passes directly into the fourth stomach, called also the *rennet*. The fourth is considered as the digesting stomach, into which the gastric juice is emptied to mix with the previously prepared food.

While the young are confined to their mother's milk, the last is the principal and the largest of these stomachs, and nature has singularly provided for this state of existence, by bringing in closer to the gullet, and particularly obstructing the communication with the paunch, which attains its great size only by degrees, and as the animal uses dry food.

From these facts it will be readily seen, that the disease of loss of the cud, and its remedy, are altogether imaginary. When the animal does not ruminate, it probably is indisposed in its digestive organs, but the curative means should be different from that which is generally pursued.

If any one will attentively observe the domestic cow when in the act of ruminating, the process of throwing the food up into the mouth, masticating it, and swallowing it again, will be easily perceived; and in addition to the authority of books I once witnessed a very clear demonstration of the number, uses, and mode of action of the stomachs, in a subject, by that distinguished naturalist, as well as eminent physician, Dr. R. Harlan, of Philadelphia, in his course of lectures on comparative anatomy.

Spade Husbandry.

THERE appears to be a strong feeling among intelligent Agriculturists in favor of substituting the spade for the plough, in tilling the earth. The example of the Flemish, whose country is entirely cultivated by the spade, and which has acquired the appellation of "the Garden of Europe," seems to have late-

ly attracted considerable notice, and to have led to experiments in England, which have been attended with the most satisfactory results. Sir JOHN SINCLAIR, formerly president of the Board of Agriculture, attracted by the high encomiums which he had heard on the Flemish system, visited the country, and after residing there for some time, so deeply was he impressed with the novel and extraordinary scenes he had witnessed, that he addressed a letter to the editor of the Brussels Observer, in which, among other expressions of high satisfaction, he remarked: "I shall never forget what I have seen in this country; a picture of the most ravishing description to a lover of agriculture; a soil become rich through the effect of cultivation, and consequently by the skill of an industrious people, who receive the due reward of their admirable exertions, in the product which they obtain."

About fifty years previous to the period of Sir John Sinclair's visit, Flanders was almost a moving sand. With a climate not more favourable than that of England, land has since quadrupled its value; fallows have been entirely banished; the produce, in nine years, is generally fifteen harvests; of which wheat yields on an average, four quarters per acre; barley, seven quarters and a half, and oats eleven and a fourth quarters; and the borders of the fields are planted with trees, in such numbers, that by their sale the proprietors acquire, every forty years a sum of money equal to the value of the soil. The cause of this wonderful improvement and fertility is chiefly attributed, by VANDERSTRATEN, author of a treatise on Flemish husbandry, to the care taken to "extirpate noxious plants and roots every six or every three years, by *digging all the land on their respective farms.* By this operation they revert to the surface a stratum of fresh soil, which, for three, or for six years, has been absorbing the salts of manure as they filtered to the bottom of the roots."

Mr. WILLIAM FALLA, of Gateshead, Newcastle-upon-Tyne, gives a detail of experiments he had made, during four successive years, in the cultivation of wheat by the spade, which places this mode of tillage in a very favourable light. He has for many years adopted this method in a Nursery ground of 100 acres, by which he accumulated a large fortune; when his attention was directed to the spade culture of wheat, on learning that an experiment had been tried at Fottingham, "the produce of which was beyond all example." From his statement of the expense of digging and sowing one acre, broadcast, including the price of the seed, it appears that the cultivation by the spade cost five shillings sterling more than by the plough.—But the comparative advantage of *produce* was so great as to leave no doubt of the vast superiority of the former method. Averaging the crops of two years, raised by spade cultivation, they gave for each year 68 1-2 bushels of wheat per acre. The average produce of his neighbourhood, raised by the plough, was 24 bushels; "but instead of making that a criterion (says Mr. Falla) by which to make the comparison, I have to state that in the autumn of 1819, a good deal of pains was taken to ascertain the quantity of wheat upon a field immediately adjoining my land, and which was what is considered a remarkably fine crop, by which it appeared to be 38 bushels per acre. This was on land, although adjoining, yet of a naturally better quality than mine, and quite as high manured, worked in in the usual manner of this country, with a two horse plough, and sown broadcast." Stating the wheat at 8*s.* a bushel, the following was the result:

By the spade, 68 1-2 bushels per acre, at 8*s.* " "	£27 8 0
By the plough, 38 bushels per acre, at 8*s.* " "	15 4 0
The difference is	£12 4 0

Being an advantage gained by the extra expense of 5*s.*

Practical cultivators of the soil know, that the most favourable circumstances for promoting the growth of vegetation is a due supply of moisture, and that when this is provided for, a general crop seldom or ever fails. Water enters so largely into the food of all plants, that if its *gradual* supply can be secured, the farmer and horticulturist feel assured of a fair return for their labour. Whatever mode of cultivation, therefore, can best effect the object of drawing off from the seed or plant, an excess of water, and retaining this surface as a reservoir, from which a gradual supply of moisture may be obtained as required, must possess decided advantages. It is also known to all practical agriculturists, that to obtain the best crops, the soil ought to be well broken and separated; and that the nearer it is brought to a garden mould, the more perfect the cultivation. These facts no one will dispute; nor will any deny that the spade is calculated to prepare a better recipient than the plough for an excess of water in rainy seasons, and to return it to the seed or plant afterwards, in a manner more favourable to vegetation. The spade, whenever there is sufficient soil, opens it to a depth that allows the water to pass freely below the bed of the seed or plant, and to remain there until a long continuance of heat draws it forth

again to replenish the crop in the ground, when it most requires to be gradually supplied with moisture; and the greater the depth to which the soil is open, the greater will be the advantages of this important operation.

The action of the plough upon the soil is the reverse of that of the spade, in these important particulars;—Instead of *loosening* the subsoil, it *hardens* it, the heavy smooth surface of the plough, and the frequent trampling of the horses' feet, tend to form a substance on the subsoil, well calculated to prevent the water from penetrating below it; and in many soils, after a few years ploughing, it is there retained to drown the seed or plant, in rainy seasons, and to be speedily evaporated when it would be the most desirable to retain it. The crop is injured, and often destroyed, in dry weather, for the want of that moisture which, under a different system, might have been retained in the subsoil.

In the United States, where the comparative low price of land, occasioned by its abundance, renders cultivation somewhat different from what it is in countries where land is limited and dear, it may be thought that the spade system would not be profitable. But when we consider the trouble attending the management of a large farm, and calculate the original cost, and the expense of supporting the number of cattle necessary for tillage, and removing the fruits of the earth to the barn; together with the capital sunk in implements of husbandry, we shall, probably, see cause to think otherwise. At all events, it seems deserving of a trial.

The Dairy---No 1.

The properties of a good milk house are, that it be cool in summer, and moderately warm in winter, so as to preserve a temperature of about 45° throughout the whole year; and that it be dry, so as to admit of it being kept clean and sweet at all times. A butter dairy should consist of three apartments—a milk house, a churning house with a proper boiler, and other conveniences for scalding and washing the implements, which should be dried out doors when the the weather will permit. The cheese dairy should likewise consist of three apartments—a milk house, a scalding and pressing house, and a salting house. To these should be added a cheese room, or loft. A dairy for a small family may be formed in a thick walled, dry cellar, having windows on the north and east sides, which are preferable for ventilation. In winter these windows should have double sashes, and in summer, a fixed frame of close wire netting, or hair cloth, to exclude flies and other insects.

In most places cows are milked twice in twenty-four hours, throughout the year. Where quantity of milk or cheese is an object, three times milking must be preferable but as twelve hours are necessary for the due preparation of the milk in the cow, it must be inferior in quality if drawn more than twice a day. Whatever be the times of milking, the milk should be drawn off clear; otherwise, what is left will be reabsorbed into the system, and no more be generated than is requisite to supply the quantity actually drawn. The milker, whether a man or a woman, ought to be mild in manners, and good tempered. If the operation is performed harshly, it becomes painful to the cow, who, in this case often brings into action her faculty of retaining her milk at pleasure; but if gently performed, it seems rather to give pleasure. When cows are ticklish, they should be treated with the most soothing gentleness, and never with harshness or severity; and when the udder is hard and painful, it should be tenderly fomented with lukewarm water, and stroked gently; by which simple expedient the cow will be brought into good temper, and will yield her milk without hesitation. Whenever the teats of cows become scratched, or wounded, so as to produce foul or corrupted milk, it ought, on no account, to be mixed with the sweet milk, nor carried into the milk house, lest it should taint the atmosphere, and thus prove injurious to the rest of the milk.

Cows should be milked as near the dairy as possible, in order to prevent the necessity of carrying and cooling the milk before it is put into the creaming dishes. Every cow's milk should be kept separate till the peculiar properties of each is so well known as to admit of their being well classed, when those that are most nearly allied, may be mixed together. The very best quality of butter can only be economically made in those dairies where cheese is also made; because in them the best part of each cow's milk (the last drawn off) can be set apart for throwing up cream, the best part of this cream (the first separated) can be taken in order to make into butter, and the remainder, or all the rest of the milk and cream of the dairy, can be turned into cheese. The spontaneous separation of cream, and the production of butter, are never affected but in consequence of the production of acid in the milk. Hence it is, that where the whole milk is set apart for the separation of cream, and the whole of the cream is separated, the milk must necessarily have turned sour before it is made into cheese; and no very excellent cheese can be made from milk which has once attained that state.

Depredators—Insects.

Considered as individuals, the class of depredators to be found in the insect tribes, would be hardly worthy of notice; yet their numbers and activity render them formidable enemies to the farmer; and there can be no doubt, but that altogether the insignificant creatures cause him more loss than is occasioned by both beasts and birds. They seem to be sensible that they run their course with an eagerness and activity, that, with some, is truly astonishing.—But a single step removed from the lower orders of creation, if they are not capable of indefinite production by the simple division of their bodies, as is the case with the polypi and others of that class, there are some of them, such as the aphis, which are capable, by a single connexion with the male, of producing young for as many as eight or ten successive times, thus affording a rate of increase otherwise without a parallel. Almost every species of plant has its corresponding species of insect, which are thus furnished with an appropriate and grateful food. Owing to some causes at present not fully understood by us, insects are subject to great variations of number in their appearance. For instance, in some seasons, and perhaps for several successive ones, the grass-hopper may be found in countless numbers in some sections of the country, in other years not one will be found. The locust, too, furnishes another familiar example to the same effect.

Of the class of insect depredators on the labors of the farmer, the Hessian Fly, called by Dr. Mitchell *Tipula vaginalis tritici*, is one of the most formidable, as it rarely intermits its attacks on wheat, but annually destroys more or less of the wheat that is sown. It has generally been imagined that this insect was introduced from Germany or England, by the Hessian troops sent over to this country during the revolutionary war: and this is not impossible, as the chrysalis of the insect is sometimes deposited in higher joints of the stalks of grain, and hence could have been imported from abroad; yet it is stated by Dr. Ackerly that no such insect is known to infest grain in Great Britain; and one only on the continent of Europe, which feeds upon wheat in the ear.

Be its origin as it may, the insect first began to attract notice by its ravages on the east end of Long Island in 1786, and the crops of wheat were almost entirely destroyed in that, and in the two successive years. It has since spread generally over the country, through its favorite region seems to be the country between the secondary hills and the sea coast, including Long Island, most of New Jersey, and part of Pennsylvania, Maryland and Virginia, where the soils are in general inclining to sand. Dr. Ackerly enumerates the following as the most likely means to arrest the ravages of the Tipula vaginalis. Sowing late—sowing the bearded wheat, or any wheat producing a thick hard stem—manuring high—making use of a heavy roller after the chrysalis is formed in the autumn, or in the spring before it is hatched—ploughing up the stubble, and thus burying the chrysalis in the earth; and lastly, burying the stubble, an operation which, where it can be performed, and is thoroughly done, must destroy the chrysalis most effectually.

Another new and serious enemy of wheat has lately made its appearance, and promises to exceed in destructiveness all that have preceded it. This insect is the wheat worm, *Vibrio tritici*, and is yearly extending its sphere of injury. Like the pea-bug, or clover seed worm, the grain worm makes its lodgment in a kernel of wheat, the inside of which it devours. The insect which produces it, and the manner of its introduction into the kernel, does not yet appear to be fully understood. Mr. Bauer, the celebrated investigator and discoverer of the manner in which smut is propagated, has turned his attention to the grain worm, and he maintains that a multitude of eggs, or rather organized insects, are deposited in the infected kernel; that these by the process of inoculation, are taken into the circulation of other growing kernels, and are thus taken to the ear, where they establish themselves in the tender germs and increasing in size convert the wheat kernel into a tenement for themselves.—That Mr. Bauer's theory may be true of some kinds of the Vibrio, is very possible; but we have some doubt whether his description refers to the insect which injures wheat in this country; and we incline to the opinion that the egg is deposited in the kernel soon after the ear is out of the sheath and blossom, by a fly which propagates its race in this method. The well known puncture of the young pea, clover seed, plum, and cherry, in a similar manner; the deposition of an egg, and the consequent production of an insect, would seem to justify the belief that the wheat worm is produced in the same way. The wheat worm has hitherto confined its ravages principally to the valley of the Hudson river, and New England. It is occasionally found in Western New York, but no serious injury has as yet resulted from it. The first we ever saw was in the county of Onondago, twelve years since, when a miller placed in our hands a quantity of infected kernels, perforated by the worm precisely as is the clover seed and the pea. No effectual remedy has as yet been discovered to prevent its ravages or spread. Lime promises the most, whether

according to Mr. Bauer, the insect is already existing in the kernel, or whether the egg is placed there by the fly. In the first case, soaking in lye and rolling in lime, might be beneficial; in the last, sowing the lime upon the young plants while the young ears were protruding from their sheath, and while covered with dew, might prevent the attack of the fly.

The Curculio insect which injures fruit so extensively, is one which should not be suffered to carry on his depredations unmolested, or without efforts for his destruction. The curculio is a small fly or rather bug, which may in the spring of the year, immediately after plums and cherries have set, be easily caught and examined, or killed, by placing sheets under the trees, and then giving the bodies of the trees, or the principal branches, a sudden and a violent jar. The curculio will drop down as if dead; but if left unmolested for a few minutes will crawl or fly away to renew its attacks. The presence of this insect on the trees--and it infests peaches, apricots, and sometimes apples, as well as cherries and plums—may be readily known by examinaning the young fruit. The curculio is provided with a pair of cutting forceps like instruments at the extremity of its body; with this it makes an incision in the fruit, of a semicircular form, lifts up the small lip thus made, and thrusts its egg into the opening. This soon hatches into a little white worm which penetrates deeper into the fruit, making it gummy and unsound when it does not wholly destroy it. The little white worm changes to a large grub, and when the fruit falls, makes its way into the earth, where it spends the winter, undergoes its transformation in the spring, and in its new shape of fly, is ready to puncture the young fruit, to perpetuate its race. To destroy the curculio, any method which will prevent the parent insect from depositing its egg in the fruit, or after it is deposited prevent the grub from reaching its hiding place in the earth, will be effectual. To do the first, suddenly jaring the tree with considerable force, collecting the insects as they fall, and repeating the operation several times during the few days they are active, will be the most successful method. To accomplish the last, or prevent the worm from hiding in the earth, having the fruit garden so that the swine can be occasionally turned into it during the time the diseased fruit is falling, will be the best method, as they will thus be devoured with the defective plums or cherries. Where the trees are but few in number, and the presence of swine would be inadmissable, such fruit may be picked up by hand and thus the worm destroyed. It has been sometimes observed that trees standing near hard carriage paths, or close gravelled walks, have nearly escaped the curculio, while other fruit trees, not so situated, have had their fruit mostly destroyed. The inference drawn from these facts has been, that in such situations the worm was unable to penetrate the earth, and was of course destroyed by birds or fowls; and also that the fly was not a great traveler, but selected for the scene of its operations such trees as were nearest the spot whence it emerged from the earth.

The *Aphis*, or plant louse, is another tribe of insects which commit serious depredations on the farmer and orchardist. Nearly every plant has its peculiar species attached to it, which feed on its juices and thus destroy it, or materially retard its growth and perfection. The manner in which they preserve the race through the winter does not appear to be well understood. Last year I had a few ruta bagas set out for seed, and they became so infested with the plant louse that the seed was worth little or nothing, and when the garden was cleared, the dead turnep root and branch were removed together. This spring the garden was ploughed as usual, and planted. Happening to be on the spot of ground on the 8th of June, I observed a multitude of the young aphides, both male and female, apparently just awakened into existence, and extremely active. In what form they had passed the winter in the earth, as I think in this case they must, I cannot conjecture. All the varieties of the aphis may be destroyed by suitable applications, such as strong soap suds, a wash made by an infusion of tobacco, or when on the body of trees, by washing in lye, or by white-wash. This last is probably the best application for the *Aphis lanata*, or cottony aphis, which is spreading in this country, and bids fair to be a formidable scourge.

The common striped yellow, or cucumber bug, is a vexatious little depredator, and unless attended to in season, is most destructive to young pumpkins, melons squashes or cucumbers. By personal examination and attention to these plants once or twice a day for a short time, and by killing the bug, they may generally be preserved; but a better way is to cover the plants with boxes. A box made ten inches by twelve, five inches high, the top grooved so as to admit a pane of glass of that size, answers the double purpose of a hot house and preserver from Insects. When no longer needed in the garden, the glass may be taken out and packed in a proper box, and the boxes secured in an out house or garret for another year. If the glass is not at hand, a simple box made as above to enclose the hill, will have a great effect in keeping off the bug, as he cannot crawl to the plant, and in flying rarely strikes upon the melon or cucumber in the enclosure of the box.—*Genesee Farmer.*

Marl---Its Nature and Effects.

The following extract from Professor Rogers' late Geographical Report, will give our agricultural readers some more distinct idea of this remarkable, and recently talked of manure, which abounds in Monmouth and other counties of New Jersey.

Marl, or green mineral, loses nothing of its potency by a long exposure, even of years, to water and the atmosphere; in other words, it is not dissolved, or decomposed, or changed by the ordinary atmospheric agents which react so powerfully upon many other minerals, and consequently we are to regard it is nearly tact, with it to effect it decomposition, by the vital power of their organs, and imbibe a portion of some of its constituents.

"Mr. Wooley manured a piece of land in the proportion of two hundred loads of good stable manure to the acre, applying upon an adjacent tract of the same soil, his marl in the ratio of about twenty loads per acre. The crops which were clover and timothy, were much the heaviest upon the section which had received the marl; and there was this additional fact greatly in favor of the fossil manure, over the putrescent one, that the soil enriched by it, was entirely free of weeds, while the stable manure rendered its own crop very foul.

"This being an experiment, an extravagantly large dressing of manure was employed, but not exceeding the usual average application, more than twenty loads of marl surpassed what was necessary for it.

"Experience has already shown that land once amply marled, retains its fertility with little diminution, for at least ten or twelve years, if care be had not to crop it too severely; while, with all practical precautions, the stable manure must be renewed at least three times in that interval, to maintain in the soil a corresponding degree of vigor.

"The high and deservedly high name, which the Squancum Marl now boasts, was an inducement to me to subject it to chemical examination with special care and rigor. In external aspect, it differs in no respect from many other marls of the State, and chemically studied, I do not find it to depart very materially from several others in the proportion of its constituents, though it does most certainly possess an amount of potash in its composition not a little astonishing.—Others, however, seem to have nearly as much.

"At the pits, which are very extensive, the marl is sold at the rate of 37½ cents the load.

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"It is transported by wagons to a distance, in some directions, of 20 miles, and retailed; when hauled that far, at the rate of 10 or 12 cents a bushel—being very profitably spread upon the soil in the proportion of 25 or even 20 bushels to the acre. The fact that so small an amount of this marl is found efficacious to the soil, which, after two or three dressings, is permanently improved, and to a high pitch, by it, furnishes me one consideration for supposing that too generally the marl is spread with a prodigality surpassing all the necessities of the land.

"A specimen of the marl from Thorp's lowest layer yielded me, after reiterated trials, uniformly about the following, for its composition:

Silicia	43,40
Protoxide of iron	21,60
Alumina	6,40
Lime	10,40
Potash	14,48
Water	4,40
	99,68 in 100 grains.

In connexion with the foregoing extracts we add a few facts and experiments collected from the gentlemen whose names are used:—

Messrs. Tunis, and John B. Forman say, that they have used Squancum Marl at the rate of 100 bushels to the acre, on very poor, worn out, cold clay land; the product of the first year was 30 bushels of buckwheat to the acre—and the second year (it being sowed the year before with clover and herd) it cut a ton or more of good hay per acre, after which about 100 bushels of marl per acre were scattered over the seed, and it now yields two tons of good hay to the acre.

They have also resuscitated mowing ground after it had become too poor to produce a crop, by spreading 100 bushels of marl per acre over the sod, and the effect was to mellow the soil, and produce two tons of hay to the acre; the hay produced was of a superior quality, and free from weeds. One hundred bushels of marl to the acre of land, so poor as to have been considered useless, will raise a crop of from 12 to 20 bushels of rye per acre, and leave a fine sod of white clover. From three pints to two quarts of marl per hill of potatoes (the hills three feet apart on poor ground) has produced from 200 to 250 bushels per acre.

They have found the marl a superior manure for turneps and garden truck in general. The effect of marling lands planted with apple trees, has an astonishing effect in improving the trees and fruit. They have known marl to be spread on a bog meadow, and to cause double the quantity of superior hay to be produced. A neighbor of theirs, a few years since, sowed out of a basket, about 60 bushels of marl, on three or four acres of very

poor land, and reaped about 100 bushels of buckwheat.

Dr. Forman states, that two or three years ago he broke up a small piece of land, which he for 40 years had considered too poor to plough, an acre; the land, 100 bushels of marl per acre; the land produced a good crop of rye and has cut a ton of clover hay per acre every year since. He also states that Squancum Marl was first used about 30 years ago by Derick Chamberlain, under the name of *creek mud;* it caused the piece of l nd thus manured, to produce double the quantity it had done before, and the effect on the land is still visible.—*Franklin Mercury.*

Farming.

BY THE REV. TIMOTHY FLINT.

If one half the zeal, energy and expense that blots so many gazettes with low and coarse abuse, setting the community by the ears for the sole gain and the paltry purposes of a few demagogues and office-keepers, were bestowed on the advancement of agriculture —if the people were half as ambitious to improve and beautify their fields, as they are to settle the nation; and half as angry with thistles, thorns, and poor fences, as they are with their political opponents, who probably wish as well to the country as themselves, we should have more productive fields, less complaints of poverty, more ability to be charitable and munificent, and abundantly more good feeling. From Pittsburg to New Orleans the son ploughs as his father did before him, and the great mass of farmers are as stationary in theory as they are in practice. Nine in ten of them believe, at this moment, that book farming is the mere useless, visionary dreaming of men that know nothing about practical agriculture.

We would tell them that England is the garden of Europe, simply because almost every acre of the ground is cultivated scientifically, and on principles which have been brought to the test of the most rigid and exact experiment.—We would tell them that New England, of whose soil and climate they are accustomed to think, as consigned by providence to sterility and inclemency, is the garden of the United States, only because the industrious and calculating people do not throw away their efforts in the exertion of mere brute strength—but bring mind, plan, system and experience to bear upon their naturally hard and thankless soil.

On every side the passing traveler sees verdure, grass and orchards in the small and frequent enclosures of imperishable rock, and remarks fertility won from the opposition of the elements and nature. After an absence of ten years, on our return to that country, we were struck with this proud and noble triumph conspicuous over the whole region.

The real benefactors of mankind, as St. Pierre so beautifully said, are those, who cause two blades of wheat to mature where one did before. The fields ought to be the morning and evening theme of Americans that love their country. To fertilize and improve his farm, ought to be the prime temporal object of every owner of the substantial soil. All national aggrandizement, power and wealth may be traced to agriculture, as its ultimate source. Commerce and manufactures are only subordinate results of this main spring.

We consider agriculture as every way subsidiary not only to abundance, industry, comfort and health, but to good morals, and ultimately to religion.—We shall always say and sing "Speed the plough." We shall always regard the American farmer, stripped to his employment, and tilling his grounds, as belonging to the first order of noblemen among us. We shall always wish him bountiful harvests, good beer, and moderate use of cider; and, if he will rear it himself, of the grape, but none of the pernicious gladness of whiskey; and we shall only invoke upon his labors the blessing of God, and say of him "peace be within thy walls."

Rhubarb Pies.—Gather a bundle of the leaf-stocks, sufficient quantity—cut off the leaf and peal the stock of the thin epidermis —cut in quarter inch pieces, and lay them into the crust—cover well with sugar, and add nutmeg, orange peal and spice to taste. The flavor is equal, and many deem it preferable to gooseberries. The pie-plant is perennial, herbaceous and very hardy. A dozen plants will afford a family a constant supply.

To make Yankee Bread.—Take two measures of Indian and one of Rye meal, mix with milk or water, to the consistency of stiff hasty pudding, and add yeast—bake in iron pans or iron kettles four or five hours. Eat with fresh butter, or other food, and if while warm the better. Yankee bread is very good or very bad, according to the manner in which it is made. We commend it to dyspeptics. The Indian meal should be either bottled or sifted.

Spruce Beer.—Take three gallons of water, of blood warmth, 3 half pints of molasses, a table spoon full of essence of spruce, and the like quantity of ginger—mix well together, with a gill of yeast; let stand over night, and bottle in the morning. It will be in good condition to drink in twenty-four hours. It is a palatable, wholesome beverage.

Practical Hints.

The following items relating to rural economy are derived from conversations which we have from time to to time entered into with sundry practical farmers.

Tar for Sheep.—A gentleman who keeps a large flock of sheep says that during the season of grazing he gives his sheep *tar*, at the rate of a gill a day for every twenty sheep. He puts the tar in troughs, sprinkles a little fine salt over it, and the sheep consumes it with eagerness. This preserves them from worms in the head, promotes their general health, and is thought to be a specific against the rot.

Botts in Horses.—A traveler informs us that the stage drivers on their routes leading from Albany to the western parts of the State of New York, in giving water to their horses on the road, mix a little wood ashes with their drink, which they say, effectually preserves them against the botts.

Thistles.—It is said that if thistles are cut after they are in full bloom an inch or two above the ground they will be more easily subdued than those cut at the same time with the hoe below the surface. In the former case the remaining stub of the thistle gets full of water, which resting on the crown of the plant injures it so far as to occasion a few feeble shoots only to rise, whilst in the latter strong and luxuriant stems were produced.

Cut Worm.—A friend informs us that he succeeded in destroying cut worms by watering ground infested by them with brine in which hams had been preserved, diluted with a large proportion of water. In his first application he destroyed some of his vegetables, as well as the worms in consequence of using the brine without diluting it sufficiently. In succeeding trials he attained his object, and destroyed the worm without injuring the vegetables.—*N. E. Farmer.*

The Fayetteville Observer urges upon its readers the cultivation of an abundance of the tomato, as an article of diet, equally agreeable and salutary, medicinal in diseases of the liver, and likely, in the opinion of some physicians, to supersede the use of calomel. We sincerely hope it may—it is a most agreeable succedaneum for that mineral, and may be taken in any reasonable quantity without the least danger.

Curiosities of the Ingenious.

Incombustibles.—There are many substances of vegetable origin, of common domestic use, which it would be of the utmost importance to render less liable to be set on fire, if they could not be rendered incombustible altogether. If muslins, and other cotton goods be dipped in a weak solution of potass, they will be less liable to burn; but the objection is, that by the attraction of moisture from the atmosphere, they would be less agreeable. It has also been found, that solutions of muriate, sulphate, phosphate, and borate of ammonia, with borax, render cloth incombustible. Acidulous phosphate of lime has the same effect. Linen, muslin, wood, or paper, dipped in a solution of this salt, of the specific gravity of 1.26 to 1.30, are completely incombustible, and may be charred by intense heat, but will not burn. Several experiments were made at Venice in 1807, by a Monsieur Gonzatti, with a liquor, which being thrown in a small quantity on any combustible article on fire, has immediately extinguished it. A few drops only being thrown on a quantity of rosin and oil, which was burning, the fire was immediately extinguished; and it was said that a layer of this composition being spread upon any wood work, it was entirely safe from combustion. The inventor would not make known the preparation of his composition, but it was, very probably, a solution of alum, potass, and vitriol.

The Seasons.

By Mrs. Barry Cornwall Wilson.

In the smiling morn of Spring,
When the woods were fresh and green:
And the wild birds round did sing,
Like the genii of the scene:
Then, my heart was woo'd and won,
Then its sweetest hopes begun!

When the Summer's glaring ray,
Wak'd to life the opening flowers;
And the glorious god of day,
Smil'd upon the new-deck'd bowers;
Then, my bosom's fluttering guest,
Own'd itself too sweetly blest.

When rich Autumn's golden hue,
Gleam'd upon the ripen'd corn;
And a milder lustre threw
O'er the blushes of the morn;
Then, my heart's best hopes betray'd,
Like Autumnal leaves did fade!

When cold Winter's icy breath
Froze the stream, and stript the spray;
And the chilling hand of death,
Swept the ling'ring birds away;
Then, my heart's fond hopes all o'er,
Wither'd, sunk, to bloom no more!

A gentleman having occasion to manure a certain portion of land lately, the cart bearing the manure passed through a field that appeared one entire bed of common thistles. It was observed that wherever the cart went the thistles were entirely destroyed. He then rolled the entire field over with a cast iron roller in the latter end of May, and twice in the beginning of June. This field has been perfectly free from thistles ever since. The expense was only three shillings per acre. Fern and closefoot have been exterminated in the same way with most complete success.—*Scottish paper.*

Hoeing Corn.

The object of hoeing and working the soil about corn, are, first, to destroy all weeds; and secondly, to loosen the soil at the surface, that it may the more readily absorb dews and rain which fall upon it, and prevent the evaporation of moisture, which takes place much sooner where the soil is hard, than where it is kept loose and mellow. The practice so prevalent, of deep cultivation by the plough between rows of corn is not to be recommended. If the ground has been properly prepared before planting, when not too wet, it will not need this additional loosening. After the corn has arrived at the usual size for hoeing, the soil should only be disturbed at the surface. For as the plants increase in size, they send out long fibrous thread-like roots in all directions, which branch every way, and run all over the ground; and it is through these that they receive a large portion of their nourishment. To break or injure these would therefore materially retard the growth of the plants by cutting off their accustomed supply of food. And yet, surprising as it may seem, a notion is prevalent, that it is serviceable to break the roots of corn. But what should we think of such reasoning as this, were it applied to animals. What should we think if it were declared to be serviceable to cattle to deprive them of their supply of food? Or as a writer somewhere asks, What would be thought of the reason of a man, who should declare it as his opinion, and practically enforce it, that the best way to fatten a bullock, is to wound his tongue, break his teeth, and batter his jaws, whenever he reached forward his head for food? Why then treat plants, which, as much as animals, require their proper nourishment, in the same way?

Hilling corn we would always disapprove, although it is very commonly practised. Not unfrequently in performing this operation, all the loose mellow earth is scraped away from between the rows and heaped up round the plants, forming a sort of roof about them, throwing off the rain, which runs down into the hard soil thus laid bare at the bottom of the furrows, which the first dry weather bakes to the last degree of hardness, so that the roots can receive no moisture here, and little within these artificial pyramids. A reason is assigned in favor of hilling,—that it makes the corn stand firmer and more erect and is less liable to be broken down by the wind. This may be the case when the plants are small and do not need any such help; but when they attain a height of several feet and are loaded with leaves and ears, it must be evident that a little loose earth piled about the roots is totally insufficient for such a purpose. It is the strong bracing roots which radiate from the stock which are to support it there; and to bury those roots deep under the surface while they are growing, and thus shut out from them both heat and air, and render them weak and tender would only help to bring out the very thing we wish to prevent.

It is important to farmers that this subject be well understood: for a little knowledge may save many weary steps, and be the means of an abundant crop in the bargain. But if any farmers doubt the accuracy of our reasoning, we would request them to test it by experiment; by ploughing and hilling high one part of their corn, and using the cultivator and applying the same amount of labor in mellowing the flat surface of the other, and then measure the results.

W. L.

The Silk Business.

FRANCE is considered a silk growing country, yet she does not grow sufficient for her own manufacture, and it is said annually imports raw silk to the amount of $6,000,000.

England, owing to the humidity of her climate, cannot raise the worms to advantage, and for her numerous manufactures is obliged annually to import the raw material from other countries to the amount of $17,000,000. It is stated that we import annually of raw silk to the amount of about $10,000,000, and of the manufactured over sixteen millions.

Unless the United States push the culture of the mulberry and raising of cocoons beyond any thing now in operation, many long years must intervene before we can supply the demand of our own markets. Inhabiting as we do one of the best climates in the world for manufacturing silk of the best quality, instead of paying ten millions of dollars annually to other nations for the raw material, we ought to export two or three times that amount.

It is said our imports of silk stuffs exceed our exports of bread stuffs—why is this!

Only because we do not duly appreciate and improve the means we have. Let our intelligent farmers be convinced that the silk business is profitable, and then we can hope that every exertion will be made to extend the cultivation of the mulberry and raising of cocoons.

It is a matter of regret, that any one should view the subject as a wild project, and say, that although it may be a good business for a few years, if found lucrative, every body will engage in it, and glut and ruin the market. We wish the subject could be represented to our fellow citizens, as to impress them with the importance of examining the subject, on the broad scale of greater national importance than any agricultural subject ever yet pursued.

But if doubts and fears shall remain, we only ask them to commence the culture of the mulberry on a limited scale for a few years, not to interfere with any other agricultural pursuit. Let the experiment be made upon some of our almost barren and useless portions of poor, dry, stony, and gravelly soil.

It may be asked, if the silk business can be made more profitable than any crop, why not take the best and richest land?—a fair question indeed, but such land is not best for the Chinese mulberry, and it would be desirable to have every patch of poor, waste, dry land devoted to some useful purpose.--*Northampton Courier.*

Family Receipts.

To Pickle Tongues for Boiling.—Cut off the root, leaving a little of the kernel and fat. Sprinkle some salt over it, and let it drain twenty-four hours: then for each tongue mix a table spoonful of common salt, the same quantity of coarse sugar, a small quantity of saltpetre reduced to a powder, and rub it well into each tongue every day. In a week add another heaped spoonful of salt. If rubbed every day, a tongue will be sufficiently pickled for drying in a fortnight; but if only turned daily in the pickle, it will require four or five weeks. Tongues may be smoked, or dried plain, as may best suit the taste. The longer kept after drying, the higher will be their flavor. If hard, they should be soaked three or four hours before boiling. When dressed, allow five hours for boiling, as their excellence consists in being made exceedingly tender.

How to make Perpetual Yest.

Take a pound of fine flour, make it the thickness of gruel with boiling water, add to it half a pound of loaf sugar, mix them well together, put three spoonfuls of well purified yest in a large vessel, upon which put the above ingredients, and they will soon ferment violently. Collect the yest off the top, and put it into a small neck pot, cover it up from the air, and place it in a dry or warmish place; when used in part, replace with flour made into a thin paste, and sugar in the former proportion. I saw this used after it had been five months made. No yest is necessary except the first time.

The Birth of the Flowers.

The flowery days of spring have come, the
brightest of the year;
Of mossy banks and waving woods, and sparkling waters dear;
When soft south winds with breath of balm, and
fragrant scent of flowers,
Float o'er the vale and smiling lake, and wave
the leafy bowers.

On its thorny stem the opening rose gives its
first young blush to light,
And violets on their moss-grown bed shun the
rude gazer's sight;
While deep within the lonely glen the lily waves
her bell,
Pure as the mountain breeze which stirs the
foliage round the dell.

From high Linden's flowery top is heard the
wild bee's hum,
As flitting through the scented air they hurried
to their home,
When the sun goes down in the seas of gold,
and skies are blue above,
And the wood-robin's cheerful note rings through
the dusky grove.

The primrose springs along the banks where the
yellow daisies shine,
And the morning flowers their tendrils shoot,
and round the casement twine;
Where the budding shrubs o'erhang the lake and
dip in the mirror'd flow,
The wild plum's clustering blossoms float, and
sweet wild roses grow.

The rabbit leaves his leafy couch to range the
green wood free;
The squirrel wakes from winter's sleep and
bounds from tree to tree;
The song of thrush and blackbird rouse the
echoes of the wood,
And journeying sea-fowl shake their plumes,
and skim along the flood.

The humming bird sips the opening sweets and
flits from flower to flower,
Now tangles his wings in fragrant shades, now
darts to his wild wood bower;
The yellow bird builds with thistle down where
the orchard blossoms shine,
And the oriole waves her waving nest where
the leafy branches twine.

To hoary cliff and mountain top, the eagle wings his flight,
Where the first beams of morning rest in floods of sparkling light;
Surveys the realms that lie below, the groves the floods, the sea,
Realms of the fearless and the brave, sweet home of Liberty!

Come to the fields, the turf is green, the flowers are springing bright,
Dew drops are glittering on the buds and dancing in the light;
Stern winter's step no more is heard, his storms are far away,
Warm glows the sun, the air is balm, and glad the livelong day.

Come to the church-yard, here are flowers that wave their petals light
Above the graves of those we loved when youth and hope were bright,
When life was budding fresh, and each spring was heard to say,—
"Come, where each morn, each night is bliss; make haste and come away."

Though the tall grass waves o'er the lowly bed, where the loved in silence sleep,
And the faded flowers lie on the spot where we knelt to pray and weep;
Yet he who bids the opening rose in the breath of spring to live,
Will raise from death our dearest friends, and beauty immortal give!

W. GAYLORD.

Otisco, May, 1836.

Seasonable Advice.

Select the ripest and most plump seeds from such plants as are most thrifty and vigorous, and you will improve your breeds of vegetables as much as, and much as the same manner that breeds of domestic animals are improved by propagating exclusively from the best specimens of each species. Preserve your sheep from the gad-fly, which causes worms in the head, by keeping their noses constantly smirched with tar from the middle of August to the latter part of September. If you mix a little salt with tar, and place it under cover where your sheep can have access to it, they will keep their noses sufficiently smeared with tar to prevent the insect from injuring them.

Cut down or dig up the roots, of all useless or obnoxious plants in good season, that is to say, before their seeds are formed, or nearly ripened, and either throw them to your swine, or rake them into heaps, and bury them with sods, mud, rich earth, &c. or dry them in the sun for feeding cattle in the winter. This is the right time of the year for destroying the bushes, which infest your pastures. Wet weather is best for this purpose, because the sap vessels will continue open longer, the sap will be discharged, the roots weakened, and eventually they will lose their power of producing new shoots. Take a scrutinizing, scientific survey of your fruit trees, and pick off a part of the fruit from limbs which are over loaded, or put props under them.

Beet Root.

We do not recollect any agricultural product which has engaged so much attention as the beet root, cultivated for the purpose of making sugar. Reports of the interest with which this subject is regarded reach us from almost every quarter of the union. The seed of this plant cultivated in France, has been distributed in the city of Washington, and the experiment of raising it for the manufacture of sugar will be tried in most of the states.

An agent it is well known has been despatched by some of our enterprising citizens, from this city to France, for the purpose of obtaining information in regard to the culture and the best process of fabricating the sugar. Some of his reports have been published.—In our next and succeeding numbers, we shall endeavor to give a brief but comprehensive view of this interesting business, availing ourselves of the information collected by the agent above referred to, and other sources entitled to credit.

Destroying Insects.

A friend of ours informs us, that a decoction of red peppers sprinkled or poured over melon or cucumber plants, will effectually guard them against the striped bugs; and another has applied quicklime to great advantage. When the bugs are very numerous, we think these applications would be useful; but our main dependence has been on our own vigilance. The hills ought to be examined at least twice a day, mornings and evenings, and we often visit them at noon when we apprehend danger; but the bugs are so very active when the weather is warm, that many escape; and we have sometimes used the watering pot to check their activity.

We are not believers in the doctrines of infinities as applied to insects. We know that the numbers of many kinds are limited; and we annually reduce the striped bugs so much in a few days, that they occasion little trouble afterwards.

The large black bug which infests squashes and pumkins, is a formidable insect, always checking the growth and often destroying the whole plant. It very rarely attempts to fly away, and may be caught without diffi-

culty. We never crush them, but decapitate them with the thumb nail. The eggs are commonly laid on the under side of the leaves; and unless destroyed, the plant is soon *poisoned* by the new brood. The attention of a few minutes, once in two or three days has been sufficient to restrain their depredations in our gardens.

Anthracite Ashes.—It is beginning to be discovered that anthracite ashes, which were formerly considered as only a nuisance, are really worth something—nay, valuable—as a manure. Comparative experiments have been tried with them on grass lands, and in gardens and fields, and they are pronounced to have produced better effects than the manure ordinarily in use.

A new and colossal vegetable, to which the high sounding name of "The Waterloo Cesarean Cow Cabbage" has been given, has lately been introduced into England. It is said to grow from nine to twelve feet in height, and from fifteen to twenty in circumference. Five of these ponderous cabbages are said to have proved sufficient for 100 sheep, or 10 cows per day; while its nutricious qualities are represented to be as great as itself.

Starch.

A little salt sprinkled in starch, while it is boiling, tends to prevent it from sticking; it is likewise good to stir it with a clean spermaceti candle.

Superior Johnny Cake.

The following receipt will make a Johnny cake fit for an alderman, a mayor, an editor or any other dignitary in the land: Take one quart of milk, three eggs, one tea-spoonful saleratus, one tea cup of wheat flour and Indian meal, sufficient to make a batter to the consistency of pancakes. Bake quick in pans previously buttered, and eat warm with butter or milk. The addition of wheat flour will be found a great improvement in the art of making these cakes.

Bone Manure.

Bone dust strewed lightly over the rows where peas, beans, or any other seeds are sown, has been found to insure a fine and more healthy plant than any other kind of manure. It is also of great service in improving the bloom of all kinds of flowers.

A correspondent recommends the rubbing of the limbs of the plumb with soft soap, to prevent the black canker. Success attends it.

Saving Manure.

One of the most important parts of farming, consists in the saving, and proper application of manures. With respect to the *saving* of manures, it can be effected in more ways than are generally imagined. There is probably no branch of agricultural economy, in which there is so much waste, as in this. Very frequently not half the quantity is saved which might be, by a little more cost and care; and the little that may chance to be saved, is perhaps suffered to remain, before it is applied to the land, exposed to the action of rain and the atmosphere, till it has lost, by the process of leaching and evaporation, the greater half of its fertilizing properties.

In the first place, with a view to the saving of manure, we should have our farms located so as to secure the wash upon our cultivated lands, instead of suffering it, as too many do, to run off in the ditch of the highway, or upon some uncultivated spot which does not derive any benefit from it. The wash of the yard should be conducted, by suitable ditches, to those places where it is most needed. In some situations, with a very trifling expense, it may be distributed over several acres, which will be thus rendered permanently productive. If our buildings are not thus favorably located, we should by all means make our yards dished, so as to collect the wash in the centre, which should be liberally supplied with litter, muck, or turf, which will absorb the juices that contain a great portion of the strength of the manure, and prevent their waste by evaporation or otherwise. Some farmers have a cistern in the centre of the yard, to collect the wash, which may thence be conveyed, in suitable casks, to the lands where it will be most beneficial, and will serve the double purpose of irrigation and manure. This is doubtless one of the most efficient modes in which manure can be applied. I am aware, however, that few farmers are sufficiently sensible of the importance of saving all that can be converted into manure to be thus particular. But would not the interest of the farmer, and the good of the community be promoted by a greater attention to this subject! Would not he receive a handsome profit on his capital and labor! If we have not the means to make those improvements and conveniences which others possessing a larger capital can, we may at least occasionally turn a furrow, to conduct the wash of the highway, of the barn or of other buildings upon the fields, which will in consequence, assume a deeper green, and wave with a richer verdure.

Respecting the best way of *applying* manure, we may suggest some hints in a future number. CINCINNATUS.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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Agricultural Papers.

While contemplating the immense and incalculable benefits which must necessarily result not only to the farmer and planter, but to the public in general, and to every class of the community in whatever occupation engaged, from the general improvement of agriculture and the powerful tendency of agricultural papers to produce such improvement, the man of reflection, who loves his country and who feels any regard for the happiness of his fellow men, cannot but be struck with astonishment, not only at beholding so many of those who are devoted to the profession of agriculture, and who are entirely dependent on it for the supply of all their wants, voluntarily debarring themselves from the easiest, the most agreeable, the cheapest, and the most effectual mode of acquiring knowledge in their profession—but at the short sighted views of those who are obviously not less deeply interested than the farmer himself, in producing that state of improvement, on the production of which the prosperity of all is alike dependent. Let every man but ask himself, what would be the effect upon the public prosperity, and on that of every individual of which society is composed, whatever may be his occupation, were the fertility of the land and the quantum of his annual production to be doubled, trebled or quadrupled—all must see at a glance, that the national wealth and resources would be in the same degree enhanced. The government would be enabled, with far less inconvenience to the people, to raise double, treble or quadruple the revenue which can now be collected, either for the purpose of defending the country against foreign enemies, improving it by roads, canals, &c., or for what is of still greater importance than either, the establishing and sustaining a system of Universal Education, by which, and by which alone, liberty can be perpetuated, the people elevated to that dignity and worth of which they are capable, and which it should be considered the first duty of every Republican Government to confer.

The farmer and planter would be benefited by receiving a treble, or quadruple reward for his labor, to be expended in supplying his wants, increasing his wealth, or promoting his comfort. The merchant, the lawyer and the mechanic, will be benefited by a double, treble, or quadruple ability in their customers to purchase their goods, or to reward them for their services; and above all, the laborer of every description, would be benefited by constant employment, and good wages paid in ready money. In a word, universal prosperity would overflow the land, and universal intelligence and increase of virtue, would enable and dispose the people so to use it, as to banish from the country by far the largest portion of that misery and distress under which mankind, in all ages and countries, have heretofore groaned, and which must continue to be their lamentable lot, until by an elevation of the intellectual and moral character of the mass of the people, they shall be qualified so to improve the recources which a benignant Providence has placed at their command, as to enable every one, by moderate labor, to acquire the necessaries and comforts of life. That such would be the ultimate effects of doubling, trebling, or quadrupling the products of the earth by the industrious exertions of the agricultural community, if guided and directed by intelligence, is too plain to require proof.

Would the general circulation of agricultural papers, by diffusing knowledge, and by continually presenting to the eye of the agriculturist, clear, unequivocal and demonstrative proof, that great and ample rewards are the sure and certain consequences of such exertions, have a tendency to stimulate the community to active and intelligent exertions? He who doubts this, must believe the gross and palpable absurdity, that the greater the knowledge a man possesses of the business in which he is engaged, the more will he be disqualified to pursue it with advantage, and that the more clearly and distinctly the prospect of reward is held out to the farmer for his labor, the greater will be his indolence.

With those who can believe these propensities, if any such there be, it would be vain and idle to reason—they can believe any thing which they wish—their error proceeds

not from the head, but the heart—what they want is not the capability, but the inclination to discover truth. To all others, of whatever character or occupation, we would say, If you believe that agricultural improvement would be thus beneficial to your country, conducive to the best interest of yourselves and your fellow citizens of every class and description, and that the wide and general circulation of agricultural papers would have a tendency to produce that improvement, do not patriotism, philanthrophy, and enlightened regard to your own interest all conspire to demand that you should exert yourself by every means in your power, by your example, by your exertions, by your instructions, and by your influence, to extend as widely as possible the circulation of papers entirely devoted to the diffusion of agricultural knowledge and the production of agricultural improvement—papers whose influence, while it may be productive of such incalculable good, can by no possibility be injurious to any human being!

We ask you, soberly, and deliberately, to consider the subject, and then to act in such a manner as reason, conscience, patriotism, and an enlightened regard to your own interest shall dictate. For ourselves, we entertain not a particle of doubt, that were some well conducted agricultural paper generally circulated and read in every neighborhood in the United States, its salutary influence would, in a few years, be clearly exhibited in the intellectual improvement of the people, in the increase of the national wealth and resources, and in the increased happiness and prosperity of all classes of community. To the production of such results we are not only willing but desirous of contributing our utmost exertions, and it is therefore, that we solicit all those that have it in their power, by the communication of agricultural knowledge, and by their exertions in promoting its diffusion to the widest practical extent, to afford us their aid and co-operation, we are fully sensible must the success of ours, and similar efforts, in a great measure depend.

Cut Worm.

In some years these larvæ are very destructive to the Indian corn, and of all the contrivances for destroying them, which we have seen, that of Parke Shee, of Delaware county, in Pennsylvania, is the most simple and the most expeditious. A pair of old wheels from a cart or wagon, are fitted with several projections like the cogs of a spur wheel in a mill, which are so formed as to impress in the earth a hole four inches deep. The smooth track which the wheel makes on the soft ground, induces the worm in its nocturnal wanderings to follow on till it tumbles into the pit. It cannot climb out and the hot sun destroys it.—*Farmer.*

The Dairy---No. 2.

The milk from which butter is to be made, may either be put at once into the churn, and left there to send up the cream, or it may be made to cream in milk dishes, and the cream alone churned. The last is generally considered the best mode; and in carrying it into effect, the milk, being drawn from the cow, is to be strained into the creaming dishes, which never should be more than three inches deep, and of about a gallon and a half, or two gallons in capacity. In general, the best cream will be fit for removal in seven or eight hours, though for ordinary good butter, it may stand twelve hours; but where the very best butter is wished, and such arrangements are formed as admit of converting the milk to cheese, or some other use, when it is sweet it may be separated after standing only two or three hours. In performing the operation, first pass the cream knife round the edges of the vessel, to separate the adhering stratum of cream, and then draw it to one side; lift it off with the skimming dish, and put it in the cream bowl to be carried to the cream barrel. Where quantity more than quality is desired, the whole of the milk is churned without separating any cream; the milk is kept in the churn, or in large barrels, for two or three days, till it begins to get sour.

The operation of churning, where the cream and milk are both to be agitated, is necessarily tedious and laborious; but a great weight of butter is undoubtedly obtained, the quality and flavor of which will depend a good deal on the peculiar properties of the milk. In the process of churning, great nicety is required; a regular stroke in plunge or pump churns, and a regular motion in those of the barrel or turning kind, must, if possible, never be deviated from. A few hasty irregular strokes, or turns, has been known to spoil what would otherwise have been excellent butter. Nothing is more easy than the process of making butter, where the cream has been duly prepared.

The best time for making butter, during summer, is early in the morning, before the sun acquires much power; and if a pump churn be used it may be plunged a foot deep into a tub of cold water, where it should remain the whole time of churning, which will very much harden the butter. During winter, if necessary to churn near the fire, care should be taken to prevent the heat from acting on the wood of which the churn is composed; otherwise it would impart a rancid taste to

the butter. As soon as it is made, it must be separated from the milk, and put into a clean dish: the inside of which, if of wood, should previously be well rubbed with common salt, to prevent the butter from adhering to it. The butter should then be pressed and worked with a flat wooden ladle, or skimming dish, having a short handle, so as to press out all the milk that may be lodged in the cavities of the mass. A considerable degree of dexterity, as well as of strength, is requisite in this manipulation: for if the milk be not entirely removed, the butter will infallibly spoil in a short time; and if it be much worked, the butter will become tough and gluey, which greatly debases its quality. This effect is also occasioned by pouring cold water on the butter, for the purpose of washing it; a practice entirely useless, as the butter can be effectually cleared of the milk in the way we have stated.

In salting or curing the butter, the use of wooden vessels is preferable. These should previously be rendered as clean and sweet as possible, well rubbed with salt, and the cavity between the bottom and sides filled with melted butter. An excellent composition for preserving butter may be made, by reducing into fine power, and carefully mixing together, sugar and nitre, of each one part, and two parts of the best common salt. Of this composition, one ounce should be thoroughly mixed with every sixteen ounces of butter, as soon as the latter has been freed from the milk; and the butter must be immediately put into the firkin, being pressed so close as to leave no air holes, or any kind of cavities within it. The surface must be smoothed; and if a day or two be expected to elapse before more can be added, the vessel must be closely covered up with a piece of clean linen, on which should be laid a piece of wetted parchment, or (if this is not procurable) with a piece of fine linen, dipped in melted butter, exactly to the edges of the vessel all round, so as to exclude the air as much as possible.

When more butter is to be added, these coverings are to be removed; the butter is to be applied close to the former layer, pressing it down, and smoothing it as before, till the vessel is full. The two covers are then to be spread over it with the greatest care; and a little melted butter poured all round the edges, so as to fill up every part, and effectually to exclude the air. A little salt may then be strewed over the whole, and the cover firmly fixed down. Butter thus secured, does not taste well till it has stood at least a fortnight after it has been salted. After that period it acquires a rich marrow taste, and will continue perfectly sweet in a moderate climate, for many years. If it be quickly consumed, it may be taken up as wanted, without any other precaution than that of keeping it carefully covered up; but if it is to be used very slowly, and it acquires a rancid taste, from exposing it to the air, a strong brine of salt (strong enough to float an egg) should be poured, when cold on the surface of the butter; and although the quality of the latter will be somewhat injured by the action of the water, yet that is a much less evil than the slightest rancidity would occasion.

When butter is to be exposed to the heat of a warmer climate, it should be purified by melting before it is salted and packed up. For this purpose let it be put in a proper vessel, and this immersed into another, containing water. Let the water be heated until the butter is thoroughly melted; let it continue in this state for some time, when the impure parts will subside, leaving at the top a perfectly pure transparent oil. This, when it cools, will become opaque, and assume a color nearly resembling that of the original butter, being only somewhat paler, and of a firmer consistence. When this refined butter has become a little stiff, but while it is somewhat soft, the pure part may be separated from the dregs, and salted and packed up in the same manner as other butter; it will continue sweet much longer in hot climates, as it retains the salt better than in its original state. It may also be preserved sweet without salt; by adding an ounce of fine honey to every pound of butter, and mixing them thoroughly, so that they may be perfectly incorporated. A mixture of this sort has a sweet, pleasant taste, and will keep for years without becoming rancid.

From the New England Farmer.

Olden time in Pennsylvania.

As introductory to shewing the Rise and Progress of the best of the Agriculture and Gardening in the State.

Pennsylvania had a small beginning. King CHARLES' Patent, or Charter to WILLIAM PENN is dated March 4, 1680. That summer he sent people and materials, with instructions to select the most suitable site for a city and to build him a house. They fixed and built his house, and laid out the city 25 miles higher up the river, than where Philadelphia was built; another party fixed and laid out the place of the city about 10 or 12 miles below; that is yet called *Old Philadelphia.* WILLIAM PENN remained in England, and obtained another charter from JAMES, Duke of York, for the state of Delaware, then called the *Territories of New-*

castle, Kent and *Sussex;* that charter bears date the 14th of August, 1682. After that, WILLIAM PENN sailed for his wooden country. They had a tedious voyage; too much crowded with passengers: and numbers died on the way with the small pox.

My grandmother, who died at my father's the 14th of February, 1773, supposed to have been upwards of 100. She retained her memory and faculties to the last; had no learning or knowledge of dates: could talk Indian before she could English, as she had been brought up in a family of the *Swedes* that first settled on the Delaware.

She used often relate her being present and seeing WILLIAM PENN first land on *Sweed Hill*, near the Navy Yard, where they had a church, before there was a Philadelphia, (and yet have one there;) that she was present the next day at his treaty with the Indians, under the noted Elm Tree, where a monument is now erected. WILLIAM PENN lived in his house 25 miles above Philadelphia for two years, then returned to England. He and his council having fixed the site for Philadelphia, where it now stands, for the advantage of both rivers. The Indian name of the place was *Cockaquanunk*, signifying a Grove of Pine Trees. My aged grandmother used to relate the great sufferings of many of the first settlers for provisions; that had they not been supplied by the kindness of the Indians, many would have starved and died.

The first settlers were from England, Wales, and Ireland; most of them had either been mechanics or day laborers; few had the use of an axe, or any knowledge how to clear or cultivate their land, only as taught by the Indians. WILLIAM PENN had great trouble in England with the revolutions of the government; that he was absent from Pennsylvania about twelve years, during which time his country filled slowly with various sects and professions of people. When he came the second time, he built a brick house in Philadelphia, that is yet standing, and since my memory occupied as a tavern, or house for eating oysters. The country did not settle or improve in agriculture as fast as WILLIAM PENN wished. He only remained in Philadelphia about two years, when he returned again to England. He had heard of some religious sect of people in Germany who had conscientious scruples against bearing arms, and that they were persecuted for their religion. He paid a visit to several parts of Germany, and personally invited them to come and settle in his new country, making to them two special concessions.

1. They should have liberty of conscience in religion.

2. They should be exempt from military requisitions:—which have not been observed.

When they began to arrive, or in what numbers, I have no account before me. Perhaps but few came during the life of WILLIAM PENN, who intended and prepared to come to this country a third time, but was struck with the palsy, declined with weakness, and died in the summer of 1618, aged 72.

From the Moravian history it appears that *Nazareth* and *Bethlehem* were begun in the year 1740. And a large majority of the German emigrants were of the *Menonist* Religion. History says that 54 ships' loads of German emigrants arrived in Philadelphia in one summer. All classes of the inhabitants considered them an acquisition to the country; and to encourage the emigration, the benevolent people of all classes contributed largely to render their landing and first accommodations comfortable. The Society of Friends appointed suitable agents to advise and assist them to land and places of residence; the wealthy merchants that had large quantities of wild lands, were ambitious who should best accommodate them, either for ready pay or on credit; amongst whom WILLIAM ALLEN, Chief Justice of the Province, was the most conspicuous. The State Legislature tried to put a word in. Amongst the rest I see that the 26th of January, 1750, they passed a law to prohibit importing too many Germans in one vessel, and limit the space of each, as follows:

1. For every passenger of 14 years, or older, a space of 6 feet long, and 18 inches wide.

2. For all under 14 years of age, two in that space.

The war between England and France put a stop to that great flood of emigration; but the numbers that came before the war were immense. In such a vast multitude, a variety of character may be expected. Some were men of learning and science; some could pay for their passage, and for their land; some paid for their passage, and bought land on credit; such as could not pay their passage were called *Redemtioners*, and sold for four years for their passage money. The purchasers were generally the sons of the first emigrants from England, that knew but little of farming or gardening. The Redemptioners had been used to digging their living out of small pieces of land. The purchasers preferred taking a family, man, wife and children; and I have heard old men say that their general character was strictly honest, industrious, and inoffensive; that nine times out of ten they knew the business better than their master. The women were

laborious, skilful gardeners. Being so poor they had but little to carry. They always took their bundles of garden seeds that they had brought from Germany and greatly improved gardening, both in quality and a greater variety of vegetables. The great emigration from Germany before the French war was the making of Pennsylvania.

SAMUEL PRESTON

Last Leaf of a Farmer's Leger.

BY NIAGARA.

Last leaf of a Farmer's Leger for 1835, or a recapitulation of farm accounts. This "last leaf," or "recapitulation," is obtained by the following course:

1st. I make, on a sheet of drawing paper of good size, a map of my farm, drawing lines to designate fences—(then let a little girl paint these lines after the fashion of an engraved map)—number every field or division of the farm, and let these numbers be the only names by which the fields shall be designated.

2d. Every evening before retiring to rest, in a regular account book procured for the purpose, (called day book,) I charge the expenses of the day to the field or fields where the work has been done that day, and with the same care and precision as a merchant charges his goods, with such remarks on the description of the work and the weather as I may think of consequence.

"1835. No. 4. Dr.

May 6, To 2 teams and drivers dragging in barley, ... $3 00

3½ bushels barley sowed today, (east part,) at 5s. 2 19

Sowing same, (2 bushels to the acre,) 0 25

The north-east part of this field ploughed last fall and the barley sowed, dragged in and rolled without further ploughing.

Weather pleasant in forenoon. P. M. cloudy, N. W. wind, and very cold,—frost this morning."

The above is a sample of the manner in which I keep my farm accounts.

3d. During the long evenings of the fall season, I put all these accounts into a Leger of suitable size, kept expressly for *farm accounts*, and no other. By the close of the year I will have my accounts all posted up and footed. Then,

4th. Carry these footings, with descriptions, results, &c. forward to "the last leaf of the Leger" for that year, and I have, as will be seen, the kind of crop on each field, the expense of cultivation, the amount of the crop, the profits of each field, and the profits per acre, &c.

Now, Mr. Editor, if all our farmers should follow a similar course from year to year, there would be an immense amount of agricultural matter committed to paper, and if never made accessible to the farming community by publication, it would at least be accessible to the writer, and to his posterity. And might it not possibly be of service to them? Would they not ascertain the most profitable crops, and the most profitable manner of cultivation—the proper quantity of seed—time of harvest—and, *especially* whether there is any particular advantage gained by "*sowing in the moon!*" &c. &c.

Recapitulation of Farm Accounts for 1835.

Nos. of Lots.	Acres	Kind of Produce.	Expenses	Receipts.	Profits.	Profits per Acre.
No. 1 . .	14	Hay, wheat and corn, .	$59 89	$207 35	$147 49	$10 35
2 . .	10	Hay, ...	24 00	153 00	129 00	12 90
3 . .	5	Hay, ...	10 50	78 35	67 85	13 55
4 . .	8⅝	Corn, barley and beans,	65 24	190 76	125 52	14 70
6 . .	6¼	Wheat, ...	52 10	200 35	148 25	22 80
9 . .	4	Hay, ...	8 63	40 00	31 37	7 84
10 . .	10	Wheat, ...	73 25	335 30	262 05	26 20
11 . .	16½	Wheat, hay and oats, .	58 07	239 57	181 50	10 91
Orchard,	5	Fruit and peas, . . .	36 65	182 56	145 91	30 68
Fruit yard	1¼	Potatoes and corn, . .	21 76	62 20	40 74	32 10
Garden, .	½	Variety, ...	19 82	30 00	10 18	20 36
Total, .	81¼	Acres.	$429 95	$1719 77	$1289 82	$15 82 aver.

But perhaps the above would be more intelligible to some, if put in the following form, to wit:

38⅛ tons hay, at $12. . .		$462 00
48 bushels peas, at 8s. . .		48 00
109 "	oats, at 44 cents, .	47 96
129 "	corn, at 6s. . .	96 75

120 bushels barley, at 6s.		90 00
124 " potatoes, at 3s.		46 50
630 " wheat, at 8s. 9d.		689 06
12 cart loads pumpkins, at 8s.		12 00
14 bushels white beans, at 12s.		21 00
12 " onions, at 6s.		9 00
60 " mangel wurtzel, at 2s.		15 00
Straw sold at the barn,		37 00
Fall feed sold,		23 50
Apples converted into pork,		37 50
Apples sold,		85 50
		$1719 77

EXPENSES AS FOLLOWS:

For seed grain,	$59 91	
" seed clover,	15 45	
" plaster,	21 50	
" team & manual labor,	307 09	
" manure,	26 00	
		$129 95
Profits,		$1289 82

Although the foregoing may be called a fair business, yet I am fully persuaded that the time is not far distant, when the profits of farming will double the foregoing statement, and this by improvements which are every year made and making in agriculture and agricultural improvements.

The first great secret at which we should aim, is the perfection of the soil, in nutritive qualities, by the application of various manures, and clearing it from stumps, old logs, roots, stone, and all manner of foul seeds.—And the second is, the introduction and use of the most approved and labor-saving implements; and third, a judicious rotation of crops of the most profitable kinds. And here I cannot forbear—although so much is communicated in your useful paper on the subject of clover almost every week—I say I cannot forbear entering my decided conviction of the utility and very great importance of the general cultivation of this soil enriching grass. And this I do from actual experiment, one case of which was made on lot No. 10 in the foregoing recapitulation. That field is 80 rods square. In 1833, it was in wheat, about 18 bushels per acre.

In the spring of that season I sowed two acres through the middle of the field to clover. In the following spring, 1834, I sowed the south 4 acres to peas. The next 2 acres was the clover strip. The next 2 acres I sowed to barley, and the remaining 2 acres to peas. In September the whole field was sowed with wheat at the same time. This was done purposely as an experiment, and the difference in the crop was strikingly manifest. The result of the experiment was about as follows:

That part which was after barley was the poorest, very considerably, say 20 bushels to the acre. That after peas a medium crop, say 25 bushels to the acre. That after clover was very heavy—at any rate more than 40 bushels to the acre. The whole field averaged about 30. I ought to have stated before, however, that 2 acres of the peas were sowed with plaster at the time of sowing peas. No material difference in the pea crop, but the wheat on that part was at least 25 per cent. larger than that which had not received the plaster.—*Genesee Farmer.*

Selection of Seed Wheat.

The selection of good seed of any kind, to plant or sow, is an object of no small importance to the cultivator, and we accordingly find farmers, who are careful, pursuing some plan or other which shall ensure them the best seed for their sowing. In case of wheat, some select the largest and best ears or heads which they can find; others throw up their wheat in a windy day, and select that which is blown the least distance, as being the heaviest and most plump. We think, however, that the best plan, and the one which will be most sure to give the heaviest grain, is to put it into some thick liquor, and take those kernels which usually sink to the bottom. Liquors may be made sufficiently thick to bear an egg, by various substances in them—by potash, as in common lye, by soap, or by salt. Darwin recommends a solution of salt sufficiently strong to bear up an egg, and the wheat plunged into this. This might be done at the time of sowing, or even before, if the wheat wet in it be carefully dried; but at sowing time, when it is common to soak or wash wheat in lye, it would be a small matter to make the liquor as strong as possible, and thus select the heaviest and best of your seed while preparing it for the ground. It would be but a little labor to test the plan on a small quantity, and ascertain the facts concerning it.

On the Manufacture of Beet Sugar in the United States.

The fact that crystalized sugar could be obtained from the beet root, was first noticed by Margraff, in 1747, but excited little notice till 1790, when Archard, a German chemist, directed the men of science in France to that subject. A report by the Institute, about this time, states that raw sugar so produced costs about 16 cents per English pound. In 1810, colonial sugar had become so dear, that the government directed their attention to the process, but, notwithstanding this, it was still so imperfect as to be given up, with the ruin of several manufac-

turers, when the peace of 1815 admitted the free entrance to France of colonial sugar.—Important discoveries, among others, that of Mr. Taylor, for boiling sugar by steam, were made in the process, and the number of manufactories gradually increased, so that, in 1829, there were at least one hundred, from which were produced yearly, 5,000 tons of sugar, worth $266 per ton, or $1,330,000; the profit of which, Mr. Taylor estimates at $66 60 an acre; but he adds, "I am convinced the process may be so far improved, that sugar will be made in France from the beet root at 36*l.* per ton, which will increase the profit to 24*l.* an acre." After showing that the beet root succeeded best in the northern departments of France, and that, of course, it can be grown as well in England as on the Continent, he concludes, that though the price of land and labor, be much lower in France than in England, yet that the balance of skill in favor of the latter country, places it on a par with France, in point of the profits to be obtained from making sugar from beets. He adds, "with respect to *price of produce*, the advantage will probably be in favor of the English farmer; for although the price of sugar is about equal in both countries, yet it is not sugar alone that is produced from the beet root which is cultivated: the pulp of the root, after the juice is pressed out, is excellent food for both bullocks and sheep, and I have seen beasts which have been bought in at 5*l.* per head, fattened upon it and sent to market in three months, and sold for 11*l.*

The value and importance of this part of the business will be duly estimated, when it is known that the pulp from each acre of beet root, will fatten a bullock, and that the farmer will have as much manure for his other crops, as if he had grown turneps on the same land; and, of course, the same rotation of crops may be continued as is now found most benefical. During the time of Bonaparte, the produce of sugar was about three per cent. on the root; now, as much as five per cent. is generally obtained; and as the beet root actually contains eight per cent. I think I have good ground for saying, that the process admits of further improvement. Mr. Philip Taylor, an English gentleman, residing in Paris, is the inventor of the mode of boiling sugar by steam, for which he took out a patent in 1817.

A late French publication on this subject says that the manufacturer buys his beets of the farmer at 16 francs for 1,000 kilogrammes. A killogramme is 2 1-5 lbs. averdupois; 1000 kilogrammes weigh 2,200 lbs. averdupois.

Beets, by actual analysis, contain 10 per cent. of saccharine matter. The manufacturer obtains 6 per cent. for good brown sugar—he lives in expectancy, by future improvements, of 8 per cent. or more. 1,000 kilogrammes produce him 1-6th, or 60 kilogrammes of marketable brown sugar, equal to 132 lbs. averdupois. The manufacture of 1,000 kilogrammes costs 12 francs; from which deduct 3, being the value of the residue as food for cattle. Hence 132 pounds of saleable sugar can be obtained by the manufacturer, at the expense of 25 francs. A franc may be considered at 20 cents, and as there are 20 sous in a franc, a sou is one cent, or one half penny sterling. The French writers say that it costs 5 sous per French pound; which Kelly in his Cambist, states at 7561 grains, and also at 7717 grains. This calculation brings the cost of marketable brown sugar to about 4¼ cents per pound averdupois.

The beets in this country, particularly the north part of Pennsylvania, are most luxuriant. In France their yield per arpent, which is 1-60th more than our acre, is an average of 15 tons per acre at most. The white or Silerian Beet ("Beta Alba")—the sugar beet of France—has been raised within 7 miles of Philadelphia, and produced much over this. William Audenried, Esq. of Schuylkill county, Pennsylvania, has raised on his farm, of this beet, the enormous quantity of 62½ tons to the acre. We are informed by others, who are growing the seed which has been imported and distributed so extensively through the country by the "Beet Sugar Society," that they are in expectancy of producing a yield equal to the above.

Judge Buel says, the fact seems to be this, that beet sugar, equal to our double refined loaf, which now sells in the market at 18 and 20 cents per pound, can be profitably sold in France, by the producer, at nine cents per pound, or at half the price of cane sugar. It follows as a matter of course, for bating the difference in labor, we *can* produce it here as cheap as they can in France, that the culture of the beet, and the manufacture of beet sugar, can be rendered a *profitable business* in this country. Our soil and climate are well adapted to the beet; and in the interior, in particular, where the price of foreign sugar is enhanced by the charges of transportation, beet sugar must ere long be among the staple products. As an offset to the difference in labor, we have an advantage in the cheapness of land.—Chaptal's estimates are predicated on a rent of 40 francs (7 dollars 60 cents) per acre.

Chaptal states his average product in beet roots at 40,000 pounds the hectare (which is 2 acres, 2 rood, 35 perches, English;) that in his establishment he operated upon 10,000 pounds in a day; that this quantity (10,000 lbs. roots) produced, of

1 Refined sugar, 187 lbs. worth	210	francs.
2 Middling do. 60 lbs. worth.	67	50 c.
3 Trimmings, 1,000 kilogrammes, (fed) worth	2	50 c.
4 Marsh, (fed to stock) 1250 kilogrammes, worth	30	"
5 Molasses, worth,	12	"
	322	francs.

Equal to about $61 on the product of one-fourth of the hectare, or something more than half an acre of land. The expense of cultivating an acre is stated at 133 francs, about $25, which includes 40 francs for rent and 10 for taxes, and leaves about $15 75 for cultivating, digging, transporting and storing the crop. He states the expense of cultivating and manufacturing 10,000 lbs. roots, including all charges, at 192 francs, about 36 dollars, leaving as a profit on this quantity of roots, about $25, say $35 the acre, clear profit. Upon 1,200,000 lbs. of roots, the average produce of three hectares, he estimates a nett profit to the manufacturer, after deducting interest on capital, repairs, &c., of 6650 francs, about $1,260.

After penning the above, we received the interesting letter of M. Le Ray de Chaumont, showing the importance of beet sugar as a household manufacture.

Paris, April 15, 1836.

"*My Dear Sir*,—A long space of time has elapsed since my last communication to the State Agricultural Society. Meanwhile I have not had a moment out of mind the promise I made in it, to resume the pen as soon as I should have something worthy of being recommended to their attention. It is long since I have been convinced of the vital importance for France of raising the beet root and manufacturing it in sugar. Some time after my arrival in the United States, some of my friends wanted me to encourage it in America; one of them, chiefly, who had seen my successful establishment at my estate in France, and who knew I had received from the French government the gold medal offered for the best making of the best sugar;—but I could not recommend it for the United States, when I had witnessed how few had succeeded in this country, even during the reign of Napoleon, when sugar was four times the price it is now. Indeed, after that time the working of the beet sugar was entirely given up in Europe, except in France, where even I was almost the only one who would not give up so easily the hope of the great advantages that discovery was to offer one day or another, to a great part of the world. The benevolent monarch who succeeded the great Emperor, was soon persuaded that there would be a great benefit for France in encouraging this new branch of agricultural industry. However, nothing more was found necessary to accomplish the object than a simple honorable reward for the most successful; for if the making of beet sugar was really useful, it would soon be proved by the benefits the manufacturers would make. The price of sugar had fallen more than one-half, and many who had invested great capitals in the undertaking, met with very serious losses. However, several continued, and new improvements were keeping pace with, and even overbalanced the disadvantages of the constant lowering in the price of sugar.

But, sir, I could not give any encouragement in the United States to similar undertakings before the improvements in the manufacturing of beet sugar were made. I am persuaded that it would have been the cause of complete failure in the attempts made by any one till very lately, though it had given profit to some great establishments in France for a few years past. This I will demonstrate when I enter into more detail.

For the present moment, what I have said above will be sufficient to answer the double purpose of justifying my reserve upon this, so interesting subject, and deserving at the same time the confidence I wish to attain now, when I recommend the cultivation in the United States of the sugar beet, without any further hesitation, for the purpose of manufacturing it into sugar. I am convinced that it will be a very advantageous agricultural pursuit in all parts of the United States, and chiefly in the middle and northern states. The great difference in the price of labor between France and America, which in the account of profit and loss, has produced a balance against the United States in the contemplation of this operation, is now overbalanced by the new discoveries and improvements in the fabrication of the beet sugar. To them, add in favor of the United States, the cheapness of the soil for the cultivation of the beet, and of the fuel for manufacturing the sugar. These advantages are to be found in all the new states, and some considerable parts of Pennsylvania and New York. There, also, they will have on their side, in uncommon abundance, the fine water powers, which more than any thing else remedy the difference in the price of handwork between Europe and America.

But, sir, while I was admiring here, in the splendid establishments of this new industry, their fine machinery and their improved chemical processes, I was lamenting that the small proprietor or the farmer could not employ directly his produce by manufacturing himself. I am but just now perfectly satisfied that he can do it, and that with very inconsiderable expense, and without hiring any

help; but simply with that of his family. I will quote the particular instance of a farmer in the northern part of France, (near Valenciennes,) who has received a medal from the Royal and Central Agricultural Society, for having established on his farm one of the first small beet sugar manufactories, where he makes daily, without any assistance, but that of his family, 100 pounds of sugar fit for family use without further preparation. The whole house room consecrated to that purpose, is a room 16 feet square, and a cabinet 10 feet by 12.

Now, sir, you can undoubtedly appreciate at once all the advantages that a farmer can reap in cultivating and manufacturing the sugar beet. It will be greater yet for those who have, as in the north of Pennsylvania and New York, the maple sugar. The making of beet sugar may begin in October, and end commonly in March; it is just at the moment when the maple sugar is more commonly made; so that the same implements will answer for both manufactures, and the farmer will have employ for his family during the months when they have most leisure.

The Royal and Central Agricultural Society have just offered several handsome premiums, for whoever will communicate within this year the best methods for manufacturing the beet sugar on small farms. This has given me the idea of not waiting for my arrival in America, for recommending immediately the cultivation of the beet, so that experiments may be made this fall and winter, by employing some of the best systems discovered here, and such as the inventive genius of Americans will not fail to discover.

I remain, my dear sir, with sincere regard, yours,

LE RAY DE CHAUMONT.

Beet Sugar.

The immense benefits to be expected from introducing the Sugar Beet into the United States, had for a considerable time, occupied the attention of JAMES RONALDSON, Esq.: when in the month of January last he was introduced to Mr. James Pedder, who had been long known to John Vaughan, Esq., who with Mr. Jacob Snider, Jun., now took a lively interest in the concern, and after several interviews it was determined to despatch Mr. Pedder to France, with the view of obtaining accurate information on all subjects, connected with the culture of Beet and the uses to which it is applied. The responsibility and expense of this undertaking were assumed by Messrs. Ronaldson, Vaughan and Snider, in the confident belief that they would be sustained by their countrymen in this laudable undertaking. It was important that Mr. Pedder should be despatched immediately in order to witness the process of making Sugar in France, and to send out seed in time to be planted in the United States the present season. Mr. Pedder left Philadelphia on the 8th day of February and his mission has been attended with the most gratifying success, nearly 600lbs. of seed having already been received, and portions of it distributed through various parts of the country. Several patriotic individuals have made contributions towards defraying the expenses of this undertaking in sums of from ten to fifty dollars each. But the amount yet received is inadequate to the expenditure. An association has been formed, of which James Ronaldson is President; John Vaughan, Vice President, and James Snider, Jun., Secretary and Treasurer. The object of this society is to collect and disseminate information for the benefit of the community generally without any view to pecuniary emolument.

Beautiful Extract.

We most cheerfully present our patrons with the following beautiful and eloquent extract from Mr. Biddle's Address to the Philadelphia Society for promoting Agriculture,—we sincerely hope it may be carefully perused by *all* our readers, but more especially by that class for which it is designed.

"If I have failed to prove," says Mr. Biddle, "that the pursuits of agriculture may be as lucrative as other employments, it will be an easier task to vindicate their pleasures and their importance. I need not dwell on that retirement, one of the purest enjoyments of this life, and the best preparation for the future, on those healthy occupations, on that calmness of mind, on that high spirit of manliness and independence, which naturally belong to that condition. These are attractions which must have deep roots in the human heart, since they have in all times fascinated at once the imagination, and won the judgment of men. But I may be allowed to say, that, in this nation, agriculture is probably destined to attain its highest honors, and that the country life of America ought to possess peculiar attractions. The pure and splendid institutions of this people have embodied the brightest dreams of those high spirits, who in other times and in other lands, have lamented or struggled against oppression; they have realized the fine conceptions which speculative men have imagined, which wise men have planned, or brave men vainly perished in attempting to establish. Their influence in reclaiming the lost dignity of man, and inspiring the loftiest feelings of personal in-

dependence, may be traced in every condition of our citizens; but, as all objects are most distinct by insulation, their effects are peculiarly obvious in the country.

"The American farmer is the exclusive, absolute, uncontrolled proprietor of the soil. His tenure is not from government. The government derives its power from him.—There is above him nothing but God and the laws; no hereditary authority usurping the distinctions of personal genius; no established church spreading its dark shadow between him and heaven. His frugal government neither desires nor dares to oppress the soil; and the altars of religion are supported only by the voluntary offerings of sincere piety. His pursuits, which no perversion can render injurious to any, are directed to the the common benefit of all. In multiplying the bounties of Providence, in the improvement and establishment of the soil, in the care of the inferior animals committed to his charge, he will find an ever varying and interesting employment, dignified by the union of the liberal studies, enlivened by the exerise of a simple and generous hospitality. His character assumes a loftier interest by its influence over the public liberty. It may not be foretold to what dangers this country is destined, when its swelling population, its expanding territory, its daily complicating interests shall awaken the latent passions of men, and reveal the vulnerable points of our institutions. But, whenever these perils come, its most steadfast security, its unfailing reliance, will be on that column of landed proprietors—the men of the soil and of the country—standing aloof from the passions which agitate denser communities, well educated, brave and independent, the friends of the government without soliciting its favors, the advocates of the people without descending to flatter their passions; these men, rooted like their own forests, may yet interpose between the factions of the country, to heal, to defend, and to save."

From the Quarterly Journal of Agriculture.

The Culture of Rhubarb.

My notice of this exquisite vegetable shall be comprised in a few lines; but these, I trust will avail to extend its culture more and more; for any thing more productive, salubrious, profitable, and expressly suitable to the purposes of the cottager, can scarcely be found in the entire list of vegetable productions. A few years only have elapsed since the rhubartic hybrid, *green* rhubarb, was cultivated for tarts, and held in very slight estimation: but since the introduction of the larger (giant) varieties, the demand has increased with surprising rapidity. Of the two sorts which I earnestly recommended, one is called, if I mistake not, *Radford's Scarlet Goliah;* and the other is a small *red* variety, which is crimson throughout when boiled or baked. These will supply the table from April to August, and suffice for every purpose.

Culture.—Let the ground be prepared precisely as for asparagus beds. Select clean offsets, with two or three bold eyes: the first week in March is a very suitable season.—The eyes or buds of the Goliah will be of a deep, rich red, hence its name: the leaves, however, and stalks are green, though of different hues, and the latter are spotted and streaked with red. In the smaller pink variety the red tint prevails throughout.

The plants of the great Goliah should be set firmly in the soil, five feet apart, or five feet one way and four feet another: the smaller kind may be set three feet asunder, plant from plant, giving a free watering to each to settle the soil among the roots. Dry weather, an open condition of the ground, and a temperate unfrosty state of the air, should be preferred. When the growth becomes established, the ground must be kept free from weeds; and if dry weather supervene, water ought to be freely given round the roots, two or three times, with intervals of four or five days.

Not a leaf or stalk ought to be touched during the first year; and in autumn, when the leaves are all decayed, they should be laid in little trenches formed along the centre of the spaces, between the rows, sprinkled with a handful or two of salt, and covered with the earth that had been digged out. Thus the plant will itself furnish a portion of the manure that will be annually required. As winter approaches, a coating of well decomposed stable manure or leaves, or a mixture of both, two or three inches deep, should be laid round each plant, to the extent of two feet; and in the open weather of February, and March the whole bed must be forked over.

As a proof of the excessive productiveness of the *Scarlet Goliah*, I need only mention, that, in the 2d week of March, 1831, twelve plants were set in ground prepared for asparagus. In June, the leaves met, and the whole plot was covered. In 1832, the plants yielded profusely, many leaves measured above a yard and a half over the surface, the foot stalks being an inch and a half broad, and from two to three feet long. The outside leaves were, as required for use, stipped off by an oblique pull, not cut; the family was amply supplied till July and August, and

yet the plants increased; the neighbors also were furnished with *leaves* throughout the summer, and with *offset plants* in the succeeding spring. During the two past seasons the root stocks increased to such a size, that when it became needful to remove some, it required a barrow to contain the weighty mass that was raised, after great labor, from the soil. If any one try the experiment in a favorable soil, and with any thing like judicious management, he will scarcely fail to discover that the growth and production of the plant will exceed every demand that can be justly made upon it.

From the New York Farmer.

Successful Farming.

We ask the attention of our readers to the following communication of Mr. BEMENT, of Albany. It ought certainly to convince those who ridicule the idea of deriving instruction from *agricultural publications*, that they are not without their use and value. They must certainly admit, that even a *printer*, with the aid of agricultural papers, good sense, and proper care, can at least "make that two ends meet," which is as much as many do who have enjoyed the superior advantages of a long apprenticeship to agricultural labor—and which they seem to think renders further instruction unnecessary—whereas in truth they are then only just prepared to learn by *reading*, *reflection*, and *experiment*.

The "lesson" of the "grandfather should be learned and practised upon by every farmer in the country.

Mr. Bement is always ready and pleased to exhibit his stock of cattle, sheep, and hogs, to those who take an interest in such animals, and also to explain his mode of farming; and he enjoys superior advantages for *demonstrating* the excellence of the productions of his farm, in serving them up, in superior style, at his HOTEL in State street, to those who are so fortunate as to make his house their home while in Albany.

MR. MINOR:

SIR,—In my letter to you of January 27th, 1835, I said, "my farming operations have necessarily been very much limited," &c. &c. Another season has passed, and I embrace a few leisure moments to give you some account of my success, on the same farm; not, however, in the same way of boasting, but to show you that I have not been unsuccessful. The farm consists of 110 acres, and put down in the tax-book second and third rate land—80 acres in cultivation, and the remainder wood, of which I only had the privilege of cutting for fencing. Rent four hundred dollars per annum.

It was considered by many, as a very high rent,—a very hazardous undertaking, and that I never should get enough off to pay rent and meet expenses; which, in fact, was the case the first year, as I was minus two hundred and thirty dollars. I could, however, account for it in repairing, and altering stables for my cattle, building pig-stye, digging well, draining, repairing, and making new fences, drawing manure from the city,—the benefits of which I received the next year. Of my success you can form an opinion from the statement below. For certain reasons I have withheld the nett proceeds. Suffice to say, I have made up the deficient, and added to my capital.

I am a mere novice in farming—I am by profession a printer—it is new business to me—I have much to learn, and for what little I do know, I am indebted to agricultural publications, and lessons derived from Mr. Buel, and other eminent farmers who I am proud to number among my acquaintances.

The question is often asked me, "Where did you imbibe your notions and taste for farming?" My answer, is, "When a boy eight or nine years of age, I used to "ride horse" for my grandfather, to plough corn; and if, perchance, I should allow 'old Dobin' to tread upon a hill of corn, look out for a lump of earth at the urchin's head!!!" He is now dead and gone—but the lessons he taught me are still fresh in my memory. He was a good farmer—and had a time for every thing, and every thing must be done in time—a place for every thing, and every thing in its place. His buildings in good repair. His stock fed regularly, and at regular hours; not feeding surfeit one day and half starving them the next. In short, he had a system and followed it strictly—and *made money by farming too!!* His pork-barrel and granary were never empty. He never ran up accounts with the merchants, nor run in debt because his credit was good. He lived to a good old age; and died, as he lived—an honest man. Peace to his ashes.

On looking over my sales book, I find the following articles passed to the credit of the farm:—

Cattle, consisting of 1 cow and 9 calves, (Durham short horn,)	$825 00
Sheep, consisting of bucks, ewes, and lambs, for breeding,	615 00
Pigs, principally for breeders,	276 00
Milk, sold besides feeding the calves,	157 00
Pasturing cattle exclusive of my own stock,	136 13
Potatoes sold for family use,	612 69
Ruta Baga turneps, 486 bushels at 50 cents per bushel,	97 40

Barley, 100 bushels at 80 cents,	80 00
Millett, including the straw, which I think equal to hay,	71 00
Buckwheat, 24 bushels, at 50 cents,	12 00
Oats, 150 bushels, at 50 cents,	75 50
Hay, 12 tons, at $17 1-2 per ton,	210 00
	$3,171 02

In the above I have made no account of what remains on hand nor of what was consumed on the farm. My potatoe crop was a good one, amounting to over 2300 bushels, and all of the choicest kinds, for table use, and which are less prolific than the more common sort. My hay crop was not as good as the year previous; and I was not alone in that, for very few of the best cultivated farms in this county gave over half a crop.

In July last, I purchased of S. Hawes, Esq., a farm consisting of 184 acres of land, formerly the property of Judge Spencer, lying 3 1-2 miles west of this city, where, should my life and health be spared, my future efforts shall be directed, principally in rearing superior animals for sale—such as cattle, sheep and swine; and hope, by unremitted care and attention, to deserve a share of public patronage. My cattle are of the pure "Improved Durham Short Horned" breed; sheep of the "South and Hampshire Down;" "New Leicester," and "Merino" breed; swine of the "Imported Berkshire," "Improved China,"—some females of the "Mackey" and "Mocho" which I am crossing with my Berkshire and China. I have also made arrangement to procure the "Bedford;" and it is my intention to procure the best breeds our country affords so that I can test their peculiar and individual qualities by comparison and demonstration; keeping each breed pure, as well as experimenting by crossing with the different varieties.

No animal on the farm has been more generally neglected than the hog, and it is my opinion, no animal will pay better, with proper care and attention to breed, for the expense incurred. But they require care and attention, which farmers and laborers are too apt to neglect.

Fearing I may trespass too much on your time, as well as that of your readers, I will conclude, by promising you, should it be agreeable, an account of my success in cultivating the Ruta Baga.

Bement's Hotel, Albany, March, 1836.

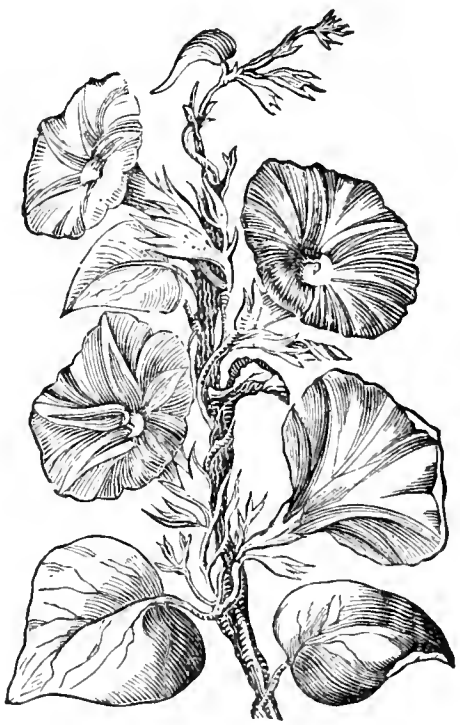
The most knowing are the most desirous of knowledge. The most virtuous the most desirous of improvement in virtue. On the contrary, the ignorant think themselves wise enough; the vicious are, in their own opinion, good enough.

Convolvulus Major.

Purpureus.

This elegant climbing plant is a native bindweed of America, from whence the seeds were first received in Italy, and from thence in England about 1629, as they are recorded amongst the flowers which embellished the garden in that age. This is a delicate species, and requires the aid of a hotbed to bring the young plants forward, which may be planted out in warm situations about the end of May. It is usually employed to cover the trellis-work of arbors, porticoes, and veranders, for which it is well adapted, on account of its climbing and binding nature, whilst its graceful-shaped corollas display the most beautiful shades of violet, reddish purple, and lilac, which are sometimes delicately shaded, and at others striped, so as to form a star; others are of a pure white, or slightly tinged with purple.

Fig. 7.



Convolvulus Major.

These plants will frequently climb to the height of ten or twelve feet; and when planted so as to receive the support of young trees, they have a more agreeable effect than when upheld by a stake. In Jamaica, this species of Convolvulus climbs the highest trees, suspending its china-looking cups from the branches in a most delightful manner, sometimes dangling in the air, and at others, forming graceful festoons.

It is from this twining nature of the plant, that the name of Convolvulus has been bestowed on it; and perhaps we have not a

native weed that displays a more beautiful flower than the great bindweed, which entwines itself amongst the shrubs of our hedge-rows until it reaches the top, where it expands its flowers in a dress that challenges the spotless snow for purity, and would demand more general admiration, were it less common.

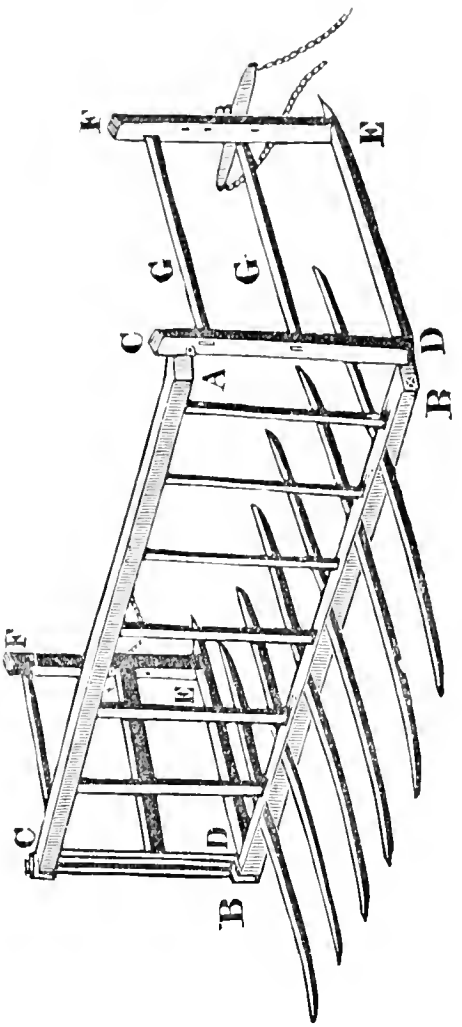
However we may admire this species of bindwood in hedgerows, we must be cautious to keep it out of shrubberies, in which if it once enter it cannot be easily destroyed, as the smallest piece of its rambling root is sufficient to spread over a garden, where it frequently entwines its roots amongst those of roses or other shrubs, so as to make it exceedingly difficult to prevent its overpowering the plants which support it, and next to impossible to destroy it altogether. We are told that swine are excessively fond of this root, and we have frequently observed them grubbing for and devouring it with great eagerness; but as these animals are bad gardeners, we cannot avail ourselves of their assistance in the rooting out of the *Convolvulus Sepium*, without incurring a greater evil.

The Hay-Sweep.

The object of the Hay-Sweep is to collect and draw the hay from the winrow to the stack, or place of deposit. It consists of a piece of scantling, A A, 3 by 4 inches, and 10 feet long, united by seven upright bars of wood, 1 by 2 inches, and 3 feet long, to another piece B B, 4 by 5 inches and 10 feet long; through the latter, six holes are made in a horizontal direction to receive the teeth, which are pieces of very strong wood, 1½ by 4 inches, and so long as to project two feet and a half on each side of the piece B B, and tapering on their under side like the teeth of a horse-rake, so as not to run into the ground. At the ends of the pieces A A, B B, are attached two frames C D E F, termed gates, by strong hinges so made that the gates may turn round upon them through half a circle. These gates consist of two pieces of scantling 3 inches square and 3 feet long, united by two bars of wood G G, each 1 by 2 inches, and 3 feet long, and a third D E, 3 inches square, tapering on the under side like the runner of a sled, and projecting a few inches beyond the upright piece F E. The whipple trees are attached to the upright pieces F E, a little above the middle; they should admit of being raised or lowered in order to adjust the height exactly, which is readily determined by trial.

The mode of using this instrument is as follows:—A horse is attached to the whipple-tree at each end, and the length of which is to be regulated to the draught in such a way that the bottom of the gate may keep the teeth from running into the ground, and yet under the hay.—Not the least management or skill is further required; a small boy is placed on each horse, and passing on each

Fig. 8.



side of the winrow, sweep it off, and carry it to the stack. On arriving there, the horses are turned about, causing the gates to perform a semi-revolution, and drawing the instrument out from under the heap of hay, and they proceed as before to bring up another load. The teeth on each side of the piece B B are thus alternately used. In order that the hay may be easily pitched, it is indispensable that the load be left at the stack so that the back of it may be pitched first. From three to five hundred pounds of hay, are generally carried in each load.

As a labor-saving machine, where the distance of drawing is not great, this is fully equal if not superior to the revolving rake. Two horses and two boys only, are needed in using it. One will draw fast enough, in ordinary cases, to keep three pitchers and three stackers constantly at work. With this and a revolving rake, ten acres of hay may be cleared from the ground in half a day.

It leaves the meadow as clean as is done by a common rake. The cost of making is not more than three or four dollars.

The drawing of it, at the head of this article, was taken from an instrument in the possession of Wm. R. Smith, of Macedon, Wayne county, N. York, on whose farm its usefulness has been fully proved, and under whose direction it was first constructed.

Clover Lays.

It will undoubtedly be remembered that innumerable experiments have proved that clover lays, turned under, make an admirable dressing for a crop of wheat the next year.—Clover, if we mistake not, is a biennial—that is, lasting but two years: after flowering and going to seed the second summer, the roots begin to decay, and ultimately die out and leave the soil for the Herd's grass, or other plants which may be sowed with the clover. Hence it will be well, in order to make the most of the roots as a dressing for the wheat, to plough them under as early in the season after haying as can conveniently be done—by the following spring, the sod has become decayed and in a good state to promote the growth of the future crop.—*Maine Farmer.*

New Castle County, Delaware.

It affords us no little pleasure to inform our readers that an Agricultural Society has been organized by the intelligent and spirited farmers in New Castle County, Delaware. It is known as the "Agricultural Society of New Castle County." All citizens of the county are eligible to membership, on the payment of five dollars annually by landholders, and two dollars and fifty cents by tenants. The Constitution limits the efforts of the Society to "Agriculture, Horticulture and the rearing of Silk," and it is made the duty of the Directors (18 in number) to collect and communicate information, touching improvements in husbandry, gardening, and the growth of silk, and implements used in their cultivation. From the high character of the gentlemen engaged in the organization of this Society, we anticipate for it an onward and a prosperous course. It will have a tendency to arouse the citizens of our sister state to a serious consideration of their true interests; and will lead, we hope, to the formation of similar societies in every county in the Peninsula. Our friends in New Castle, have gone to work in the right way. Previous to the organization of the Society, we learn that seventy-six gentlemen "impressed with the importance of placing it on a secure and permanent basis," pledged themselves to pay the sum of five dollars annually, for the next five years. We presume that this number has greatly increased. We hope that every intelligent and enterprising farmer in the county, will forthwith become a member of the Society, and share in its blessings.

We have the names of only two of the officers. J. H. Gibbons, Corresponding Secretary; James Camby, Treasurer—both we presume of Wilmington.

From the Ohio Review.

Culture of Ruta Baga.

Having seen much published upon the subject of raising ruta baga, all which has fel short of the crop I took last fall from a smal piece of ground, I am induced to give not on ly the amount, bnt the manner of cultivating To give the amount alone of any particula crop, without the manner of cultivating, i no benefit to any one.

I had a piece of dry sandy land, facing th south which I wished to prepare for a fru garden and make more rich, and level tha I could do by ploughing. I therefore cove ed the ground about an inch thick with ma nure, and with a spade dug and turned in th whole, to the full depth of the spade, takin care that each load was covered as soon a possible after spreading, to prevent loss b evaporation. This was done, or finishec the 5th of June. I then waited until I dis covered indications of rain, which I thin was on the tenth of the same month, whe I immediately took a hand with me and com menced raking the ground with an iro rake. I next took a large rake made of thre inch scantling, with five teeth, *fifteen* inche apart, and having a man to hold, drew it acros the ground, the direction which I wished t have the rows run, making five marks. A ter that, we placed one outside tooth in or outside mark, making four marks, unt the whole was completed. I then droppe the seed quite thick in every row excep the last eight, where I skipped ever other row, leaving them thirty inche apart, instead of fifteen. They came up i a very few days. I then took of gypsur one part, of ashes two parts, and havin mixed the same, sprinkled about a quart pe rod on each row.

In five or six days I thinned them out, s as to leave them from four to six inches apart Ten days after I hoed them lightly, and gav them another dressing as before, which wa all the labor bestowed upon them, until the were pulled.

From five rods of the ground planted fif teen inches apart, I gathered 61 bushels measured in a two bushel measure, weighing 58 pounds to the bushel. which would mak 1,952 bushels to the acre, or 113,216 pounds equal to 50 tons 1,516 pounds. From th

ground where the rows were 30 inches apart the yield was at the rate of 1,434 bushels to the acre, the turneps larger, consequently not quite so heavy per bushel. One of the largest weighed 15 lbs. The above statement may appear incredible, still it is true. I was at first loath to believe it myself, and went and remeasured my measure, examined my figures, and found that all was correct, and "that facts are stubborn things."

In submitting this to the public, I am influenced less from a desire to boast, than from a sincere wish to have others communicate the result of their experience in agriculture, thereby benefiting the community at large. Respectfully yours,

WM. WETMORE.

Stow, Jan. 22, 1836.

Agricultural.

Who does not know that a prudent and skilful house-wife will victual her family with half the expense of some others, and even those that are not considered extravagant or wasteful, and furnish her table as well and give as good, perhaps better satisfaction to her boarders?

The one by means of hashups, soups, pottages, &c. will afford an agreeable variety, and at the same time convert every particle to profit, while the other, by less attention, and indifferent cookery, is sensibly wasting more than is eaten.

This idea, though very familiar and readily admitted by almost every one, still when applied to feeding stock seems to be very little understood and still less practised.

How frequently do we see large quantities of straw, butts of cornstalks, &c. in barnyards, enough almost to keep one half the creatures on the farm if properly attended to. The straw should be secured as soon as may be without injury to the grain. The straw cut up with a small proportion of hay, cornstalks or unthrashed oats, cut and mixed with it, or what is better, a small quantity of meal sprinkled upon it, the whole is readily eaten.

Corn fodder too, in the common way of using it, is more than half wasted. This should be harvested in the late approved way, that is to cut it up near the ground soon after it is out of the milk; this makes the fodder much more valuable without the least injury to the corn; this also should be cut fine in a machine and mixed with straw or hay, in the way which is found most advantageous—the whole stalk is very nutricious, but fed in the usual way, on account of its unmanageable nature, is not only lost, but is the means of much waste otherwise by being trodden under foot.

Beans and Pea vines, and even Potatoe tops, may be added occasionally, which will not injure the relish of the general dish of *hashups*, but will add much to the quantity of nutritive matter, all of which will readily be eaten and well relished.

A Practical Farmer.

A practical farmer whose livelihood depends upon his calling, should make it the pinnacle of his worldly ambition to excel in it. If he neglect his farm for any thing else he is generally loser both in interest and credit. Solomon, the wisest observer of men and things, tell us of his disgust at the sight of a slovenly farmer. "I went by the field of the slothful—and lo! it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall was all broken down."

Owner, where art thou? Perhaps dozing away thy time in slumber and sloth, or spending thy time at a tavern, or perhaps dreaming of promotion, or engaged in the business of some petty office. Better mind thy own proper business, else, "shall thy poverty come as an armed man." A farmer on the other hand, who keeps his land and his stock in excellent order, need not be ashamed even if Solomon himself were passing by. Every passing traveler, no sooner casts his eyes over such a farm, than he honors the proprietor in his heart. The proprietor, moreover, is sure to receive for his pains, something that is more solid than honor. A comfortable, decent livelihood, for which he is indebted to Him only, whose is the earth and the fullness thereof.

What Farmers may be.

If I may be permitted to advance an opinion, I will say that, judging from daily observation, it would seem that many believe the exercise of mental and physical powers have no connection in the business of husbandry, that our fathers and grandfathers *thought* all that was necessary to think upon the subject, and that nothing remains for us to do but work, work, without even *thinking* that we had power to think.

Therefore, if we would lay a "firm basis on which to build up their minds in wisdom and knowledge," we must first convince them that the course pursued by our fathers and grandfathers in relation to husbandry, is by no means the best course.

Convince them that in general a small farm is better than a large one.

Convince them that a little well tilled, is better than much half tilled.

Convince them that two loads of manure

is better than one, and every load judiciously applied is better than a silver dollar.

Convince them that three good cows are better than half a dozen poor ones, and so of all other stock.

Convince them that raising their own bread stuff and a little to sell, is far better than "going to New York to mill."

Convince them that two blades of grass may easily be made to grow, where only one grew before.

Convince them that experiment is the mother of improvement, and improvement the true source of wealth.

Convince them of these simple truths, and induce them to practice accordingly, and the work is done.

You will then bring *mind* and *body* to act in unison. You will elevate the husbandman to his natural sphere in the scale of existence. You will place him in the road to higher eminence. He will *think* for himself, he will be learned, he will be wise, he will be wealthy and influential.—*Main Farmer.*

From the New England Farmer.

Ploughs and Ploughing.

Some time ago I promised to write you an article on Ploughs and Ploughing. We farmers are rather set in our notions of husbandry, and each of course prefers his own mode until fully convinced of a better.

Ploughing, is the most important operation in husbandry, and should be closely attended to by all who choose this mode, to "turn the world upside down;" and with a good plough we can do this with much less hazard to the community than our Political Mountebanks, or Trades Union Associations.

The best ploughing is that which most completely subverts the soil and buries beneath it the entire vegetable growth. To effect this a good plough is indispensible. Rough and stony ground may indeed be rooted up by the short rooter plough. Such lands are usually cross-ploughed before planting.—Plain fields require a different instrument; a much longer plough is wanted here, to turn the furrow flat without breaking and without the aid of the Ploughman's foot. Such an instrument runs easier than a short one, because it enters the earth more graduallp, as a thin wedge opens wood more easily than a thick one. The furrow rises less suddenly on the inclined plane of the mould board, and falls where it should do, in the bed of the preceding furrow and completely fills it. To make sure work, the coulter or cutter should not stand perpendicular, but should lean to the right being placed a little anglewise in the beam for this purpose, and cutting the edge of the furrow slice in a bevil form, it will then shut in like a trap door. Let not my brother farmers be alarmed lest their lands should be turned too flat! If they wish to see them lie edge up, or shingled, one furrow upon another, or broken into short junks, they can use a short rooter or a post, as the Africans do. "But," say they, "the *soil should be light.*" Newly plounhed green sward always lies too light the first summer and requires thorough rolling and harrowing, to prevent its suffering for want of moisture; for unless the particles of earth, &c. come in contact, capilliary attraction ceases and the turned sod draws no moisture from the subsoil. Hence our crops, in a dry season, suffer more on green sward than on old ground.

There is no danger in laying the green sward furrow too flat; if turned as it always should be, when the grass is green, that and the roots soon begin to decay, and in our summer months your horses will break through the sod in passing, and demonstrate to you that the furrow does not lie close enough.

The advantages arising from this mode are, we cover up and set to fermenting the whole mass of vegetable matter that covered the soil—we destroy all the noxious weeds—we render the surface smooth and much more easy to manage, and we avoid making loose and broken sods in seeding down to grass—for the furrow thus laid flat should never be disturbed till a new breaking up after a course of grass crops. If seeded down to grass in this state it will not lie so heavy and will not want to be disturbed again so soon as if it had been completelypulverized before seeding. Ploughs for our plains should, therefore be made long—they run more steady aud cut the furrows more true: and it is not green sward only that should be turned flat—stubble land, weedy lands, and cornhills, should be turned flat, and that only once till the matter turned underneath is decomposed. In preparing corn land for spring sowing, therefore, a heavy harrow should be first used. Make the surface as level as possible with this, then let the plough turn the soil once over and no more before sowing. This furrow may be as fine as you choose, but when once you have turned this mass of stalks, of weeds, and grass underneath, it is absurd to disturb it during the same week or month—we do much injury by ploughing too often—we undo our own work.

The ploughs in common use are quite too short in the waist. For thirty years past we have made no improvement in this instrument excepting in the regularity and smoothness of the mould board.

Yours,

Wm. Buckminister.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, September 1, 1834.** **No. 4.**

Rotation of Crops.

The proper distribution of crops, and a plan for their succession, are one of the first subjects to which a farmer should direct his attention. The kind of crops to be raised, is determined, in a great measure by the climate, soil and demand; and the quantity of each by the value, demand, and the adjustment of farm labor; the great art of the latter being the division of it as equally as possible throughout the year. The system of rotation is adapted for every soil, though no particular rotation can be given for any one soil which will answer in all cases, as something depends on climate, and on the kind of produce in greatest request. But wherever the system of rotation is followed, and the several processes of labor, which belong to it, properly executed, land will rarely get into a foul and exhausted state.

The particular crops which enter into a system of rotation, must obviously be such as are suited to the soil and climate, and other local circumstances; such as the proximity of towns and villages, where there is a greater demand for turneps, potatoes, hay, &c., than in thinly-peopled districts. In general, beans and clover, with rye grass, are interposed between grain crops, on clayey soils; and turneps, potatoes, clover, and rye grass, on dry loams or sands. A variety of other plants, such as peas cabbage, and carrots, occupy a part, though commonly but a small part, of that division of a farm which is allotted to green crops. This order of succession, is called the system of *alternate husbandry*; and on rich soils, or such as have access to abundance of putrescent manure, it is certainly the most productive of all others, both in food for man and for the inferior animals. One half of a farm is, in this course, always under some of the different species of *cereal gramina*, and the other half under roots, cultivated herbage, or plain fallow. But the greater part of arable land cannot be maintained in a fertile state under this management; and sandy soils, even though highly manured, soon become too incohesive under a course of constant tillage. It therefore becomes necessary to leave that division which carries cultivated herbage, to be pastured for two years, or more, according to the degree of its consistency, and fertility; and all the fields of a farm are treated thus in their turn, if they require it. This is called the system of *convertible husbandry*, a regular change being constantly going on from aration to pasturage, and *vice versa*.

A judicious rotation of cropping for every soil, requires a degree of judgment in the farmer, which can only be gathered from observation and experience. The old rotations were calculated to exhaust the soil, and to render it unproductive. To take wheat, barley, and oats in succession, a practice very common not many years ago, was sufficient to impoverish the best land, while it put little into the pockets of the farmer; but the modern rotations are founded on principles, which insure a full return from the soil, without lessening its value, or deteriorating its condition. Much depends, however, on the manner in which the different processes are executed; for the best arranged rotation may be of no avail, if the processes belonging to it are imperfectly and unseasonably executed.

A soil may be forced, by extreme care, enormous expense, and the use of manure without measure, to produce all sorts of crops; but it is not in such sort of proceedings that the science of agriculture consists. Agriculture ought not to be considered as an object of luxury, and whenever the produce of agricultural management does not amply repay the care and expense bestowed upon it, the system followed is bad. A good agriculturist, will, in the first place, make himself acquainted with the nature of his soil, in order to know the kind of plants to which it is best adapted; this knowledge may be easily acquired by an acquaintance with the species of the plants produced upon it spontaneously, or by experiments made upon the land, or upon analogous soils in the neighborhood.

A good system of cropping is, in my opinion says the justly celebrated CHAPTAL, the best guarantee of success that the farmer can have; without this, all is vague, uncertain, and hazardous. In order to establish this good system of cropping, a degree of knowledge is necessary, which unhappily is wanting to the greater part of our practical farmers. I shall here state certain facts and principles, which may serve as guides in this important branch of agriculture.

PRINCIPLE 1.—*The fundamental point is, that all plants exhaust the soil.*

The principles of rotations of crops, are

thus laid down by YVART, and PICTET, of Paris :

[Plants are supported by the earth, the juices with which this is impregnated forming their principal aliment. Water serves as the vehicle for conveying these juices into the organs, or presenting them to the suckers of the roots by which they are absorbed; thus the progress of vegetation tends constantly to impoverish the soil, and if the nutritive juices in it be not renewed, it will at length become perfectly barren. A soil well furnished with manure may support several successive crops, but each one will be inferior to the preceding, till the earth is completely exhausted.]

PRINCIPLE 2.—*That all plants do not exhaust the soil equally.*

Plants are nourished by air, water, and the juices contained in the soil; but the different kinds of plants do not require the same kinds of nourishment in equal degrees.—There are some that require to have their roots constantly in water; others are best suited with dry soils; and there are those again, that prosper only in the best, and most richly manured land.

The grains and the greater part of the grasses, push up long stalks, in which the fibrous principle predominates; these are garnished at the base by leaves, the dry texture and small surface of which do not permit them to absorb much either of air or water; the principal nourishment is absorbed from the ground by their roots; their stalks furnish little or no food for animals; so that these plants exhaust the soil, without sensibly repairing the loss, either by their stalks, which are cut to be applied to a particular use, or by their roots, which are all that remain in the ground, and which are dried and exhausted in completing the process of fructification.

Those plants, on the contrary, that are provided with large, fleshy, porous, green leaves, imbibe from the atmosphere carbonic acid and water, and receive from the earth the other substances by which they are nourished. If these are cut green, the loss of juices, which the soil has sustained, by their growth, is less sensibly felt, as a part of it is compensated for by their roots. Nearly all the plants that are cultivated for fodder are of this kind.

There are some plants which, though generally raised for the sake of their seed, exhaust the soil less than the grains; these are of the numerous family of leguminous plants; and which sustain a middle rank between the two of which I have just spoken. Their perpendicular roots divide the soil, and their large leaves, and thick, loose, porous stalks readily absorb air and water. These parts preserve for a long time the juices with which they are impregnated, and yield them to the soil, if the plant be buried in it before arriving at maturity; when this is done, the field is still capable of receiving and nourishing a good crop of corn. Beans produce this effect in a remarkable degree; peas to a less extent.

Generally speaking, those plants that are cut green, or whilst in flower, exhaust the soil but little; till this period, they have derived their support almost exclusively from the air, earth and water; their stalks and roots are charged with juices, and those parts that are left in the earth after mowing, will restore to it all that had been received from it by the plant.

From the time when the seed begins to be formed, the whole system of nourishment is changed; the plant continues to receive nourishment for the perfecting of its seed, from the atmosphere and the earth, and also yields to the grain all the juices it had secreted in its own stalks and roots: by this means the stalks and roots are dried and exhausted.—When the fruits have arrived at maturity, the skeleton remains of the plant, if abandoned to the earth, restore to it only a small portion of what had been taken from it.

The oleaginous seeds exhaust the soil more than the farinaceous seeds; and the agriculturist cannot be at too much pains to free his grounds from weeds of that nature, which so readily impoverish them; especially from the wild mustard, sinapis arvensis, with which the cultivated fields are so often covered.

PRINCIPLE 3.—*That plants of different kinds do not exhaust the soil in the same manner.*

The roots of plants of the same genus or family, grow in the soil in the same manner; they penetrate to a similar depth, and extend to corresponding distances; and exhaust all that portion of the soil with which they come in contact.

Those roots which lie nearest the surface, are more divided than those that penetrate deeply. The spindle or top roots, and all those that penetrate deeply into the earth, throw out but few radicles near the surface, and consequently the plant is supplied with nourishment from the layers of soil in contact with the lower part of the root. Of the truth of this I have often had proof, and I will mention an example. If when a beet or turnep is transplanted, the lower portion of the spindle be cut off, it will not grow in length, but in order to obtain its supplies of nourishment from the soil, it will send out radicles from its sides, which will enable it to obtain the necessary supplies from the upper layers of the soil; and the root will become round instead of long.

Plants exhaust only that portion of the soil which comes in contact with their roots; and a spindle root may be able to draw an abundance of nourishment from land, the sur-

face of which has been exhausted by short or creeping roots.

The roots of plants of the same and of analegous species always take a like direction, if situated in a soil which allows them a free developement; and thus they pass through, and are supported by, the same layers of earth. For this reason we seldom find trees prosper that take the place of others of the same species; unless a suitable period has been allowed for producing the decomposition of the roots of the first, and thus supplying the earth with fresh manure.

To prove that different kinds of plants do not exhaust the soil in the same manner, it is perhaps sufficient for me to state, that the nutrition of vegetables is not a process altogether mechanical: that plants do not absorb indiscriminately, nor in the same proportions, all the juices and salts are presented to them; but that either vitality, or the conformation of their organs, exerts an influence over the nutritive action; that there is on the part of plants some taste, some choice regarding their food, as has been sufficiently proved by the experiments of Messrs. Davy and de Saussure. It is with plants as it is with animals, there are some elements common to all, and some peculiar to each kind: this is placed beyond doubt, by the preference given by some plants to certain salts, over others.

PRINCIPLE 4.—*That all plants do not restore to the soil the same quantity, nor the same quality of manure.*

The plants that grow upon a soil, exhaust more or less of its nutritive juices, but all return to it some remains, to repair a part of its loss. The grains and the oleaginous seeds may be placed at the head of those which exhaust a soil the most, and repair the least the injury done it. In those countries where plants are plucked up, they return nothing to the soil that has nourished them. There are some plants to be sure, besides those mentioned above, that by forming their seed, consume a great part of the manure contained in the soil; but the roots of many of these soften and divide the soil to a considerable depth; and the leaves which fall from the stalk during the progress of vegetation, restore to the earth more than is returned by those before mentioned. There are others still, the roots and stalks of which remaining strong and succulent after the production of their fruits, restore to the soil a portion of the juices they had received from it; of this kind are the leguminous plants.

Many plants that are not allowed to produce seed, exhaust the soil but very little; these are very valuable in forming a system of successive crops, as by introducing them into the rotation, ground may be made to yield for many years without the application of fresh manure; the varieties of trefoil, especially clover and sainfoin are of this sort.

PRINCIPLE 5.—*That all plants are not equally favorable to the growth of weeds.*

It is said that a plant fouls the soil, when it facilitates or permits the growth of weeds, which exhaust the earth, weary the plant, appropriate to themselves a part of its nourishment, and hasten its decay. All plants not provided with an extensive system of large and vigorous leaves, calculated to cover the ground, foul the soil.

The grains from their slender stalks rising into the air, and their long narrow leaves, easily admit into their intervals those weeds that grow upon the surface, which being defended from heat and winds grow by favor of the grain they injure.

Herbaceous plants on the contrary, which cover the surface of the soil with their leaves, and raise their stalks to only a moderate height, stifle all that endeavors to grow at their roots, and the earth remains clean. It must be observed, however, that this last is not the case unless the soil be adapted to the plants, and contain a sufficient quantity of manure to support them into a state of healthy and vigorous vegetation; it is for want of these favorable circumstances that we often see these same plants languishing, and allowing the growth of less delicate herbs, which cause them to perish before their time. Vegetables sown and cultivated in furrows, as are the various roots and the greater part of the leguminous plants, allow room for a large number of weeds; but the soil can be easily kept free by a frequent use of the hoe or weeding fork; and by this means may be preserved rich enough for raising a second crop, especially if the first be not allowed to go to seed.

The seeds that are committed to the ground often contain those of weeds amongst them, and too much care cannot be taken to avoid this; it is more frequently the case, however, that these are brought by the winds, deposited by water, or sown with the manure of the farm-yard.

The carelessness of those agriculturists who allow thistles and other hurtful plants to remain in their fields, cannot be too much censured; each year these plants produce new seeds, thus exhausting the land and increasing their own numbers, till it becomes almost impossible to free the soil from them. This negligence is carried by some to such an extent, that they will reap the grain all around the thistles, and leave them standing at liberty to complete their growth and fructification. How much better it would be to cut those hurtful plants before they flower, and to add them to the manure of the farm. From the principles which I have just established, we may draw the following conclusions.

[TO BE CONTINUED.]

Gardening of the Germans in Pennsylvania.

Having mentioned the great emigration of Germans into Pennsylvania previous to the French war, I may now give some brief sketches of their economy, farming, gardening; &c., for which they were so justly admired, as forty-five or fifty years ago I was much amongst them as a surveyor and conveyancer, well acquainted with many of the worthies that had crossed the Atlantic, and learned to understand their language intelligibly in business.

They had come from a country where necessity had obliged them to raise all they could from a little land: every thing they did was in the best manner, and they would not undertake more than they could accomplish in due season.—They always washed their *seed wheat* in a tub of water, carefully skimming off all that would swim, saying it would produce chess. I have known them to pick out by hand the largest and best wheat heads, and sow it on new ground, well prepared to raise the best of clean seed; then after the wheat came off, put the stubble in with turneps—flax the next spring—then wheat again and sow grass seed on the snow either for mowing or pasture for milch cows. They generally cleared a small piece of land every year, for the purpose of clean seed wheat, turneps and good flax. Dutch wheat used to command an extra price for superfine flour.

For *seed corn*, it would be the first they took out of the field, selecting the largest, most forward ears from such stalks as bore three, leaving two or three thicknesses of husks on, and hanging the ears up in some building in that order, until they shelled it to plant, and then only take about one third of the ear out of the middle, and never plant any where the rows were crooked on the ear. To prevent birds or squirrels from taking it up, they would steep it in a strong decoction of hellebore roots.

Oats, after they were six or eight inches high, they would roll them down flat, saying it kept them from lodging, and they headed better. Suffice it to say, that they raised far better, and heavier crops than farmers originally from any other parts of Europe.

As to *meadows*, they were the people that first introduced IRRIGATION into Pennsylvania. If they had a stream of water that could be led over the banks, it was a primary object to do it. They kept their meadows dressed smooth and fine, and destroyed all bad weeds, so that their hay was clean and sweet. They were famous for large barns to contain all their produce, and to house all their stock of creatures in stormy weather;—and very careful of their manure. When snow was on the ground, they carted the dung out of their stables, direct on their wheat, and spread it very even, saying it prevented its heaving out with the frost; and seeded the fields for pasture. They lived more on vegetables than any other people, and made gardens accordingly.

I may describe some of their modes of raising and saving *seeds*.

Of *beans*, they raised abundance, and had several better kinds than I have seen of late years. To save seed they would pick by hand the earliest large pods, hang them up in a bag, and not shell them until wanted to plant.—the same with their *garden peas*—saying it prevented the bug; and I never saw a bug in a pea kept in this manner.

Of *cabbage*, for the early kinds, they sowed the seed on a scaffold raised five or six feet from the ground to prevent the small fly from eating them. After the small fly was done, sow their winter and *sour krout* cabbage broad cast, and where too thick, pull it out for their cows and pigs.

Their way of saving *cucumber* seed, after the first, or such nearest the root, began to be soft on the vine, they would take them in, puncture the blossom, and lay that downward on a slanting board, stick the butt full of oats—which would grow and extract the moisture. In that way the cucumbers were dried in the house, and the seed never taken out until put into the ground.

Melons, they could not dry in that manner, but would scrape out the seed with as much of the glutinous liquid as they could on a coarse paper, on a level board; there let them dry in the house and never suffer them to be washed, or dried in the sun, saying it would weaken the vigor of their growth: and they never would use seed more than two years old.

Since I have been away from amongst these good honest people, I believe that all my particular acquaintance that had crossed the water, (and learned their modes of farming and gardening in a country where experiments were older than in America,) are dead. But from what I have seen in my last travels, it does not appear that their descendants have lost the knowledge of their forefathers. Description cannot convey a correct idea of the elegance of their management. Let any of the best farmers in the Eastern States, at a proper season of the year, take a tour to *Bethlehem*, *Nazareth*, *Greatendall*, and *Christian Spring*, in Northampton county. All those estates belong to the society of Moravian brethren—then go view the large farms (private property) in Berks and Lancaster counties,—and they must admit them to be the best farms in all the United States, and that the emigration from Germany was the making of Pennsylvania.

SAMUEL PRESTON.

Stockport, Pennsylvania.

A beau dressed out is as the cinnamon tree—the bark is worth more than the body. *Overbury.*

Lime as a Manure.

[The following communication is from a subscriber residing in Hopewell, Cumberland County, New Jersey. In regard to the use of lime as a manure, we possess but little practical knowledge—on this point we desire information for ourselves as well as for the Agricultural community, and we hope that some of our practical farmers who have been in the habit of applying lime as a manure, will furnish us with the information sought for by our correspondant.]

SIR.—As the season of the year in which the farmers of this portion of the country usually apply manure, is near at hand, any information on the subject of manures would be gladly received, particularly LIME. Lime has been used in some parts of this county, latterly, and is, by some farmers, considered a valuable manure; whilst others considered it of no value, and some think it decidedly injurious to the soil. This difference I am of opinion, is occasioned by the different methods of applying it; and as lime has been used in Pennsylvania as a manure for many years, you may perhaps be enabled to give information from practical farmers as to the best method of applying it. Whether lime is of itself a manure, and what vegetable matter makes the best green dressing with it.—Whether it should be spread on the green crop sometime before ploughing, or be ploughed under immediately—whether the seed should be sown immediately after ploughing, or the lime suffered to decompose the green crop first. A SUBSCRIBER.

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Lime was thought to be a simple substance, until it was decomposed by Sir H. DAVY, who found it to consist of oxygen and a metallic base, which he denominated calcium. Quicklime in its pure state, whether in powder, or dissolved in water, is injurious to plants. Grass is killed by watering it with lime water. But lime in its state of combination with carbonic acid, is a useful ingredient in soils. Calcareous earth is found in the ashes of the greater number of plants; and exposed to the air, lime cannot long continue caustic, but soon becomes united to carbonic acid. When lime, whether freshly burnt or slacked, is mixed with any moist fibrous vegetable matter, and they form a kind of compost together, of which a part is usually soluble in water. By this kind of operation, lime renders matter which was before comparatively inert, nutritive; and as charcoal and oxygen abound in all vegetable matters, it becomes at the same time converted into carbonate of lime.

Mild lime, powdered limestone, marl, or chalk, have no action of this kind on vegetable matter: by their action they prevent the too rapid decomposition of substances already dissolved; but they have no tendency to form soluble matters. It is obvious from these circumstances, that the operation of quicklime, and marl or chalk, depends on principles altogether different. Quicklime, in the act of becoming mild, prepares soluble out of insoluble matter. It is on this circumstance that the operation of lime in the preparation for wheat crops depends; and its efficacy in fertilizing peats, and in bringing into a state of cultivation all soils abounding in hard roots or dry fibres, or inert vegetable matter.

The solution of the question, whether quicklime ought to be applied to a soil, depends on the quantity of inert vegetable matter than it contains. The solution of the question, whether marl, mild lime, or powdered limestone ought to be applied, depends on the quantity of calcareous matter already in the soil. All solids are improved by mild lime, and ultimately by quicklime, which do not effervesce with acids; and sands more than clays. When a soil, deficient in calcareous matter, contains much soluble vegetable manure, the application of quicklime should always be avoided, as it either tends to decompose the soluble matters by uniting to their carbon and oxygen so as to become mild lime, or it combines with the soluble matters, and forms compounds, having less attraction for water than the pure vegetable substance. The case is the same with respect to most animal manures; but the operation of the lime is different in different cases, and depends on the nature of the animal matter.

Lime should never be applied with animal manures, unless they are too rich, or for the purpose of preventing noxious effluvia. It is injurious when mixed with any common dung, and tends to render the extractive matter insoluble. In those cases in which fermentation is used to produce nutriment from vegetable substances, lime is always efficacious, as with tanner's bark.

The lime that is used in agriculture, is that which has been slacked by air; unslacked lime if not combined with manures which moderates its action, or with such bodies as can furnish enough carbonic acid to saturate it, will, according to CHAPTAL, prove highly injurious to vegetation. Lime and plaster in conjunction, possess the most advantageous effects—the lime acting as food for the soil, and the plaster for the plant—the one in meliorating the soil, the other in exciting it to action. I am well satisfied says COOPER, from experience of 22 years, of ashes and lime as manures, and from what I have seen for the last eighteen years, and experienced for five years, that lime is much cheaper and more durable for grain or grass than any other manure that I have a knowledge of. I am, however, fully satisfied that it would be better to procure either, than to

be employed in tilling land that gives a crop below profit; that is rather the amusement of folly than food for the purse. However, it may be within the means of the farmer to purchase manure, he must not forget that the *barn yard is his mine, his manure his gold dust!* We should not anticipate additional crops without the improvement of our soil, and to do that it is necessary to secure grass and hay; as without stock no manure, and without manure no crop.

The art of farming is not an acquirement of a day, but of years, or rather a long life of experience; that which might be adapted to one farm advantageously, would be improper on an adjoining one, owing to difference of soil, &c. Book farmers, for want of experience, too generally lay down one general rule to be adhered to on all occasions. A physician might as well undertake to restore all his patients from an invariable course of medicine, however different their complaints or habits of body, as all farmers to restore their lands by one given course, however different might be their soil, climate, or locality to the different manures and price. Such manures and crops should be selected as are best adapted to the soil and climate, and mature calculation of the expense in the cultivation and transportation to market, produce the greatest clear profit.

From the Cultivator.

On Seeding.

Of all the practices constituting seed husbandry, none are more replete with beneficial effects, and which better repay the outlay than that of seeding. It has become an established practice with good farmers to seed frequently with clover and timothy, a practice that should be adopted by all. It is high time that the practices and opinions of our ancestors–those which derogate from our best interests I mean—should give place to more modern and more rational views. That there has been great advancement in the science of agriculture will be conceded by all;—then why do we cling so strenuously to ancient practices when those of more modern date are infinitely superior?

I rejoice in the improvement that has already been made. Agriculture has become the theme of the day. The most enlightened of our citizens are embarking in its pursuits, which give assurances of its being ultimately established upon a basis concomitant with its merits. Then it behooves us to follow those practices most clearly demonstrated to be beneficial—and believing seeding to be one of these, I proceed briefly to detail its utility.

The practice of seeding is too much neglected by many of our farmers, a practice, which, could they be induced to adopt, I am confident in believing would not be relinquished. The natural grasses yield less of quantity and nutriment than either clover or timothy and some other of more recent introduction. Double the quantity of pasture may be obtained from a given piece of ground well seeded, than it would otherwise afford; and for mowing there will be a still greater difference.

Independent of this, its fertilizing properties to the soil must be considered. A good sod preserves the soil from the too great influence of the sun, renders it porous, and consequently pervious to atmosphere nourishment; hence we observe that meadows newly laid down almost invariably bear the greatest burden.

Whereas grounds not seeded, by being too much exposed, soon become of so compact a nature as to render them in a degree impervious to either heat or moisture, without which they cannot be capable of the least productiveness.

Autumn we consider the most proper time for sowing timothy, and the spring for clover. We have generally made a practice to sow our timothy immediately after the last harrowing in of the wheat, having a person to follow each harrow, which leaves not a particle of ground without seed, and never have perceived the wheat to have been injured in consequence.

The time for sowing clover must depend altogether on the season whether early or backward. We have oftener sown too early than too late, and I am inclined to believe that others have fallen into the same error.

In my opinion, it should not be sown until the ground begins to dry and becomes settled, when it will be observed there are innumerable small crevices produced by the contraction of the earth, which will receive the seeds and which the first rains will close, thereby producing immediate vegetation.

Respectfully submitted by

GEO. WILLETS.

Skaneatelas, Ond. Co., 8th mo. 17th.

Apple Trees bearing alternate Years.

Those who have any thing to do with orchards, or who have paid any attention to apple trees, know very well that some trees will not bear a full crop every year. The cause of this is probably owing to the exhaustion of the trees during the bearing years. In those years the tree hangs very full, indeed all its powers are put forth and ripen such a heavy crop; and this expense of sap or other matter so exhausts the system that it requires a year of rest to bring up its energies. This may or may not be the true cause, at any rate the fact is well known; and many who have good varieties of apples, have regretted that they could not change the state of things in regard to particular trees, and have a crop every year. Mr. Longfellow, of Winthrop, well known as a successful orch-

ardist, informs us that he had succeeded in changing this habit in a variety of Juneatings which he had in his orchard, and which bore alternately. His manner of doing it is this:

Having other trees which also bore alternately, but not in the same years with the Juneatings, he was convinced that engrafting the two other, the habit of one would counteract that of the other, and a "nulification" of them be produced. Accordingly on a bearing year of the Juneatings, he took scions from them and engrafted them into stocks, which would that year be barren. The result in the cases which he has tried justifies the conclusion which he had drawn, and he has Juneatings every year.

Whether it is necessary that the scion to be engrafted should be taken from its parent on the fruitful year or not, we cannot say, or whether this system will be attended with a similar result in all trees, which bear in this way, or have barren and fruitful years, we are not able to say. It is however, a subject worth attending to; and we should be happy to learn any facts from those who have experience in these things.—*Maine Farmer.*

Apples.

The past winter has been a very remarkable season for the preservation of apples.—They have been abundant about here till within a few days. We ate a couple on the 13th, and presume there are barrels of sound ones now in the county. There were several cases of farmers making cider in March from sound apples which had laid under the snow all winter. Mr. I. Hitchcock, of South Wilbraham, informed us last week, that on the second day of May he gathered sound, fair apples from the ground, under all winter.—The experience of the past season affords some hints in the art of preserving apples.—It is supposed that the early and steady cold prevented the apples from ripening, and thus retarded their decay. Many were doubtless preserved from freezing by being under a heavy covering of snow.—*Springfield, Mass. Republican.*

Sheep in Pennsylvania.—According to the census of 1810, the whole number of sheep in Pennsylvania amounted to 61,828. Of this number 47,294 belonged to Washington county. At the present time, the stock in Washington county exceeds 700,000, nearly all the most approved breed, producing on an average 2 3-4 lbs. wool each, or a total of 1,925,000 lbs.

Cholera among Horses.—The people of Newark, N. J. are losing their horses by a disease, which appears to be as fatal as the cholera among men. Mr. Dickerson, who keeps an extensive livery stable at that place, lost eight elegant and very valuable steeds, all of which died with from 8 to 20 hours sickness.

Neatness.

New-England has many points of advantage; but in respect to neatness and order about her villages and farms, she contrasts badly with other countries. Englishmen, who visit us, are disgusted with the appearance of our villages, for, in their own land, they are accustomed to see them adorned by the hand of system and taste.

Let us look to this point then. Neatness and order are enjoined not only by economy but by comfort. Every slovenly farmer resigns one of the choicest pleasures within his reach, that of seeing his house and home surrounded by the marks of neatness, industry and taste. He brings up his family amidst confusion, and presents to his children an example of negligence the most unpardonable. Can he wonder if they follow this example? They will go further. In their very partialities, they will have a vicious preference for what just taste, good sense, and sound economy condemn. They will regard with less respect the decencies of life, and be more likely to abandon the paths of virtue and morality. There is as much meaning in the old adage, and the observance of which let me urge as a remedy for every degree of the evil I advert to—"Have a place for every thing, and keep every thing in its place." In the language of a venerated man, now gone to a better world—

Let order o'er your time preside,
And *method* all your business guide;
One thing at once be still begun,
Contriv'd resolv'd, pursu'd and done;
Ne'er, till to-morrow's light delay,
What might as well be done to-day;
Neat be your barns; your houses neat;
Your doors be clean; your court yards sweet;
Neat be your barns; 'tis long confess'd,
The neatest farmers are the best.

Farm Houses.

We are far behind the English in the comfort and appearance of our Farm houses. On the other side the water, they are content to build a house no larger than can be finished or occupied, but our practice is too often the reverse of this; for our zeal or money fails, and when the frame of the dwelling is covered, not a room is finished within, the windows are stuffed with old hats or rags, and the house stands a monument of the owner's taste and judgment. The houses of our farmers are of irregular shapes, and though their deformities might be somewhat concealed by trees, the proprietor will give up his shade rather than his *prospect.*

An Englishman once told us that this want of shade about our houses, was the first thing that struck him unfavorably in the country; and this too in a land everywhere abounding in trees. Regarding them, we would repeat the advice of the Scotch Laird to his son, "Be aye sticking in a tree, they'll be growing while ye're sleeping."

There is also a flowering plant, the honey-

suckle, which in some counties in England covers almost every cottage.

As to fruits, our farmers shew a wilful neglect of the blessings of Providence; not one in ten has pears, grapes, plums or mulberries, which, once planted, are hardy and occasion little other trouble.

The above thoughts occurred to us in a ride of 18 miles in the country, which to our eyes never wore a better appearance than it wears at present.

Agriculture and its advantages.

Of the various occupations and professions which have engaged the attention of mankind, there is none which seems to be so pre-eminently useful, so honorable, in short so compatible with all our interests, as the cultivation of the earth. There is none which has so many resources within itself, or which can furnish from its own means, the supplies for all our necessary wants. Food, raiment, and luxuries innumerable, are the fruits of the farmer's labor and care: and in their train follow health, happiness, and independence.

And in view of these facts, for facts they are, are we not led to wonder that so many of our young men are placed behind the counter, to learn the arts and mysteries of the scales and yard-stick, to deprive themselves of the bloom and freshness of youth, and bring early and deep *furrows* of care and anxiety on their brows, by the difficulties and perplexities attending the prosecution of mercantile pursuits, when so many, and so strong inducements are held out for them to engage in that profession which was the earliest employment of man, and which as the light of science is spread abroad, and improvements are made in the art, is becoming more interesting, more profitable, and at the same time less laborious.

With what different feelings do the farmer and the merchant leaves their pillows in the morning! The one buoyant with health and spirits goes forth with the first dawn of day to his cheerful labors in the field, while the other, after a restless and perhaps sleepless night, walks in a sober mood to his counting room, anticipating with fearful forebodings the insolvency of his customers, or the ill success of a voyage.

With what honest pride and heartfelt satisfaction does the farmer look at his luxuriant fields, his richly laden orchards, and his growing flocks, with the happy assurance that with every returning season his substance is increasing, that he is above want, and far from feeling the fluctuations of merchandise, or the embarrassments of trade.

Who, that has seen the hale and vigorous ploughman whistling along as he turns up the furrow, and has not sighed for the joys of pastoral life? Or, who has enjoyed the privilege of witnessing the internal arrangements of a thrifty farmer's establishment, and observed the care and attention evinced in all her domestic economy by his industrious and frugal wife, and has not coveted the happiness and independence of the farmer? Much as the wealth and prosperity of a nation may be advanced and promoted by its commerce and manufactures, still we are constrained to look upon agriculture as its source and foundation. It is absolutely necessary to our existence. For let men pursue what other business they may, they are still dependent on the farmer for what they eat, drink and wear.

And, suppose the farmer, by way of relaxation, occasionally deviates from his regular routine of duties, and engages a little in horticulture, or the cultivation of the choicer kinds of fruit, will he not be repaid a thousand times for the time and labor bestowed on a few trees, vines, or shrubs?

And further, will not the appearance of his house and "front-door yard" be immensely improved; himself and family enjoy a large amount of pleasure, and gratification, not to speak of the frequent lessons of neatness and order which his children would learn by the cultivation of a few varieties of flowers. And will not these silent monitors, which so beautifully remind us that

"The hand that made them is divine,"

also have a moral tendency, and teach us to look

"Through nature up to nature's God."

General Axioms.

The maxim of Bacon, "Knowledge is power," is never more true than in regard to agriculture. Hence no farmer who does not avail himself of the fruits of others' experience, and who does not improve his knowledge by perusing the ablest works on agricultural subjects, can expect to be successful. The prejudice of many farmers against agricultural knowledge in a printed form is absurd.

Endeavor to raise good grain, which will sell in years of great plenty—whereas inferior grain can seldom be sold, except in times of scarcity.

Let your cattle, horses, &c., be of the best sorts, and more remarkable for real utility than for beauty or fashion.

Be not above your profession, but rather consider it above all others.

Admit no guests into your house who cannot live upon the productions of his own country.

No farmer ought to undertake to cultivate more land than he can stock and manage to advantage. It is better to till 20 acres well, than 100 in a slovenly manner. Owning a large farm is no excuse for imperfect tillage. What you cannot improve, do not attempt to cultivate, but allow it to grow up to firewood

and timber. Large pastures may be profitable with no other expense but to keep them clear of bushes. But to run over 20 acres of tillage or mowing land for what, with good cultivation may be obtained from 5, is the extreme of bad husbandry.

A large farm, without skill, capital, and industry, is a plague to its owner—like self-righteousness, the more you have of it, the worse off you are.

From the Genesee Farmer.

Stone Walls.

One of the most significant marks of farming improvement which greet the eye in most parts of our country, is the rapidity with which the half rotted basswood worm eaten fences are giving way to stone walls. The zeal shown in this matter may be regarded as a token of good in two ways :—first, by substituting durable fences for those that are perishable, and thus enhancing the positive value of farms; and secondly, by clearing fields from the loose stones that incumbered them, and thus rendering them much easier to till, and more productive. The general custom we perceive is, to lay the stones into what is called half wall, or wall two and a half or three feet high, then place a long pole of some durable timber, such as chestnut or black ash, properly supported on the wall, then a stake, and a single rail completes the fence. Some set posts in such a wall, and put on boards above the stones to a sufficient height. This makes a handsome fence, but from some little experience with both kinds, we think it less durable without repairs than the other, as winds acting on the boards and posts, rarely fails in a short time to loosen them, by throwing down or displacing the stones intended to confirm them. There are but comparatively few farms on which good flat stones can be found, either loose on the surface or by quarrying, sufficient for the purposes of fencing, consequently small round ones are obliged to be worked to a great extent, rendering such walls more liable to be thrown down by frost or accident than they otherwise would be.—Where such flat stones can be found, and in the lime stone districts they principally abound, whole walls, thoroughly constructed, will in the end be found far the cheapest fences that can be devised. Experience has shown that where walls are built of such stone as renders them liable to injury from frosts, that those constructed north and south stand longer than those built east and west. The reason of this is plain. If the whole wall is equally lifted by the frost of the winter, that side which is thawed first will settle first, and the balance of the wall will thus be destroyed. The earliest thawing will of course take place on the south side, and walls exposed to this action of sun and frost most generally fall. Those walls built north and south are exposed to an action more equal in its effects, and usually are more durable. To guard against the action of frost as much as possible, walls in all cases should have a furrow run by their side, and turned against the wall, that the winter may as far as practicable, be kept from standing under it, and thus unequally softening the ground. In building walls, admitting the possibility of an occasional failure, the farmer has one great consolation; the materials do not rot—when once on the spot they remain where they are wanted, and if they sometimes tumble down, they can be built up again.

G.

Culture of Silk.

SIR : The manufacture of Silk, and the cultivation of the mulberry in the United States, has become a subject of such great interest, that the quiet of our village has been roused by its influence, and several of us are now making arrangements to plant orchards in the spring.

The business is new, and though your excellent paper would seem to contain all the information required by those engaging in it, yet there are some apparent contradictions by your correspondents, upon matters which we, who rely upon what we read to guide us in the enterprise, are desirous to have reconciled. Hoping therefore that you will receive this as a sufficient apology for intruding upon your time and attention, and allow me to propose the following queries.

Some of your writers say the young trees should not be stripped sooner than five years from the time they were transplanted. Others, that worms in sufficient numbers may be fed from them the second year, that is, the next year after transplanting, as I understand it, to defray expenses, and that the third year's crop will furnish silk enough to give a nett profit of one hundred dollars per acre.

1st. Which statement is the practical and true one ?

2d. How old from the seed, should the plants be, before they may *most* profitably be transplanted ?

3d. From an orchard planted in hedge form, the plants 2 1-2 feet distant, and the rows 12 feet apart, how many worms may be fed the second year supposing the statement to be correct, which advises this early leafing?

4th. If I am not mistaken, M. D'Homergue, in his book notes American cocoons, without their chrysales, at 8 grains, which would require 960 to the pound, whilst a writer in your paper gives from 260 to 300!

5th. You state three dollars per bushel, as the price of cocoons—how are they measured? three bushels may, without difficulty, be put in and on one.

6th. Can cocoons by any care, be packed for market without indenting vast numbers of them, which is said to destroy their value?

7th. Before measuring and packing, are they stripped of the floss, or are they sold with that attached?

8th. What amount of silk can an ordinary reeler wind from the cocoons in a day?

If it will not tax your goodness too far, to answer in the next number of the Culturist, the above queries, you will, by so doing, greatly oblige

Your humble servant,

WILLIAM IMLAY.

Allentown, N. J. Feb. 20, 1836.

P. S. From the inducements held forth in your paper, I have purchased 7000 trees, to be planted in the way stated in the 3d. query. Three other gentlemen in our village, are preparing to set out an equal number.

ANSWERS BY THE EDITOR.—1st. It is the opinion of the most experienced Culturists, that trees two years old, may be stripped of their foliage without injury, provided the leaves on the extremities of the branches are suffered to remain, It is, however, recommended by some, to let the trees remain one year after the first picking, in order that they may recover from the loss of their foliage. Trees of two and three years old, yield but little foliage, and consequently, not much profit must be expected from them. It is, however, supposed that potatoes, beans, or other low vegetables may be raised among them, in sufficient quantities to defray the expense of their cultivation and give a small profit.

We have had no experience in feeding from trees of this description; but a gentleman of this county informs us, that he fed, the last season, 50,000 worms, on the foliage of 50,000 white mulberry trees, on their third years growth, and made at least ten pounds of silk. The method he pursued, was by pruning the trees, in such manner as would best promote their growth and form, and feeding the worms on the boughs cut off. These, with such other foliage as he could gather from the remaining branches, furnished him with food sufficient for his family of 50,000 worms. By this experiment it will be seen, that a tree on its third years growth, sustained a worm, and enabled it to make its cocoon. The Chinese mulberry at two and three years old, will yield an abundance of foliage, and much more than one hundred dollars nett profit may be made from an acre thickly set, and highly cultivated.

2d. Trees should always remain in the seed beds, or nurseries, until they are two or three years old, if they are to be transported any considerable distance for transplantation. The last spring we transplanted 10,000 seedlings, about half of which died. They were, however, transported about twenty miles, and were some time out of the ground. When trees are to be merely transplanted from the nursery to the plantation, it is considered by many, advisable to remove them at one year old. They will put out more branches, require more pruning, and consequently, furnish more food for the worm, at two and three years old.

3d. It is impossible to answer this inquiry with sufficient precision for any practical purpose.—Much depends on soil, cultivation, pruning, &c.

4th. The weight of cocoons, and the number in a pound, varies according to their quality, the time when they are weighed, &c. We should think they would average from 250 to 300, to the pound, immediately after the worm is destroyed, and before they are thoroughly cured. As they become dry, they lose their weight, and when perfectly so, a pound, of some qualities, may require the number stated by M. D'Homergue.

5th. Cocoons are measured by putting them gently into the measure and rounding it. There is a difficulty in ascertaining their actual measure or weight, as they vary materially, according to the manner of measuring, or the time of weighing.—The most equitable method of coming at their value, is to weigh the silk after it is reeled, and for this purpose, among others, should the grower acquire the art of reeling. Until this is done, the better way is to carry the cocoons to the filature and have them reeled by a skilful reeler. The silk can then be weighed, and the expense of reeling deducted.—The number in a bushel varies according to their size, ranging from 2,500 to 3,000.

6th. There is no difficulty or danger in packing, and transporting cocoons, provided the directions for preserving and transporting them, given in former numbers, are duly regarded.

7th. The floss ought not to be taken from the cocoons if they are to be sent to market, It prevents their becoming indented which materially injuries them. Some manufacturers prefer flossed cocoons on account of the measure, but what they lose in measure, is more than made up to them in their quality.

8th. The quantity of silk which can be reeled in a day, depends upon the quality of the cocoons, the reel used, and the experience and dexterity of the reeler. Some reelers will reel a pound, but the average, among ordinary reelers, would not much exceed half that quantity.—*Silk Culturist.*

Milk

An English writer, in a treatise on milk, states in his recommendation of it as an article of diet, that the town of Rendall, in England, where more milk is used, in proportion to the number of inhabitants, than in any other town in the kingdom, furnishes more instances of longevity, and fewer deaths among children, than any other town.

Female Industry.

The following facts are not only creditable to the female industry of the country, but conclusively prove that female labor, when judiciously applied, receives its full reward. Last summer a venerable matron of Franklin county, Pa. seventy-six years of age, with the aid of a girl, in five weeks made and sold silk to the amount of sixty dollars, besides attending to the ordinary duties of her household. Two young ladies in the same county, in about six weeks, made silk, sufficient for 4000 skeins of sewing silk, which at five cents a skein, amounted to two hundred dollars. There are growing in the town of Hebron, in Connecticut, eight White mulberry trees from ten to twelve years old, from which silk was made the last summer by two young ladies of Mansfield. They spent five or six weeks in Hebron, and after paying all expenses of board, &c. carried home sixty dollars. Another young lady in Mansfield made silk the last summer at the halves. She made and reeled in nine weeks twenty pounds, worth at least four dollars and fifty cents, a pound. By this it will be seen that her share amounted to forty-five dollars, and that she received five dollars a week for her labor.

Rearing of Hogs.

There is, perhaps, no part of the business of the farmer so badly attended to in this country as that of raising swine. It is quite a common thing for those, who are even largely engaged in agriculture, not to raise as many hogs as serve the purposes of their home consumption. The reasons which lead to these discreditable results may be traced in part to the following causes, viz:—1, Neglecting in the nurturing and feeding the animals— and 2, indifference to the selection of a good breed. That every farmer should not only be able to raise hogs enough for his own bacon, but that he should have some to sell, are facts so susceptible of proof that they do not require argument to illustrate their tangibility, nor will any be so venturous as to hazard their denial.

By the term 'good breed,' we do not mean to say that *size* should preponderate in the choice; on the contrary, *that* should form but a secondary consideration, for there are other prerequisites which enter into the composition of 'a good breed of hogs, that are of infinitely more moment. *Size*, to be sure, where a farmer or planter has a large number of hands, is an object, but then to render that *object* desirable, it must be attainable at a small cost. Early maturity and a disposition to fatten, are, therefore, traits of character in 'a good breed' of hogs, which should never be overlooked. But it will appear obvious to any intelligent mind, that however much a hog may be predisposed to early maturity, or to take on fat, that that quality can alone be rendered available where the animal is well treated; for even a race of giants would be reduced to the size of dwarfs if badly and scantily fed, as it is contrary to the principles of animal economy, that *magnitude* and *volume* can be given to the carcass of either man or beast, who does not daily receive a generous allowance of nutritive food. Half feed a boy from infancy to manhood, and what is the consequence? A meager, ill-looking, undersized being is presented to our view, at the period of his majority—and we would ask, can we expect a better fate to await the hog which shares a similar treatment? If we do, we most assuredly have mistaken the principles which obtain the developement of the animal functions, and we will as assuredly reap a rich harvest of chagrin and disappointment; nature, presented in the requirements of humanity, or those of the more humble and pretensionless petition of the family of swine—whether the animal body belongs to the one or the other—must have its necessities supplied—its wants and the cravings of its appetite must be gratified.—As well may we expect a luxuriant crop from a sterile field, without proper manureing, as to expect that hogs, however good the breed, will prove profitable, if not well and judiciously kept and fed. He, therefore, who would have a plentiful supply of hog-meat for his household, or for sale, must *begin right*—he must be liberal, just and enlightened; for true economy in the *raising* of them, as well as in that of any other stock, consists in consulting nature. To enable them to grow, a proper quantity of nutritive food must be provided. If the grower of hogs expects to have his meat-house filled without it, he will be egregiously mistaken. Hogs may be kept in a good thriving condition upon a well set clover field through spring and summer, and so may they also, during fruitful mast years, in the woods; but in either case the proprietor will find his interest promoted by providing full portions of roots, as potatoes, ruta baga, mangle wurtzel, and also pumpkins. The raising of these will require labor and expense, but the difference in the weight and value of his animals, will more than repay him for both. If his hogs are destined to run in a clover field, it should be in one where there is a copious supply of water, and the animals should be ringed to prevent their rooting. We hold it, however, best that they should be penned and only occasionally permitted to range in the field, and that the roots which they may receive should be cooked either by steaming or boiling.

It has been affirmed that hogs do not thrive well if confined in a pen and soiled with clover; for ourselves we are not a believer in this faith, unless where from neglect, an abuse of this kind of feeding takes place.—

When the hog roams at large, he has a chance of being his own physician—in the fields or woods in which he may graze, he finds numerous herds and other substances which serve as medicamebants to correct the enervating effects of his exclusive vegetable diet; and it is, therefore, but reasonable, when he is cut off from these, that he should be furnished with substitutes to keep down the baneful effects of the crudities of those substances which he receives into the stomach. All vegetable bodies which are edible, are charged with more or less of acidities, the which, if permitted to remain uncorrected, will prey upon and vitiate the digestive organs. At this point then, nature must be assisted, and it may easily be done. Rotten wood, charcoal, or chalk, if placed in a convenient part of the pen will be readily partaken of by its tenants, and will preserve them in health. In addition to these it will be found serviceable to mix moderate portions of flour of sulphur and copperas occasionally with their messes.

If the hogs be confined in a pen altogether, they cannot be kept with too much regard to their comfort and cleanliness, for although when permitted to range, they luxuriate in mud and filth, under the former circumstances, their bedding should be frequently changed, and their bodies in warm weather receive the benefit of periodical ablutions. With these precautions, and proper feed, to be given at regular intervals, there is no question but they will not only thrive well, but prove a profitable stock to any farmer who may try the experiment of thus raising them. —*Farmer & Gardener.*

Farmers' Work.

Culture of Turneps.—If a top dressing of quick lime, soot or ashes, be applied to turneps, soon after they make their appearance above ground, their growth will be forwarded, and it is said they will be secured against the fly. Some advise and it may be well, if the time and labor can be spared, to leach soot, and sprinkle the plants with the liquor. M'Mahon, in giving directions for the culture of turneps, says: "The plants should be left from seven to twelve inches apart; this must be regulated according to the strength of the land, the time of sowing, and the kind of turneps cultivated; strong ground and early sowing always producing the largest roots.

The width of the hoe should be in proportion to the medium distance to be left between the plants, and the distance should be according to their expected size.

The proper time for the first hoeing is, when the plants, as they lie spread on the ground, are nearly of the size of the palm of the hand; but if weeds are numerous and grow rapidly, they should be checked before the plants have attained that size, lest being drawn up thin and slender they should acquire a sickly habit.

Soiling laboring oxen and horses.—Instead of turning oxen and horses, which you have occasion to use frequently, into a large pasture, in which it is difficult to find or to take them, you may do better to *soil them.* By soiling, we mean to keep them in stables, stalls, yards, &c., and mowing and carrying to them grass and other green or dry food. You should in such cases, take care that they have always water at hand, and plenty of litter to absorb the liquid manure, unless you have reservoirs. &c., to prevent its waste.—Arthur Young declared, that "Lucerne is the best plant for soiling, and an acre of it will go farther than any thing else." But clover or any other grass, green or dry, oats or Indian corn, cut up near the roots, cabbages, &c. &c., may often be economically disposed of in feeding cattle and horses, whose services are needed for the prosecution of the daily and hourly labor of the husbandman.

Fallen Fruit.—Be very careful to gather all punctured or decayed fruits, whether on your trees or on the ground, and give them to your swine. If you do not, the worms which such fruits contain, and which have been the cause of their premature decay, will make their escape into the ground, and you will find the evils, which wait on their visitations, will increase on you another season.

Grafted Trees.—Look over your fruit trees, which were grafted last spring, or budded this summer, and suffer no shoots from the stocks to remain, lest they rob your grafts of their nourishment.

Worms in the Head of Sheep.—There exists in some parts, if not in all parts of the country, a species of fly, which naturalists denominated *Oestrus ovis*, or *sheep bot*, of the same genus though of a different variety with the fly which deposits eggs on the hair of horses and causes bots in those animals. This fly attacks sheep from about the middle of August, to the middle of September, deposits eggs in the nostrils of the animals, and causes those *worms in the head*, which so frequently destroys them. The Mechanic's Gazette recommends as a preventative, "covering the nostrils of the sheep with a gauzy substance, through which the animals can breathe, and keeping it in its place by some adhesive substance. We doubt however the practicability of keeping a gauzy substance in its place by any adhesive matter.

Another precaution, which sheep owners assure us has been found effectual, is to keep the noses of sheep constantly smirched with tar from about the middle of August to the latter part of September. If the sheep swallows some of the tar, so much the better, as it prevents or cures the rot and confirms their health. In order the better to effect the smearing of the sheep's noses, the following process has been recommended:

Mix a little fine salt with tar, just enough to make the tar agreeable to the animal, and place the mixture under cover, where the sheep can have access to it, and they will keep their noses sufficiently smeared to prevent the insect from attacking them.—*N. E. Farmer.*

FOR THE FARMERS' CABINET.

Root Culture.

No crop is so important to the farmer as roots, and yet they are seldom appreciated, either as a means of enriching the soil or of supporting stock. The produce of an acre of roots with the hay that may be cut off the ground previous to sowing the crop, will feed six or seven cows during the winter season, which with a reasonable allowance of litter, will make thirty cart loads of manure. To try this experiment, we sowed an acre of ruta baga turneps, last season in the following manner. The ground had been laid in clover the previous season, which we mowed the 20th of June, and yielded two tons of the first quality hay. We then ploughed it down immediately and spread upon it sixty bushels of lime. In a few days we harrowed it and spread over it 30 loads of compost, which had been collected through the winter, and turned twice; the consistency and cost of which were as follows:

2	loads of bone dust, say 50 bushels at 30 cts.	$15 00
2	do. ground oyster shells, 50 bushels at 10 cts.	5 00
2	do. leached ashes, 50 bush. 8 cts.	4 00
2	do. glue makers' offal,	4 00
4	do. well rotted stable manure, at $1 50,	6 00
18	do. shovellings from under fences and old houses, 75 cts.	13 00
60	do. lime at 18 cts.	10 80
30 bushels.	Total for manure	$58 30
	To ploughing the ground,	1 50
	do. harrowing several times,	1 50
	do. sowing the seed,	75
	do. half bushel seed,	1 50
	do. 20 days work clearing, thinning and hoeing three times through the summer, 62½ cts.	12 50
	do. 6 days gathering, drawing and covering,	4 50
	do. interest on the value of an acre of land,	3 00
	Cost of the crop,	$83 55

There were over 850 bushels of turneps at 56 lbs. to the bushel, and 4 tons of tops.—Several cartloads of the turneps were sold in the market at 16 cts. per bushel, but the principal part of these was consumed upon the farm in feeding milch cows. The hay was sold for $20 per ton, which, after allowing $6 for expenses of mowing, making and taking to market, leaves for 2 ton, $34 00

By 850 bushels of turneps, at 16 c.	136 00
do. 4 tons tops at $2 per ton,	8 00
Total value for the produce,	$178 00
From which deduct the expense,	83 55
Leaves the nett proceeds,	$94 45

The ground last spring was in a fine condition, one half of which we put in with the Mangal Wurtzel beet, the other part with the parsnep. The crop was put in with very little manure—the beets look in a very flourishing condition, but the parsneps are poor, they did not come up in time to make a crop.

We have this season about 4 acres of the ruta baga, but planted in a different manner; the particulars of which I will reserve for future. *A Communication.*

Wilmington, Del., 8 mo. 20, 1836.

Horticulture and Botany.

See various trees their various fruits produce,
Some for delightful taste, and some for use;
See, sprouting plants enrich the plain and wood,
For physic some, and some design'd for food;
See, fragrant flowers, with different colors dy'd
On smiling meads unfold their gaudy pride.
Blackmore.

Vegtable Vitality.

No. 1.

The vitality of *vegetable*, as well as animal substances, has been admitted in every age and country. But as to its source or nature, a great variety of notions have been entertained at different periods. Some writers have supposed that fire, and this principle, are derived from the same source, and are of a similar nature. Others have supposed it to be derived from the sun. The principle of vitality has also been supposed to be a humid vapor, and that humidity was the active principle of all things. Other authors have imagined this vital energy to be the same as the soul, and derived from the air. Several modern physiologists have considered the nervous fluid as the source whence it is derived; and some have identified it with the electric and galvanic fluids; while others have concluded that it is nothing more than the mere organization or modification of matter.

When the seed of a plant is placed in a favorable soil, and supplied with a proper quantity of heat, light and water, it will gradually unfold itself, until it becomes similar to the parent plant. But this increase and unfolding of its vegetable character, are results completely independent of any direct parental succor; nor can we comprehend the nature of these changes by referring them to the general properties of unorganized matter. We must, therefore, seek for a solution among other principles than those which be-

long to matter in general. We can form a tolerable idea from the well known principles of aggregation, how many changes take place in unorganized bodies; but by what law a carnation seed, when placed in the earth, produces a group of beautiful flowers, or how a simple acorn unfolds itself, and becomes a stately oak, are questions which have never been answered in a satisfactory manner.

Happily the invention of the microscope has opened to our view a new world of existence, and by improvements subsequently made on its construction, a solution has been found to many results, which have hitherto been classed among the impenetrable secrets of nature. Of these the polype, brought to light by Trembly, in 1741, are the most remarkable. Although their reality was for some time disputed, all doubt on the subject has long ago vanished, and we have now an acknowledged race of little creatures, which can scarcely be ranked either among animals or vegetables, yet evidently partaking of the nature of both. Buffon and Needham were among the foremost of those who maintained that these little objects were only organized particles, from which animals are formed, and were not possessed of vitality. But since the invention of the *compound* microscope, facts have transpired which warrant the opinion, that even the polype is produced by an agency, whose energetic ramifications extend still further into the animal and vegetable world.

Mr. Bywater, of Liverpool, who has for some time been engaged in extensive physiological inquiries, mentions the following experiment:—"If the weather be warm, let a wine glass, half filled with pure water, be mixed with about a tea spoon-ful of flour, and then we shall find, by inspecting a small portion on a slip of glass, that the mixture is filled with linear bodies, which may be so far excited as to manifest a quick writhing action when touched or stirred with an external body; but in a short time, if the weather continue warm, these linear bodies will have acquired such a degree of vital energy as to show that the mixture is full of them, writhing about in every direction, without being excited to action by external agents.—It was by viewing an infusion of the pollen of flowers (continues Mr. Bywater) with one of Wilson's highest magnifiers, that I first observed these linear bodies, although I afterwards found, that by using the compound microscope, a more perfect view of their nature and character might be obtained. That these linear objects are real bodies, is evident from their becoming magnified like other bodies, in proportion to the magnifying power used."

In Adam's treatise on the microscope, an experiment is noticed by a Mr. Ellis, which fully corroborates that of Mr. Bywater. A potatoe was boiled till it was reduced to a mealy consistency. A part of it was then put into a cylindrical glass vessel, with an equal proportion of the boiling liquor. It was immediately covered close with a glass cover. Twenty-four hours afterwards, Mr. Ellis examined a small drop of this liquid by Wilson's microscope, when he plainly distinguished a number of objects, of a linear shape, moving to and fro with great celerity. This experiment he repeatedly tried, and always found it to succeed.

But it is not by infusion merely that the existence of this vital energy is ascertained. If we examine small portions of leaves, and the delicate parts of plants, we shall find linear bodies, exactly in appearance to those already mentioned, imbedded in every part of a leaf and flower. If a little juice be pressed out of a herbaceous plant, and examined by the compound microscope, it will be found full of these linear bodies, writhing about in a very active manner.

It has long been a perplexing question in vegetable physiology, how the evident secretive processes of vegetables are carried on? Sir James Smith says, that "the agency of the *vital* principle alone, can account for these wonders, though it cannot to our understandings explain them." Now it appears to me that the vital principle here alluded to, and considered so inexplicable by this great botanist, is the same energetic force, the same linear bodies discovered by the experiments of Bywater and Ellis. May we not refer the different secretive processes which are carried on in vegetables, to this kind of vital energy, when we find the very parts in which these secretions take place, completely filled with the secreting agents? several collateral arguments might be adduced in favor of this system; for instance, the coralines are many of them such beautiful vegetable imitations, that they were at one period classed by naturalists among plants; but it has since been clearly demonstrated that they are the secretive productions of a race of little animalcules, which are imbedded in their apparent leaves and branches.

Nor is it by a few analogies that this reasoning is supported; the whole vegetable phenomena evidently points to a similar principle. Even the soil in which the plant grows partakes, in a certain degree, of this peculiarity. To test this, let a little soil be mixed with a drop of water on a slip of glass, and then quickly examined by the microscope, and it will be found filled with active linear bodies, similar to those obtained from vegetables and vegetable infusion.

Worth remembering.—We have been informed, by a gentleman who has had practical proof of its success, of a new mode of keeping fruits fresh for the table, as grapes, plumbs, &c. a long time after they have been gathered. It is simply to alternate them in layers with cotton batting, in clean stone jars, and to place them in a chamber secure

from frost. The discovery was accidental. A servant maid in the family of William Morey, of Union Village, Washington county, about to visit her friends, secured a quantity of plumbs in this way, to preserve them till her return. They were found to have kept in excellent condition, long after this fruit had disappeared in the garden. From the hint thus afforded, Mr. Morey, Mr. Holmes, and one or two neighbors, laid down grapes in this manner last fall, and they enjoyed the luxury of fresh, fine flavored fruit through the winter, until the early part of March. *Cultivator.*

Rainy Days.

How much time is thrown away by some farmers when the weather will not permit them to work out door. And how well this time might be improved! There are many days and hours of wet weather in the year, in which it is impossible to do any work on the farm and when these are lost, as they are to many farmers of my acquaintance, they amount to a considerable sum. "Time is money" as my grandmother used to say; and further "Take care of the pence and the pounds will take care of themselves."

Now if this is good advice in money matters, it will surely apply to economy in time, to those hours and half days when the rain drives under cover.

Well how are the hours to be best improved! I will tell you, my brother farmers. Get yourselves a set of Carpenters' Tools, and make a work bench and if you can plane a board and drive a nail, you will find enough to occupy all your spare time.

The tools will cost but five or six dollars—such as are most necessary, and then you will be able to keep your farming implements in good repair. If your barn or stable door break down, mend it immediately the first rainy day. If a board is loose put a nail in it or replace it. If you want any plain, useful kitchen furniture, such as pine tables; &c., take those occasions. But it is unnecessary to multiply the things that might be repaired in such times. Every farmer that looks around him (if he is not in the habit of so doing) will find the woodwork on his place lamentably out of repair.

In times of yore, a good housewife having received a pound of coffee, boiled it and served it up with parseley and butter. She declared they were the worst peas she had ever seen, as she had boiled them four hours, and yet they remained quite hard!

When tea first came to this country, a woman in New Hampshire boiled a pound of it with pork and parsneps for dinner; but she was not herself very fond of it!

Agents.

The publisher of the Farmers' Cabinet, is anxious to procure the services of a few men of character and responsibility, with the view of extending the circulation of the work. *The terms will be liberal.* Application may be made either personally or by letter (post paid) to G. Moore, 31 South 3d street.

Postage.

Our subscribers are informed that the Cabinet is chargeable only with *newspaper postage.* The Postmaster General has settled this question.

☞ We are still able to furnish copies of the Cabinet, from the commencement, and shall supply all subscribers with the back numbers unless otherwise ordered.

☞ Subscribers who may call or send for the numbers are requested to remember that our office is in the *Third Story* of No. 31 South Third Street.

The Markets.

BEESWAX.—Sales of good yellow at 27 cents; white 35 a 36.

BUTTER.—Extra tub 15 a 16; extra keg 14 a 15 (the pair of fuel butter in the market, same as given in our last, 25 a 28.)

CHEESE.—Brisk sales of American cheese at 10 a 12 cents per lb.

FISH—No change in prices and sales very limited.

FLOUR & MEAL—Owing to the light receipts and the advance in neighboring markets, a very material advance has taken place in Flour. Sales of fresh ground at $8,50 a $8,75 per barrel; Genesee $3,50. Small parcels of fancy brands at $9, at which price good fresh ground is held; old stock, $7 to $8, according to freshness. Ohio $6-87 1-2 to $7,62 1-2. Sour New Orleans, $6,50; now held at $6,75. *Rye Flour*—Sales at $5,50, being an advance. *Corn Meal*—Extensive sales in hhds. at $19; bbls. $4,50. Stock light.

GRAIN—There has been a good demand for all descriptions of Grain, and prices have again advanced. Sales of 3600 bushels Dantzic Wheat, part from store, at $2 per bushel; afloat price not ascertained. A lot of Long Island, from store, brought the same price. Sales of Penna. at $1,85 a $1,95; one parcel at $2. *Rye*—Sales of Penna. at $1,15. *Corn*—Large sales; round yellow at about $1 to $1,03; good flat 94 to 96; inferior 82 to 90; white 90 to 93 cts. being a material advance. The sales exceed 16,000 bushels. *Oats*—Sales of Southern afloat, at 38 cts. early in week. Penna. large sales at 42 to 45 cts. per bushel.

HEMP—America, dew rot, $175 per ton; Italian $200 a $225; Russia, clean $190 a 200.

PLASTER—$3,12 1-2 a $3,25 per ton.

PROVISIONS—Sales of Mess *Pork*, at $21,50 a $22; *Prime*, considerable sales at $17,50 to $17; and $16,50 cash. *Western Bacon* moves off freely at 8 a 11 1-2 per lb.; *Jersey Hams*, 15 a 16. *Western Hams*, 10 a 12. LARD, *Western*, 13 a 14; *Philadelphia Lard*, 14; *Jersey Lard*, 15 a 16, and scarce.

SEEDS—*Cloverseed*, $4 a $4,87 1-2 per bushel; *Flaxseed*, considerable sales at $1,-62 1-2, 165 a $1,70. *Timothy*, $2 a $2,50.

TALLOW—America, 8 3-4 a 9; Foreign, 8 1-4.

WOOL—Domestic wool is scarce and in good request, sales amount to 40,000 lbs. Prime Saxony, 77 1-2 cts. per lb.; American full blooded 60 a 65; three quarters ditto 53 a 59; half ditto, 45 a 50; quarter ditto, and common, 40 a 44; unwashed, common, 20 a 30; lambs superfine pulled, 55 a 60; No's. 1, 2, and 3, $52 a 55. Spanish sheep R. F. and S, 60 a $1.

Philada. Cattle Market, Aug. 29

The supplies amounted to 520 head of Beef Cattle; 150 cows and calves, 364 hogs and 1300 sheep.

The sales for Beef Cattle were rather dull, at from $7 to $8 per hundred, according to quality, being a decline on previous rates, about 75 or 80 remained unsold.

Cows and Calves were in good demand and brought from $19 to $30; Fallow cows sold at $12 a $18.

Hogs were taken at $8 a $8,25 per hundred, part of the supply remains on hand.

Sheep sold readily at $2,75 a $4,50 each.

New York Cattle Market.

MONDAY, August 29.—At market, 1400 head of beef cattle, 6000 sheep and lambs, and 20 cows and calves.

Beeves continue very abundant, and prices in consequence continue to decline. The sales reached about 1100 head at from $5,50 to $9, averaging $7,25 per cwt. being 50 cents below last week's rates.

Cows and calves continue without change; selling slowly at $18 a $35 each.

Sheep and lambs are still arriving in great numbers, and met by a very fair demand.

The large stock at market, however, caused a further decline of 6 a 12 1-2 cts. each, in prices. Sales about 5500 head. Sheep at $2 a $5, the latter rate for superior quality, and lambs at $1,50 a $3 each.

Hay and straw have both arrived more freely, but are sustained in price. Old hay at $1,50; new 87 1-2 cts. a $1,18 3-4. Straw $4 a $4,50 per 100 bundles.

THE FARMERS' CABINET,

BY G. MOORE,

Is published Semi-monthly;

Price,—One Dollar per year.

Office in the third story of

No. 31 South Third Street,

PHILADELPHIA.

IN presenting this work to the public, the Editor would simply say, that it is designed to promote the interests of practical husbandry. He is aware that great objections exist among many to what is denominated book farming—all, however, will admit that great and astonishing improvements have taken place in agriculture within the last twenty years, and that these improvements are fairly to be attributed to repeated experiments, and the diffusion of light and knowledge among the agricultural classes of our land.

We make no great promises—we are willing to rest the success of the enterprise on the merits of the work, sensible that if deserving of patronage, it will be liberally sustained by that enlightened and independent class of citizens to whose interests it is devoted, and to whose fostering care it is commended.

The Cabinet will be published on the first and fifteenth of each month. Each number will contain 16 octavo pages on good paper and fair type. The subjects will be illustrated by engravings on wood whenever they can be appropriately introduced.

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We have adopted the *octavo* form, as it is more readily preserved by stitching the numbers as received, than any other size; it also makes a good sized volume, and can be bound at a much less expense than the quarto or folio size.

All orders for the Cabinet, may be directed to the publisher, G. MOORE, No. 31 South 3d Street, Philadelphia. Communications may be directed as follows: "Editor of the Cabinet, No. 358 South Fourth street."

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DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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THE FARMERS' CABINET.

Rotation of Crops.

In our last we stated certain facts and principles, to serve as guides in this important branch of agriculture. From the principles there laid down and established by CHAPTAL, and others, we may draw the following conclusions:

1st. That however well prepared a soil may be, it cannot nourish a long succession of crops without becoming exhausted.

2d. Each harvest impoverishes the soil to a certain extent, depending upon the degrees of nourishment which it restores to the earth.

3d. The cultivation of spindle roots ought to succeed that of running and superficial roots.

4th. It is necessary to avoid returning too soon to the cultivation of the same, or analogous kinds of vegetables, in the same soil.*

5th. It is very unwise to allow two kinds of plants, which admit of the too ready growth of weeds among them, to be raised in succession.

6th. Those plants that derive their principal support from the soil should not be sown, excepting when the soil is sufficiently provided with manure.

7th. When the soil exhibits symptoms of exhaustion from successive harvests, the cultivation of those plants that restore most to the soil, must be resorted to.

These principles are confirmed by experience; they form the basis of a system of agriculture, rich in its products, but more rich in its economy, by the diminution of the usual quantity of labor and manure. All cultivators ought to be governed by them, but their application must be modified by the nature of soils and climates; and the particular wants of each locality.

To prescribe a series of successive and various harvests, without paying any regard to the difference of soils, would be to commit a great error, and to condemn the system of cropping in the eyes of those agriculturalists, who are too little enlightened to think of introducing into their grounds the requisite changes.

Clover and sainfoin are placed amongst the vegetables that ought to enter into the system of cropping, but these plants require a deep and not too compact a soil, in order that their roots may fix themselves firmly.

Flax, hemp, and corn require a good soil, and can be admitted as a crop only upon those lands that are fertile, and well prepared.

Light and dry soils cannot bear the same kind of crop as those that are compact and moist.

Each kind of soil, then, requires a particular system of crops, and each farmer ought to establish his own upon a perfect knowl-

* In addition to the reasons I have given why plants of the same or analogous kinds should not be cultivated in succession upon the same soil, there is another which I will here assign. M. Oliver, Member of the French Institute, has described with much care all the insects which devour the neck of the roots of grain; these multiply infinitely if the same or analogous kinds of plants be presented to the soil for several successive years; but perish for want of food whenever plants not suited to be food for their larvæ, are made to succeed the grains. These insects belong to the family of Tipulæ, or that of flies.—(Sixteenth Vol. of the Memoirs of the Royal and Central Agricultural Society of Paris.)

edge of the character and properties of the land he cultivates.

As in each locality the soil presents shades of difference, more or less marked, according to the exposure, composition, depth of the soil, &c., the proprietor ought so to vary his crops, as to give to each portion of the land the plants for which it is best adapted; and thus establish a particular rotation of crops upon the several divisions of his estate.

The wants of the neighborhood, the facility with which the products may be disposed of, and the comparative value of the various kinds of crops, should all be taken into the calculation of the farmer, in forming his plan of proceedings.

There is another point in regard to crops that ought to be well weighed by the farmer; though his lands may be suited to cultivation of a particular kind, his interests may not allow him to enter upon it. The more abundant any article is, the lower will be its price; he ought then to prefer those crops of which the sale is most secure. If a product cannot be consumed upon the spot, it is necessary to calculate the expense of transporting it to a place of of sale in countries where it is needed.

An intelligent farmer, whose lands lie at a distance from a market, will endeavor to avoid the expenses incident to the transportation of his products; and in order to do this he will give the preference to those harvests of fodder or of roots which may be consumed upon the place by his dependents and his animals.

There is another circumstance which must be attended to in sowing those lands which are light, or which lie upon a slope; for these it is necessary to employ such vegetables as cover the soil with their numerous leaves, and unite it in every direction by their roots, thus preserving it from being washed away by rains, and at the same time protecting it from being too much dried by the burning rays of the sun.

In order to support by example the truth of the principles which I have here laid down, I will make a statement of the series of crops that are found most advantageous in those countries where agriculture is the most flourishing. I shall commence with the provinces of ancient Flanders, because there the art of cultivating the soil to the greatest advantage had its birth.

In the departments of Lille and Douai, where the soil is of the best kind, and the art of preparing and employing manures is carried to the greatest perfection, the following series of crops are adopted.

First Series.	Flax or cabbage.
	Wheat.
	Beans.
	Oats, with trefoil.
	Trefoil.
	Wheat.
Second Series.	Turneps.
	Oats or Barley, with trefoil.
	Trefoil.
	Wheat.
Third Series.	Potatoes.
	Wheat.
	Roots,—turneps or beets.
	Wheat.
	Buckwheat.
	Beans.
	Oats and trefoil.
	Trefoil.
	Wheat.

In this rotation of crops we find that after the soil has been manured, the crops that are most exhausting are replaced by those that are less so; and those that foul the soil, by those that cleanse it by requiring frequent weedings.

It is by similar means that nearly the whole sea coast of Belgium, consisting of sterile sand, has been rendered as fertile as the best soil; and the richest harvests have followed from a judicious system of cropping.

Upon the sands in the neighborhood of Bruges, Ostend, Nieuport, Arvens, &c., the cultivation of the grains is made to alternate advantageously with that of beans, cabbage, potatoes, and carrots. The system of cropping practised in Norfolk, and so much praised by the English, consists in commencing the series by the cultivation of roots in a well manured soil; these are followed by oats or barley with trefoil, and afterwards by wheat.

In the bed of dry sand which forms the soil of Campine, the industrious inhabitants have with equal success vanquished all obstacles, and fertilized the soil. It is surprising to find in these plains of sand, excellent crops which, by their judicious arrangement, are constantly meliorating the soil. The series which is there followed is this:

Potatoes.
Oats and trefoil.
Trefoil.
Rye.
Turneps.

During a tour which I made with Napoleon in Belgium, I heard him express to one of the council of department, his surprise at the vast extent of waste land over which he had just travelled: he was answered thus; "Give us a canal to transport our manures, and to convey our produce, and in five years this sterile country will be covered with

crops." The canal was afterwards constructed, and the promise realized in less than the required time.

In the interior of France, where cattle subsist almost entirely upon fodder, and are not, as in the northern countries, fed upon the mash from breweries and distilleries, crops of the various plants used for their support should be most extensively cultivated, and should occur more frequently in the rotations.

In all the compact and slightly argillaceous soils upon my estates, if they are deep, after having had them well dressed with barn yard manure, I commence my series of crops with beets, to which succeeds wheat, which I sow immediately after having drawn the beets, and without any intermediate tilling; the wheat I replace by artificial grasses, and these by oats. When the land is of very good quality, I follow wheat by clover, and this in its turn is succeeded by the grains, and by roots.

In light soils which are deep and sandy but fresh, such as those upon the borders of the Loire, which are submerged once or twice every winter, I sow first, winter vetches, which produce abundantly, and these I replace by beets.

Lands of the best kind, that is to say, lands which to a good mixture and sufficient depth, unite a favorable exposure and suitable manures, may receive into their series of crops all the plants adapted to the climate, but there are not many soils possessing all these qualities.

In the siliceous, and calcareous soils, as they are generally dry, may be alternated crops of rye, barley, and white rye, with those of sainfoin, lupines, lentils, French beans, chick peas, radishes, woad, buckwheat, potatoes, &c.

Preference should always be given to those crops which experience has declared to be best suited to the soil and climate, as well as ao those of which the products are the most tdvantageous to the proprietor.

In compact lands, containing a portion of clay, and which from their quality are suitable for wheat, the successive crops may consist of wheat, oats, trefoil, clover, vetches, beans, turneps, radishes, cabbages, mustard, &c. A succession or rotation of crops should be established in these various soils, according to the principles which I have explained.

A succession of crops well conducted, economizes, labor, manure, expense of transportation, &c.: it furnishes the means of raising and fattening a greater number of animals, and it meliorates the soil to such a degree as entirely to change its nature; so that the most delicate plants, and those requiring the most nourishment, may be raised in a soil originally sterile and ungrateful. The arid sands of Belgium, and many of the alluvions on the borders of our great rivers, offer numerous examples of the truth of this. A good system of cropping alone can give security of a lasting prosperity in agriculture.

From the Genesee Farmer.

Brief Hints for Autumn Work.

Select seed wheat from that which grew in the most productive parts of the field—endeavor to obtain the largest seed, and sow none other—this, if practised in yearly succession, will greatly improve the variety.

Sow none but clean seed—for farmers may as well raise wheat as to raise weeds.

Chess may be separated from seed wheat by a good fanning mill. It may also by using brine—if the brine is too strong, so that good plump wheat will not sink in it, dilute it with water until it will; and the chess and light imperfect grains will float, and may be skimmed off. Then empty the wheat into a basket set on a tub or barrel, and the brine will run through into it for further use. Both these methods of clearing wheat may be combined to advantage.

Picking the largest heads by hand is a slow but very thorough way, and more particularly beneficial where crops are sown expressly for seed.

Smut in wheat crops is perpetuated by the dust of the smut adhering to the seed. It may be prevented by steeping the seed twenty-four hours in ley, or a mixture of fresh lime and water made of half a pound of the former to one gallon of the latter. This is certain prevention. Care should be taken that seed is not rendered foul by putting it in smutty bags, or those where smutty wheat has been kept.

The quantity of wheat sowed to the acre should be from five pecks to two bushels, varying with the time of sowing, and with the size of the grains of seed. Early sown wheat should be in less quantity than late; and wheat with small grains should be in less quantity than large, because there are more of them to a bushel.

Wheat sown about the time or after the first frost will escape in a great measure the Hessian fly. Where the fly is not destructive it should be sown early.

Furrow drains should be cut by passing the plough three or four times through the same furrow, and they should be made through all low parts of the field. They should be well cleared of loose earth by means of a shovel or hoe, so as to admit the surface water in wet seasons to pass freely off.

Corn should always be *cut up*, that is, cut off near the surface of the ground, and not

topped, or cut above the ears. The former is more expeditious, it saves twice as much fodder, and is attended with a better crop of corn, and it is always diminished considerably by topping, [See Cabinet, page 3.] This has been proved by repeated experiments where the crop was *measured*.

Seed corn should be always selected in autumn—take such for this purpose as have the greatest number of ears to a stalk.

Hogs to be fattened may be turned into apple orchards to pick up falling apples. They will fatten on them as well as on corn, if they have a plenty of them.

Grain fed to hogs should always, if possible, be first ground to meal.

Considerable advantage is derived from feeding *cooked* food (steamed or boiled) to hogs, and it should always be practised when the number is sufficient to warrant the erection of proper apparatus for it.

Cooked food for fattening cattle is of little advantage, and commonly not worth the trouble.

Advantage is generally derived from using *mixed* food for domestic animals.

Straw may always be of great use to the farmer in many ways, and is well worth preserving. The following method of securing it is given by a correspondent of the Genesee Farmer. "Previous to thrashing, I go to a hay-stack, and twist a quantity of bands, from six to ten feet long, which are placed at the barn door, and when the straw is raked to the door, two men take a band and stretch it over the bundle of straw, then run each a hand under it, and turn it over endwise, when one of them fastens the band, and the other prepares another band. In that manner two men will bind as fast as the swiftest machine will thrash, and the straw is stacked as securely as wheat, and in one fourth of the time required when not bound." When wanted it may be afterwards removed with far less labor than when stacked without binding.

Strawberries may be transplanted with advantage, in the early part of autumn.

Fruit trees may be removed and transplanted after the first of October. Most farmers who transplant fruit trees, suffer a great loss by not doing the work *well*. The principal care needed is, *first*, to dig the holes large, say six feet across, and fifteen or eighteen inches deep; *secondly*, to preserve, carefully, the roots as entire and uninjured as possible, and not to suffer them to become dry on the ground; and *thirdly*, to fill the hole with finely pulverized, rich earth, (not manure,) shaking it in, in small quantities, and packing it closely but gently about the roots, so as to leave them in their natural position in the soil. The whole expense of this, would not be more than half the price of the tree, and in five years it would be three times the size which it would be if transplanted by the common way of digging small holes and doing the work hastily and imperfectly.

Method of Harvesting Indian Corn.

If your hay is short, or you wish to sow winter grain after you Indian corn, or secure your corn against the effects of early frosts, you may cut up your corn-hills close to the ground, in fair weather, with a sharp knife or sickle, and lay two rows into one, in small bundles, as when you top and secure your stalks; bind your bundles above the ears, and stack the same day in small stacks, either upon the borders of your field, or upon an adjoining field; you may then plough and sow as upon fallow grounds; secure your stacks by doubling down the tops, and binding the heads with a pliable stalk; this will exclude the rains, which otherwise would damage your corn. This corn will be ripe at the usual time, without the least diminution in its color, weight or value; but in the opinion of some of the best farmers, (who are in the steady practice of this mode from choice) with an increased value to the grain. The increased quantity and value of your stalks will richly pay the expense; you may, in this way, bring forward the sowing of your winter grain, two, three, or four weeks, which will again at harvest repay the expense of clearing your corn-fields. If you house your corn-stacks before you husk your corn, the pitching will be heavy, and your bundles often break, and your places for housing be difficult and inconvenient, andof ten exposed to your cattle; therefore, husk your corn on the field, and empty your baskets into your cart as you husk, always remembering to leave the husk upon the stalk, by breaking off the cob; these will again repay your expense in feeding. The difference in the mode of husking, will at first be considerable; but a little practice will soon remove this, and render them equal. It is of high importance for every farmer to know every mode of culture, that will afford him successful advantage in managing his farm, and in this point of view, this does not rank as one of the least.

Dressing,

The application of dung, or other manures, to soils, to increase their fruitfulness. Dressing differs from manuring in general, only as it is chiefly intended for the increasing of one single crop. Not only are dressings necessary for poor and weak soils; but they are profitably applied to those which are rich

and strong, especially when seeds are sown which need much nourishment, or will make good return for it.

There are four things chiefly to be regarded in dressing; the suitableness of the dressing to the soil, and to the crop; and the manner and the seasons of applying it.

To light, warm, or sandy soils, the coldest manure should be applied; such as the dung of hogs, cows, oxen, &c. Dung that is much mixed with straw does best in such a soil, and the straw soon rots and become food for plants. Cold and stiff soils should be dressed with the hottest and driest manures, as the dung of horses, sheep and fowls. Wet soils should have manures that have the greatest power of absorbing moisture.—Lime, where it is cheap and plenty, may be used with great advantage; ashes, coals, and saw dust are also proper.

Some kinds of dressing should be well mixed with the soil, by the plough and harrow; especially such as are apt to lose their strength, by being exposed to the air. Of this sort are dungs in general, and some other manures. Dung is to be ploughed in with a light furrow. Composts, which consist of dung, earth and other substances, need only to be harrowed. If dressings are laid too deep, as under deep furrows, they will be in a manner lost; the roots of most kinds of annual plants will scarcely reach them; and, before the next ploughing, the strength of them will be sunk still deeper into the earth.

There are other manures which should be used only as top dressings. Their exposure to the air takes away little or none of their virtue, being of an alkaline nature, such as ashes, lime, and the like. They are speedily settled into the soil by rains and melting snows, and afford a more kindly nourishment to the roots of grass and grain, than if they were buried in the soil. Being laid lower than the surface, their strength would be more apt to be carried lower than the roots of plants commonly reach.

Some dressings are thought to be more successfully applied some time before sowing. Such a one lime is said to be, as being apt to burn, or too much heat the seed. But this, I think, can be only when it is laid on unslacked, and in large quantities.

Other dressings answer best at the time of sowing. This is the case as to most kinds of dung that are used, and the several other manures.

But those manures which exert all their strength suddenly, are allowed to be the best, used only as top dressings, after the plants are up, such as soot, ashes, certain warm composts, and malt dust. If they are laid on winter grain in autumn, there will be danger of their causing too rapid a growth: In consequence of which, the grain will be afterwards stinted, and languish, unless another and larger dressing be given it in the following spring, or summer. It is probably best to apply these dressings just before the time when the plants will need the greatest supply of vegetable nourishment, which is when their growth is most rapid, or near the time when the ears are shooting out.

How to treat a Farm in sandy soil.

My farm is situated on an extensive plain that was once covered pretty generally with small pine timber. The soil is sand, occasionally gravel, and more or less mixed with loam. It consists of two hundred acres, of which thirty acres are in wood, twenty in meadow, and ten acres of waste, leaving for cultivation about one hundred and forty acres of arable, or land used for the plough, which is divided into seven lots, of twenty acres each. One of these is planted in corn, on clover sod. The corn is large twelve rowed early yellow, and my usual produce is about fifty bushels per acre. My mode of cultivation is, that after the lot has lain out one year in clover, to plough it the last of April or first of May, about six inches deep: then furrow both ways with a light corn plough; the first times across the furrows about two feet nine inches apart, the next about three feet. I plant immediately after furrowing. As soon as the corn is up the length of the finger, I harrow it with a large heavy harrow lengthwise with the furrow, as the ground was originally ploughed, and take two rows at a time. Two men or boys follow the harrow with aprons, out of which they plaster the corn, and also raise any plants which may have been thrown down by the harrow passing over them. In a week after, I plough once between the rows as they are planted the narrowest way; the men follow with the hoe, and they will finish twenty acres in ten days. In about a fortnight more I plough it the widest way of planting, twice between the rows and throw the ground towards the plant. I cut the stalk above the ear as soon as the kernel in the ear is hard, and secure the stalks in shocks. We husk the corn on the hill, and two men will gather one hundred bushels of ears in a day. The lot which was in corn, I put down the succeeding year to oats, and it commonly produces about forty bushels per acre. This lot I seed down with western clover seed, eight quarts per acre. Two lots are in wheat which were likewise the year previous in clover seed. The one is ploughed the first of August, and again just previous to sowing in October; the other but once, the last of August or first of October,

about a fortnight previous to sowing. These lots have the benefit of my barn manure, which is scattered on such portions as I think require it most.

I commonly sow about one bushel twelve quarts per acre, and my common yield is twenty bushels of wheat per acre. Thus four lots are employed, one in corn, one in oats, two in wheat; the remaining three are in pasture. Two of these are again to be ploughed up in the fall, for wheat, and the remaining one is for corn the succeeding season. The experience of twenty years has confirmed me in the belief that this is the most successful mode of cultivation in our soil, and I have at all events been satisfied with the amount of produce my farm has yielded me.—*Farmer.*

On the Management of Cows.

By Russel Woodward.

Having formerly kept a large number of cows, I observed many among them that had dried up their milk so early in the fall, that they were not profitable, while others, with the same keeping, gave milk in plenty until late in the seasen. I likewise have often heard my neighbors observe, that some of their cows, though very good in the fore part of the season, dried up their milk so early, that they were unprofitable, and they should have to put them off; I accordingly thought it expedient to find out the cause, if possible; and when I brought to mind the way that some of my young cows had been kept and milked, I attributed the cause to the milking of them the first season they gave milk, and by many experiments since, I have found that young cows the first season they give milk, may be made, with careful milking and good keeping, to give milk almost any length of time required, say from the first of May to the first of February following, and will give milk late always after, with careful milking. But if they are left to dry up their milk early in the fall, they will be sure to dry up their milk each succeeding year, if they have a calf near the same season of the year, and nothing but extraordinary keeping will prevent it, and that but for a short time. I have had them dried up of their milk in August, and could not by any means make them give milk much past that time in any preceding year. I had two heifers, which had calves in April, and after getting them gentle, I set a boy to milk them for the season, (which is often done the first season, on account of their having small teats;) he was careless, and dried them both off in August. Although I felt satisfied I should lose the greater part of the profit on them afterwards, yet I took it upon me the following year to milk them myself, and give them good feed, but to no purpose. I could not make them give milk much past the time they dried the year before. I have two cows now that were milked the first year they had calves, until near the time of their calving again, and have continued to give milk as late ever since, if we milk them.

Fattening Hogs on Apples.

Mr. E. Holmes—In my communication of 1834, I described my mode of fattening swine upon apples. I will now state the result of my experiment. I last year fattened an old hog and two pigs upon apples, upon 14 bushels of oats and pea meal, and one bushel of Indian meal only. I began to feed them about the 10th of the 8th month, and they were in rather poor condition. I fed the pigs about three months, and they weighed at seven months old, 113 and 125. The hog I fatted about four months, and when he was about 19 months old he weighed 415, and leaves weighed 34 lbs. 10 oz.

Paine Wingate.

Remarks.—Mr. Wignate is a practical farmer—is one of the society of Friends, and like most of that highly respectable class, an exact observer of things. According to some of his experiments, he concludes that the fattening of hogs in our section of the country, unless a person has slops, apples, and such cheap food to give them, is a money losing business—or in other words, keeping hogs upon corn and potatoes alone, will bring your pork to about ten cents per lb., whereas if you have an abundance of slops, and food of that kind, it will reduce the cost of pork to a much less sum, and make it much more profitable. Mr. W. brought us a piece of the hog mentioned above. It was of as good a flavor and of as solid a texture as any pork we ever saw. In the thickest part it measured five inches of clear fat. Communities are slow in changing their habits and opinions, and especially farmers. Many even now, notwithstanding the experiments which have been tried by acute and observing men, will not believe that apples were made for any thing but apple sauce and cider. And many very worthy men have resisted the march of the Temperance cause because they would have to sacrifice their orchards. And others in their zeal to do away the evils of excessive drinking, have actually cut down their trees. Now we say the more orchards, other things equal, the better. Apples are as valuable for stock, and even more so, as for men. Sheep like them. Cattle will fatten upon them, and pork can be made more expeditiously and economically by them; and we would therefore say to all farmers, if you have a good orchard, take care of it—if you

have a poor one, make it better—if you have none at all, set out one as soon as possible.

[*Maine Farmer.*

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer.

Always rather understock your farm with domestic animals. An extra number of horses is the most oppressive. No farmer should be without a due proportion of working oxen. The neck yoke is the simplest; but is not deemed the best mode of enabling them to work. That fitted on the forehead, and attached to their horns or collars, and other appropriate gears, are, by many, preferred.

Have no more Swine than you can feed well; always rung, and kept within your own inclosures, if your farm be in a populous neighborhood. Running hogs are fertile sources of bitter enmities, and petty controversies. A rooting hog wastes its flesh, and requires more food to restore it than is gained by the scanty prey after which it labors. Nothing is better for store swine, than red clover eaten off the growing plant. But differently from horned cattle, green clover cut and given to them will not keep them in good plight. They waste as much as they eat, and do not relish it in this way.

In a well managed butter dairy, skimmed and butter-milk will afford means of raising a store-pig to each cow, besides a due allowance for some sows, to produce pigs for store hogs, and roasters for the market. Few farmers, however, do so much, because they will not raise esculent roots, as substitutes for grain, for winter keep of store hogs. A milk dairy furnishes food for sows and pigs, from the offal and unsaleable milk.

Let all your stock of animals be of the best breeds; but study useful qualities more than showy figures. Yet well proportioned and sightly animals are generally the most valuable, both as it regards usefulness and keep. There are exceptions, in dairy cows particularly. Large horses, cattle, sheep and swine, are not the most profitable. Those of the middle sizes are, on every account, to be preferred. Ostentation, (and as it respects the horse particularly, a less innocent motive,) more than real benefit, too often excites those who value themselves in exhibiting beautiful horses, very large and very fat, and of course very expensive, cattle, sheep and swine. This may be and is a laudable pride in those whose circumstances admit of indulging it: and breeding well formed and well endowed animals, is highly worthy of encouragement and merited praise. But hardihood and easiness of keep, should be prominent qualities, especially in the stock of a farmer. For such qualities, and many other good properties, the Tunis sheep will be found worthy of great attention.

The principle of adaptation of animals, as well as plants, to soil, climate and situation will be found in nature, with rare exceptions. The various species of sheep prove this principle. Dry countries are best, for all, as they require little drink, and wet soils produce diseases; yet fenny countries, and coarse bites, (especially if salt,) are favorable to some kinds. The Lincolnshire and long woolled, will thrive in such situations, and with such feed, where fine fleeced sheep would perish or degenerate. In our zeal for fine woolled sheep, we overlook this principle, and believe that any pastures would suit them.

The Chevoit sheep delight in mountainous ranges, often covered with snow; and the Shetland race in short bits, salt air, and barren browsing; yet the fleeces of the latter are finer, though scantier than those of the Merino. Instances of other animals might be adduced. Old pastures, dry and elevated, are better for sheep, and preferable to artificial grasses. Of such grasses, Mr. Coke, of Norforlk, in England, finds the cocksfoot, (our orchard grass,) constantly fed, the most eligible. He inoculates a clean fallow field with sods of old lay, three inches square, and the same distance apart, to renovate old pasture, so valuable is it deemed. His fields are well cleaned, by his row-culture, which he extensively and profitably practices. New countries produce no proper pastures, generally, for fine-fleeced sheep, though there may be selected spots. The sheep for such countries should be those of the heavy fleeced and long woolled breeds. Prairie countries, it would seem, are peculiarly calculated for them.

Household manufactures are of the first importance, and practical farmers should breed heavy fleeced and worsted, or long woolled sheep, for common purposes, in such manufactures, as well as for marketable carcasses, even in old settlements and districts of country. But for any flock, a better mode of providing for their keeping through the winter months, must be introduced. Succulent food, consisting of carrots, potatoes, Swedish or other turneps, Mangle Wurtzel, &c. must be provided. Sheep out of condition are most worthless stock. Wool or mutton can no more be produced from a starved flock, than can a profitable crop be gathered from a sterile and ill cultivated field. No question is intended to be discussed on the subjects of large manufacturing establish, ments, or fine woolled sheep. Enough, both of experience and discussion has already been exhibited, to enable every one to form his own opinion. Under prudent and

intelligent direction, both of these great subjects of public prosperity will settle down to their proper standard; and when that is exactly to be found, only time and experience, faithful and unerring monitors—can, with any precision, determine.

From the New-England Farmer.

Raising Chickens.

The following is a valuable article, and relates to a branch of rural economy, which deserves more attention than it has received in this country. Further favors of a similar nature from the same hand are respectfully solicited.

Mr. Fessenden.—In one of your late papers I saw mentioned a successful way of *raising chickens*,—I have been in the habit of raising them for some years, and if you think favorably of the mode I have adopted, you can insert it in your valuable paper.

I keep my hens warm under cover during the winter, and feed them on "Brewers' Grains," placed in an open box or tub, that they may eat when they please, occasionally giving them oats, corn, and oyster shells pounded fine, and plenty of water—by keeping them warm and well fed they begin laying earlier in the season. I prefer spring chickens, as they lay earlier than old hens—and the old hens to set, as they make the best mothers. I take care the eggs do not get chilled with cold, and keep them in a warm place in my house. When three or four hens want to set, I put from thirteen to fifteen eggs under each of them, according to size—the day of the month marked on each egg—and after the hen has set a week or ten days I examine them by holding the eggs to a crack or knot hole in a board when the sun shines through, and if I discover any rotten ones, I take them away and replace them with fresh ones, marked as before mentioned. When the chickens are all hatched, I put two or three of the broods to one hen, in a coop with an opening against an empty barrel placed on the bilge, and with a little care, when put in the coop, the hen may be made to brood them at the further end of the barrel. In that way the chickens that are not covered by the hen huddle together around her, and keep each other warm. The hens from which the chickens are taken I put into another coop, and in about a fortnight they begin to lay again. The hen being confined in the coop, will leave her chickens much earlier than if left to run at large with them, and the chickens will become so accustomed to going into the barrel and huddling together, as to be quite contented to give up the hen's brooding them. After the chickens are two or three weeks old I remove them with the coops into my garden, where they feed upon insects, so as to require but little food—but do not keep them there until they are large enough to injure the garden.

I feel persuaded that in the way I have proceeded, our market could be supplied with an abundance of poultry, and I recommend it with confidence, if managed with care and attention, as profitable to those who may engage in such business.

Charlestown, July, 1836.

Castor Oil Plant.

We would invite the attention of farmers to experiments on the culture of the castor oil plant—knowing our soil and climate to be adapted to its growth, and believing it may be made a profitable crop in field cultivation.

The plant to which we allude, and from which castor oil is extracted, is the Ricinis, a native of the East Indies and the north of Africa, a species of which has been acclimated in the West Indies and the United States. It is generally known in this country by the name of the "castor oil bean," and is cultivated in New-Jersey, Virginia, North Carolina, and most of the states on the right bank of the Ohio river. It is also extensively cultivated in Illinois, particularly in the counties of Edwards, Randolph and Madison. The manufacture of castor oil was commenced at Edwardsville, in the latter county, by John Adams, in 1825, in which season he made 500 gallons. His business has since increased, so that in 1831 he made about 12,500 gallons.

We have had no experience in the cultivation of this plant; but are informed there is nothing peculiar in its management, and that on good land, its product is very abundant. The beans are enclosed in capsules, divided into three cells, and contain a large quantity of oleaginous matter of a white color and sweetish taste. There are three methods of extracting the oil—by expression, decoction, and by the agency of Alcohol—the former of which is considered the best both on account of the quality of the oil, and the fact that a separation of the bean from the capsule is unnecessary.

The following is the process of extracting the oil adopted in Illinois, and the result is what is called "cold pressed castor oil," which is always considered the best quality. The beans are well cleaned and moderately heated in a furnace, care being taken that the heat be not raised higher than can be endured by the naked hand. They are then placed in an iron cylinder, and a follower is forced upon them by an iron or wooden screw, of great power. The screw is turned by a horse attached to a long and large lever, precisely in the same manner that a nut mill is operated. The usual quantity of oil thus

pressed out of a bushel, is about seven quarts. Not knowing the number of bushels that may ordinarily be expected from an acre, we cannot make an estimate of the product and profit of land devoted to the cultivation of this plant. We learn, however, from the Cincinnati prices current, that the beans are selling from $1,50 to $2,50 a bushel, and castor oil is quoted in the New-York prices current from $1,75 to $2,00 a gallon. The duty on imported castor oil is 40 cents a gallon, and the quality of American cold pressed is esteemed preferable to foreign, and it invariably commands a higher price in market. Experiments on the cultivation of this valuable plant may be easily and cheaply made, and we have no doubt it would be found to be one of our most profitable crops.

From the American.

A Preventive of the Wheat Fly.

MESSRS. EDITORS—Some time since in a communication published in the Baltimore papers, I stated my views on the destruction of wheat by the Hessian fly, and offered a remedy against its ravages. As this season will be remarkable for the devastation committed by this insect, and as the time is approaching for seeding for the next crop, I request a small space in your columns to bring before our farmers again the remedy then proposed, fully believing that if followed much good will result from it.

On observation it has been found that the insect producing the fly progresses with the growth of the wheat; and if the wheat is early sown, and the season is favorable to a luxuriant vegetation, the fly will be very perceptible in the autumn. The progress of the insect, as is observed in a former communication, is from the seed and upwards, and as many as six or ten have been observable on one stem between the root and surface of the earth. The question then arises, how is this insect generated, and what means should be used to destroy it? It is either generated in the grain of wheat similar to the bug which infests the pea, or the *insect when in its winged state deposites* an egg on the surface of the grain when in the ear and *thus when the wheat is sown and begins to vegetate* the egg vivifies *and the destructive worm is formed.*

For the following reasons I am strongly inclined to the latter opinion. It is known that this insect releases itself by bursting the blade that covers it, when the head is forming, and assumes *its winged state*, and there is to my mind no doubt that this *deposits its egg on the wheat* when filling and coming to perfection. If I had any doubts on this subject they would be removed by the fact that with the aid of a microscope the egg is discernable in the form of a glutinous matter. If this opinion be correct, the remedy is simple, and worthy at least of a fair trial. Providence inflicts no evil upon mankind without also providing some remedy, and unless this is intended as a special curse upon the husbandman there is and must be a remedy which he must find out by actual experiment.

In the course of twenty years experience in this matter, I have known but one experiment made to destroy this fly, and that proved successful. An intelligent farmer in Loudoun county, Va., having understood that some of his neighbors with the aid of a microscope, had discovered a glutinous matter on the surface of the wheat which they believed to be the egg of the fly, determined to try an experiment for its destruction, and succeeded in that crop; but unfortunately it was not followed up, and whether it will be an effectual remedy in all seasons, remains yet to be tested. The plan which he followed, and which it is the object of this communication to recommend to the notice of the farmers, is simply to pass the seed wheat through a strong brine or pickle, washing it well, and then rolling it in slackened lime, (similar to rolling it in Plaster of Paris,) not preparing at one time more than a day's sowing. Washing the wheat in brine, and rolling it in the lime are done primarily for the purpose of destroying the egg, but it answers another good purpose, that of preventing the growth of smut. The lime will also be found to act as a powerful stimulant to the growth of the wheat, and superior to that of plaster.

This remedy being so simple, and as I firmly believe so efficacious, I hope there will be many farmers disposed to make trial of it, and thereby fully test its correctness.

If I should be instrumental in arresting the progress of this direful enemy of the farmer, I shall be amply compensated in the recollection that I have discharged my duty to the community.

AN AGRICULTURIST OF MARYLAND.

The Weevil.

Salt is said to be a complete preventive against the destruction of wheat by weevil. Mix a pint of salt with a barrel of wheat, or put the grain in old salt barrels, and the weevil will not attack it. In stacking wheat, four or five quarts of salt to every hundred sheaves, sprinkled among them, will entirely secure them from the depredations of this insect, and render the straw more valuable as food for cattle.—*Hor. Register.*

For the Farmers' Cabinet.

Mr. Editor,----I herewith send you extracts of a correspondence between John Lofland, Esq. favorably known as the Milford Bard, and Mr. A. Webster, a distinguished horticulturist, both of the state of Delaware. The subject is one that, at the present time, excites considerable attention throughout the country, and as the questions propounded and the answers given will, no doubt, interest the great mass of your readers, you are requested to give them a place in the Cabinet.

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The Morus Multicaulis.

Milford, Del., *Aug.* 11, 1836.

My Dear Sir,—In the very first place, I return you my sincere thanks for the beautiful present you made me of the Morus Multicaulis. During the first five or six days, it did not grow in any preceptible degree; I nursed it with great care, and fed it well with soap suds, manure juice, and a small portion of plaster, when it suddenly took a start and has grown with great rapidity ever since. A new leaf, the size of a quarter of a dollar, has put forth, and another smaller one as large as a fip has made its appearance. Upon the whole, it lives, and bids fair to be a beautiful tree.

The *cuttings* I took out of the box a week after I had received them. They were all rotten but two; one of *them* has budded and put forth roots in a considerable degree; but the *other*, though somewhat greenish, shows no signs of vegetation. The other three were rotten, the bark having fallen off in a slimy state.

My object, my dear friend, in writing to you at this time is, to ask some information on practical subjects; you have had practice in the propagation of trees which I never had. You will do me a great favor and gratify my curiosity, by answering the following questions:

From what part of the tree do you get cuttings?

How old ought the tree to be when such cuttings are taken?

Do you cut the whole tree up into cuttings?

Suppose I have five or six small trees of Morus Multicaulis next spring, and wished to propagate many, could I get cuttings from them, or should I be under the necessity of making layers of them!

Were the cuttings which you sent me taken from the six trees your father sent you, or how were they obtained!

Do you make cuttings and plant them any time during the spring and summer?

How late in the season may they be cut and planted?

How long, generally, are they in coming through the ground?

Is it necessary to have leaves on the cuttings when planted!

Can the leaves alone be calculated on as a means of propagation? I mean a single leaf buried in the ground.

Is this year's growth, or last year's growth, best for cuttings?

Can cuttings be taken from a tree during the fall and kept till the spring?

If so, how are they kept?

How do you obtain cuttings from the east? and what do they cost per hundred or thousand?

Does one cutting with two buds never produce but one tree?

At what age of the Morus Multicaulis do the stalks spring up around it?

Were the cuttings you sent me cut in the spring, or since?

Is it now too late to obtain a parcel of cuttings and plant them?

If it is not, who will sell me some?

In a word, how shall I proceed now or next spring, to multiply the Morus Multicaulis in the fastest possible manner from a given number?

I have reason to know, my dear friend, that you are acquainted practically with the above processes, and from your liberal disposition, I believe that you are willing to communicate to an ardent fellow-student, a part of your practical knowledge. Your compliance in answering the above questions, will greatly oblige your friend, who ever holds himself ready to reciprocate.

You spoke, in your last letter, of going to the Valley of the Mississippi. I should suppose that if you were to establish a large nursery there, you might, in a very few years, realise a fortune and well-earned fame. You are every way qualified for such an undertaking; and there in the finest country in the world, you might have a pattern farm, and make yourself and all around you what you pleased.

Believe me, I am, with the highest respect and esteem,

Your sincere friend,

John Lofland.

—

Camden, Del., *Aug.* 22, 1836.

Respected friend John Lofland,

Sir,—Yours of the 11th inst. was duly received. Pardon my delay; a multiplicity of engagements has hitherto prevented my replying. Am pleased to learn that the Morus Multicaulis flourishes, and bids fair to sur-

vive its *unseasonable transplanting*. The one sent you was reared from a *cutting* planted last April, one of the parcels received from Boston at the same time with those put in the box. I have some three times as large as the one forwarded, all of this year's growth. In looking over my Mulberrys, I saw the cuttings forwarded had some appearance of life; therefore, I sent them to you to experiment on, as well as that you might see what constituted a cutting, in case you should ever want to take any from your plant.

In reply to your questions,

1st. Take the cuttings from any part of the tree which is of the previous year's growth, being careful to have two buds to every cutting. They should be cut very neatly, without breaking or bruising the bark, and the ends of the cutting immediately covered with *grafter's*, or other cement.

2d. Age of the tree not essential, from one to a thousand years back. The more thrifty the tree the better.

3. The *whole* of the previous year's growth may be used as cuttings.

4th. If you have five or six trees, I should make cuttings of three, layers of two, and *let one grow to* a tree for the purpose of procuring fruit and *seeds*.

5th. The cuttings I sent were received from Boston at the same time with the trees, of which I spoke, as well as the one sent you, which came in the same package. I would recommend that the one I sent you be permitted to grow another year before you use it for cuttings, then use only the branches.

6th. Cuttings should be taken after the sap has descended and the leaves fallen, and before it begins to flow in the spring, and be preserved in sand or a moist cellar until warm weather, when other trees begin to put out leaves—then plant in a rich, moist or wet soil, (if dry they must be liberally supplied with water,) leaving about one quarter of the length of the cutting above the ground, in an upright position, the earth being packed tight around them to retain the moisture; it is by no means a bad plan to cover the earth with chaff, as it helps to retain the moisture.

7th. They generally come through the ground in three or four weeks, sometimes sooner or later, owing to the weather; warm rains bring them on very fast.

8th. Leaves are not necessary, but on the contrary, would be injurious.

9th. I have never known any experiments tried with leaves, but should not think them likely to grow.

10th. This year's growth is best cuttings to be planted next spring.

11th. Cuttings may be taken from the tree in the fall and kept until spring by packing in sand, moss, or chaff *wet* in the same manner that grafts of pears or apples are kept.

12th. My cuttings were packed in damp *moss*, enclosed in a box, shipped from Boston to Philadelphia, and there reshipped for Camden, cost $60 per one thousand in Boston; box and freight, &c., extra.

13th. I have very seldom known a cutting with two buds to produce more than one tree, as the bottom bud forms a *root* and the top one the *branch*.

14th. There is no particular age when the branches become numerous. I have cuttings of this season's growth of three or four feet and two to five branches, the six trees or roots which my father sent were about the size of the one I sent you; I planted them the past spring, each having only one branch; they now have five or seven each, and will yield me at least twenty cuttings per tree.

15th. The cuttings I sent you were prepared last December, and had been planted in my garden, but failing to grow I pulled them up and sent them to you. Cuttings are very liable to die unless good care is taken to keep them moist, the bud or cut worm destroyed many for me last spring.

16th. It is now too late for you to procure cuttings before next winter. Very probably the cuttings may be obtained at the proper season of D. and C. Landreth, No. 63 Chesnut street, Philadelphia;* positively from William Prince and Son, at Flushing, Long Island, (near New York city,) or of George C. Barrett, No. 51 North Market street, Boston.

I would recommend that you try with one thousand cuttings next spring; the cost is not great and you can obtain them by the hand of some friend visiting the city; they could be brought in a common travelling trunk without inconvenience. From that number you may stalk the whole peninsula.

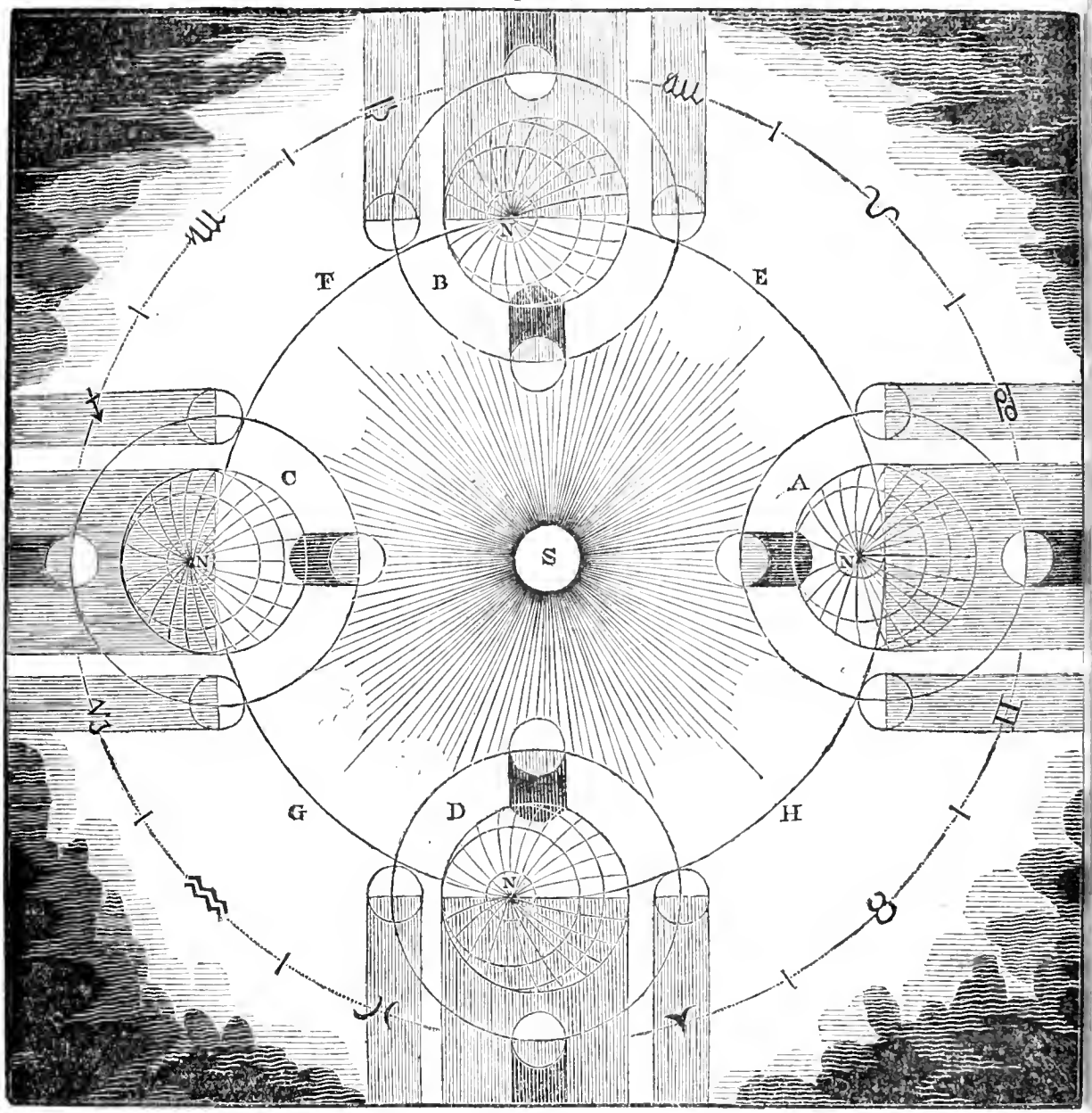
With sincere respect, I remain your affectionate friend and obedient servant, &c.

A. WEBSTER.

Cultivation of a new variety of Potato, and destruction of the Red Spider on Peach Trees.—At a late meeting of the London Horticultural Society, the President, Mr. Knight, described the culture of a new variety of potato, whereby 1000 bushels (each bushel 60 pounds) may be obtained as the average produce of an acre. He also stated that he had found a minute quantity of the flour of sulphur very efficacious in destroying the red spider on peach and nectarine trees and on melon vines.

[* The Messrs. Landreths do not furnish *cuttings*. They supply orders, however, for the trees, from eighteen inches and upwards.]

Fig. 9.



VIEW OF THE EARTH IN HER ORBIT ROUND THE SUN.

(Showing the several relative positions by which the seasons are produced.—The moon is also represented in her orbit round the earth.)

More distant still our *Earth* comes rolling on,
And forms a wider circle round the *Sun*;
With her the Moon, companion ever dear!
Her course attending through the shining year.
BAKER.

THE next planet to *Venus* in the order of the System, is the EARTH on which we live; which may be considered of second rate importance, being much inferior in magnitude to Jupiter, Saturn, and Uranus, but superior to Mercury, Venus, Mars, and the four new planets. But small as the *Earth* is when compared to some of the other planets, it is to us of the highest importance: we wish only to attain knowledge of others, that we may find out their relation to this, and thence learn our connexion with the universe at large. In the earliest ages of the world, mankind knew nothing as to its form and shape; and even in the present enlightened age, it is not unusual to meet with persons whose ideas in this respect are far from the truth. Those who have not been in the habit of considering this subject in an astronomical point of view, have still a very confused notion of the shape of the Earth, and also as to its position in the heavens.

The *Earth*, like the other planets, is not a

perfect sphere, its equatorial* diameter exceeding in length its axis by more than thirty miles; the former being 7961 miles, and the latter about 7930; her distance from the *Sun* is 95,173,000 miles; and she traverses the whole of her orbit in 365 days, 6 hours, 9 minutes, which constitutes her year.

The *axis* of the Earth is not perpendicular to the plane of the *Ecliptic*,† but inclined to it at an angle of 32° 28'; round this axis she revolves in 23 hours, 56 minutes, 4 seconds, which is the length of the astronomical day.

The inclination of the Earth's axis is the principal cause of the variety or change of seasons; for as the axis of the *Earth* always preserves its parallelism, in her revolution round the *Sun*, at one part of her orbit she receives most of the light and heat on her northern hemisphere, and at another part on her southern, according as her north or south pole is turned towards the sun; while in two points of her orbit, both hemispheres are equally enlightened. The accompanging diagram will best explain the cause of the change of seasons, and of the lengths of the days and nights.

Let A, B, C, D, represent the Earth in four different parts of her orbit, equi-distant from one another;—N for *axis* and the *north pole*, and S the *sun*, nearly in the centre of the *Earth's* orbit. As the Earth goes round the sun, according to the order of the letters A, B, C, D, her axis N keeps the same obliquity, and is exactly parallel in every part of her orbit.

When the *Earth* is at A, its north pole inclines towards the sun, and brings all the northern places more into the light than at any other time of the year. But when the Earth is at C, in the opposite time of the year, the north pole declines from the sun, which occasions the northern places to be more dark than in the light, and the reverse at the southern places.

When the *Earth* is either at B or D, she inclines not either *to* or *from* the sun, but lies sideways to him, and then the poles are in the boundary of light and darkness; and the sun being directly over the equator, makes equal day and night at all places.

When the Earth is at E, it is half way beteen the *summer solstice*‡ *and autumnal equinox*; and when it is at F, it is half way between the *autumnal equinox* andthe *winter solstice*; at G, half way from the winter solstice to the spring equinox; and at H, half way from the spring equinox to the summer solstice.

From this it is evident, that when the Earth is at A, the *north pole* is enlightened, and the *southern* in darkness, and that exactly the reverse is the case when the *Earth* arrives at C, for then the *south pole* is enlightened and the *north* in darkness; in the former case, the northern hemisphere has *summer* and the longest day, while the south has *winter* and the shortest day; in the latter every thing is completely reversed.

That the Earth is of a globular form, may be inferred from analogy; as all the other heavenly bodies which are visible to us are globes, there is little reason to doubt that the earth is so likewise. Of this, however, there are demonstrative proofs.

The motion of the Earth in her orbit round the sun is called her *annual motion*, and that round her axis, her *diurnal motion*, which, at the *equator*, is about 1042 miles an hour.

These two motions, although constantly carried on together, are not sensible to us because they are so equable, interrupted by no impediments, and because every thing on the Earth's surface, and the atmosphere itself, partake of these motions.

The Earth is surrounded by a compound fluid substance called the *atmosphere*, which consists of air mingled with *aqueous vapours** and other exhalations from her surface. This atmosphere has a *refractive*† power, by which the rays of the sun are bent out of a straight line, and occasion a degree of light after that luminary is below the horizon. This faint light is denominated *twilight*.

It has already been observed, that the *Orbit* of the Earth is not a perfect circle, but inclined to the *Elipse*, and that the Sun is not exactly in its centre. This occasions the Earth to be seven days longer in passing through one half of her orbit than she is in traversing the other. The *Orbit* of the Earth is placed between those of *Venus* and *Mars*.

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* Equatorial, belonging to the equator, an imaginary line which divides the world into two equal parts, called the Northern and Southern Hemispheres. When the sun comes to this circle, the days and nights are equal all round the globe.

† The Ecliptic is a greater circle of the sphere, in which the Sun always appears to move; so called because *Eclipses* generally happen when the Moon is in or near this circle. It is divided into twelve equal parts, which are called *signs*; each of which takes its name from that constellation which, at the time the names were given, was situated near the portion of the Ecliptic it denominates.

‡ Is that time when the sun is at the greatest distance from the equator, and is thus called because he then appears to stand still, and not to change his distance from the equator for some time, which appearance is owing to the obliquity of our sphere, and which those living under the equator are strangers to. Solstice is from the Latin words *sol*, sun, *sto*, to stand.

* *Aqueous vapours*, watery particles. (Aqueous, watery;—vapour, a particle.—Vapour, a steam, a fume, —a vain imagination.)

† *Refractive*—having the power of *refraction*. Refraction is the deviation of a moving body from its direct course, occasioned by the different density of the medium it moves in; or, it is a change of direction occasioned by a body's falling obliquely out of one medium into another of a different density.

Horticulture and Botany.

See various trees their various fruits produce,
Some for delightful taste, and some for use;
See, sprouting plants enrich the plain and wood,
For physic some, and some design'd for food;
See, fragrant flowers, with different colors dy'd
On smiling meads unfold their gaudy pride.
Blackmore.

On the Study of Botany.

Botany is that branch of natural history which treats of the vegetable kingdom. The study of this science is not a trifling employment, undeserving the time and attention bestowed upon it. Can we for a moment conceive that the works of God are unworthy the attention of man?—that those productions which bear such evident marks of the wisdom and power of the Creator, are too contemptible for the examination of his creatures? Whoever has had the curiosity to crop the humblest flower of the field, and to observe the wonderful conformation of its parts, combining the united purposes of elegance and utility, will not hastily despise the study of nature. But when these observations are extended through the immense variety of productions which compose the vegetable kingdom; when the different offices of each particular part of the plant, every one essentially contributing towards its existence and propagation, are considered; when we advert to the variety of modes by which these ends are effected, and the infinite contrivance which is exhibited in their accomplishment, a wide field for instruction and admiration is opened before us.

We need not labor to prove how delightful and instructive it is to

"Look through nature up to nature's God;"

neither, surely, need we attempt to show, that if any judicious or improved use is to be made of the natural bodies around us, it must be expected from those who discriminate their kinds, and study their properties. Of the benefits of natural science in the improvement of many arts, no one doubts. Our food, our medicine, our luxuries are improved by it. By the inquiries of the curious, new acquisitions are made in remote countries, and our resources of various kinds are augmented. We find that gardening, the most elegant, and agriculture, the most useful of all arts, are improved only in those countries in which botany is made subservient to their advancement. And when a knowledge of this science is more generally diffused throughout our own country, we may expect to see it more frequently enriched with fields and adorned with gardens, which, while they bestow honor on their possessors, shall prove a pleasant recreation to the old, and a useful study to the young. Nor should its influence on the moral character be disregarded. The late President Dwight was an eminent champion of the virtue which he practised. He often directed the attention of his pupils to Sweden, to point out the influence of natural history on the moral character of man. In that country botany is taught in the schools, and the habitation of her excellent children presents a cheering picture of domestic felicity. Their piety and their patriotism both flow from the same source; for while they examine the productions of their country, they became attached to its soil, and while they contemplate the works of their Maker, they are animated with the glowing spirit of devotion.

Botany deserves our highest regards as the source of mental improvement. Nothing so powerfully attracts the notice of the young observer, as the gay, though fleeting beauty of flowers; yet these interesting objects serve to produce an accuracy of discrimination, which is the foundation of correct taste and sound judgment. To those whose minds and understandings are already formed, this study may be recommended, independently of all other considerations, as a rich source of innocent pleasure. Some people are ever inquiring what is the use of any particular plant? They consider a botanist with respect, only as he may be able to teach them some profitable improvement, by which they may quickly grow rich, and be then perhaps no longer of any use to mankind or to themselves. They would permit their children to study botany, only because it might possibly lead to professorships or other lucrative preferment. These views are not blameable, but they are not the sole end of human existence. Is it not desirable to call the soul from the feverish agitation of worldly pursuits, to the contemplation of divine wisdom in the beautiful economy of nature? Is it not desirable to walk with God in the garden of creation, and hold converse with his providence? If such elevated feelings do not lead to the study of nature, it cannot be far pursued without rewarding the student by exciting them. The more we study the works of the Creator, the more wisdom, beauty, and harmony become manifest: and while we admire, it is impossible not to adore.

"Soft roll your incense, herbs and fruits, and flowers,
In mingled clouds, to *Him*, whose sun exalts,
Whose breath perfumes you, and whose pencil paints!"

Large Flowering Sensitive Plant.

There are many varieties of the *Mimosa* or sensitive plant. Some of them are large trees, and others rise only a few inches from the ground, or rather creep along it, spread-

ing in such a manner as to cover a very large surface. The *Mimosa grandiflora*, or large

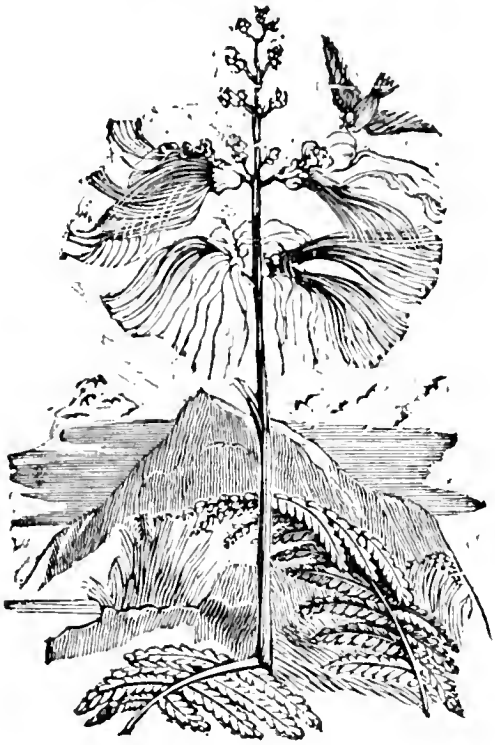

Fig. 10.—Sensitive Plant.

flowering sensitive plant, is represented in the above cut. It has an exceedingly elegant appearance, when the long and slender filaments which compose the flower have attained their full growth; and the effect is heightened by the splendor of a tropical sun, and the occasional accompaniment of those brilliant little humming birds which abound in the same latitudes.

The word *Mimosa* signifies "Mimic," and is given to the plant on account of the sensibility of the leaves, which, by their motion, mimic or imitate that of animals. In one species this property is very remarkable, though it belongs in a greater or less degree to all. By running a stick over a bed of the *Mimosa viva*, the leaves will contract themselves in such a way as to exhibit any figure which may be described by it, such as the name of the person who performs the experiment, or any other device he may please to execute: and this effect will continue for several minutes after the cause of it is removed. It is from the *Mimosa Nilotica*, or true Egyptian Acacia, that the gum Arabic is procured; and the common Acacia of our garden exhibits something of the retractile habits of these plants. If a bough be gathered, the leaves will immediately collapse or fall together, bending downwards towards the back of the stalk, along both sides of which they are so gracefully arranged.

BRITISH CATTLE.

CATTLE, THEIR BREEDS, MANAGEMENT, AND DISEASES, WITH AN APPENDIX—*Philadelphia, Grigg and Elliott*, 1836.

This work is one of the volumes of the Farmers' Series of the Library of Useful Knowledge, published in London under the superintendence of the Society for the Diffusion of Useful Knowledge, and re-published in this city by Messrs. GRIGG and ELLIOTT, No. 9 North Fourth street. It is a neat octavo volume of six hundred pages, illustrated by a variety of well executed wood cuts. In giving this work, the publishers have not only consulted their own interests, but also, and especially, the interests of the farming community. When we say that it ought to be in the possession of every farmer and grazier, we only bespeak for it a patronage commensurate with its real merits.

The reader will bear in mind, however, that this work treats almost exclusively of British Cattle, and the diseases to which they are liable—the best methods of treatment, &c. It would, therefore, have added not a little to its value, if the publisher had submitted it to the revision of a judicious and competent grazier, in order to have it more particularly adapted to this country. In that event, a brief history of the cattle of the United States could have been furnished; the best methods adapted to their management, the treatment of diseases, &c. This, we hope, will be attended to in a second edition, which, we trust, will be speedily demanded.

It was our intention to have given an extract from the work, with one or two of the illustrations; we made application for the necessary cuts, with an offer of payment for the use of the same, but could not obtain them. We shall, therefore, omit the extracts and a full review of this admirable work, until we come to treat upon the subject of CATTLE HUSBANDRY, which will be accompanied by the necessary illustrations.

Mules.—It is surprising that the farmers of this neighborhood do not turn more of their attention to the raising of mules, for the use of their farms. They are very scarce hereabouts, and we cannot account for it in any other way, than that their value is not properly appreciated. They are more profitable stock to raise than horses; they will live on straw, and stubble, and browse, and always command a handsome price; they are not liable to the train of diseases which visit horseflesh. They also live as long.—*Salem, N. C. paper.*

Notice.—By reference to the Cabinet of July 1, our subscribers will find that the second number was to be issued on or before the first of August—the number for the fifteenth of July was, therefore, omitted, and that issued on the first of August stands as the second number, and is paged accordingly. The work is semi-monthly—twenty-four numbers forming a volume. The subscribers will receive their whole compliment of twenty-four numbers in the course of the year; as the odd number will be worked in towards the close of the volume.

Morus Multicaulis.—The mulberry, it is now well ascertained, is a bybrid variety, and not a true species—the seed will not produce its like. We have been informed by a gentleman who purchased a plant, three or four years since, of some nursery-men of our vicinity, that with considerable care he raised quite a number of seeds. The plant was taken up upon the appearance of severe weather, and placed in a cellar where the frost did not penetrate—the roots were slightly covered with earth. Pursuing this course two succeeding winters, it attained the size of a large shrub with numerous ramifying branches—the third season it produced seeds. No other species or variety grew in the vicinity of the plant, and the blossoms consequently could not have been fertilized but by its own pollen. These seeds sown, and the result was a number of seedling plants, with foliage of all sizes and textures, from the common white to that of the parent.

Autumnal Hymn of the Husbandman.

Now we rest from our toils, Lord, our labors are done,
Our meadows are bar'd to the kiss of the sun;
We have winnow'd the wheat,—well our toil it repays,
And our oxen have eaten the husks of the maize.

We gathered our harvests; with strength in each limb
Toiled the mower, the ripe grass bow'd prostrate to him;
And the reaper, as nimbly he fell'd the proud grain,
Was blither than those who wear sceptres and reign.

And the wheat blade was tall, and the full golden ear,
Proclaim'd that the months of rejoicing were near;
The grape in rich clusters hung, promising mirth,
And the bows of the apple tree slept on the earth.

Did we thank thee then, God of the seasons? Oh no!
We were prompt in accepting thy favours, but slow
Were our lips, to give thanks for the rich gifts thy hand
Shower'd thick on the maize litter'd vales of our land.

Thou host rain'd on us manna, Lord,—yet we are mute,
Though all Summer's smiles of thy love are the fruit,
Springs and autumns, as fair as the Orient boasts,
Dawn on us;—yet faint are our tongues, Lord of Hosts.

Now we raise our glad voices, in gratitude raise,
And we waft on the beams of the morning our praise,
We thank thee for golden grain, gathered in shock,
And the milk of the kine, and the fleece of the flock.

And we thank thee for limbs moving light to the task;
For hearts beating high though unwarm'd of the flask;
Fill us, Lord, with just sense of thy bounty, and give
Health to us, and to all in the land where we live.

The Baltimore Farmer states that Mr. George Beltzover, of Baltimore, has a calf only three months old, which weighs 337 lbs. This was produced between a half Durham and Devon bull, and a 7-8 Durham cow. The weight of the mother of this fine animal on the hoof was 1300 pounds.

Keep Accounts.—The farmer ought not only to keep accounts with himself, so as to be able to review at the end of every year, his receipts and expenditures—to tell whence his cash comes, and whither it goes; but with his several fields, his crops, his sheep, cattle, horses, swine, poultry. He should at least do this with great particularity till he shall be master of the subject, and can trust his judgment with some confidence. For want of accurate accounts, farmers are often deceived, raise unprofitable crops and animals, or pursue unprofitable methods of cultivation or feeding. Sometimes, too, they abandon a pursuit really advantageous to them, under the false notion that they can do better some other way. We have published several specimens of such accounts. A little practice will make the business easy; and it will give you not only the satisfaction of knowing the pecuniary results of this and that crop or method, but will awaken new interests in the whole process by which land is prepared and a crop is matured. It will enable you to determine the value of the hints that you get from reading, and whether it really *is* more profit to cultivate five acres thoroughly and skilfully than ten at hap-hazard. And now while preparing your fields and sowing your seeds, is a good time to begin.

The true economy of housekeeping is simply the art of gathering up all the fragments, so that nothing be lost. I mean fragments of time as well as matters. Nothing should be thrown away as long as it is possible to make any use of it, however trifling it may be; and whatever be the size of a family, every member should be employed either in earning or saving money.

Sheep are found to be less liable to disease when kept on dry upland pastures, than when allowed to feed on wet marshy ground. Worms in the nostrils of sheep, may be prevented by applying tar about their noses several times during the summer, which prevents the fly from depositing its eggs.—Sheep, as well as cattle and horses, should at all times have access to water, and have a daily supply of salt.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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THE FARMERS' CABINET.

Nature of Soils.

A knowledge of the nature of soils is indispensably necessary to the practical agriculturist. The varieties of soil may be ranked under the following heads:—Sand, clay, gravel, chalk, loam, marl. By different combinations of these substances, all the intermediate kinds of soil are formed; and on a proper mixture of them, in certain pro portions, depends the general fertility of the earth, and the success of the farmer's labor.

The two extremes in soils, are tough wet clay, and loose dry sand. Each of these has its peculiar plants, which will not grow in the other, although they are few in number, and of little known use. But the plants common to both these soils, will grow and thrive better in loam, which is a middle species of earth, composed of these two extremes, partaking equally of the good qualities of both, without the bad ones. For this reason, lands which partake of the different properties of clay and sand, or which, in other words, are a kind of compound, wherein the properties of clay and sand are so united as to correct each other, are generally the most fruitful, and produce the greatest mass of vegetables. This will more evidently appear, if it be considered in what manner plants and vegetables are nourished, and what it is that gives them bulk, vigor, and firmness.

When the seeds of plants are deposited in the earth, certain degrees of warmth, air, and moisture, are necessary for the expansion of their vessels, and the extension and firmness of their fibres and solid parts. For these purposes, stiff clay and loose sand, are both, while separate, very unfavorable; the former, by the closeness of its texture, retains the water like a dish, admits too little heat or air, and prevents the tender fibres of young plants from shooting freely to such distances as are necessary for obtaining a sufficient quantity of proper nourishment. The latter, from the looseness of its texture, admits heat too freely, and is not capable of retaining a sufficient degree of moisture for the purposes of vegetation. The particles of vegetable nutriment are either absorbed by the heat, or washed down by the rains too low for the roots of plants to reach them. Hence, few plants will come to maturity on mere sand, except such as extend their roots very deep, and attract nourishment from a stratum below it. In stiff clays there is little fermentation, the salts being so confined and locked up by the tenacity of its texture, that they cannot act. In light dry sands they are speedily evaporated by heat.

All sands are hot and dry—all clays cold and wet; and, therefore, the manuring sandy lands with clay, or clay lands with sand, is best, for this changes the nature of the land itself; whereas dung, and other substances, afford only an inferior and temporary improvement. Mixed soils, which incline to the clayey kind, are best for corn and pulse. But it is not the natural soil only that the farmer ought to consider, but the depth of it, and what lies immediately underneath it. For if the richest soil is only seven or eight inches deep, and lies on a cold wet clay or stone, it will not be so fruitful as leaner soils that lie on a better under stratum. Gravel

is perhaps the best under stratum to make the land prolific.

The best loams, and natural earths are of a bright brown, or hazely color. Hence, they are called hazel loams. They cut smooth and tolerably easy, without clinging to the spade or ploughshare; are light, friable, and fall into small clods, without chapping or cracking in dry weather, or turning into mortar when wet. Dark grey, and russet mould, are accounted the next best. The worst of all, are the light and dark ash-colored. The goodness of land may also be very well judged of by the smell and the touch. The best emits a fresh pleasant scent on being dug or ploughed up, especially after rain; and being a just proportion of sand and clay intimately blended, will not stick much to the fingers on handling. But all soils, however good, may be impoverished, and even worn out by successive crops without rest, especially if the ploughings are not very frequently repeated before the seed is sown.

If we examine tracts of land which have not been cultivated, we find nature has adapted different kinds of plants to most of the distinguishable varieties of soils; and although some belonging to *one*, may from some cause or other, be found on lands of a different quality, they seldom thrive, or perfect their seeds, so as to become general. The great care of the farmer ought, therefore, to be, by proper mixtures, to reduce his land to that state and temperament in which the extremes of hot and cold, wet and dry, are best corrected by each other; to give them every possible advantage flowing from the benign influences of sun and air; to adopt such kinds of plants as they afford in this state the greatest nourishment to; and to renew their fertility by a judicious allowance of the most proper manures. Where these things are done, there are few spots so unfriendly to cultivation as not to repay his expense and labor with a plentiful increase. But without these, the best tracts of land will in time become a barren waste, or produce little but weeds.

Small Farms.

The following judicious and well-timed article, appeared originally in the Maine Farmer, published at Winthrop, under the editorial direction of E. Holmes, Esq. The position assumed by the writer is well supported by both *facts* and arguments, which, if duly considered, may tend to contribute many advantages to our present system of rural economy. It may be urged, says the editor of a public journal in one of the central counties of this state, that large farms in this quarter, are not numerous when reference is had to the quality of the land under actual cultivation.—This is no doubt true, if we compare this with other sections of our country, but still the same amount of labor bestowed upon a less amount of land might produce results equally, if not more, satisfactory to the farmer, than the method now generally pursued. As the land in this delightful mountain region, produces a variety of grasses, in such rich abundance, the farmers might find, in this consideration alone, ample reason for reducing to practice the plausible theory recommended in the article to which we would draw their attention. Men in general perform hard labor with too much reluctance to authorise the belief, that they would prefer labor for its own sake, without a due regard to the *benefits* they expect to derive from their toil. The view taken of the subject in the production we publish, may serve to satisfy many an undecided mind, that in the interior of Pennsylvania, farmers can live as well and become as rich, as those who may scatter their families, by removing to the "far West."

"There is a great mistake among farmers. And it is, they covet too much land. Almost all our farms are from four to ten times too large. A farmer never feels that he has got enough. He adds field to field, does not half subdue or manure what he has got, and still wants more. One of the most productive and profitable farms I ever saw, contained but fourteen acres.—It was very much subdued, and improved, and manured; and the owner was what was called a very thrifty, if not a rich man, while his neighbor who skims over three hundred acres, and works full as hard, grows poor. By proper management, I am satisfied every acre of land which is fit to raise corn upon, can be made to yield one hundred bushels to the acre. Is it not better to put the manure and care and labor upon it and raise one hundred bushels, than to spread the same over four acres, and thus drive away three or four of your sons to the west! As things now are, what is the process? I will tell you. A man owns one of our large farms. It is paid for. He raises up a large family. The girls are married off, and he gives each one her portion. He himself, and his farm falls to his five sons. One of these five sons takes the farm and agrees to pay the other sons their shares. They go off to the west and return no more. He undertakes, by economy and industry, to keep and send a fourth of its value to the west. By and by he finds he cannot do it as fast as he agreed to do it. He goes to the Life Insurance Company, or somewhere else, mortgages his farm, and starts anew to pay for it. All his life he toils, pays interest,

thinks the farmer has a hard row to hoe, and it is not till near the close of life he gets free from debt. When he dies the same process has to be gone over again, by every generation, who sends four-fifths of the value of our land after them. Now this is poor policy, and I sometimes wonder that our farms are in any-tolerable condition; for their worth many times over has been sent away to the west. If, instead of this, our farmers would divide up their farms, and make every acre yield all it can, our towns would not have the appearance of age and decay, which most of them have. "Praise a great farm," says the immortal poet of Rome, "but cultivate a little one."

I have noticed that men, as they grow old, seem to want more land; and seldom do you find a man who feels he has enough. I know they talk of the fertility of the west, and the beautiful land to be found there. And I know, too, that a young man going out there, if he does not die under it, will, in a few years, become thrifty. And why! The process is easily described. He goes into the wilderness, purchases his land, lives in his log cabin, sleeps on the floor, or more likely upon the ground, eats upon a slab, pinned up into the logs, and eats what comes to hand, working early and late, and it would be wonderful indeed if he did not gain property. And so would he here. Let a young man take the poorest farm you can name, and labor on it as hard and live just as he does at the west for fifteen years, and he will be rich here. It is not so much the land that makes the difference, as it is the manner of living, between the west and the east. I was struck while riding in the stage, in listening to the conversation between two farmers, the one from Illinois, the other from the state of Maine. The western man was describing the fertility of soil, contrasting it with New England. "Why, how much corn can you raise to the acre?" says our man from Maine. "I can raise seventy bushels with all ease." "And how much do you get a bushel?" "Nine pence a bushel at my door."* Well, says the Maine farmer, "I can raise three hundred bushels of potatoes on my land and get twenty cents at my door." "Aye, you have to dig them." "True, and don't you have to pick and shell your corn, and after all get but twelve and a half cents a bushel, and only seventy bushels on an acre." I repeat it, with the same economy and the same industry, a young farmer here can get rich as easy as at the west. Whether they will practice equal economy is more than I can say. But let fashion once prevail of having smaller farms and having them cultivated, and you will be surrounded by your own sons, instead of large land holders and a floating population, who hire themselves out to cultivate it, and have no land.

The Genesee Farmer, in an article on the size of farms, says, the productions of a farm should not be confined to one or two articles; the farmer should not be principally a wheat grower, not a drover, nor a shepherd, but should attend nearly equally to all these different branches. When the business is thus varied, too much work does not occur at one time, nor too little for the employment of the hands at another. This variety of business is also necessary to the improvement and enriching of the soil—to the production and application of manure, and to maintaining the benefits of rotation in crops. But it cannot be advantageously adopted on very small farms, as there would be a great waste of ground, and a great expense of material, for partition fences, and a loss of time by attention to a great number of small crops.

Another disadvantage of small farms is, that labor saving machinery cannot be so profitably used on them; for where these are expensive, and the quantity of work they perform is small, the interest on them is a heavy drawback on the profits of the farm.

Notwithstanding all these disadvantages, there is not one farmer in a hundred who has not more land than he can cultivate in the best possible manner; or to speak more correctly, there is not one in a hundred who has sufficient additional capital to carry on profitably all the operations of the farm. A farmer must be able to expend a large sum in addition to what he does in paying for his land, if he expects to make money by the business. But instead of this, the common practice is, to expend all the additional capital which is realised by farming, in purchasing *more land.* Instead of doing this, it would be much better for the farmer to *sell* a part of what he first had, if this is the only way for obtaining additional capital for carrying on his operations.

We will suppose the case of a farmer commencing business with five thousand dollars; if, with one half this sum he buys a farm of fifty acres, and with the other half he improves it to a high state of fertility, he will do far better than if he should purchase a hundred acres, and have no further means of improving it or of performing the work upon it in the most advantageous manner. Most land, by a judicious expenditure to the amount of its cost upon it, may have its productiveness increased four fold, and its profits to an almost incalculable amount; if, therefore, a farmer can raise from fifty acres, twice the amount of produce that he does

* Twelve and a half cents.

from a hundred acres, he will not only receive twice as much for it, but he will be able to raise this amount with even less than one half the labor that he does from the hundred acres, because land in good condition is much more easily tilled than that in poor condition. Thus, with only fifty acres, he would, in fact, experience the advantages of large farms to a far greater extent than if he should purchase a hundred acres.

Successful Farming.

From D. P. King's Address before the Essex Agricultural Society.

We have been accused of cropping our lands severely without cultivating and manuring them in any reasonable proportion; of mowing our fields many years in succession till their over taxed, exhausted energies, can yield us nothing more. The high prices of labor and manure, and the difficulty of obtaining them, have been alleged as excuses for this thriftless and cruel practice, and there is something of truth and more of plausibility in the defence. As a remedy for these evils, and a sure way of improving your land, I can do nothing better than to recommend to you the method practised for several years with great success by Elias Phinney, Esq., of Lexington. Without offering an apology to Mr. Phinney, I shall make an extract from his Address, delivered before the Society of Middlesex Husbandmen and Manufacturers in 1830. "In May, 1828, the field (the soil of which is thin loam upon a gravelly sub-soil) having lain three years to grass, and the crop of hay so light as to be worth not more than the expense of making, with a view of ascertaining the quantity of vegetable matter upon the surface, I took a single foot square of green sward, and after separating the roots and tops of the grasses from the loam and vegetable mould, it was found, on weighing, to contain nine ounces of clear vegetable substance, giving, at that rate, over twelve and a quarter tons to the acre. This convinced me of the importance of taking some course, by which this valuable treasure might be turned to good account. That a great part of this vegetable matter is exposed to useless waste, by the usual mode of ploughing, cross ploughing and harrowing, must be obvious to any one. In order, therefore, to secure this, as well as the light vegetable mould at and near the surface, which is liable to waste from the same causes, I had two acres of the green sward of this field turned over with the plough as smoothly as possible. After removing the outside furrow slices into the centre of the plough-land, and thereby effecting the double purpose of covering the vacant space in the middle, and preventing ridges at the sides and ends, the field was rolled hard with a loaded roller, by which the uneven parts of the furrows were pressed down, and the whole made smooth. It was then harrowed lengthwise the furrow, with a horse harrow, but so light as not to disturb the sod. Twenty cart loads of compost manure, made by mixing two parts of loam or peat mud with one of stable dung, were then spread upon each acre. It was then harrowed again as before, and then the poor part of the soil, which had been turned up, and remained upon the surface, was thereby mixed with the compost manure. Corn was then planted in drills* upon the furrows, the rows being at the usual distance and parallel with the furrow. At hoeing time, the surface was stirred by running a light plough† between the rows, but not so deep, at this or the subsequent hoeing, as to disturb the sod. What Mr. Lorain calls the "savage practice" of hilling up the corn, was cautiously avoided. In the early part of the season, my cornfield did not exhibit a very promising appearance; but as soon as the roots had extended into the enriching matter beneath and began to expand in the decomposing sward, which had now become mellow, and more minutely divided by the fermentation of the confined vegetable substances beneath, than it could have been by the plough or hoe, the growth became vigorous, and the crop, in the opinion of those who examined the field, not less than seventy bushels of corn to the acre. As soon as the corn was harvested, the stubble was loosened up by running a light horse plough lengthwise, through the rows, the surface then smoothed with a brush harrow, and one bushel of rye, with a sufficient quantity of herd's grass and red top seed, to the acre, was then sowed, the ground again harrowed and rolled. The crop of rye was harvested in July following, and the two acres yielded sixty-nine and a half bushels of excellent grain, and over five tons of straw. The grass seed, sowed with the rye, took well, and the present season I took, what those who secured the crop judged to be, two and a half tons of the very best of hay from each acre.

Thus, with one ploughing, with the aid of twenty cart loads of compost manure to the acre, I have obtained two crops of grain, and stocked the land down to grass."‡

The great object of the farmer is to obtain the most valuable products, with the least possible labor, and at the same time to keep his farm in a state of progressive improve-

*It might be planted in hills, if that course is preferred.

†Mr. P. now uses the cultivator instead of the plough.

‡William Clark, jun., of Northampton, and Daniel Putnam, of Danvers, have adopted similar methods of husbandry, and have been very successful.

ment; by this method large crops have been obtained with a small expense of labor and manure—but some of little faith may object that it is the result of a single experiment; that there may have been something peculiar in the soils or the seasons; that with others it would have been a complete failure, and that most likely the land soon became exhausted. But Mr. Phinney has practised and continues to practice the same kind of husbandry with the same success, and with increasing confidence. The field on which he made the experiment which he has so clearly and satisfactorily detailed, has remained in grass till the present season, and has continued to yield two tons of good hay to the acre, without any top dressing. Other farmers have followed the same method on a great diversity of soils, and although a plain field and loamy soil may be best adapted to the purpose, there are none except very wet or very rough and rocky grounds which cannot be greatly improved by it. There is nothing unreasonable or unphilosophical in this method, and success would seem to follow it as naturally as effect follows cause. I know that there are many farmers who believe that the *good old way* is the best way, but let the most incredulous of these visit the farm of Mr. Phinney, which, but fifteen years ago, produced but nine tons of hay and which now produces seventy; let him go into those well mellowed fields and see the corn waving in its beauty and ripening into a golden harvest, yelding nearly one hundred bushels to the acre, and potatoes in equal abundance; let him witness all the improvements of that well managed and thoroughly cultivated farm, (which, in natural advantages, perhaps, does not exceed his own,) and that skeptical farmer, who went out hesitating and unbelieving, will come home with a settled conviction that Mr, Phinney is a farmer of great skill and enterprize, enlightened by a sound judgment: he will cheerfully admit that his method of cultivation is a great improvement, and he will apply it to his own farm as far as circumstances will allow. I should not have dwelt so long on this subject, if, from my own observation and the experience of others, I had not been fully satisfied that the adoption of a similar method of husbandry would be beneficial to our own fields.

Lime for Wheat.

Wheat, we are told, is improved for seed, by being kept on hand a year, and will then produce a crop without smut, and will not be injured by the fly. Judge Buel, a celebrated agriculturist, residing near Albany, observes, "I am almost a proselyte to the opinion that the nit is deposited in the down of the kernel before the grain is harvested, and that the same warmth which causes the seed to vegetate in the earth, hatches the insect there also. I am inclined to favour the hypothesis, and not without evidence, that the seed of both the smut and the fly lose their reproductive power during the lapse of a twelve-month. I will not venture to say that liming seed is as efficacious against the fly, as it is against smut; but this much I can say, that I always lime my seed wheat, and never have it injured by smut or fly, while many fields in my neighborhood are annually divested by the one, or materially injured by the other."

The use of Lime as a Manure for Wheat.—The application of lime to wheat culture is one of the most important improvements in modern husbandry. It is well know that our lands, were the soil is fit for any kind of arable products, will yield good crops of wheat, when first cleared of their native growth of wood; but, after having been tilled some years, they generally produce wheat with difficulty, and it is often found impossible to obtain it by any of the common modes of culture. In most parts of Massachusetts, and in some parts of New-Hampshire and Vermont, the farmers for a long period scarcely ever attempted to raise wheat, and still more rarely succeeded when they did attempt it. Yet wheat was a common and profitable crop in those places in the earliest periods of their settlemet. In process of time, however, the land became incapable of producing that precious product, and our farmers were compelled to forego its culture, till quite recently it has been successfully cultivated by means of manuring with lime.

Similar variations and appearances have likewise been observed in Europe. Wheat countries, by continued tillage, have become almost incapable of yielding wheat. The cause and remedy of this partial barrenness, this incapacity in the soil to produce plants, which it had once brought forth in abundance, were alike involved in obscurity, till modern discoveries in chemistry threw light on the subject. It has been found that the texture of every soil is deficient, unless it contains a mixture of three kinds of earth, viz. clay, sand, and *lime*; and that lime in some of its combinations, exists in wheat both in the straw and in the kernel. In some soils, fertile in other respects, lime may either have no existence, or be found in very minute portions, and be soon exhausted. If lime be a constituent of wheat, and is not in the soil when we attempt to raise that crop, we must furnish lime by art, or wheat will not grow. Or if native lime exists in the soil in small quantites, the land may bear wheat till the lime is exhausted, and then become incapable

of producing that plant till a fresh supply of lime, marl, pulverized bones, or some other calcareous substance is added.

Mr. Young, of Nova Scotia, an able English writer on agricultural topics, says, "It cannot be denied, that since the plentiful use of lime has been adopted, lands in Europe will produce wheat which otherwise were incapable of bearing it; and he quotes several instances in favor of this assertion. Dr. Anderson likewise gives an account of a field which had a top-dressing of lime for the purpose of raising wheat; but the lime, by accident, was not applied to a small patch of the field, and in that patch there was no crop, while every part to which lime was applied produced wheat luxuriantly. It would be easy to adduce many more instances to show that lime, in Great Britian, is considered not only useful but indispensable to the production of wheat.—*American Almanac.*

From the Genesee Farmer.

Best Sheep for the Common Farmer.

The question has been sometimes asked, what kind of sheep are the most profitable for the *common farmer*—he whose flock can rarely exceed one or two hundred in number, if it reaches that amount?—and it has been answered in various ways, too frequently, perhaps, as preconceived notions or self-interest at the time prompted. One farmer has maintained the exclusive superiority of the Saxony, another that of the Merino, while for the common farmer another has preferred the heavy bodied, long coarse wooled sheep, but little differing from our native sheep previous to the introduction of the Merino. An examination of the prices current for a year or two past will show that the average of the three kinds of wool would be respectively 70, 50, and 37½ cents per pound. The quantity produced on an average from the three kinds will not vary much from the following estimate:

Saxony, per sheep	2½	pounds,	70	$1,75
Merino, "	3	"	60	1,80
Long wooled,"	4	"	37½	1,50

Some farmers, however, contend that the deficiency in fleece in the long wooled sheep is more than compensated by the greater weight of carcass; and breeding expressly for the butcher, this consideration should undoubtedly have its weight. Besides, the acknowledged tenderness in rearing of the finer wooled kinds would operate as a drawback on their profit; still it would seem that at present prices fine wooled sheep are on the whole the most valuable. I would suggest, however, whether it would not be possible for a breed of sheep to be produced, which would be more profitable for the *common farmer*, by combining weight of carcass, hardihood of rearing, and sufficient fineness of wool, than any that is now generally known.

The Maryland Board of Agriculture proposed a series of questions to the agriculturists of that state, on some of the most important topics of farming, and the answers received and published, form a most valuable addition to our knowledge of the best methods of farming. One of these questions was as follows:—"What species of sheep do you consider the most valuable to farmers generally, and what are the best methods of managing sheep and lambs?" Among the answers to this question was one from Samuel Stevens, Esq., from which I extract the following sentence as well worthy of notice:

"On this subject (sheep growing) I possess the pride and ambition of a farmer, and fearless of contradiction, I pronounce the *Bakewell* sheep, bottomed on the Merino*, the most profitable. In the first place, the Merino gives a fine beautiful wool, and when crossed by the Bakewell, you add beauty and size, both having a predilection for fat, and are of uncommon fine flavor, and what is important and remarkable, they are ready for the butcher at eighteen months old, and if suffered to remain until two years old, they will increase in beauty, size and fat, superior to any other breed of sheep I have ever seen, and on as little food."

There can be no doubt but that the long wool and fine carcass of the Bakewell or Leicester breed, engrafted on the fine wool and aptitude to fatten of the Merino, would produce a kind of sheep superior for *all* purposes to any that the common farmer now possesses. It is evident that the finer wooled flocks require more care and attention than the ordinary farmer can bestow with profit, and the ancient coarse wooled breeds furnished wool of such inferior quality that no man would think of having it manufactured into cloth. Some good sheep of the kind recommended for crossing are to be found in the country, and the general introduction of a crossed breed that shall combine the qualities proposed above, would be of most essential service to a vast majority of our farmers—men who have but little time to devote to theoretical experiments, but who

* *Note.*—To give the reader an idea of the pure Bakewell breed, I will state, that Mr. Barney, of Philadelphia, a year or two since, purchased a year old imported ram of this blood for $150. Another one imported at the same time was sold for $160, and taken to Ohio. The one purchased by Mr. Barney was a very large sheep, fine form, with wool twelve or thirteen inches long, and shearing twelve and three-fourths pounds, when one year old. There can be little doubt that a cross of this fine animal with the silky merino, will prove a superior breed, and better for the ordinary farmer than any now existing.

would readily embrace any opportunity of so clearly adding to their profits. It is to be hoped this subject will not be lost sight of by sheep growers, but carried into effect as an object essential to our prosperity.

Choosing Sheep for Breeding.

One of the two species of sheep, the long and the short wooled, having been chosen as the most appropriate to the situation, and wool being made an object, it is most advantageous to select such flocks as are pure as possible of the species to which they belong, and not a mixture of the short and long wooled breeds, which must generally produce an inferior fleece, disadvantageous to the manufacturer. Length of staple in the long, and fineness, elasticity, and closeness in the short wooled fleece, will be the best guides in this case.

Whether the wool be long or short, the carcass of the animal ought to be amply and regularly covered; it is a great defect when the belly is bare, and still greater when the wool is thin and open on the ridge of the back, admitting rain and moisture to a most susceptible part, indeed, to descend upon all parts of the body.

It is a piece of good old advice to buy your *rams* a little before shearing time, if possible; and a very necessary modern addition, to make the opportunity of purchasing at the farmer's house, while you see the animal in *puris naturalibus*, and before he has been decked out and trimmed for show by the sheep barber. A thick fleece, covering all parts with as much equality as possible, containing plenty of *yolk*, or retained, or insissipated perspiration, is the object. If ewes, equally well-bred, can be procured, the shepherd anticipates and reaps an immediate benefit; if not, he must patiently wait improvement of this wool, through the medium of the superior blood of his rams.

At shearing time, examine the bottoms of the fleece, or the lower extremity of the filaments of wool; if it be stichy-haired, of mixed quality, or if the sheep have a coarse breech, or be not well covered, it must be rejected, as improper for a breeding stock, where it would perpetrate its defects. The quantity of yolk or grease is a good proof of the thickness of the wool, the grease or perspirable matter of the animal is retained; hence, fine, curled wool, has ever the greatest quantity of yolk.—*Bath Memoirs.*

Diseases of Sheep, &c.

For the foot rot in Sheep.—Take alum, green vitriol and white mercury, the first in the largest proportion: dissolve them in water, and after the hoof is pared, anoint it with a feather, and bind on a rag all over the foot. The Middlesex shephards use the green vitriol alone, after pounding it fine. Others again anoint with a feather dipped in aqua fortis, or weak nitric acid. The drovers to Smithfield carry a bottle of this with them, to apply to lame sheep. It hardens the hoof and enables the sheep to travel better. An other mode is to spread three or four inches of slack lime over a floor, pare the sheep's feet well, and turn them into this house, where thay may remain for a few hours, and then be put into a dry pasture. The treatment may be twice or thrice repeated.

To prevent the foot rot.—Keep the sheep in dry pastures, and if stony the better; examine them often and carefully; and when any fissures or cracks, attended with heat, make their appearance, apply oil of turpentine and common brandy. When these do not avail, wash the diseased part, and pare as close as possible without drawing blood, and apply some of the caustics above named. In all cases it is of great consequence that the animal be afterwards exposed only to a moderate temperature—be invigorated with proper food and kept clean in early dry pasture.

To prevent sheep from catching cold after being shorn.—Rub them with water saturated with salt, or plunge them in sea water.

To cure the scab.—Sir Joseph Banks gave the following prescription to the Society for the encouragement of arts: take one pound of quicksilver, half pound Venice turpentine, half pint oil of turpentine, and four pounds hog lard; rub them in a mortar till they are well incorporated. Then begin at the head of the sheep, proceed from between the ears along the back to the end of the tail; the wool is to be divided in a furrow till the skin can be touched, and as the furrow is made, the finger, slightly dipped in the ointment, is to be drawn along the bottom of it, where it will leave a blue stain on the skin and adjoining wool. From this make similar furrows down the shoulders and thighs to the legs, and if the animal is much infected, two should be drawn along each side, and the ointment applied in all.

To cure the measles in swine.—The existence of the disease can only be known by the animal not thriving or fattening like the rest. Put into the food of each hog, once or twice a week, as much crude pounded antimony as will lie on a shilling. This is very proper for any feeding swine, though they have no disorder. A small quantity of the flour of brimstone will be found of great service, if occasionally given to swine. But the best way is to *prevent* disease, by keeping their styes clean and dry, and to allow them air, exercise, and plenty of clean straw.

Cure for Cattle swelled with green food.—Give a dose of train oil, which, after repeated trials, says the Farmer's Magazine, has been found to prove successful. The quantity of oil must vary according to the age and size of the animal. For a grown up beast give a pint, which must be administered with a bottle, taking care to rub the stomach well, in order to make it go down. After receiving this medicine it must be made to walk about, until such time as the swelling begins to subside.—*Cultivator.*

Management of Horses.

The feeding of horses is a thing which for the most part, is indifferently attended to in this country, and indeed the *system of feeding* which has been adopted, is but ill calculated to preserve these noble animals in full health and unimpaired in strength and vigor of body. With many planters and farmers, nothing but corn and oats, in the whole grain, are doled out from one end of the year to the other.—Now these are each highly nutritious and excellent substances, and well calculated to sustain horses under long continued and laborious work, but then are they not too heating to the blood, and too difficnlt of digestion to be given without change during the whole year? Would it not be better, putting the saving out of question, to reduce those grains to something like digestible substances? Whether the horse be fed upon corn or oats, in the whole grain, they necessarily void a large portion of them in precisely the same state in which they are received into his stomach. This fact is too well established to be denied at this late day, and hence it follows that all portions of grains which are eaten by the horse and not digested, serve but to irritate the coat of his stomach, inflame his blood, and, by necessary consequences, disease the whole system. The health of a man's family is very properly said to be dependent as much upon his cook as upon any other earthly agent, whether referable to physical or atmospheric causes. Writers upon human health invariably recommend plainness of diet, moderation of eating, exercise, and general temperance, and the substances commended to favor, are those which afford the most bland nutrition, and which are easiest of convertion into chyle. If these recommendations hold good with respect to human diet, we would ask are not the same general laws of nature applicable to the horse? If man lives luxuriantly and feeds upon high seasoned and luscious food, the chances are as ten to one against him that he will get the gout, or some inflammatory disease; and if he feeds upon substances difficult of digestion, he is just as sure to be visited with that worse than pestilent distemper—the dyspepsia. Ah! but would you compare the horse to man? we think we hear some one ask; and lest our motives may be mistaken, we will take the liberty of replying to the query in advance of its being solemnly put on us.

We do not compare the horse to the man, but we hold it as of a truth which admits not of contradiction, that all the alimentary substances, to be profitable to the stomach of either man or horse, should be not only nutritious and bland, but should be eaten in that state in which it is best calculated to undergo the digestive process. Mastication does much to prepare the food of the horse for that operation; but the evidences which are afforded by the substances voided by this animal, incontestably show that it fails most lamentably in the performance of this highly necessary work. In England, where the management of stock generally, and particularly of the horse, is reduced to a matter of science, but few intelligent feeders think of giving food to that animal in an uncrushed state; nor do they confine them to grain feeding alone, and for the assigned reason, that it is too *heating*. Potatoes and ruta baga form a part of the feed of studs of most English country gentlemen; by which means they keep their horses in better health; the occasional feeding with roots serving to open their bowels, cool their blood, determine the secretions to the surface, render the skin loose, and the hair silky and healthy. We have said, independently of the saving which is thus effected, the other reasons are sufficient to justify a resort to practice, and we would ask are not the melioration with the animal to which we have just alluded sufficient of itself, to make it an object worthy of every consideration? We think it is, and should be rejoiced to find that our suggestions were improved upon by American horse owners, for we honestly believe that infinite good both to the master and beast would inevitably result from it.—*Farmer and Gardener.*

Turnep Fly.

Mr. Editor,—Looking over an old newspaper the other day, I noticed some experiments tried on Turnep seed, to prevent the destructive ravages of the Turnep Fly, or Grub, which are sometimes very extensive. The experimentalist stated that he discovered that the leaves were eaten almost as soon as the plants are up, so that the field was as brown as before it was sown. He thought at first that the insect might have proceeded from other plants, or the hedges. Accordingly he took some earth from his garden and placed it in a box, sowed his turnep seed in it, and covered it with silk gauze, so that

no insect could enter; but he found them there as destructive as in the open field. He then took some earth and boiled it in the box, and sowed the seed, watering it with water also boiled, with no better success than before. Having thus satisfied himself that it proceeded neither from other plants, nor contained in the earth or water, he turned his attention to the seed, on which, by the help of a magnifying glass, he found small white flattish substances, which he concluded were eggs. On some seeds he found none; but generally two or three, and in some instances five on a single seed. The difficulty was now to destroy them. To accomplish this he made some strong brine and soaked the seed in it twenty-four hours. It being dried thoroughly, he then sowed it with all the care mentioned above, and not a single fly was found nor turnep injured. He found that if the brine was sufficiently strong, three hours soaking was enough. He says, "I now practice this method with turnep seed, cabbage seed, and in fact with all the various plants in common cultivation, with very satisfactory success. The whole of these experiments were made on the Swedish turnep, which is generally more infested by these beetles than any of the other sorts."

A correspondent of the American Farmer says that he destroyed all the caterpillars on his fruit trees, by using mobs of cloth dipped in salt water, and conveyed to the nests on the end of long poles. Salt water in which pickles have been preserved, or meat or fish brine may be used with economy for this purpose. Some destroy caterpillars by throwing a turf into their nests; others by a burning match of brimstone held under their nests; and others apply fish oil. The application of soap suds is a very cheap and easy method of destroying them, and the suds will be a benefit to the trees.—*Yankee Farmer.*

THE DAIRY.-NO. III.
Cheese Making.

The production of cheese includes the making of rennet, the selection of a coloring matter, the setting of the curd, and the management of the cheese in the press. The milk, fresh drawn from the cow, is to be immediately strained into the dishes, or shallow troughs, if these are used, in order to promote cooling, as the surest guard against fermentation. The same object may be obtained by frequently drawing off the milk from the coolers, and pouring it back again.

What is called rennet, is nothing more than the stomach of an animal in which the gastric juices are preserved by salt. The application of any kind of acid will cause milk to coagulate, as well as the infusion of several plants, as ladies' bed straw, butterwort, and others. The maw, or stomach of ruminating animals, which admit of obtaining the gastric juice in a less mixed state than those of others, and chiefly of a young calf that has been killed before the digestion is perfected, is almost universally preferred as rennet. When the bag is first taken from the animal, the curd should be taken out, and, after it is thoroughly washed, it should be entirely covered with salt, inside and out. It is then put into an earthen jar, or other vessel, for three or four days, when it is taken out and hung up for two or three days, to let the pickle drain from it. It is now re-salted, placed in a jar, covered tight down with paper, pierced with a large pin, and in this state it is left till wanted for use. It ought to be kept in this way for twelve months; it may, however, in case of necessity, be used a few days after it has received a second salting; but it will not be so strong as if kept a longer period. Marshal gives the following directions to prepare this rennet for use:—

"Take a handful of the leaves of sweet briar, the same quantity of the leaves of the dog rose, and the like quantity of bramble leaves. Boil them in a gallon of water, with three or four handfuls of salt, about a quarter of an hour. Strain off the liquor, and having let it stand till perfectly cool, put it into an earthen vessel, and add to it the maw, prepared as above. To this add a good sound lemon, stuck round with about a quarter of an ounce of cloves, which gives the rennet an agreeable flavor."

The strength of the rennet thus prepared, will increase in proportion to the length of time during which the bag remains in the liquor. The quantity to be used for the purpose of coagulating milk, can, therefore, only be ascertained by daily use and occupation. In general, however, it may be stated, on the average, that sometimes less than half a pint will suffice for fifty gallons of milk. Throughout the whole process of preparing and preserving rennet, too much attention cannot be given to its cleanliness and sweetness; for if it be kept too long, so as to become foul or tainted, the cheese will invariably become affected by it, and will prove unfit for use.

Formerly, turmeric, marigolds, hawthorn buds, and other vegetables, were used for giving a color to cheese; but these have long since been rejected, in all good dairies, for the *Spanish Arnotto*, which is unquestionably the best ingredient of the kind that can be used for that purpose. It is a preparation of the *roucon*, (*Bixa orellana*) which grows in

this country. The red pulp that covers the seeds of this tree, is suspended in hot water, and allowed to subside; and, when dry, is formed into cakes or balls, which are further set aside until they become dry and firm. One ounce of this substance, when genuine, will be sufficient to color a hundred weight of cheese. The usual mode of applying the arnotto is, to dip a piece of the requisite size and weight in a bowl of milk, and rub it on a smooth stone, until the milk assumes a deep red color. This infusion is to be added to the milk of which cheese is intended to be made, in such a quantity as will impart to the whole a bright orange color, which will become the deeper in proportion to the age of the cheese. The mixing of the arnotto in no respects affects either its taste or smell.

In Cheshire, England, a somewhat different practice obtains. There, when the coloring matter is wanted, it is usual to tie up as much of the substance as may be deemed sufficient, in a linen rag, and putting it into half a pint of warm water, to let it stand over night. In the morning, immediately before the milk is coagulated, the whole of this infusion is mixed with it in the cheese tub, and the rag is dipped in the milk, and rubbed on the palm of the hand, until all the coloring matter is completely extracted. A more simple method is directed by Parkinson. "Take (says he) a piece about the size of a hazel nut; put it into a pint of milk the night before you intend to make cheese, and it will dissolve. Add it to the milk at the time the rennet is put in. This quantity will color a cheese of twenty pounds weight."

Dry Feet for Farmers.

There are few articles which have at once come into such general use, or which have been found applicable to so great a variety of practical purposes, as the common India rubber, or gum elastic of the shops. This substance is the production of a small tree, a species of myrtle growing in abundance in the tropical regions of Africa, Asia, and America; and is already becoming quite an article of traffic in those countries. It is procured by making an incision into the trees, from which a milk-like fluid flows, and is caught in vessels provided for that purpose. When partially dried, it is spread thinly over a ball of clay, and as the gum hardens, successive layers are added, until the desired thickness is obtained. The clay is now reduced to powder by heating, and the gum remains in the shape of a pear necked bottle, in which form it is most frequently imported. The gum is, however, now frequently found in other shapes, and its black appearance is owing to its exposure to the smoke in drying. There has hitherto been considerable difficulty in dissolving it, most of the common solvents used for the other gums producing little or no effect upon it. Purified naptha, or what in this country is usually termed Seneca oil, has been most frequently and successfully used for this purpose. One of the most valuable uses to which India rubber has been applied, is the rendering of leather, or boots and shoes, impervious to water, and thus securing that important requisite to health, dry feet. Various kinds of rubber paste and blacking have, within a few years, been offered to the public, all good no doubt but still at such prices, that common farmers, who surely need a preservation of this kind against the effect of almost continued exposure, were not, to any considerable extent, able to avail themselves of the benefit. My object in this paper is to state for the benefit of my brother farmers, and all who have suffered as I have done, the consequences of wet feet, the manner in which I prepare this substance for my own use, and which I find to answer every desirable purpose. I take common tallow, say one pound, and melt it in a small kettle holding about two quarts; the ordinary skillet would answer the same end. I have ready for use, cut into as fine strips or pieces as may be convenient, from four to six ounces of India rubber and when the tallow begins to get pretty hot, I put in the gum, and gradually increase the heat, until by stirring I find it has completely dissolved, and incorporated with the tallow. While the process is going on, it will foam violently and large volumes of pungent smoke will be thrown off; but I have never known it to take fire, or other danger or inconvenience result from the preparation. When thus prepared, it is applied with a brush in the same manner as tallow to boots and shoes, and with the best effect. A small quantity of lamp black, combined with the mass when melted, will furnish blacking to the leather, and if any choose, they can add the usual ingredients for making a paste for polishing. Farmers, however, are gnerally content, if they can keep their boots and shoes simply blacked and water proof, and this, the proper application of the above cheap and easy preparation, will certainly ensure. That it cannot be injurious to leather, when used in this way, the nature of the substance and experience would both determine. For India rubber, I have always used old overshoes, of which a supply can in general be readily obtained, always rejecting the most worn, burned, or rather defective parts. The spring of the year is the time farmers are most exposed, and I am confident the use of this preparation will prevent many a rheumatic

twinge, if it should ward off nothing worse from him who is compelled to be out at all seasons.—*G. in the Genesee Farmer.*

Annual Cattle Show, &c.

In the third number of the Farmers' Cabinet, we announced the organization of the Agricultural Society of New Castle county, Delaware. We learn from the Wilmington Watchman, that the annual Cattle Show, Silk and Horticultural Exhibition of the Society, will take place on Wednesday, the 19th of October, (this month,) commencing at 9 o'clock A. M. and ending at 3 P. M., with the sale of Durham short horn cattle, horses, sheep, oxen, &c. &c. The Cattle Show will be held in the immediate vicinity of the city, and the Silk and Horticultural Exhibition in the City Hall, under the superintendence of the different Committees appointed for the purposes. On the same day, Dr. William Gibbons will read an Essay on Silk, pursuant to appointment. The following are the Judges appointed to award the premiums offered by the Society, viz:

On Neat Cattle—Edward Tatnall, J. J. Brindly, Dr. J. W. Thomson, Wm. Robinson, John C. Clark, Wm. Solomon, and John Platt.

On Horses—John Richardson, John Caldwell, Thomas Garrett, Philip Reybold, Thomas W. Robinson, Henry Whiteley, and John Higgins.

On Oxen and Swine—James Canby, Wm. Chandler, Richard Topham, John Clark, Col. Thos. Robinson, David Gemmill, Marcus E. Capelle.

On Sheep—Philip Reybold, Henry Latimer, Joseph Wetherall, J. P. Garesche, Samuel Canby, John Riddle, and Henry Dupont.

On Crops—James Price, James McCullough, Thomas Stockton, William J. Thurlock, Benjamin Webb, Jesse Gregg, and Philip Reybold, Jr.

On Farming Implements—Justa Justis, Thos. Baldwin, Samuel P. Johnson, James Canby, Benjamin Webb, John Reybold, Washington E. Moore.

On Butter and Oil—Eli Hillis, Willard Hall, James Webb, N. G. Williamson, Charles Dupont, John Wales, Wm. Hemphill Jones.

On Beet Sugar—Merritt Canby, Dr. H. Gibbons, Washington Rice, Dr. H. F. Askew, John L. Robinson, John Bonney, Edward Grubb.

On Silk—Dr. Wm Gibbons, John H. Price, P. B. Delaney, Wm. P. Brobson, Alexander S. Read, Thomas J. Higgins, John Andrews.

On Vegetables—J. A. Bayard, J. T. Price, Enoch Roberts, Jacob Caulk, Anthony Bidderman, Anthony Higgins, John Jones.

On Fruit—Wm. R. Sellars, R. H. Bayard, Dr. J. W. Thomson, Edward Canby, George Griffin, W. E. Moore, Samuel Wolleston.

On Flowers—Merritt Canby, J. Garesche, George Reynolds, Dr. J. S. Naudain, Henry M. Bayard, Edward Grubb, Z. B. Glazier.

The following gentlemen were appointed a Committee of Management of the Cattle Show, to whom all persons having horses, cattle, &c. to exhibit, will please to refer for information: Samuel Wollaston, Wm. Chandler, W. R. Sellars, Thomas W. Robinson.

Horticulture and Botany.

See various trees their various fruits produce,
Some for delightful taste, and some for use;
See, sprouting plants enrich the plain and wood,
For physic some, and some design'd for food:
See, fragrant flowers, with different colors dy'd
On smiling meads unfold their gaudy pride
Blackmore.

Vegetable Vitality.

No. II.

We lately passed the season of winter, during which the vegetable world was stripped of all its beauties. We have been since visited with the genial showers of spring. The surface of the earth became vitalized, and the general process of vegetation every where commenced. The particles of unorganized matter thus rendered visible, rushed into vegetable life, and, under the organic influence of previously formed plants, or seeds, their active energies have been rendered subservient to all the changes of the vegetable process. We have already stated that the quickened particles of unorganized matter possess a secretive power; consequently we may form some idea of the vegetating principle by which the seeds of plants, when placed in the vitalized soil of spring, unfold themselves into beautiful groups of flowers, and how the majestic oaks of the forest become annually clothed with their innumerable leaves.

What can be more natural than that the little secreting agents, recently discovered by the compound microscope, when quickened by showers, and a due proportion of light and heat, should ascend with the sap, and pass through the branches to the buds of trees, and there assisting in unfolding the leaves, and carrying on the vegetable process; and that, as the summer retires, and as they have performed their appointed duty, they should drop, with their airy habitation, to their mother earth, and again lie dormant till the reviving breath of another spring shall quicken them for all the purposes of future vegetation? In a lecture delivered by the late Dr. Pascalis, on the animalization of plants, at the celebration of the birth-day of Linnæus, on the 24th May, 1823, that scientific gentlemen endeavored to show that insects were formed *from* plants. He alluded to the *Aphides*, the life of which, he said, regularly commences with the buds or gemma of plants; the *meloes* formed from the pollen or farina

of flowers; the variety of insects to be found in the seeds and fruits of plants; and the book worm, the mite, siro, &c., in the most compact wood, and in the most confined recesses of the bark of the trees, and that without the assistance of decomposition. This theory was certainly novel, and the facts adduced to support it numerous and interesting. But had the doctor been aware of the existence of those linear organic, though to our sight, imperceptible objects, now known to exist in all matter, and which are evidently the principle of vitality, he would, I am persuaded, have reversed his position; and, instead of maintaing that insects were formed *by* plants, admitted that plants owed their vital energies to a race of animated little beings, which, as we have seen, hold so important a place in the economy of nature.

We have been particular in noticing the results of vegetable infusions, because they furnish a better connected train of simple facts than any other results whatever. But if *animal* matter is subjected to the same process, changes are met with scarcely differing from those obtained by vegetable infusions. When a small portion of animal matter is infused in a wine glass of water, the water will, in a short time, be filled with little linear bodies, which in a few days increase to a larger and globular shape. These afterwards assume a form of a still larger kind, and somewhat elongated.

We have endeavored to show that the energy, which so strikingly displays itself in the process of infusion, is also plainly recognized in the leaves and stems of vegetables; and if we attentively examine the larger animalcules of infusion, and compare them with some of the lower links of animals, we shall see that they strongly approximate with each other in their general character. The larva of flies, for instance, is peculiarly illustrative of this character. If a puncture is made in their external coating, nearly the whole of their internal parts will quit them in a liquid form, and if this fluid matter is instantly examined by the microscope, it will be found full of small active linear bodies, similar to those obtained by infusion. The same result is discoverable if we subject the mites of cheese and small flies to a similar inspection. If we ascend to higher links in the scale, and even refer to man, we shall be satisfied that several changes which take place in the human frame, are influenced by the same principle.

To illustrate this, let a small portion of human blood be examined by the microscope, and we shall find the same vital appearances obtained from the inferior classes of animated beings. This fact is in unison with the general views of the celebrated John Hunter, who observes, "I had long suspected that the principle of life was not wholly confined to animals or animal substances endowed with visible organization, and spontaneous motion; I conceived that the same principle existed in animal substances devoid of apparent organization and motion, where there existed simply the powers of preservation." Murray, in speaking of what are termed animal secretions, remarks: "From the description of this process, it is evident that it consists of a series of chemical actions; but if we endeavor to investigate how these are effected, or inquire by what law these new chemical powers are formed, we find ourselves engaged in a task of the most difficult kind." It is evident that these eminent writers, as well as many others who have treated on the same subject, were aware of the difficulties in attending it; and they very properly inferred, on irresistible evidence, that a vital energy must be concerned in these processes, though they scarcely made an attempt to point out the manner or principle by which this force brought about the results in question.

The Rock Samphire.

Botanical topography, which treats of the stations as well as of the habitations of vegetables, is a subject not wholly without interest and value. It is well known that very

The Rock Samphire.—Fig. 11.

different plants abound in different soils; that some grow on land, and some in water;

that some like one, and some another situation. For example, to take plants which are very closely allied, the *lichens* are dry plants, and never grow under water; the *fuci* are watery plants, and never grow out of water; and the same may be said of many other plants, some of which are, as it were, the living boundaries of land and sea: thus the Samphire (*Crithmum Maritimum*) never grows but on the sea-shore, and yet it never grows within reach of the waves,—that is to say, it is never so near as to be wholly covered by the waters. It happened not long since, that a knowledge of this fact was useful in a way and at a time when botanic knowledge might, beforehand, have been expected to be of little practical importance.

During a violent storm in November, 1831, a vessel passing through the English Channel, was driven on shore near Beachy Head; and the whole of the crew being washed overboard, four escaped from the wreck, only to be delivered as they thought to a more lingering and fearful, from its being a more gradual and equally inevitable death; for, having in the darkness of the night been cast upon the breakers, they found, when they had climbed up the highest of these low rocks, that the waves were rapidly encroaching on their asylum; and they doubted not, that when the tide should be at its height, the whole range would be entirely covered with water. The darkness of the night prevented any thing being seen beyond the spot upon which they stood, and this was continually decreasing by the successive encroachments of each advancing wave. The violence of the storm left no hope that their feeble voices, even if raised to the uttermost, could be heard on shore; and they knew that amidst the howling of the blast, their cries could reach no other ear than that of God. What human arm could give assistance in such a situation? even if their distresses were known, how vain were the help of man! The circle of their existence here seemed gradually lessening before their eyes; their little span of earth gradually contracting to their destruction: already they had climbed to the highest points, and already the furious waters followed them, flinging over their devoted heads the foremost waves, as heralds of their speedily approaching dissolution. At this moment, one of these wretched men, while they were debating whether they should not, in this extremity of ill, throw themselves upon the mercy of the waves, hoping to be cast upon some higher ground, as, even if they failed to reach it, a sudden would be better than a lingering death—in this dire extremity, one of these despairing creatures, to hold himself more firmly to the rock, grasped a weed, which, even wet as it was, he well knew, as the lightning's sudden flash afforded a momentary glare, was not a fucus, but a root of Samphire; and he recollected that this plant never grows under water. This then became more than an olive branch of peace, a messenger of mercy; by it they knew that He who alone can calm the raging of the seas, at whose voice alone the winds and the waves are still, had placed his landmark, had planted his standard here, and by this sign they were assured that He had said to the wild waste of waters, "Hitherto shalt thou come, and no further." Trusting, then, to the promise of this Angel of the Earth, they remained stationary during the remainder of that dreadful, but then comparatively happy night; and in the morning they were seen from the cliffs above, and conveyed in safety to the shore.—BURNETT'S *Introductory Lecture.*

Samphire, or *St. Peter's Wort*, very probably derives its English name, as etymologists contend, from the French name, "*Herbe de St. Pierre*," and hence, if such be the case, it would be more correctly written, according to Smith, *Sampire*, or, as degenerated from *St. Pierre*, san-pire. The botanical name Crithmum has been given to this plant from the resemblance its seeds bear to grains of barley, the *crithe* of the Greeks.

The Philadelphia Horticultural Society Closed its ninth annual exhibition at the Masonic Hall, on Friday evening the 23d September. We learn that it was of the most gratifying character. We were not able to attend, but as the Secretary has kindly offered to furnish us with an account of the exhibition, our readers may expect it in our next.

Apples for Hogs.

We have frequent enquiries, says the Cultivator, for trees of sweet apples, to cultivate for hogs and other farm stock, as though none but sweet apples were fit for that purpose. This opinion originates from a misapprehension of the qualities of the apple. In the first place, the nutritive property of the apple consists principally in the saccharine matter which it contains. This is determined by the specific gravity of its juice—the heavier this, the more saccharine matter it contains. Now the heaviest juice is found in acid as well as sweet apples. The acid is superadded to the sweet. In the second place, sour apples are as grateful to the stomach, and so they are to the stomach of our farm stock, as sweet apples are, and a mixture is at least desirable. Sweet apples soon clog the stomach. A friend related to us, a few days ago, that he last year turned

his hogs into his orchard to eat the falling fruit; that the orchard being large, the hogs were able to consume only a part of the apples; that he had several times went into the orchard to ascertain which they preferred, the sweet or the sour; that he uniformly found that they selected from both, and that they rejected as many of the sweet as of the sour. Hence sour apples are nutritious, and as palatable to man and beast, as sweet apples, and ought to be as extensively cultivated.

Geological Definitions.

The Primitive Earths, are four; clay, sand, lime and magnesia.

Clay, is called by Geologists, alumia, alumine or argellaceous earth.

Sand, is called silex, silica, silicious earth, or earth of flints.

Lime, as it exists in the soil, is commonly called calcareous earth. The term calcareous is not properly applied to any soil, unless it will effervesce with acids.

Each of these earths answer a determinate and specific purpose in the economy and growth of plants; and the perfection of soil lies in a mixture of the whole.

Basis of the whole. The primitive earths which enter into its composition.

Vegetable matter. All vegetable substances in a decaying or rotton state.

Animal matter. All animal substances in a putrifying state.

Organic matter. A term applicable to both animal and vegetable substances in a putrifying state.

Vegetable mould. The earthly remains of vegetable substances which have either grown and decayed on the soil, or have been conveyed thither in the progress of cultivation.

Loam, is a combination of vegetable mould with the primitive earths.

Lime, is a substance consisting of lime with a small portion of clay, and sometimes of peat, with a marine sand and animal remains. It is useful as manure, and is distinguished by *shell clay* and *stone* marl.

Management of Bees.

Most people are fond of honey, and many are also fond of bestowing upon *Bees* those cares which seem necessary to render them the most profitable. One of the most troublesome parts of the management of these republicans, is the time when, from an over-population, like the New-England States, they see fit to emigrate or swarm, as the time which they select for this, is not always the most convenient for the farmer to attend to them. Now it is with this, as with other business of agriculture; it should be done in proper season, and when it will best suit the convenience of the superintendent. As to the prosperity of the bees, it is altogether indifferent whether they fix upon the time of emigration or whether the husbandman does, so that he uses judgment in the matter. If he finds in the month of May or June that any of his hives are over-stocked with bees, he should remove them into another, which, if repeated as often as the old hive becomes over-stocked, will prevent their swarming at all. Swarms separated from the parent hive in this way, do equally as well as when left to fly out and separate themselves, besides much time and loss of honey is saved; for when a hive becomes over-stocked, the major part of the bees which constitute afterwards the new swarm, do not work at all, but live upon the honey produced by the old and more industrious part of the community, and the quicker they are taken off after their number is sufficient to form a well regulated republic, the better.

For doing this, let the old hive be turned bottom upwards, and the new hive set upon it; strike lightly upon the lower hive, and many of the bees will ascend into the upper hive; when a sufficient number has collected in the new hive for a swarm, take it off and set it upon the bench, and return the old one to its former position. In doing this, to insure success, it is necessary that one of the queens should accompany the new swarm, which may be known in the course of a day or two; for if they have no queen, they will not stay in the new hive, but will return to the old one; but if they have a queen, some of the bees may be seen in the course of twenty-four hours, standing near the entrance into the hive, amusing themselves by raising their bodies to the full length of their legs, and giving their wings a rapid motion, making a steady buzzing noise. This may be considered as an indication of their satisfaction and the success of the operation. Some consider mid-day the most favorable time for doing this; others, again, prefer the evening but either will answer, and the trouble attending is not greater than that of hiving them when the swarms are allowed to come out in the common manner, and the danger of having them go off is avoided. Another very great advantage of this method is, the young swarms commence working early, by which they are more certain of laying up sufficient food for winter. Where the common shaped hives are to be continued, we would recommend to those who are keeping bees, to try one or two swarms as above, which will give them more satisfactory evidence, either for or against the practice, than all that can be written on the subject. The

present price of bees in this section of country, we believe to be about five dollars for a good hive in the spring; such as will give on an average, two swarms during the summer. This, after deducting for the trouble of the taking care of them, is a great profit. Each hive of bees that are in good condition in the spring, will make enough honey over their own wants, to pay well for taking care of them, and leaving a profit of two hundred per cent. Now if this can be realized, what better business can a farmer ask for? Surely we have a land "flowing with milk and honey."

We are informed that the following easy method of taking the honey without destroying the bees, is generally practiced in France with great success. In the dusk of the evening, when the bees are quietly lodged, approach the hive, and turn it gently over. Having steadily placed it in a small pit, previously dug to receive it, with its bottom upwards, cover it with a clean new hive, which has been properly prepared, with a few sticks across the inside of it, and rubbed with aromatic herbs: then having carefully adjusted the mouth of each hive to the other, so that no aperture remain between them, take a small stick, and beat gently round the sides of the lower hive for about ten minutes. in which time the bees will leave their cells in the old hive, ascend and adhere to the new one. Then gently lift the upper hive, with all its little tenants, and place it on the stand from which the other was taken. This should be done some time in the week preceding mid-summer day, that the bees may have time, before the summer flowers are faded, to lay in a new stock of honey, which they will not fail to do for their subsistence through the winter.

Yest.—The following methods for making yest for bread, are easy and expeditious. Boil one pound of good flour, a quarter of a pound of brown sugar, and a little salt, in two gallons of water, for an hour; when milk warm, bottle it and cork it tight; it will be fit for use in twenty-four hours.—One pint of it will make ten pounds of bread.—To a pound of mashed potatoes, (mealy ones are best,) add two ounces of brown sugar, and two spoonsful of common yest, the potatoes first to be pulped through a cullender, and mixed with warm water to a proper consistence. A pound of potatoes will make a quart of good yest. Keep it moderately warm by fermenting.

Manure.—The gross annual value of the manure used in Great Britain and Ireland, is estimated at the enormous sum of 20,000,000 pounds sterling.

The Husbandman's Prayer.

BY H. S. ELLENWOOD.

O THOU! whose wisdom power, and love,
This world, and all its creatures, prove;
The fertile field and fruitful trees,
Thrive, or decay, as thou shalt please;
And human art and toil are vain,
If thou withhold thy sun and rain!—
Still may thy bounteous Providence,
All wish'd—all needful good dispense.

When brumal storms have spent their power,
And SPRING expandeth many a flower,
May ne'er the frosts that fall at night,
The seeds of future harvest blight;
May ne'er the blushing blossom yield
To storms that devastate the field:—
From such, and from too piercing air,
The new-shorn lamb—and nestling—spare.

In SUMMER, when thy solar ray
Is felt through all th' enfeebled day,
Mild be his genial beams, without
Contagion's force, or parching drought,
And, frequent, may the full-fraught cloud
The azure arch of heaven enshroud,
That gentle moisture, temp'rate heat,
A plenteous harvest may complete.

When AUTUMN'S treasures spread around,
And garners teem, and fruits abound,
Then shall the HUSBANDMAN upraise
To thee his Hymn of Praise;
To thee, who gavest, not in vain,
The early and the latter rain;
To thee, whose promise doth avail—
"*Seed time and Harvest ne'er shall fail.*"

GOD OF THE SEASONS! let thy care
Preside o'er each revolving year!
May Health, fair queen of blessings! crown
Each city—and each rural town—
While sweet content, and heart-felt joy
This Land of Freedom shall employ—
THEE, may thy offspring—man—adore,
Till Time—and Seasons—change no more.

AGRICULTURE was the first, and should ever be the most esteemed of all pursuits. How happy would it be for hundreds and thousands of our young men, if they could be persuaded that a few acres of ground are a better capital than as many thousands of dollars procured by writing their names at the bottom of a negotiable note; and what years of misery might be saved, if men would believe that a dollar actually earned by honorable and healthy labor as farmers and mechanics, is worth a hundred in prospect to be gained in trade and speculations.

INTERESTING TO HORSES.—"A Friend to the Horse," in the Pittsburgh Gazette, cautions owners of horses against putting cold bridle bits into the mouth of the horse when the weather is much below the freezing point; by doing so, the consequence is, that whenever the bit touches the tongue or lips, the skin will come off, as if burnt with a hot iron.—Hence, the sore tongue in horses so often complained of and suffered. This fact should be made known, and the practice of warming the bits observed in all northern latitudes, where the thermometer ranges between zero and the freezing temperature. If any one doubts the truth of these remarks, let him put his tongue to a piece of exposed iron in a cold morning, and he will doubt it no longer.

GENIUS *vs.* LABOR.—"Of what use is all your studying and your books?" said an honest farmer to an ingenious artist. "They don't make the corn grow, nor produce vegetables for the market. My sam does more good with his plough in one month, than you can do with your books and papers in one year."

"What plough does your son use?" said the artist quietly.

"Why he uses ———'s plough to be sure. I can do nothing with any other. By using this plough, we save half the labor, and raise three times as much as we did with the old wooden concern."

The artist quietly turned over one of his sheets and showed the farmer a drawing of the lauded plough, saying, "I am the inventor of your favorite plough, and my name is ———."

The astonished farmer shook the artist heartily by the hand, and invited him to call at the farmhouse and make it his home as he liked.

Our Country.

On no country more than ours, have the charms of nature been more prodigally bestowed; her mighty lakes like oceans of liquid silver—her mountains with her bright ærial tints—her valleys teeming with fertility—her tremendous cataracts thundering in their solitude—her boundless plains waving with spontaneous verdure—her broad deep rivers rolling in solemn silence to the ocean—her trackless forests, where vegetation puts forth all her magnificence—her skies kindling with the magic of summer clouds and glorious sunshine—no, never need an American look beyond his own country for the sublime and beautiful of natural scenery.—*Irving*.

Pursuits of Agriculture.

How pure, how pleasant are the pursuits of Agriculture.—What more delightful than to watch the opening sweets of Nature—to trace the germ as it unfolds the early bud, the opening flower—and as it ripens into the rich variety of autumnal fruits.—What pursuits better calculated to improve, expand, and elevate the mind of man, "to lead from Nature up to Nature's God." And yet how many farmers are discontented with the lot where fortune or providence has placed them—How many seek for other, and easier employments—How many dream of wealth and ease without the toils and hardship of labor to acquire it.—Let such know that every situation in life has its share of trouble and of care and few if any, less than those who cultivate the soil.

Not dependent upon the smiles, the caprice, or the promises of his fellow-man—his confidence is strong—his promise sure that "seed-time and harvest" shall *never* fail.—With the utmost assurance he can look foward to the operations of Nature, with a cheering, a certain prospect of an ample reward, for all the labors of honest industry bestowed on the cultivation of a fertile soil.

Farmers—yours are the *true* sources of wealth;—yours, the fountains from whence flow the peaceful streams of contentment and of *real* enjoyment;—yours, though a life of labor and industry, is a life free from the thousand temptations which surround the indolent, the vicious, and the votaries of pleasure.

GRAVEL WALKS.—The following cheap improvement has been recommended in the circumstance of walks in gardens, lawns, &c. uniting the advantages of great hardness, durability, and freedom from worms and insects. When a new walk is made or an old one reformed, take the necessary quantity of road scraping, previously dried in the air, and reduced as fine as possible; mix with the heap enough of toal-tar from a gas work, so that the whole shall be sufficiently saturated, and then add a quantity of gravel;—with this lay a thick stratum as a foundation, and then cover it with a thin coating of gravel. In a short time the walk will be as hard as a rock, not affected by wet, or disfigured by worms.—*Register of Arts.*

If you are ever so sure that you ought to resent an injury, at least put off your resentment till you are cool. You will gain every end better by that means; whereas you may do yourself or your neighbor great mischief by proceeding rashly and hastily.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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THE FARMERS' CABINET.

Washington's Agricultural Notes.

[Notwithstanding the numerous public avocations and duties in which Washington was engaged for a large portion of his life, it is known, that to no one object did he give so much of his time and attention as to Agriculture. The frequency and minuteness of his directions to his managers on this head, and the unceasing correspondence which he kept up during his absence from Mount Vernon, are truly astonishing, when it is considered in what important and absorbing interests his mind was perpetually occupied. We have selected a few particulars from his papers, which, at the same time they illustrate his agricultural habits, may in part serve as practical hints, or salutary maxims to farmers in general.]

1. DIRECTIONS TO THE MANAGER OF HIS FARM.

A *system* closely pursued, although it may not in all its parts be the best that could be devised, is attended with innumerable advantages. The conductor of the business, in this case, can never be under any dilemma in his proceedings. The overseers, and even the laborers, know what is to be done, and what they are capable of doing, in ordinary seasons. The force to be employed may be in due proportion to the work which is to be performed, and a reasonable and tolerably accurate estimate may be made of the product. But when no plan is fixed, when directions flow from day to day, the business becomes a mere chaos, frequently shifting, and sometimes at a stand, for want of knowing what to do, or the manner of doing it. Thus is occasioned a waste of time, which is of more importance than is generally imagined.

Nothing can so effectually obviate the evil, as an established *system*, made known to all who are actors in it, that all may be enabled thereby to do their parts to advantage. This gives ease to the principal conductor of the business, and is more satisfactory to the persons who immediately overlook it, less harrassing to the laborers, as well as more beneficial to the employer.

Under this view of the subject, the principal service, which you can render me, is to explain to the overseers (who will be furnished with duplicates) the plan, in all its parts, which is hereafter detailed; to hear their ideas with respect to the order in which the different sorts of work therein pointed out shall succeed each other, for the purpose of carrying it on to the best advantage; to correct any erroneous projects they may be disposed to adopt; and then to see that they adhere strictly to whatever may be resolved on, and that they are always (except when otherwise permitted) on their farms, and with their people. The work, under such circumstances, will go on smoothly; and, that the stock may be well fed, littered, and taken care of according to the directions, it will be necessary to inspect the conduct of the overseers in this particular, and those also whose immediate business it is to attend upon them, with a watchful eye; otherwise, and generally in severe weather, when attention and care are most needed, they will be most neglected.

Economy in all things is as commendable

in the manager, as it is benefical and desirable to the employer; and, on a farm, it shows itself in nothing more evidently, or more essentially, than in not suffering the provender to be wasted, but, on the contrary, in taking care, that every atom of it be used to the best advantage; and likewise, in not permitting the ploughs, harness, and other implements of husbandry, and the gears belonging to them, to be unnecessarily exposed, trodden under foot, run over by carts, and abused in other respects. More good is derived from attending to the minutiæ of a farm, than strikes people at first view; and examining the farm-yards, fences, and looking into the fields to see that nothing is there but what is allowed to be there, is oftentimes the means of producing more good, or at least of avoiding more evil, than can be accomplished by riding from one working party, or one overseer to another. I have mentioned these things not only because they have occurred to me, but because, although apparently trifles, they prove far otherwise in the result.

To request that my people may be at their work as soon as it is light, work till it is dark, and be diligent while they are at it, can hardly be necessary, because the propriety of it must strike every manager, who attends to my interest, or regards his own character, and who, on reflecting, must be convinced that lost labor is never to be regained. The presumption is, that every laborer does as much in twenty-four hours, as his strength, without endangering his health or constitution, will allow. But there is much more in what is called head work, that is, in the manner of conducting business, than is generally imagined. For take two managers, and give to each the same number of laborers, and let the laborers be equal in all respects. Let both these managers rise equally early, go equally late to rest, be equally active, sober, and industrious, and yet, in the course of the year, one of them, without pushing the hands under him more than the other, shall have performed infinitely more work. To what is this owing? Why, simply to contrivance, resulting from that forethought and arrangement, which will guard against the misapplication of labor, and doing it unseasonably. In ploughing, for instance, though the field first intended for it, or in which the ploughs may actually have been at work, should, from its situation, be rendered unfit (by rain or other cause) to be worked, and other spots, even though the call for them may not be so urgent, can be ploughed, this business ought to go on, because the general operation is promoted by it. So with respect to other things, and particularly carting, where nothing is more common, than, when loads are to go to a place, and others to be brought from it, though not equally necessary at the same moment, to make two trips, when one would serve. These things are only mentioned to show, that the manager, who takes a comprehensive view of his business, will throw no labor away.

For these reasons it is, that I have endeavoured to give a general view of my plans, as to the business of the year, that the concerns of the several plantations may go on without application daily for orders, unless it be in particular cases, or where these directions are not clearly understood.

2. Particular directions for cultivating a farm near Mount Vernon.

[The directions alluded to in the preceding article, for the management of the farms in the neighborhood of Mount Vernon, were given in December, 1799, a few days before Washington's death, and intended for the year 1800. We shall select here the part relating to one farm only (called the *River Farm,*) which may serve as a sample of the whole.]

Crops for the River Farm, and Operations thereon, for the year 1800.

Field No. 1,—Is now partly in wheat; part is to be sown with oats; another part may be sown with peas, broad cast; part is in meadow, and will remain so; the most broken, washed, and indifferent part is to remain uncultivated, but to be harrowed and smoothed in the spring, and the worst portions (if practicable) to be covered with litter, straw, weeds, or any kind of vegetable rubbish, to prevent them from running into gullies.

No. 2,—One fourth is to be in corn, and to be sown with wheat; another fourth in buckwheat and peas, half of it in the one, and half in the other, sown in April, to be ploughed in as green dressing, and by actual experiment to ascertain which is best. The whole of this fourth is to be sown with wheat also; another fourth part is to be naked fallow for wheat; and the other and last quarter to be appropriated for pumpkins, cymlins, turneps, Yateman peas, (in hills) and such other things of this kind as may be required; and to be sown likewise with rye, after they are taken off, for seed.

No. 3,—Is now in wheat, to be harvested in the year 1800; the stubble of which, immediately after harvest, is to be ploughed in and sown thin with rye; and such parts thereof as are low, or produce a luxuriant growth of grain, are to have grass-seeds sprinkled over them. The whole for sheep to run on in the day (but housed at night) during the winter and spring months. If it should be found expedient, part thereof in the spring might be reserved for the purpose of seed.

No. 4,—Will be in corn, and is to be sown in the autumn of that year with wheat, to be harvested in 1801; and to be treated in all respects as has been directed for No 3, the preceding year. It is to be manured as much as the means will permit, with such aids as can be procured during the present winter and ensuing spring.

Nos. 5, 6, 7, and 8,—Are to remain as they are, but nothing suffered to run upon them; as ground will be allotted for the sole purpose of pasturage, and invariably used as such.

Clover Lots.

No. 1,—Counting from the Spring Branch, is to be planted in potatoes.

No. 2,—That part thereof which is new in turneps is to be sown with oats and clover; the other part, being now in clover, is to remain so until it comes into potatoes, by rotation.

No. 3,—Is also in clover at present, and is to remain so, as just mentioned, for No. 2.

No. 4,—is partly in clover and partly in timothy, and so to be, until its turn for potatoes.

The rotation for these lots invariably is to be, 1. Potatoes, highly manured; 2. Oats, and clover sown therewith; 3. Clover; 4. Clover. Then to begin again with potatoes, and proceed as before. The present clover lots must be plastered.

All green sward, rough ground, or that which is heavily covered with weeds, bottle brush grass, and such things as being turned in will ferment, putrefy, and meliorate the soil, should in autumn be ploughed in, and at such times in winter as can be done while the ground is dry, and in condition for it.

Pasture Grounds.

The large lot adjoining the negro houses and orchard, is to have oats sown on the potatoe and pumpkin ground; with which, and on the rye also in that lot, and on the melon part, orchard-grass seeds are to be sown; and thereafter to be kept as a standing calf pasture, and for ewes (which may require extra care) at yeaning, or after they have yeaned.

The other large lot, northeast of the barn lane, is to be appropriated *always* as a pasture for the milch cows; and probably working oxen during the summer season.

The woodland, and the old field, commonly called Johnston's, are designed for *common* pasture, and to be so applied always. To which, if it should be found inadequate to the stock of the farm, field No 8, and the woodland therein, may be added.

[To be concluded in our next.

Manures.

No soil will always prove productive without manure. Though naturally fertile, if some equivalent for its produce is not returned to it; if it is always yielding and never receiving, it must, at length, become barren. Particular spots, like Egypt, and other alluvial or interval lands, which are annually overflowed, derive manure from the bountiful hand of nature, and cannot be rendered barren by bad husbandry or continual cropping. Some soils, likewise, are not easily exhausted, and are easily recruited, in consequence of being composed of materials which attract and retain the food of plants from air and water, as well as afford a proper medium to prepare and communicate the principle of fertility.

Every species of matter capable of promoting the growth of vegetables may be considered as manure. Vegetables are composed of certain substances called by chemists oxygen, [formerly called vital air] hydrogen, [inflammable air] carbon, [coaly matter] and nitrogen, or azote, one of the constituent parts of the atmosphere. The substances employed as manure should be composed of all or some of these elements.

Vegetable and animal substances, deposited in the soil, are consumed during the process of vegetation; being mostly absorbed by the roots of plants, combined with water. These substances compose what is called the food of plants. This food is mostly taken in by the roots, which are analagous to the mouths of animals, but some portion of the nourishment of vegetables is also derived from the atmosphere, imbibed by the leaves and bark. A controversy has existed relative to the degree of fermentation which manure should undergo before it is applied to the soil. Some agriculturists contend that long, fresh, or unfermented manure, is to be preferred. Others assert that stable and barn-yard manure never should be spread in the field till the fibrous texture of the vegetable matter is entirely broken down, and it becomes perfectly cold, and so soft as to be easily cut with a spade.

Sir Humphrey Davy observes, 'If the pure dung of cattle is to be used as manure, there seems no reason why it should be made to ferment, except in the soil; or if suffered to ferment it should be only in a very slight degree. The grass in the neighborhood of recently voided dung is always coarse and dark green; some persons have attributed this to a noxious quality in unfermented dung; but it seems to be rather the result of an excess of food furnished to the plants.

'During the violent fermentation which is necessary for reducing farm-yard manure to the state of what is called *short muck*, not only a large quantity of fluid, but likewise

of gaseous matter, is lost so much so that the dung is reduced one-half or two-thirds in weight; and the principal elastic matter disengaged, is carbonic acid, and some ammonia; and both of these, if retained by the moisture of the soil, are capable of becoming useful nourishment of plants.

'It is usual to carry straw that can be employed for no other purpose to the dung-hill to ferment and decompose; but it is worth an experiment, whether it may not be more economically applied when chopped small by a proper machine, and kept dry till it is ploughed in for the use of the crop. In this case, though it would decompose much more slowly and produce less effect at first, yet its influence would be more lasting.'

Robert Smith, Esq., president of the Maryland Agricultural Society, in an address to that society, observed, 'With respect to stable dung, I shall for the present content myself by barely suggesting, that my experience strongly inclines me to the opinion that, however long, it ought to be ploughed into the ground without any preivous stirring, and as soon as practicable after it has been taken from the farm-yard.'

We believe that the question relative to long and to short manure must depend on circumstances. In certain soils, and for certain crops, long manure which has undergone but a slight fermentation is to be preferred. But if used for wheat, and other kinds of grain, and in all crops which cannot conveniently be hoed or weeded, or, probably, when applied to soils containing acids or some substances which may prevent fermentation and retard the progress of putrescence and dissolution, it must be well rotted.

Rotting manure, however, in a barn-yard, or in any situation in which its volatile and liquid products escape into the atmosphere, or soak into soil not designed to support vegetation, is very slovenly and wasteful, and always to be avoided if possible. The effluvia or gas which is suffered to escape from fermenting manure is not only almost altogether lost to useful vegetation, but, what is still worse, fills the atmosphere with particles injurious to health, and often destructive to life. The evaporations from a manure yard rob the farmer of a part of his substance, starve his crops, and it is well if they do not, moreover, poison him and his family by there contaminating influence. Some farmers' barn-yards, hogpens, and other receptacles of manure, are very offensive, and if they do not generate typhus fever in its worst form, which we fear is frequently the case, they at last cause a degree of langor and debility, which embitters existence, and in a great measure disqualifies for any useful purposes of life. It is a fact that those exhalations so injurious to animal life are the essence of vegetable life, and the volatile substances which offend our senses and injure our health, if arrested in their transit by the hand of skilful industry, may be so modified in the great laboratory of nature as to greet us in the fragrance of a flower, regale us in the plum or nectarine, or furnish the stamina of life in substantial viands from the field and the stall of the cultivator.

If we are correct in the foregoing, an important axiom may be adduced, viz.: *No putrefaction process ought to be sufferd to proceed on a farmer's premises, without his adopting some mode to save, as far as possible, the gaseous products of such putrescence.* These gaseous products constitute important elements of vegetable food, and a farmer may as well suffer his cattle to stray from his stall, or his swine from his sty, without a possibility of reclaiming them, as permit the principles of fertility expelled by fermentation or putrefaction to escape into the atmosphere for the purpose of poisoning the air, instead of feeding the plants. It is very easy to arrest these particles. A quantity of earth thrown over the matter in which the fermentation is going on will check its violence and arrest its gaseous products, which will bei mbibed by the soil, and afterwards yielded to plants in such proportion as the wants of vegetation may require.

'Fermentation, that destroyer of all organic conformation, is not to be feared by the farmer, if it be conducted and carried on in the presence of earth, which fixes and secures the gases as fast as they are liberated. Even the degree of the process is a matter of less consequence; because if the elementary principles are in keeping, and reserved for future usefulness, it is immaterial whether this has happened by a new absorption, or by still holding there original and unchanged form. In his composite hill [compost heap] the whole animal or vegetable structure may be dissolved, and leave behind no trace of existence, without the last waste of the principles of fertility; because the ingredients superadded to the dung have become surcharged with them, or, to speak philosophically, fully saturated. We may go further and state that complete decomposition is desirable in this case, which is so much to be avoided in the farm-yard; because putrescent matter can only become vegetable food by its resolution into primary parts, and if this be effected by any preparatory step, the young crop receives the full and instantaneous benefit. The compost manure is carried to the field ready to give out its richness on the very first call, and to supply the nascent radicle [young root] with a copious share of nourishment.

'The putrefactive process may be carried on in the presence of pure earth only, or of earth intermingled with fibrous roots, or lastly in the presence of peat, which is an assemblage of inert vegetable matter, and compost dung hills may be formed according to this threefold method.

'The simplest of all composts is a mixture of barn-yard dung and surface mould taken from a field under regular culture. The proportions between the ingredients are fixed by no determinate laws, and consequently great liberty is allowable to the operator. I have known some instances where two cart-loads of dung were used for one of earth; others where they were blended in equal quantities; and it is not unfrequent to compound two of earth with one of dung. In fact such is the uncertainty in the composition, that almost every farmer adopts one peculiar to himself, and with equal success. No man need therefore follow implicitly the rules which have been laid down in this department of rural economy, but may vary and multiply his experiments, according to the suggestions of fancy or the dictates of convenience. If we slightly glance at the principle, we shall see the cause of this seemingly endless variety in the combinations of the ingredients. The only use of intermixing the soil with the dung is to imbibe the gaseous elements of vegetable life, and hinder their dissipation. If their be much soil, these elements will be diffused through it with less density and compression; if little, it will be more abundantly saturated and enriched with the nutritive vapors. The only error into which the farmer can run is to supply such an inconsiderable quantity of soil as will be incapable of imbibing the elastic and volatile particles, and thus by his own mismanagement, occasion a waste of the vegetable aliment. One cart load of soil to two of stable-dung is the least proportion which he should ever attempt to combine, and perhaps if the two were mixed equally, he would be compensated for the additional labor and expense.

'Simple earth, although excellent for bottoming and strewing over the pit dug near the barn, is of all materials, the most unprofitable in compost dunghills. A matted sward, thickly entangled with roots, or mud dragged from the bottom of bogs or ditches, and replete with aquatic plants, are clearly preferable on this account, that, besides bringing earth to the composition, they supply a large proportion of vegetable matter. Whenever the soil must be carted to the heap it is better to lay out the expense in transporting these enriching materials; because they will not only equally absorb and retain the evaporating gases, but greatly augment the quantity of manure.'*

* Letters of Agricola, by John Young, Esq.

The path proper for a farmer to pursue in order to make the most of his manure, and preserve his own health and that of his family, is as plain as a turnpike. Whenever putrid fermentation is going on in any part of his premises, and consuming his substance by a slow but wasteful combustion, let him apply earth, peat, or some other earthy substance in quantities sufficient to attract, imbibe, and retain all the affluvia. Health, profit, and cleanliness equally require such a proceeding. If a man were to swallow daily a quantity of filthy matter, or to eat his food impregnated with vapors from a manure heap, or from some other putrefying and offensive substance, when he might by a little exertion avoid such nauseous viands, and substitute something nourishing, palateable, pure, and wholesome, we should esteem him no better than a Hottentot. But a man may almost as well take filth into his stomach, as filthy effluvia into his lungs; he may about as well dine with a crow or a buzzard as sup with a toad 'on the vapor of a dunghill.'

The farmer who arrests the rank vapors which emanate from decaying animal and vegetable matter, and instead of permitting them to pass into and contaminate the air he breathes, treasures up the invisible particles with which they are laden, and applies them to feed useful vegetables, causes the atmosphere to be healthy, and his plants to be thrifty by the same means.

From the Genesee Farmer.

Raising Pork.

The business of fattening pork for sale is practiced to some extent by most of our farmers, and when performed economically, or when the most is made of the materials given them, it is undoubtedly a source of handsome profit. Yet all will admit that when carried on in the manner it sometimes is, the process of pork making drains, instead of replenishing the farmer's pocket.

To make fattening hogs profitable, it is necessary, first of all, that the breed selected for feeding should be a good one. There is a vast difference in hogs in the respect of easy fattening, proper proportion of bone, weight, &c. and the farmer who thinks to make money by feeding the long snouted, hump-backed, slab-sided animals, that are too frequently found among farmers, and disgrace the very name of swine, will find in the end that he has reckoned without his host, and thrown away both time and money. There are several good breeds of pigs now in the country, mostly produced by crossings of other kinds with the Chinese, and of course having different degrees of aptitude to fatten; and these breeds have been so disseminated over the country, that any farmer who is will-

ing to make the effort, may have some improved animals in his pens. The time has gone by when a hog should be kept four years to weigh four hundred; the business of fattening is little understood were hogs of a year and a half do not reach that amount, and some pigs have even exceeded that weight.

Next to selecting good breeds, it is requisite that they should be kept constantly growing. There must be some foundation for fattening when the process commences, or much time will be lost in repairing errors, and much food consumed in making carcass that should be employed in covering it with fat. Hogs should be kept in clover pasture, a field being allotted to them for their exclusive use, so large in proportion to their numbers that the feed may always be fresh, yet not so much so as to run up to seed, or to grow coarse or rank. They should have the slops of the kitchen, the whey or buttermilk of the dairy, unless this is required for young pigs, and in general every thing they will eat to advantage, or which will promote their growth.

The manner in which the materials intended for fattening pork is prepared and fed, has a decided influence on the rapidity of the process, and of consequence on the aggregate profits. If given out raw much of the value of the article is lost; grain is much improved by grinding, but the full effect of all kinds of feed is only brought out by cooking. Corn is, without a peradventure, the best article ever produced for making good pork; and though other substances may occasionally be used with advantage, and may produce pork of fair and good quality, yet experience has proved that the real corn fed meat is on the whole superior to all others. Hogs will fat on corn given to them in any state, yet it is far preferable when soaked, ground, steamed or boiled. A farmer of our acquaintance, and who is celebrated for the weight of his hogs, and the excellence of his pork, is in the habit of mixing oats with his corn before grinding in the proportion of about one-fourth, and thinks that if he had not the oats of his own, he should be a gainer in exchanging corn, bushel for bushel, for oats, rather than not have them to mix with his swine feed. He thinks they eat the mixture better than clear corn meal, are less liable to a surfeit, and of course will fat much faster with the oats than without them. Peas have generally been ranked next to corn as an article for making good pork, and they are probably the best substitute that has yet been found, hogs feeding well on them, fattening rapidly, and the pork being of good quality. It is almost indispensable that peas should be ground or soaked previous to feeding. Potatoes are more extensively used for fattening hogs than any other of the cultivated roots, and are probably the best of the whole for this purpose. Unless they are boiled, however, they are of little value comparatively, but when cooked they will give the hogs a fine start in feeding, and they may then be easily finished off with corn or peas. The fattening of hogs on apples may be considered as one of the successful innovations of the age, it being certain that this fruit possesses a value for that purpose which but a few years since was wholly unknown. The success of this experiment has given a new value to orchards, and will probably check their destruction, which in some sections of the country, had already commenced to a considerable extent. The various reports from gentlemen of intelligence of the practical results of apple feeding are most gratifying, and we have no doubt the system will be fully approved wherever fairly tested. Where convenient let the hogs lie in the orchard from the time the fruit begins to fall, till it is time to gather apples for winter or cider, and they will in most cases be found respectable pork. When it is necessary to put them in the pen, boiled apples mixed with a small quantity of corn, oats, peas, or buck-wheat meal, will fill them up rapidly, make them lard well, and fill the farmers' barrels with sound sweet pork of the first quality. If any however are doubtful, they can easily finish off their apple fed pork, as is generally done with potatoe fed, with corn or peas, and with similar results.

[We intend in the course of the present work to treat on the diseases and management of cattle, the most successful and proper modes of treatment, &c. For this purpose we have solicited the aid of a few practical and competent individuals; and we hope ere long to commence a series of papers on CATTLE and SHEEP Husbandry, which will not only interest but profit our readers.]

Our duty to Domestic Animals.

WARREN, *Chester Co. Sept.* 28, 1836.

MR. EDITOR—Our duty to our domestic animals is of vast importance, and I regret that it is not in general duly appreciated, fully understood, and properly practiced. This part of the brute creation have great and imperious demands upon us—they require care and attention. They are subject to many serious and fatal diseases, and it is incumbent on all who may own or have the management of animals to make themselves acquainted with the diseases to which they are lia-

ble, together with the best and most effectual remedies to be applied. Knowledge and instruction, both scientifically and practically, is greatly needed—a commendable spirit, (a thirst after information on subjects of utility) is now abroad among our farmers. In this I rejoice, and hope that this spirit may be cultivated, confident that it will produce an abundant harvest, richly rewarding all who give to it proper attention. I send you a few extracts from a lecture, delivered some time since by that great and good man, the late Dr. RUSH, of your city, on the duty and advantages of studying the diseases of domestic animals and the remedies that are proper to remove them. He lays it down as a rule that the physician is bound to embrace in his studies and labors, the means of lessening the miseries of that part of the brute creation over which man has retained his dominion since his banishment from paradise. He says, "we are bound to study the diseases of domestic animals, and the remedies that are proper to cure them, by a principle of gratitude. They live only for our benefit. They cost us nothing in wages or clothing. They require in exchange for their labor, and all the other advantages we derive from them, nothing from us but food and shelter, and these of the cheapest and coarsest kind, so that there is constantly due to them, an immense balance of debt from us. This motive to take care of their health and lives will appear more striking when we consider the specific benefits we receive from each of them. The HORSE is not only an important appendage, but a necessary part of the cement of civilized society. He ploughs our fields,—he drags home our havests and fruits to our barns and cellars. He conveys them from distant countries, over rough and difficult roads, to our market towns and sea ports. He receives in exchange for them, the products of foreign nations, and conveys them to the interior and remote parts of our country. He keeps up the inland connection between different states by means of stages and posts, and thus favors the quick communication of intelligence, and the increase of national intercourse, commerce and happiness. He administers to our health and to our pleasures under the saddle, and in harness. He keeps up society and friendship in neighborhoods too scattered in its population to admit of visits upon foot. In vain would country churches and courts be opened, without the strength of this noble animal; nor could the great system of representative government be supported in an agricultural country unless he conveyed the elector to the place of suffrage. In maintaining the freedom and independence of nations, the horse bears a distinguished part. When caparisoned with the furniture of war, he feels with his rider, the courage and the pride of arms. Nor let us forget his sagacity in discovering roads, and choosing the safest parts of them, when inattention or darkness has rendered his rider, or driver unable to discover them.

To the HORNED CATTLE we are indebted for many of the blessings and comforts of life. The strength and patience of the ox in the plough and the team, have added to the wealth of the farmer in every age and country. The cow has still greater demands upon our gratitude. Her milk, in its simple state, furnishes subsistence to a great part of mankind. Its products in cream, butter and cheese, form the most agreeable parts of the aliment, and even of the luxuries of our tables. A pustule upon her udder supplies a matter which, when introduced into the body, defends it for ever from the small-pox, and without substituting in its room, a painful or loathsome vicarious disease. Millions in every part of the globe unite with us in expressions of gratitude to heaven for this important contribution to the happiness of the human race. But our obligations to this benefactor of mankind, and to her whole species, do not cease with their lives. Their flesh affords us the most agreeable aliment after death. Their tallow and the oil which is interposed between their joints, supply the absence of the sun in candles and lamps, whereby labor and study are profitably extended during a part of the night. Their hair affords a necessary ingredient in the plaster of our houses. Their skins protect our feet and legs in the form of shoes and boots from the injuries of the weather. They furnish likewise coverings for our books and pleasure carriages, and saddles for our horses. Their horns supply us with combs, and even their bones are converted when fresh into aliment, and when dry, into a salt of extensive use in medicine and in a variety of the arts.

SHEEP occupy the next rank in the list of domestic animals in their claims upon our science. They afford us by their wool a covering from the inclemency of winter during every year of their lives, and by their deaths they supply us with a delicious aliment in the forms of lamb, and mutton.

The HOG is said like the miser to do good only when he dies. But this is so far from being true that he is dishonored by the comparison. He fattens upon the offals of our kitchens, and performs the office of a scavenger in cleaning the streets of our cities from putrefying masses of animal and vegetable matters. At his death he bequeaths us his flesh for food, his hair for brushes, and his fat for medical and culinary purposes.

The immense and profitable disproportion between the labor of the ASS and the MULE, and the expense of their food render their health of great importance in those countries where wheel carriages cannot be employed to convey the products of the earth to a public market.

The GOAT by its contributions of the delicate flesh of its young, and of its medicinal milk to our use, is entitled to a share of medical attention.

The courage and fidelity of the DOG in defending our persons and property from the midnight assassin and robber, and the usefulness of the CAT in destroying or chasing from our houses the mischievous animals that infest our cellars and closets, entitle each of them to an inquiry into the causes and cures of their diseases.

It remains only to mention the claims of POULTRY of all kinds, to a physician's care. They adorn our yards and fruit trees with their plumage. They inform us by their crowing, and other noises of the approach of day. A part of them furnish us with eggs for aliment, with quills for writing, and with feathers for our beds; and all of them, in a greater or less number at a time, generally constitute after death a portion of our banquets, where a display is intended of hospitality or elegance.

In addition to what has been said in favor of domestic animals in their individual capacities, I shall only remark that collectively they lessen the solitude and silence of a country life. They please us with their gambols when young, and delight us by their looks and gestures in mature life, every time they receive food or shelter from our hands. They furnish the means of encreasing and perpetuating the fertility of our lands, and finally they gratify us with a sense of our sovereignty over their labor and their lives; and thus furnish us with a small portion of that pleasure which the father of the human race enjoyed, when he received from his Creator the commission of his extensive dominion over all the creatures that live and move upon our globe.

Another reason why we are bound to study the causes and cure of the diseases of domestic animals, is because nature is wholly *passive* in such of them as are violent, or does harm in her efforts to remove them. This is evident in a more especial manner in the epidemics which sometimes prevail among them. The horses, cattle and sheep, of large neighborhoods, and extensive districts are often swept away by those general diseases where no aid is afforded from medicine

By studying the diseases of our domestic animals we may rescue them from the hands of quacks, who add to the mischievous and unsuccessful efforts of nature, the evils of absurd, painful, and destructive remedies.

THE DAIRY.—NO. IV.

The first and very important measure is to provide a sufficiently large and convenient dairy house, whether the object be butter or cheese. It should be proportioned to the number of cows, and be sufficient for performing all the necessary operations without embarrassment.—"Much attention must be paid to cleanliness in every thing that relates to it, such as the shelves, floors, and different implements which are made use of, by daily scalding, scrubbing, rinsing, and drying, in order to prevent any sort of acidity taking place; for without due regard in these respects, it is impossible that the produce can be of superior quality, or such as will keep sweet and good for any length of time. Cleanliness is the least indispensable part of good management." "A Farmer may have the most valuable breed of cows, and they be fed on the richest pastures, but unless cleanliness prevail in the dairy, his butter or cheese will never stand high in general estimation.

This building should be placed over a cool spring, and trees planted round it for shade. Where there are no springs, the house should be built near the dwelling house, and an ice house close to it. All the utensils connected with the dairy, must be kept perfectly clean.

The milk pans may be of any convenient width, but not to exceed *four inches in depth.*

"The milk should be strained *into the pans as soon as possible* after it is taken from the cow, and with as little *agitation as possible*, and where the dairy is large, a pail full, as soon as milked, should be strained into the pans. Great loss is sustained by agitation and cooling; and this mode more particularly enables the owner of the dairy to separate the good milk from the bad. Without such attention the whole of his dairy products may be greatly depreciated by the milk of one bad cow." The quantity of butter must depend on the quality of the milk, as well as the management of it; it is therefore important to separate the inferior quality of the milk in the first instance, as it secures the best quality of butter: and the inferior may be converted into the use that is found most profitable. There is not only a difference of milk in different cows, but a *difference in the same cow.*

The following is the opinion of Dr. Anderson, a contributor to the Bath Papers on agriculture. "The writer is satisfied from experience and attentive observation, that if

in general, about the first drawn half of the milk is separated, at each milking, and the remainder only set for producing cream, and if that milk is allowed to stand to throwing, the whole of its cream, even till it begins sensibly to taste sourish, and if that cream is afterwards carefully managed, the butter thus obtained will be of a quality greatly superior to what can be usually obtained at market, and its quantity not considerably less, than if the whole of the milk had been treated alike. This therefore is the practice that is thought most likely to suit the frugal farmer, as his butter, though of a superior quality, could be afforded at a price that would always insure it a rapid sale."

THE DEGREE OF HEAT PROPER TO RAISE THE MOST CREAM.—The precise heat has not been fixed by experiment, but "from the trials that have been made on this subject, it is believed, that when the heat is from 50 to 55 degrees in Fahrenheit's Thermometer, the separation of cream from milk proceeds with the greatest regularity, and in the most favorable manner. When the heat exceeds 60° the operation becomes difficult and dangerous; and when it falls below 40° the operation can scarcely be carried forward with any degree of economy or propriety."

ON THE PROPER TIME FOR SKIMMING MILK.—It is the opinion of some of the English writers, "that for *very fine butter* the milk ought not to stand more than 6 or 8 hours; for *ordinary good butter* 12 hours or more."

SKIMMING.—This requires a dexterity that can be acquired only by practice, but it must be well done, for if any part of the cream is left, the quantity of the butter will be diminished, and if part of the milk is taken, the quality will be the worse for it.

THE MODE OF KEEPING CREAM.—When the cream is separated from the milk, it ought to be put *immediately* into a vessel by itself. No vessel can be better adapted for this purpose than a neat made wooden barrel, in size proportioned to the extent of the dairy, open at one end, with a lid exactly fitted to close it. Close to the bottom should be placed a cock, for drawing off, from time to time, any thin serous part of the milk, that may have generated, which, if allowed to remain, acts on the cream, and greatly diminishes the richness in the quality of the butter. The inside of the opening should be covered with a bit of close fine wire, to keep the cream back while the serous is allowed to pass; the top of the barrel should be inclined a little forward.

ON THE TIME OF KEEPING CREAM BEFORE CHURNING.—Epping butter is in high repute for its superior quality, and "the cream is seldom kept above 3, or at the furthest 4 days, but always till there is a certain degree of *acidity* in the cream either *natural or artificial*, as without it they cannot ensure a good churning of butter; some keep a little old cream for this use, otherwise a little rennet.

In Suffolk, in a large dairy, with a high character for making butter of a superior quality and where the butter was to be sent *directly* to market, the cream was churned the second or third day, but when it was to be salted, it was kept a day or two longer, or till it had acquired a certain degree of acidity. The reason assigned was, "that butter from the freshest cream was better and pleasanter to the taste, but that which was kept longer would take the salt better."

From the result of the experience in England, and experience and observation in this country, it is well ascertained, that *acidity* in the cream is absolutely necessary before butter can be produced. It is for this reason that it is difficult to produce good butter in winter. Heating the cream with warm water is a common practice, and it is a long while before the butter is produced, and is usually white, hard, and bitter, with very little taste. The writer has, in times past, in winter and spring, used a small quantity of vinegar, which has never failed to produce a good effect. But the Epping practice of using rennet is recommended. If acidity in the cream is necessary, and this is acquired by standing, the following course is suggested to prevent the churning of *new* and old cream at the same time.

If the dairy is large and cream is churned three times in the week, four vessels to hold cream should be provided, and two day's cream put into one, say Monday's and Tuesday's, and churned after the acidity has taken place, and the amount of the acidity must be regulated by experience.—An extract from Dr. Anderson will close this head. "The separation of butter from cream, only takes place after the cream has attained a certain degree of acidity. If it is agitated before the acidity has begun to take place, no butter can be obtained, and the agitation must be continued until the sourness is produced, after which the butter begins to form. In summer while the weather is warm, the beating may be continued until the acidity is produced, so that butter may be got; but in this case the process is long and tedious, and the butter for the most part, of a soft consistence, and tough and gluey to the touch. If this process is attempted during the cold weather in the winter, butter can scarcely be in any way obtained, unless by

the application of some great degree of heat, which sometimes assists in producing a very inferior kind of butter." The judicious farmer should not attempt to imitate such practice, but allow his cream to remain in the vessel for keeping it, until it has acquired that proper degree of acidity that fits it for being made into butter with great ease, and by a very moderate degree of agitation; by which process only very fine butter can be prepared.

Churning.—The process of churning is necessary to force out the serous fluid from the cream in order to produce butter. This is done by agitation and in a churn. There are various kinds of churns, but the best churn is the one that will preserve the proper temperature, or the same temperature that is in the churn and cream when put into it. In warm weather cold water for some time is to be put into the churn, and in cold weather scalding water, and also putting hot or cold water in the cream according to the season. As it is important to preserve the same temperature while churning—the best churns are those which are used in an horizontal position—such as the stationary barrel with dashes to move in the inside. A small churn is in use on this principle, and answers a good purpose, as a hole of sufficient size from one half an inch to an inch, may be made on the top, to let out the warm air produced by the agitation of the cream, and to admit the cool air. A barrel churn of this kind has been used, when 36 to 38 lb. of butter was made twice a week. An extract from Dr. Anderson is given to show great care is needed in churning.

"In the process of churning greater nicety is required, than most persons are aware of; a few hasty irregular strokes may render the whole of the butter of scarcely any value, and, but for this circumstance would have been of the first quality."

Making up the Butter.—It is not necessary to describe the common mode of preparing the butter for market, when taken from the churn. The object is to take from the butter all the serous liquor—which is done by letting it off, and washing the butter by change of water until it is pure, and not discolored. The advantage of the churn above recommended is going through this process without the use of the hand—and working the butter after it is separated from the serous liquor. Even the salt may be worked in, in the churn. If butter worked in a barrel churn where was put ½ an ounce of sugar, salt petre and salt to a pound of butter into the churn and when well worked it was put in thin layers in firkins with another ½ ounce of the above spread on each layer. This butter was sent to the West Indies, and a firkin was kept until the vessel returned with lumber from a Southern port, and was in prime order.

It is agreed by all good butter makers "unless the milk is *entirely taken away*, the butter will infallibly spoil in a short time, and if it be *much worked* the butter will become tough and gluey, and it should be salted *as soon as the milk is removed.*—*Maine Farmer.*

Food of Horses.—The coach proprietors in Scotland who have lately adopted the plan of cutting the hay and bruising the oats before they are given to the horses, save one fourth of the quantity, and the horses are kept in better condition than before. We are aware that there is nothing new in this plan, but hitherto it has not been much adopted. Other persons mix potatoes and turneps with barley dust, straw and salt, which it is said, has been found to be a very nutritious diet for horses.

To extract Grease Spots from Clothes.—Spirits of Turpentine is frequently used for this purpose, but in clearing one spot by this process, we have found to our sorrow, another in its place, deeper and broader. Highly rectified alcohol is now recommended. The mode of using it is this; a small piece of sponge is wet with it, and rubbed upon the spot very thoroughly, until nothing can be seen, and the cloth nearly dry. In this way grease spots can be taken out from various kinds of silks, from cloaks, from carpets, from the collars of coats, &c. If the alcohol be good and the application judiciously made, the instances of failure will be comparatively rare. When the garment can be washed, good soap and soft water will uniformly succeed in common grease or oil spots; but if any rosin or wax be present, alcohol is indispensable.

Receipt for Pickling.—After cleansing your cask, put first a layer of white oak leaves, and then a layer of Cucumbers, or whatever your pickles consist of, and so on to fill your cask; intersperse between each layer, mustard seed, horse-raddish, &c., and to every twenty cucumbers one bell of pepper. Form a composition of clean salt and water, not hardly sufficiently strong to bear an egg, to every gallon add one quart of good vinegar; scald and scim this pickle, and after cooling to a degree of blood warmth, add it to your cask, and cover it tight.—If rightly performed, this method will preserve pickles the year round, and form a very agreeable sauce.

FIG. 1.

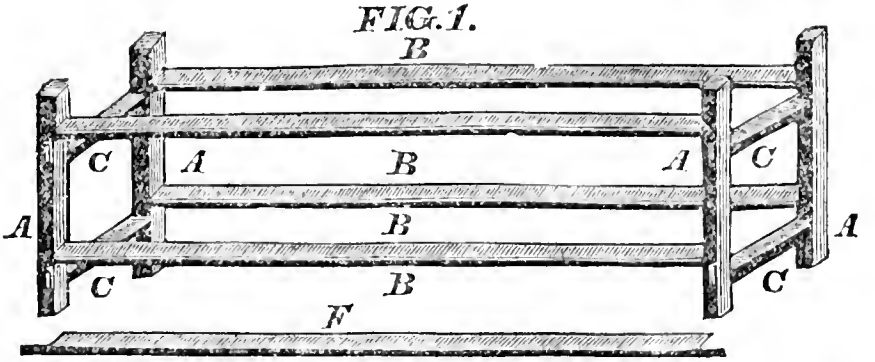
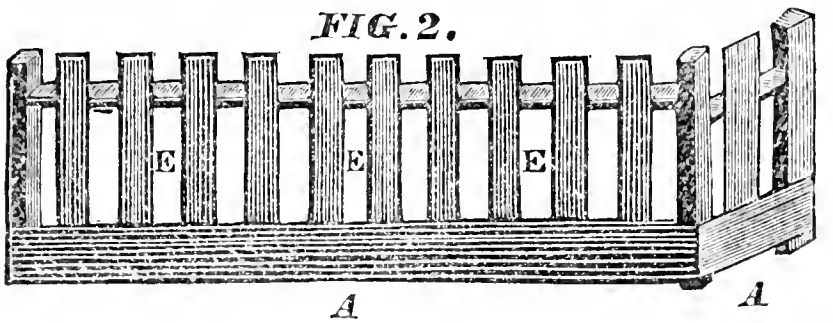


FIG. 2.



Sheep Racks.

The above plan of a sheep rack, an improvement of Mr. John Powers, of Urbana, Steuben county, N. Y., an intelligent and experienced wool grower, is highly approved in that part of the country. For convenience, simplicity of structure, and durability, we think it the best we have ever seen. It takes the precedence here of all others. The draft we took from one in Mr. Powers' yard. This rack is composed of a frame of four posts and eight horizontal pieces, on which are nailed upright slats, and a board around the bottom. Fig. 1 represents this frame, and fig. 2 a front and end view of the rack after it is finished.

Frame, 11 feet long by 2½ feet wide from outside to outside.

Posts (*a. a. a. a.* fig. 1) 3½ feet high, made of three inch scantling.

Horizontal pieces (*b. b. c. c.*) at the sides and ends made of stuff three inches wide and an inch and a half thick, framed into the posts by boring with an inch and a half auger, and inserting a round tenant, the flat side up. The shoulders of the tenant are cut on the inside as represented by *f*, so that when put together the slats will be even with the outer edge of the posts. The lower side pieces are 11 inches from the bottom of the posts—the lower end pieces 8 inches. The upper side and end pieces 2 feet above these from center to center of the tenants.

The slats, (*e. e. e.* fig. 2,) 6 inches wide, made of three quarter or five eights stuff, nailed on with six-penny nails, 6 inches apart, thus making a space of just one foot for each sheep, with sufficient room for inserting the head between the slats; at the ends, two of these are placed together in the center, making interstices of 6 inches between them and the posts.

The bottom board, (*A. A.* fig. 2,) 9 to 12 inches wide—the top edge comes up 13 inches from the bottom of the posts, covering the horizontal pieces and the lower ends of the slats; it is nailed firm on to the posts and the horizontal pieces.

As the space at the sides is just ten feet six inches in the clear between the posts, there are eleven interstices of six inches each—and the rack it will be perceived will accommodate 26 sheep—*eleven* on each side, and *two* at each end. It is of such a height that the sheep will not jump into it; the fodder is so secured that it is not trampled under foot, and wasted, but may be eat up clean. The rack, it will readily be perceived, is very simple and easy of construction; any person with the least share of mechanical ingenuity, who can handle a saw, an auger, and a hammer, can make one. It is strong, and not subject to be racked to pieces; light and easy to be removed from place to place; convenient for the use for which it is designed, and, if properly taken care of, placed under shelter during that part of the year when it is not wanted, will last for a great many years. We would recommended to all who raise sheep, and who regard economy in the use of fodder as important, a rack of this construction.—*Genesee Farmer.*

Cholic in Horses.

Mr. Editor:—I herein send you a receipt for curing the cholic in horses. If you think it worthy a place in your journal, you will perhaps confer a service on some of your readers, by giving it publicity. A few weeks ago, I was traveling into the country. Before I had progressed many miles, my horse showed evidently that he was laboring under cholic. He became quite loose in the bowels, swelled, and was in great agony. Fortunately I met with a wagoner, whose kindness relieved my beast from his illness, and myself from, perhaps, a long walk. His remedy consisted in tying upon the horse's bit, a piece of *tobacco*. This being done he told me I could proceed upon my journey; assured me, that the horse would get well before I got one mile, and that he would not be troubled again, while the tobacco remained on the bit. I did as he directed, and to my perfect astonishment my horse became relieved as soon as he swallowed the saliva created from the tobacco. L. B. S.

Charleston, April, 12, 1836.

We think our correspondent must be somewhat mistaken as to the effects of the tobacco. We are opinion, that the tobacco, used upon the bit, is a preventive of cholic, in its incipient state; but once the cholic has been violent upon the animal, we are confident, that a more active remedy must be used. In violent stages of cholic, we have seen tobacco tea given with excellent effect. We have heard of many receipts for this disease with which horses are so frequently plagued; but we venture to assert, that none will be found more simple and sure, than the following: Take of laudanum 6 or 7 table spoonfulls—of mustard, the larger portion of a bottle—mix those in a pint of whiskey, or water, and give the mixture in a horn or bottle to the horse. We have seen this dose applied to horses which were so far gone with cholic, as to be perfectly cold and stiff. In one instance, when the horse could not swallow, the mixture was administered with an injection pipe, and the horse recovered in an hour afterwards. When the severe pain has been alleviated, a dose of oil should be given. One pint will answer as a dose.—*Editor Southern Agriculturist.*

From the Genesee Farmer.

Split Hoof in Horses.

A correspondent of the Doylestown Intelligencer, remarking on the great number of horses that get split hoofs in consequence of having been corked during the bad going last season, says, "a number of expedients were resorted to to cure the *split*. Some had bands drawn round the hoof, but these were rather a clumsy affair, and in case the split commenced on the top of the hoof the remedy was completely ineffectual." After alluding to the inconvenience of keeping the horse idle for four or five months,—the plan adopted by some—the writer adds, "But I have within a few days seen an expedient which is very simple and promises complete success. I saw two horses which had their hoofs split, from *corkings* received last winter. They were kept steadily in a team, and showed no signs of lameness. Some time after the split in their feet, various expedients having been tried without success, a blacksmith suggested *boring the hoof in two places*, on each side of the opening, and then passing nails through the holes and clinching them tightly. The owner of the horses had the operation performed immediately; and, although the horses had been used in a heavy team for many weeks before the time of my seeing them, their feet looked well; and I have no doubt that the horses will not be again afflicted with lameness. If the hoof should again incline to split, it will be easy to insert a single nail."

Bees.

Some persons that keep Bees neglect to take them up until some weeks after they have been consuming the honey in the hive. The bees cease to procure honey as fast as they consume it earlier in the season than is generally supposed. They lose after the first of September unless they have access to Buck-wheat that is in bloom. They will not generally collect honey enough to support them in the two last weeks in August unless the weather is very favorable to their laboring, and the season is wet, so as to keep a supply of honey in the flowers. We have sometimes weighed hives every week or fortnight and have found that in a dry season the hives were heaviest the last of July. A hive that gained ten pounds a week in the last of June and first of July, lost 3 lbs. from July 23, to Aug. 6th. During this fortnight, the weather was as warm as it had been any time in the season, but it was very dry, and of course the flowers afforded but little honey. If any person supposes that bees will gain, at this season of the year, let him weigh his hives every week, and he will soon be convinced to the contrary, unless his bees have unusually good pastures.—*Yankee Farmer.*

Beet Sugar in England.—Agriculturists in England are beginning to turn their attention to the cultivation of beet-root, in consequence of the success which is understood to have attended the attempts to make sugar from it in France and elsewhere.

Microscope.—Polypi.

The different species of sponge, which the Microscope has discovered to be the habitations of Polypi, are very interesting objects; when viewed with an instrument of a moderate power, they present to the eye a curious mass of net-work, which once formed the cells of the Polypus. If the power is increased, the remains of the little tenants may sometimes be detected. These consist of a small bony or chalky axis, like a needle, which, when the animal was living, formed the centre of its body.

There is a small species of sponge found frequently among seaweeds, from its appearance called "Crumb-of-bread sponge," which, when placed under the magnifier, seems to be almost entirely composed of bunches of little needles, lying across each other like little net-work. B is a magnified representation of a small piece of this species. When dry, the little needles, or spiculæ, are so extremely fine and sharp, as to cause a most irritating itching, if unluckily they should get between the fingers of the observer.

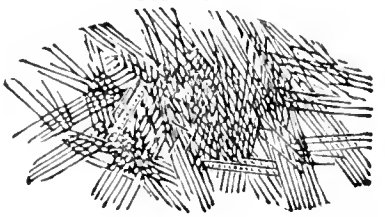
The animal of the *Corallines*, which are found so abundantly on every coast, attached to stones and other substances, belong to the same class, and the houses they construct are excellent objects for the microscope.

The annexed cuts are representations of five different species, engraved of the natural size, and accompanied by a portion considerably magnified.

In figures 18, 19, and 20, the Polypi themselves are seen, with their feelers put forth in search of prey.

Fig. 16.

Fig. 17.



B

Fig. 18.

Fig. 18. *Sertularia pumila*, Great tooth-coralline.
19. ——— *potyzonias*, Sea-tamarisk.
20. ——— *halecyna*, Herring-bone coralline.
21. ——— *antennina*, Lobster's horn coralline.
22. ——— *lendigera*, Nit coralline.

Fig. 23 represents a magnified view of the *Hydra brunnea*, or brown Hydra, another species of Polypus, which is not uncommon in fresh water in the months of July and August. The cut shows the manner in which the young are produced. These Polypi have been the subjects of many curious experiments, which show the surprising tenacity of life in the lower order of animals. They have been cut across, divided lengthwise, and even turned inside out, and yet each portion has not only continued living, but has become a perfect animal.

Fig. 19.

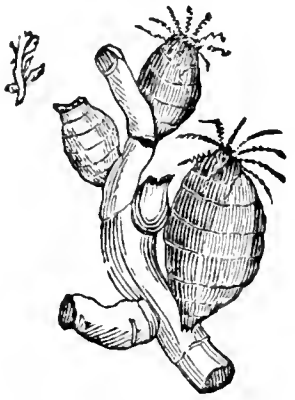


Fig. 20.

Fig. 21.

Sea-weed and other substanees, which have been left for some time undisturbed, are frequently found covered with a chalky incrustation, which appears to the naked eye like net-work, but, if placed under a moderate power, exhibits a series of little cells or chambers, most beautifully formed: each of these tiny nests originally contained a

living creature. The name given to these Polypi is *Flustra*, and they are extremely abundant on the sea-coast in every latitude. Figures 24 and 25 are different species.

A, fig. 24, is a piece of the Flustra of the natural size, covering a sea-weed; B is an enlarged view of the cells; and C the animal itself.

Fig. 22.

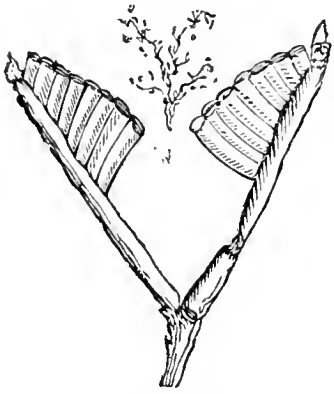


Fig. 23.

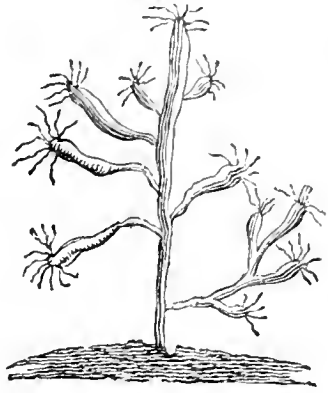


Fig. 24.

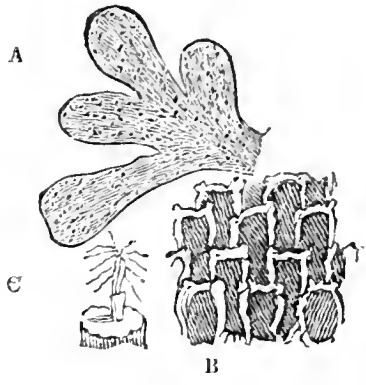


Fig. 24. *Flustra foliacea*, Broad-leaved hornwrack.

25. ——— *pilosa*, Prickly hornwrack.

26. Chalky axis or centre of a coralline very common on the English coast.

27. The great tooth-coralline, covered with minute shells.

28. The pitcher hornwrack, a native of the Red sea.

29. Animal of a Polypus very highly magnified.

Fig. 25.

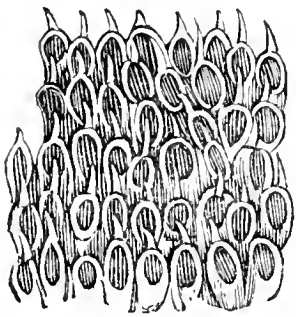


Fig. 26.

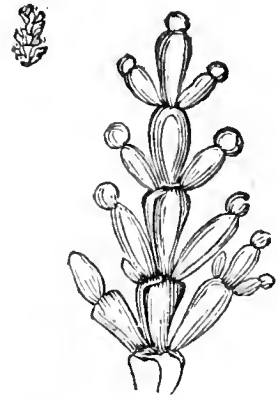


Fig. 27.

Fig. 28.

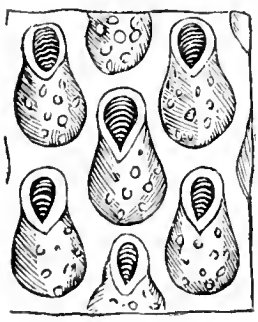


Fig. 29.

The corallines appear to the naked eye, from their branching form, and from being fixed at the base to some other substance, more like vegetable than animal productions, and for a long time were known by the name of Zoophites, that is, animal plants, and were considered as the link between animal and vegetable life.

The red coral of commerce, of which beads and necklaces are made, is formed by an animal of the class Polypi; but instead of this stony deposit becoming a dwelling place, in which its ingenious architect retreats for safety from outward injury, it merely answers the purpose of a strong support, surrounded by a thin fleshy substance, in which a numerous tribe of minute Polypi form their fragile dwellings.

In contemplating the slight and diminitive forms of this curious portion of the animal kingdom, we are apt to consider them as acting some very subordinate part; but the geologist can inform us, that the united and constant efforts of these specks of animation have been productive of gigantic effects. A great portion of the South Sea Islands have their foundations formed of coral reefs; that is, immense masses of different species of corals and corallines, in which, in the first instance, sea-weeds and other substances became entangled; as these rotted, a vegetable mould was produced; the sea-birds fre-

quented them, and brought different kinds of seed from other places, whose growth and decay still continued to add to the soil, till at length it became of sufficient depth and substance to offer a resting-place to some enterprising fishermen.*

From the Pittsburger.

Caution to the Public.

Mr. Editor—Sir: Will you permit me to acquaint the public, through your valuable journal, that there is a kind of Crockery Ware, manufactured in almost every city in the Union, which is dangerous to use—and which the public will understand by the term Common Red Pottery. This ware is made of common clays from the brick yards, and when formed, is coated with a liquid called Glaze, which is nothing less than a coat of lead. The clays being of the commonest kind, cannot be subjected to any heat in the burning that will make them safe for family use—*being porous*—and it is very unsafe to deposit any articles of family use in them, such as milk, butter, or in fact water, as a portion of the Lead Glazing will be extracted, and the article will, in consequence, become dangerous to use. I have noticed no fewer than ten instances within the last twelve months, of families sustaining injury by the use of such ware.

In selecting the article of crockery that is suitable for family use, it is only necessary to ascertain that the body of the ware—the clay—has been hard burnt, which any person can understand by the sound of it—if well burnt, it will have a clear sound. The poorest kind will not ring at all, and therefore can be easily detected. An article of this kind will, in the course af a month's use, become very foul. Let any one who doubts this break the vessel, and they will ascertain the fact. There is a kind of ware, however, that is manufactured in almost every city in the Union, called stone ware, which is perfectly good for family use. This ware is formed of strong and superior clays, and undergoes a great heat in the burning,—and moreover, the glazing is not a thick coat of lead, but is accomplished by throwing salt into the kiln. All kinds of Liverpool ware are adapted to all purposes of family use, being made of sound clays and well burnt. As a preventive is better than a cure, if I should be the means of preventing any person suffering from the use of the poisonous article—lead—this advertisement will answer the ends I design.

C. S.

[Glass may be used in all cases, and is the most beautiful and safe article extant in manufactures.]

*We commend this department to the attention of youth; it will afford them instruction, while to those of maturer years it will not be uninteresting.

Independence of the Farmer.—The merchant or manufacturer may be robbed of the reward of his labor, by changes in the foreign or domestic market, entirely beyond his control, and may wind up a year, in which he has done every thing which intelligence and industry could do to insure success, not only without profit, but with an actual diminution of capital. The strong arm of mechanic industry may be enfeebled or paralized by the prostration of those manufacturing or commercial interests to whose existence it so essentially contributes, and on whom in turn it so essentially depends. But what has the intelligent and industrious farmer to fear? His capital is invested in the solid ground; he draws on a fund which from time immemorial has never failed to honor all just demands; his profits may be diminished indeed, but never wholly suspended; his success depends on no mere earthly guarantee, but on the assurance of that great and beneficial Being, who has declared that while the earth endureth, seed time and harvest shall not cease.

To make Tomato Ketchup.—For half a gallon take a gallon of skinned tomatoes, four table spoonfuls of salt, four of black pepper, half a spoonful of alspice, eight pods of red pepper, three table spoonfuls of mustard; grind them finely, and simmer them slowly in sharp vinegar, in a pewter basin, three or four hours, strain it through a wire sieve, and bottle it closely. Those who like the article may add, after the ingredients are somewhat cool, two table spoonfuls of the juice of garlic.

Black Oats.—The editor of the Macon, Ga., Messenger, says he has examined a sample of Black Oats, raised on pine land of common quality, and found them to contain two hundred and forty-eight grains to the head, whereas the heads of the common oat, on the same land, yielded but eighty-four. This is a very great difference in product, and if the former contain as much farinaceous matter as the latter, it is certainly an invaluable variety.

Palm Leaf Brooms, are becoming an extensive article of manufacture. The high price of broom brush, and consequently corn brooms, has set the ingenious ones contriving a little, and they have got up a nice article, made from the palm leaf. They sell from a shilling to twenty-five cents, and are said to be a good article. Three loads from New Hampshire for New-York, passed through this town the other day.

Northampton (Mass.) Courier.

BOTANICAL EMBLEMS.

AMARANTH—EMBLEM OF VIRTUE.

The fadeless treasure of the mind, the distinguishing attribute of our nature, in its state of primeval goodness, is emblematically represented by the amaranth, whose flowers on the authority of poesy, are endowed with the quality of perennial bloom. Though autumn's chilling winds assail its leaves, or wintry tempests bend the slender stem, yet still its purple flowers unfold their beauties to the light, unblighted by the passing blast—uninjured by the lapse of time; lasting and bright as the rays which surround the hallowed fane where virtue is enshrined. The moral of this poetical illusion has been thus rendered by an anonymous writer:

Though chilling winds may blow,
And blossoms meet their doom;
One lovely flower will grow,
And live in fadeless bloom:
When summer hues are fled,
And wintry blasts deform,
'Twill rear its gentle head,
Unhurt amid the storm.

Thus virtue ever shines,
When worldly cares surround;
As life's bright sun declines,
Its lustre still is found:
'Tis bright in pleasure's hour,
And gilds dark sorrow's day;
Like amaranthine flower,
It blooms amid decay!

JONQUIL—EMBLEM OF TORMENT.

That there is a very singular affinity between the varied sensations of the mind and body, is perceptible to the most ordinary intellect. This idea is illustrated in many of these botanical illusions, and particularly in the subject of the present notice. The Jonquil represents torments, either moral or physical; its yellow hue and sickening odor, are strikingly typical of those torments of the mind,

"Which steep the soul in wretchedness
And prey upon the heart——."

and equally so of those corporeal agonies which

"Wring the frame to bear."

Mickle thus makes the application of this subject to an individual whose conscience was seared by crime:

His heart is dead to earthly joy,
His hopes the world cannot restore;
When torments of the mind destroy
Life's flowers, they never blossom more;
His being's essence all is gone,
Whose soul is of the jonquil's hue!
The blighted flowers may linger on
The tree, yet never bloom anew.

TO-MORROW.

BY THE HON. MRS. NORTON.

What e'er the grief that dims my eye,
What e'er the cause of sorrow,
We turn us weeping to the sky
And say, "we'll smile to-morrow."
And when from those we love we part,
From hope, we comfort borrow,
And whisper to our aching heart,
"We'll meet again to-morrow."

But when to-morrow comes, 'tis still
An image of to-day,
Still tears our heavy eyelids fill,
Still mourn we those away.
And when that morrow too is past,
(A yesterday of sorrow;)
Hope, smiling, cheats us to the last
With visions of to-morrow.

Corn,

Should be planted more thickly on fertile land than on poor; as a rich soil will sustain and mature a much greater number of thrifty stalks than a poor one. This fact may easily be perceived in the fall of the year by passing through a cornfield, where in some parts five or six stalks with well ripened ears may be found in a single hill; while in others, if there are more than one or two in a hill, the ears will be found small and green, owing entirely to the difference in the quality of the soil.

Soda for Washing.

We have been requested by a correspondent, to publish the recipe for washing with Sub-carbonate of Soda. To five gallons of water add a pint and a half of soft soap and two ounces soda. Put the clothes (after soaking over night) into the mixture when at boiling heat, rubbing the parts most soiled with soap. Boil them one hour—drain—rub, and rinse them in warm water, after being put into indigo water, they are fit for drying. Half the soap and more than half the labor is saved by washing in this manner.—*Silk Culturist.*

Silk.

The Northampton Silk Company have been manufacturing Sewing silk for the last three months in large quantities. Some of it we saw the other day, is as highly finished and as smooth as the best Italian. They make over sixty pounds a week. They are just beginning the manufacture of silk fabrics and when the new factory building is finished, they will do more in this way than all the other establishments in the country put together.—*Northampton Courier.*

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, November 1, 1836.** **No. 8.**

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The Cabinet is published on or about the first and fifteenth of each month. Each number will contain 16 octavo pages on good paper and fair type. The subjects will be illustrated by engravings on wood whenever they can be appropriately introduced. TERMS.—*One Dollar per year, payable in advance.* For the accommodation of those who wish to subscribe for six months only, the twelfth number will be accompanied by a title page and index, in order for binding. Any person remitting us five dollars, will be entitled to six copies of the work for one year, or twelve copies for six months. The Cabinet, by the decision of the Post Master General, is subject only to *newspaper postage;* that is, one cent on each number within the state, and within one hundred miles of Philadelphia, out of the state,—one cent and a half on each number to any other part of the United States. Gentlemen disposed to assist the objects of the work, are not only requested to use their influence in promoting its circulation, but also to aid it by their communications. ☞ Six copies for five dollars.

THE FARMERS' CABINET.

[We bespeak for the following communication the careful and candid consideration of our readers, as the subject is one of great moment. The author, Mr. RONALDSON, is well known as one of our most respectable and enterprising citizens. He is the same gentleman who succeeded in directing the attention of our citizens to the culture of the Beet Root for the fabrication of sugar; (see Cabinet No. 4. vol. 1,) and his object in this enterprise, like that just referred to, is to benefit the community without any reference to pecuniary gain.]

To the Farmers of the U. States.

That care and skill have improved fruit trees, vegetables, and our domestic animals, are facts known to all classes of husbandmen; and the advantage of rearing cattle from the best breeds is now well understood all over America. The advantages that accompany procuring the best grain for seed is as yet but partially understood and very little attended to.

Repeatedly sowing some kinds of grain on the same land, is in many cases followed by an evident decline in the quality, still this it must be observed is not a uniform consequence; there are many and well authenticated instances where the change to a new soil and climate is accompanied with a deterioration, and in others as great an improvement has taken place.

As it is known that grains, &c. in some climates and soils degenerate to a minimum, sometimes in quality, in others in quantity, and frequently in both; a practice calculated to remedy these disadvantages is of great importance to the agriculture of the United States. On the present occasion it is our object to point out what may be done here, by showing what is done in other countries, and under circumstances far less favourable to the husbandman, or to the operations of husbandry, than in America. In Scotland, for example, the climate is cold, wet and stormy; yet by care and industry crops are produced, remarkable both for quantity and quality There the greatest attention is paid to the changing of seed. The low countries procure their seed potatoes from the high districts at great expense of money and labor. The whole oat crop of some districts is bought for, and sowed for seed; this is the case with a portion of country called Blainsley, that lays south of Soutria Hills. In no country has the culture of clover been more beneficial, or attended with better success than in Scetland, yet the climate is so unfavorable to the ripening of clover seed, that nearly the whole has to be procured from England or Holland. The farmers of that country frequently change the wheat seed, and procure the best that is to be had, paying very little respect to price, and the greatest attention to quality.

It would appear that the principle by which the Scotch farmers are guided to the results they obtain, is to select their seed from those districts where it is grown in the greatest perfection, from the climate and soil being best adapted to the plant. Thus they choose seed oats and potatoes of their own growing,

these being plants best adapted to mountainous, cool and moist regions; and clover and wheat seed from England and Holland, which are comparatively low, warm and dry, and better adapted to their production.

It is well known that in America, our Oats are not good, they have little kernal or meal; and the quality of our Barley is not what it ought to be.

It is to the following circumstance the present address owes its existence.

In the year 1833, a well informed practical farmer visited Pennsylvania with the object of seeing as much of our practice of farming, soil and climate, as a short stay here would permit. On his return to Scotland, he procured and sent to his friends in Philadelphia some Angus Oats, Hopeton Oats, Barley, Wheat and Rye-grass; the cask containing the seed miscarried and did not arrive here until the Fall of 1835.

Some of each kind of these seeds have been sown here; the wheat came up very thin; it is presumed the seed suffered from the long voyage. On the 18th April, 1836, the Oats and Barely were sown on rather poor but fresh loam. It is true, the season has been cool, damp and favorable to these grains, still their success has surpassed any thing that could have been calculated on. The Barley and both kinds of Oats are of superior growth in strength of stem, as well as thinkness on the ground; they would lose nothing in a comparison with the crops of Oats or Barley of any country, and are likely to suffer loss from excessive growth, causing them to lodge. One kind of the Oats commenced shooting into ear about the first of July, and the other about the tenth; the marks which were placed to distinguish the one from the other have got displaced, and this accident prevents knowing whether it is the Angus or Hopeton Oats that first puts out the ear.

Now let us inquire into the economy of farmers adopting the practice of annually supplying themselves with new seed grain—and found our calculations on a farm where about twenty bushels of Oats are sown each year; the farmer of such a piece of land could supply himself with an annual change of his Oat seed in the following manner. It is presumed that each bushel of the imported Oats he sows, will produce ten bushels; then by annually buying two bushels, their produce would yield the twenty bushels required for sowing on his farm. Suppose the price of the imported Oats to be $1,50 cents a bushel, the two would cost $3—and the price of country oats was 50 cents, the two would cost $1—The expense of changing the seed would be per annum $2. The estimate is not given as a matter of accuracy, but as a formula by which every one can make his own calculations.

In procuring a change in seed, there are other points necessary to be attended to besides the quality of the grain, and one of these is to guard against bringing with it the weeds incident to the country or fields where it has grown: for want of attention to this, there are farmers who have introduced into their fields, along with the clover they sowed, the narrow leafed plantain, which arrogates to itself a place which would otherwise be occupied by clover, to the detriment of his hay both in quality and quantity, and that more serious curse, Bensalem clover or white daisy; all this is the result of their not taking sufficient care in the selection of their clover seed.

In the British Islands, their Oat and Barley fields at some seasons, are entirely yellow; nothing is to be seen save the bloom of the wild mustard, in some districts called Sheldricks; and this is not the only one of this class of yellow flowering spring weed,—in Wheat they have what is here called Cockle, the seed of which is detrimental to superfine flour; all these should be guarded against by the European agent; and to prevent mischief, the seed after it arrives here should be re-sifted in a sieve that will separate the weeds from the pure grain, always collecting and burning the obnoxious seeds.

In proof of the sincerity, that the writer entertains a favorable opinion of the system, he will import for next season's sowing, one hundred bushels of selected Barley, one hundred of each variety of Oats, already spoken of, and, it being too late for receiving wheat for the ensuing sowing, measures will be taken for bringing to this country wheat for the following year.

Such persons as take an interest in renewing their seed grain, are invited to apply to the subscriber who will furnish them with any quantity, not less than a bushel. The cost will be governed by the price abroad, and the expense of bringing the articles here. The transaction will be attended with considerable trouble, and the limited extent of the operation will satify all who reflect, that there are other motives for undertaking the business than that of making money.

Letters, post paid, will be duly attended to, addressed to

JAMES RONALDSON,

No. 200 South Ninth street, Philad.

P. S. Editors of newspapers who take an interest in the advancement of our agriculture are requested to insert the preceding in their papers.

Washington's Agricultural Notes.

[CONCLUDED.]

Meadows.

Those already established and in train must continue, and the next to be added to them is the arms of the creek, which runs up to the spring-house, and forks, both prongs of which must be grubbed up, and wrought upon at every convenient moment when the weather will permit, down to the line of the ditch, which encloses the lots for clover, &c.

And as the fields come into cultivation; or as labor can be spared from other work, and circumstances will permit, the heads of all the inlets, in them must be reclaimed, and laid to grass, weather they be large or small, forasmuch as nothing will run, or can trespass upon or injure the grass; no fencing being required.

Mud for Compost.

The season is now too far advanced, and too cold to be engaged in a work, that will expose the hands to wet; but it is of such essential importance, that it should be set about seriously and with spirit next year, for the summer's sun and the winter's frost, to prepare it for the corn and other crops of 1801, that all the hands of the farm, not indispensably engaged in the crops, should, so soon as corn-planting be completed in the spring, be uninterruptedly employed in raising mud from the Pocosons, and from the bed of the creek, in the scow; and the carts, so soon as the manure for the corn and potatoes in 1800 is carried out, are to be incessantly drawing it to the compost heaps in the fields, which are to be manured by it. What number of hands can be set apart for this all-important work, remains to be considered and decided upon.

Penning Cattle and folding Sheep.

On the fields intended for wheat, from the first of May, when the former should be turned out to pasture, until the first of November, when they ought to be housed, must be practised invariably; and to do it with regularity and propriety, the pen for the former, and the fold for the latter, should be proportioned to the number of each kind of stock; and both these to as much ground as they will manure sufficiently in the space of a week for wheat, beyond which they are not to remain in a place, except on the poorest spots; and even *these* had better be aided by litter or something else, than to depart from an established rule, of removing the pens on a certain day in the week. For in this, as in every thing else, system is essential to carry on business well, and with ease.

Feeding.

The work-horses and mules are always to be in their stalls, and all littered and cleaned, when they are out of harness; and they are to be plenteously fed with cut straw, and as much chopped grain, meal, or bran, with a little salt mixed therewith, as will keep them *always* in good condition for work; seeing also, that they are watered as regularly as they are fed; this is their winter feed. For spring, summer and autumn, it is expected, that soiling them on green food, first with rye, then with lucern, and next with clover, with very little grain, will enable them to perform their work.

The oxen and other horned cattle, are to be housed from the first of November until the first of May; and to be fed as well as the means on the farm will admit. The first (oxen) must always be kept in good condition; housed in the stalls designed for them; and the cows (so many of them as can find places) on the opposite side. The rest, with the other cattle, must be in the newly erected sheds; and the whole carefully watered every day; the ice, in frozen weather, being broken, so as to admit them to clean water.

With respect to the sheep, they must receive the best protection that can be given them *this* winter; against the next, I hope they will be better provided for.

And with regard to the hogs, the plan must be, to raise a given number of *good ones*, instead of an indiscriminate number of *indifferent ones*, half of which die or are stolen before the period arrives for putting them up as porkers. To accomplish this a sufficient number of the best sows should be appropriated to the purpose; and so many pigs raised from them as will insure the quantity of pork, which the farm ought to furnish.

Whether it will be most advisable to restrain these hogs from running at large or not, can be decided with more precision after the result of those *now* in close pens is better known.

The exact quantity of corn used by those, which are now in pens, should be ascertained and regularly reported, in order to learn the result.

Stables and Farm Pens.

These ought to be kept well littered, and the stalls clean; as well for the comfort of the creatures that are contained in them, as for the purpose of manure; but as straw cannot be afforded for this purpose, *leaves* and such spoiled straw or weeds as will not do for food, must serve for the stables; and the first, that is, leaves and corn-stalks, is all that can be supplied to the pens. To do this

work effectually, let the corn-stalks be cut down by a few careful people with sharp hoes, so low as never to be in the way of scythes at harvest; and whenever the wheat will admit carts to run on it without injury, let them be brought off and stacked near the farm pens. In like manner let the people, with their blankets, go every evening, or as often as occasion may require, to the nearest wood, and fill them with leaves for the purposes above mentioned; bottoming the beds with corn-stalks, and covering them thick with leaves. A measure of this sort will be, if strictly attended to, and punctually performed, of great utility in every point of view. It will save food, make the cattle lie warm and comfortable, and produce much manure. The hogs also in pens must be well bedded in leaves.

Fencing.

As stock of no kind, according to this plan will be suffered to run on the arable fields or clover lots, (except sheep in the day on the rye fields, as has been mentioned before,) partition fences between the fields, until they can be raised of quicks, may be dispensed with. But it is of great importance, that all the exterior or outer fences should be substantially good; and those also which divide the common, or woodland pasture, from the fields and clover lots, are to be very respectable.

To accomplish this desirable object in as short a time as possible, and with the smallest expense of timber, the post and rail fence which runs from the negro quarters, or rather from the corner of the lot enclosing them, up to the division between fields Nos. 7 and 8, may be placed on the bank (which must be raised higher) running to the creek. In like manner, the fence from the gate, which opens into No. 2, quite down to the river, along the cedar hedge row, as also those rails which are between Nos. 1 and 2, and between Nos. 2 and 3, may all be taken away, and applied to the outer fences, and the fences to the lanes from the barn into the woodland pasture, and from the former (the barn) into No. 5; for the fences of all these lanes must be *good*, as the stock must have a free and uninterrupted passage along them, at all times, from the barn-yard to the woodland pasture.

All the fencing from the last mentioned place, (between me and Mr. Mason,) until it join's Mr. Lear's farm, and thence with the line between him and me, until it comes to the river, will require to be substantially good; at its termination on the river, dependence must be placed in a water fence; for if made of common rails, they would be carried off by boatmen for fire-wood. The fences separating fields Nos. 1 and 8 from the woodland pasture must also be made good, to prevent depredations on the fields by my own stock.

Crops, &c. for 1801.

No. 5, is to be in corn, and to be invariably in that article. It is to be planted (if drills are thought to be ineligible until the ground is much improved) in rows, 6 feet by 4, or 7 by 3½, the wide part open to the south. These hills are to be manured as highly as the means will admit; and the corn planted every year in the middle of the rows of the preceeding year; by doing which and mixing the manure and earth by the plough and other workings, the whole in time will be enriched.

The washed and gullied parts of this field should be levelled, and as much improved as possible, or left uncultivated. Although it is more broken than some of the other fields, it has its advantages. 1st, It has several inlets extending into it, with easy ascents therefrom. 2dly, It is convenient to the mud in the bed of the creek, whensoever (by means of the scow) resort is had thereto, and good landing places; and, 3dly. It is as near to the barn as any other, when a bridge and causeway shall be made over the spring branch. To these may be added, that it is more remote from squirrels than any other.

Nos. 6 and 7, or such part thereof as is not so much washed or gullied, as to render ploughing ineligible, are to be fallowed for wheat. One of which, if both cannot, is to have the stubble ploughed in and sown with rye, and the low and strong parts to have timothy or orchard-grass seeds, perhaps both, in different places, sprinkled over them, for the purpose of raising seed. On the rye pasture the sheep are to be fed in winter and spring, and treated in all respects as No. 3, in 1800.

In the Years 1802, 1803, *and so on.*

The corn ground remaining the same, two fields, in the following numbers, will be fallowed for wheat and treated in all respects as mentioned above; and if pumkins, cymlins, turneps, peas, and such like growth are found beneficial to the land, or useful and profitable for stock, ground may readily be found for them.

These are the great outlines of a plan, and the operations of it, for the next year, and for years to come for the *river farm.* The necessary arrangements, and all the preparatory measures for carrying it into effect ought to be adopted without delay, and invariably pursued. Smaller matters may, and undoubtedly will, occur occasionally, but none it is persumed, that can militate against it materially.

To carry it into effect advantageously, it becomes the indispensable duty of him, who is employed to overlook and conduct the operations, to take a prospective and comprehensive view of the whole business, which is laid before him, that the several parts thereof may be so ordered and arranged, as that one sort of work may follow another sort in proper succession, and without loss of labor or of time: for nothing is a greater waste of the latter, and consequently of the former, (time producing labor, and labor money,) than shifting from one thing to another before it is finished, as if chance or the impulse of the moment, not judgment and foresight, directed the measure. It will be acknowledged, that weather and other circumstances may at times interrupt a regular course of proceedings, but if a plan is well digested beforehand, they cannot interfere long, with a man who is acquainted with the nature of the business, and the crops he is to attend to.

Every attentive and discerning person, who has the whole business of the year laid before him, and is acquainted with the nature of the work, can be at no loss to lay it out to advantage. He will know that there are many things which can be accomplished in winter as well as in summer; others, that spring, summer, and autumn only are fit for: in a word, to use the wise man's saying, that "there is a time and a season for all things," and that unless they are embraced, nothing will thrive or go on smoothly. There are many sorts of *in-doors* work, which can be executed in hail, rain, or snow, as well as in sunshine; and if they are set about in fair weather, (unless there be a necessity for it,) there will be nothing to do in foul weather; the people therefore must be idle. The man of prudence and foresight will always keep these things in view, and order his work accordingly, so as to suffer no waste of time or idleness. These same observations apply with equal force to frozen ground, and to ground too wet to work in, or which if worked will be injured thereby.

These observations might be spun to a greater length, but they are sufficient to produce reflection; and reflection, with industry and proper attention, will produce the end that is to be wished.

There is one thing, however, I cannot forbear to add, and in strong terms; it is, that whenever I order a thing to be done, it must be done; or a reason given at the time, or as soon as the impracticability is discovered, why it cannot be done, which will produce a countermand or change. But it is not for the person receiving the order to suspend, or dispense with its execution; and after it has been supposed to have gone into effect, to be told, that nothing has been done in it, that it *will* be done, or that it could not be done—either of these is unpleasant and disagreeable to me, having been all my life accustomed to more regularity and punctuality. Nothing but system and method are required to accomplish any reasonable requests.—*American Almanac.*

Farm Buildings and the Consumption of Fodder.

[The following article on Farm Buildings and the consumption of Fodder, may not be new to many of our readers; but it cannot, we think, fail to interest all who desire information on this subject. The farmers of Pennsylvania and New-Jersey will lose nothing by a comparison on this point with those of other states—but still they have by no means reached the point of perfection. On the proper management of farm-stock some are wofully deficient—this ought not to be—every man who aspires to the dignified title of a farmer, ought to understand his business thoroughly, having all reduced to a system, and that system regularly observed. In regard to the erection of farm buildings, special attention should be paid to the healthiness of their location—durability—economy—neatness—*comfort*. Rural architecture demands, and ought to receive, in this country especially, far more attention than has heretofore been devoted to it; and on this subject we invite the contribution of our friends. A difference of opinion we are aware prevails among many of our practical and intelligent farmers on the propriety of stabling neat cattle, some maintaining that it is calculated to make them too sensitive to cold, &c. On this point, as well as every other connected with the subject, we solicit the contribution of practical farmers.]

From the Cultivator.

Among all the deficiencies which exist in the perfect management of our farms, I am sensible that none are more prominent than that of proper buildings. Not that I would advocate expensive or large buildings, but those of ample size and convenience for all the *legitimate* uses of the farm, and of such shape and construction as shall conform to strictly economical calculations.

For instance, I would not build an expensive *stone* barn on my farm, when one of wood, equally good for all ordinary purposes, can be erected for a sum not greater than two or three years' interest on the cost of the stone one, because a well underpinned wooden building, where extraordinary warmth and tightness are not required, will endure at least fifty years, and need shingling no oftener

than a stone building. So of stables, sheds, outhouses, &c. But not so of dwellings.

The desire of warmth with which human beings are sheltered, forms a prominent part of the comfort and usefulness of life, and therefore all dwellings should be built of the best materials, and constructed in the warmest manner compatible with the ability of the owner. I have much doubt whether the occupant of an open, badly built house, does not pay three times the annual interest of its cost, in the extra fuel and labor consumed to keep its inmates comfortable; and among no class of people have I found so great an inattention to these very important matters, as among our moderate farmers; and when the annual losses by disease, exposure, extra labor of obtaining and preparing fuel, and of time in various ways, all arising from a cold and comfortless house, are taken into consideration, I am thoroughly satisfied that a great portion of the profits of a whole family's industry, are annually lost by the wretched houses they occupy.

Errors in Building.

The great fault committed by most farmers, in their buildings, is in the great size of their dwellings. Many who build, calculate to do it *within themselves;* or they get out their own timber, draw their own saw-logs to the mill, if there be one near them; quarry and haul their own stone, &c. &c., and so manage as to hire but a portion of their mechanic work, turning in their own labor and that of their sons or hired men, if they have them, to assist in its erection. This is as it should be; but the difficulty is, that they often plan too largely, calculating on finishing off only a small portion of the house *at present*, and to do off the rest at some future opportunity of more leisure and convenience. But these future opportunities of leisure and convenience rarely occur, and so much more capital is often expended in the inclosing of a large dwelling than had been anticipated, or is at all useful to the family, that it remains forever unfinished, and a cold, comfortless receptacle for them, when a snug, warm and delightful dwelling could be entirely finished, with every requisite comfort for a numerous family, at the cost of the unfinished shell! How painfully true is this fact in numberless instances!

This fatal error oftentimes extends itself to the outer buildings of the farm, alike prejudicial to all descriptions of stock kept upon it, and of most serious account in the year's results of its products. Fortunately, there is so little intricacy or science needed in the construction of farm buildings, that even the least skilful may erect comfortable and necessary shelters for all his domestic animals, and materials abound so plentifully in our country, that they are every where to be found. It is better, even, in my estimation, for a farmer to sell a small portion of his land, to accommodate the remainder with proper buildings, if he cannot do it otherwise, for he is actually richer in the end to do so; as for the most of them, the produce on an equal number of those acres would be annually wasted for the want of them, besides all the discomfort, misery, and suffering caused by exposure to the inclemency of the seasons. This may be unpleasant argument to those who are intent upon nothing but increasing the extent of their farms, regardless of the comforts or profits of their stock. Yet such, were they to pause in their acquisitions, and by the erection of necessary buildings on their farms, secure more effectually its products, would in a short time accumulate much more rapidly than before. I name these facts with more emphasis, because I am well assured by my observations throughout the country, that the want of necessary and proper buildings is the greatest drawback our farmers experience in the profits of their labor.

Of what avail is it that I reap fifty bushels of wheat, or an hundred bushels of corn to the acre, and lose one third of it for want of shelter, or waste in feeding? Unless I can secure my crop, my profit in growing it is of small account. If I cut fifty tons of hay, and by exposure in stacks to the weather, only forty of it can be eaten by the cattle, and one quarter part of that even is trampled under foot, I had better have had only thirty tons of good hay in my barn, and even then my stock would have consumed five tons less by being warmly housed for the winter. This is a view of the case which I think must strike every thinking mind, and will apply itself to every kind of domestic animal on the farm. To my own mind it has been most strikingly presented by a year's experience, and I am of opinion that the difference in the consumption of food for the domestic stock of a farm, taking in all the losses incident to the forage itself by want of housing, &c., is at least *thirty* per cent., compared with the most economical method of expending it; and in some cases even *forty* or *fifty!* I am aware that this calculation will strike the reader with surprise, and by many it will not be believed; but to such I only say, try it, and he will become satisfied of its truth.

Management of a large tract of Land---Wintering Cattle.

In the spring of 1834, the management of a large tract of land coming under my charge, portions of which had for years been most miserably mangled by a horde of squatters, who had cut, haggled, and worked the

land after their own fashion, although abundantly productive by nature, I found it in a most miserable condition, requiring immediate care and attention. Numerous wretched log cabins were scattered over it with bark roofs; an occasional shed for cattle, with a parcel of old rails thrown over the top, and on them the remains of an old stack bottom, where their hay, stalks, or straw, had been stored, were all the buildings or conveniences to be found on the premises. Three or four of these little squads or settlements had been made on different parts of the territory, and each one comprised within its compass from one to two hundred acres of this partially cleared, girdled and dilapidated improvement. Having got rid of the squatters, and selected one of these settlements most conveniently located for immediate operations, and taken the best cabin, well situated and convenient for a dwelling, I put into it a good family, fit to manage the place, built an addition to it also of logs, put on a good shingled roof, and, with a hundred or two dollars expense, made a very comfortable affair of it. With sufficient help on the place, the fences were straightened and put into line, the old bouks, (*bucks*,) brush fences, logs, &c. &c., cleared up and tolerable crops got in. Having come into the place about the middle of April, it was too late in the season to make rapid advances, but in the course of the summer perhaps thirty acres of oats, five or six of corn, and as many of potatoes, were cultivated, and yielded a tolerable crop. A dozen acres of wheat were also sown in the fall, and perhaps seventy or eighty acres of land worked into tolerable shape for another season. Yet we had no barns nor the means of building any during that year; one wretched log stable, which stood near the house, was all that we had for shelter to any of our animals, and with that we shifted to get along. Our hay, of which we had some sixty or seventy tons cut from a distant clearing, our oats, corn, fodder, &c. &c., were all stacked out in the open air. Winter came upon us. With a few thousand feet of boards and the aid of crotches and poles, we made some sheds and mangers for our cattle, of which we had a large stock, composed of oxen and cows, and erected some racks in the yard to feed them in. By these means we got through the winter, after the fashion. Our cattle had enough to eat, and during the cold weather, looked tolerably well: but as the cold rain and snow-storms of March and April came on, they grew poor in spite of all we could do. Food enough to keep in high condition double their number, if well housed, was given them, but all to little purpose. The storms wet the fodder in the stacks, the cattle trampled it into the mud under their feet, and with all the care given them, which was a great deal, I am fully satisfied that at least twenty-five per cent. of the food given them was entirely lost! And yet this was better and more economical feeding than one half the stock of our country get on the average! It may be a bold and sweeping remark, but it is nevertheless a *true* one, and would every farmer make the experiment who thus practises, he would fully test its correctness. We had great labor to perform, and therefore submitted to the loss and inconvenience accruing to this mode of management. During the winter we cleared up more of this *slashed* ground, inclosed it, drew off its wood and timber, and last spring had perhaps two hundred acres of pasture, mowing and plough land ready for use.

Erection of the Barn

We were now ready to build a barn, and after the spring crops had been put in, proceeded to erect one proper for the uses of the farm. It was soon built, covered and inclosed, and by haying and harvest time was ready for use. It was placed on a central and convenient spot for the farm, which is a large one, and although the barn is one hundred feet long, by fifty feet wide, and eighteen feet posts, with leantos for stables on each side of it, with a floor fourteen feet wide, lengthwise through the centre, more room will soon be required. It was a matter of much wonder and inquiry by my neighbors who saw the barn, of what possible use it could be, supposing it a most extravagant building, although, for the size, a very cheap one. Yet when we had cut and stored our hay, oats, and wheat, the barn was crammed full to the roof, on the floor and all. We housed every thing; all was put in, in perfect order and good condition. Ample room is there made to tie up every animal to be fed, and not a lock of hay or spoonful of grain need he lost. The manure is all saved, and in a convenient situation to be carried out, and a degree of economy, comfort and satisfaction experienced in expending the food to the stock, that amply compensates for all the extra expense. The hay and grain it contains is more than one hundred and fifty tons, enabling us to feed out every bundle of straw and coarse fodder, which is in most cases altogether lost, or only used for a manure. A plan of this barn will be given in our next.

(Concluded in our next.)

Keeping Stock---a Dialogue.

Mr. Holmes:—Being present when the following *Dialogue* took place, betweeen two farmers, and as winter is approaching, I think it may be useful to publish it, for the informaiton of those who keep stock next winter,

A. A yoke of oxen which girt six feet six inches, cannot be kept in good flesh in winter, on less than fifty pounds of good English hay per day, or fifteen hundred a month, without labor, by giving as much as they will eat—which is the only way to keep up their flesh.

B. There is no sort of need of their consuming such a quantity, or so much expense, per day—in the first place they will keep their flesh full as well by giving them something less than they will eat, if given to them; thus kept, their appetites will always be sharp and good, and they will better relish their food, and of course it will nourish them as much more; there will be no waste, in the next place. Much may be saved in the expense, by mixing straw, or poor hay, with the good; if thoroughly mixed, they cannot avoid eating the less expensive hay. As all animals (man not excepted) are fond of a change of *Diet*, much may be saved by Browse and a few roots. Thus I can keep a yoke of oxen for half the expense you name.

A. But it must take some time and trouble to mix the hay, straw, &c., in the manner you propose, and I have been in the habit of feeding my cattle without this trouble, and giving them what they will eat.

B. So I apprehended, and I was not clear but that you was so sparing of your trouble, that you neither carded your oxen, or see that they drank when they needed water, or that they were littered properly, and of course laid happily. Much depends, my friend, on these *little things*, if you desire to save hay, which we both agree, is of no small consequence this year, or indeed any year.

A. I will try your mode of keeping cattle, and if it succeeds I shall be much obliged, for my purse will not be drained as I expected, in keeping my stock through the approaching foddering time.

B. I am satisfied that good wheat straw, and a small quantity of roots every day will keep up their flesh, without any hay in cold winter weather, this has been sufficiently tried. By this time I hope you are satisfied that stock may be kept much cheaper than you had supposed, if you are, you will not sacrifice them this fall.

A. I certainly shall not, until I have tried your mode of wintering stock—if it succeeds, it must be of great consequence to farmers, even in seasons when hay is not very dear.

B. Why should we not learn something, by being deprived by Providence of the usual quantity of forage?—*Maine Farmer.*

A Mr. Walker, of Doncaster, stacked, in ten hours, twenty tons of hay.

When is the best time to Plough?

The above question is one of no small importance to the farmer. Most of our land is ploughed in the spring—a part is ploughed in the summer, and a part is ploughed in the fall. Although we admit that farmers should embrace the opportunity to plough when their leisure or time will allow, yet every one will say that in breaking up a sward land it makes some difference when it should be done; whether in the summer or autumn or spring. The reasons for this difference depend upon the action of the decaying sod on the crops. Some assert that the sod, if ploughed in the summer, is decomposed by the time that the summer crop is commencing, and the crop has the benefit of it, whereas, if ploughed late in the fall or in the spring, the sod does not become wholly decomposed, and the crop cannot receive the whole benefit of it. In conversation with an observing and very intelligent farmer, the other day,—he observed that his crops which were put upon a summer fallow, invariably looked well in the first part of the season, but at the latter part, when maturing the seed, they fall short of those which were put upon a spring fallow. Now there may be something in this, and perhaps the following may be the reason of it. It has been found that for a green succulent growth, or for the production of leaves, straw, &c. manure that is undergoing fermentation, is best, while for the production of seed or fruit, manure that has been fermented is the best. Now may not the summer ploughed, become fermented, or decomposed, and its energy finished, or done too early—while the latter is delayed till the seed is matured? We merely make these suggestions with the hope of eliciting information from those who know more about the business.—*Maine Farmer.*

Prospects of Agriculture in the United States.

That an almost total revolution in the agriculture of the United States will ere long have been effected, we think can admit of no reasonable doubt. It therefore behooves all those, and they constitute the great mass of our population, who depend for their subsistence on the most ancient, most useful, and most honorable of all occupations, to be industrious in preparing themselves for the approaching change, by acquiring all that information which is necessary to enable them to adapt their course to that new state of things by which they will shortly be surrounded, and to which they must accommodate themselves, if they wish to participate in that general prosperity which awaits the

intelligent, the enterprizing, and the industrious cultivators of the earth.

Amongst the causes which may reasonably and confidently be expected to produce the anticipated change in the agriculture of our country, the following are the most prominent, and are of themselves amply sufficient to produce it.

First—The spirit of agricultural improvement is aroused and is rapidly extending itself over the whole country. People are beginning to discover at last, that the occupier of exhausted land, badly cultivated, cannot successfully compete with the judicious cultivator of improved, rich, and well tilled land—because the latter, with less expense, can make two bushels of grain to his one, and because this great disparity must every year increase in proportion to the progressive exhaustion of the first and improvement of the latter.

Secondly—The rapid extension of internal improvements, such as rail roads and canals, are fast placing the agriculturists of the whole nation in a situation to compete with each other on nearly equal terms as respects the expense of transportation to market in the sale of all the products of the country: the consequence must be, that every section will be compelled to confine itself to the cultivation of such articles only, as are best adapted to its soil and climate.

Thirdly—The introduction of new articles of culture, and especially of Silk, and Beet Sugar, the speedy success of both which, to an immense extent, there is every reason to expect, will draw off a large portion of labor from the cultivation of the articles now reared—and fourthly, the great increase of manufactures, the necessary consequence of the increased facilities of transportation, and of the production of the raw material, by increasing to an incalculable extent, the demand for many articles now scarcely cultivated for sale, except in the neighborhood of large towns, will cause much of the labor now devoted to other articles to be employed in their production. The great body of farmers, may, therefore, calculate with certainty, that the period is not very remote, when they will be compelled to give to their industry a very different direction from that which habit and existing circumstances have heretofore prescribed to it. How important then must it be to every farmer to acquire that agricultural knowledge, without which he must be wholly unprepared for those changes in the state of his profession, which are rapidly approaching and which he cannot possibly avert. Without the acquisition of this knowledge, the farmers and planters of the old school, will soon find themselves in most uncomfortable situations, from which nothing short of its acquisition can relieve them. This will require time and practice; the interval employed in the acquisition of this knowledge, if now neglected, must be most adverse to their interests, and in many cases will prove ruinous.—We exhort them therefore to spare no pains to keep pace with all the agricultural improvements of the age, that, when compelled to abandon their present practices, they may be prepared to substitute more eligible ones in their stead.

Tennessee Farmer.

New Method of stacking Oats.

In passing a Farm belonging to Capt. John E. Baker, and seeing a very large and singularly formed Oat Stack, I was led to enquire of him his motive for saving his Oats in this way, and his method of putting them up. He informed me, that last year his Oats were in danger of being lost from the frequent showers which fell after they were cut, and that, from necessity, he fell on the following plan to save them: he took forks, and set them in a row, after the method of making a Fodder-house; then setting rails on poles with proper slant against the ridge-pole, (say six or ten inches apart,) he commenced building his Oats on the rails, and topped the stack in a way to secure it from the weather. Capt. Baker is a tolerably extensive farmer, and is very methodical in his arrangements—scrupulously economical in saving what he has made, and punctual in his transactions. Should any person feel inclined to adopt this method of saving their Oats, there is no doubt but they will be amply repaid for their labor. The three following considerations I would deem a sufficient inducement to try the experiment. 1st, The air having a free passage through the centre, the oats (if necessity require) may be put up (in a measure) green or wet, and become thoroughly cured and dried. 2d, A secure and comfortable place may be made of this for ewes and lambs, or young calves, in cold and stormy weather. And 3dly, As rats are extremely destructive on this grain when housed in the barn, or even when stacked in the ordinary way, this method furnishes almost a perfect defence against their depredations, as the buts and tops lie alternately on each other in each layer, and having only about two or three layers on each side of the stack, it is so thin they have little or no chance for committing them. I feel satisfied that this method is a good one, and would recommend a trial of it, by all who are extensively engaged in raising oats. I would further suggest, that if the plan be a good one on a large scale, there is no doubt but that it would be good on a less extensive experiment. I am not aware of having before seen or heard of this method

for saving oats, and the plan being a new one to me, I hope you will accept of this as an apology for troubling you with this long letter.—*Ib.*

Cider.

[Isaac Mulford, of Cumberland county, in a letter to the publisher of the Cabinet, says: "This, with us, is a season of an uncommon quantity of good fruit, especially apples." He requests us to communicate to the public the best method of preserving apples through the winter, and also of *refining cider*. The following articles, the first a receipt furnished by a practical farmer, the second, extracted from one of our city journals, will afford some information on the subject.]

For the Farmers' Cabinet.

Receipt for Refining Cider.

BY ANDREW C. RIDGEWAY.

One pound of Russia Isinglass to four hogsheads of cider, dissolved in the following manner. Put the isinglass into a barrel, and add to it one gallon of old hard cider; stir it frequently during the day; the next day add more cider and stir it as before, and so continue until the isinglass is dissolved, and the mixture becomes about as thick as West India molasses. Then strain it through a fine hair sieve, and it is fit for use. The cider should be made of sound apples, put into clean casks, and stand until it ferments, and the pomace rises on the top; then rack it off into other casks, and put in one half of the above mixture when the casks are abont half full, and stir it well with a stick at the bung; then fill up the cask and let it stand from six to ten days with the bung out, when it is to be racked off again, (great care being taken to leave all the sediment behind,) and the remainder of the refining mixture is then to be added as before. After standing awhile it is fit for bottling. ☞ The greatest care is to be observed in the whole process.

The editor of the Saturday Courier furnishes the following in answer to a similar proposition from a correspondent. He says, "our city refiners are generally very tenacious of any particular advantage they may possess in the way of improving and preserving liquors, and place so high an estimate on the value of their particular 'art and mystery,' that the first cider monger, to whom we made application, actually had the modesty to ask us five hundred dollars for such information as we asked for. [It was the same generous individual, we presume, who asked us only two thousand dollars for the receipt!] Our friend Kerrison, however, whose bottling establishment at the Exchange has long been celebrated for cider of peculiar soundness and exquisite flavor, has in a spirit of liberality, for which our country friends will no doubt feel greatly indebted to him, furnished us with the following receipt, in reply to our correspondent.

In addition, we take the liberty of adding a few suggestions which may be of service. An experienced writer insists that the apples should always be picked by hand, and thoe that are unsound should be thrown out, as well as those that have lain so long on the ground as to acquire an *earthy* taste, which is otherwise invariably imputed to the cider. The bruised and inferior apples should be placed in a heap by themselves for making an inferior cider for vinegar. In pressing the pummice, hair-cloth should be used instead of straw, as the straw, when heated, gives a disagreeable taste to the cider, and in running from the press, the cider should pass through a hair sieve.

Kerrison's Receipt for Cider.

The following rules for preserving cider, will apply to good cider only, for you cannot preserve bad cider. Let it be made of good sound winter apples, in cool weather, in the month of November or December, and *let no water be mixed with it*. Put it into clean hogsheads, (whiskey hogsheads lately emptied are best,) and keep it in a place invariably cool. Fermentation carries off the strength of the cider; therefore prevent it from fermenting as much as possible. When it exhibits a violent degree of fermentation, put in a half gallon of fourth proof rectified apple whiskey; if this does not stop it, put in another half gallon; the same quantity of pure French brandy will answer where it can be had. As soon as the fermentation has subsided and the crude particles settled down, rack it off into a clean hogshead.—After this, the cider will undergo a partial fermentation; when it is observed to ferment, and after it has subsided, rack it off again as before. If the crude particles are allowed to remain in the hogshead, they will work up among the cider during every fermenation, and injure it. When it is being racked off, it should be allowed to run with free into a large tub, and pumped from the tub into the hogshead; this serves to brea' the cider, and is highly beneficial during th first and second racking. Every time it is racked, it must be bunged up tight, and the hogshead kept full; but during the fermentation, the bung should be left out. There ar other methods of refining and preservin; cider, which are shorter and more certain, but cannot be pursued by farmers with avantage. The above method will be found o answer all domestic purposes."

For the Farmers' Cabinet.

Preserving Apples.

Mr. Editor—I herewith send thee my plan of keeping apples through the winter. Pick them off carefully, and lay them on a clean sward about two tier thick---as I had but few last season, I put them down in single file, covering them up with rag weed mowed with stubble, about the depth of six inches, and so continued on until they were covered about eighteen inches; then lay down some rails so as to prevent the litter from blowing away. Old hay or buckwheat straw will answer the same purpose. I have pursued this plan for four years past, and am confident that the Webster's can't "go ahead" of it.

H. Stokes.

Burlington county, N. J. 10th m'th, 1836.

[Apples may be preserved in various ways. It seems not to be generally known, however, that they may be kept the whole year round by being immersed in corn, which receives no injury from their contact. In Portugal it is customary to have a small ledge in almost every apartment, immediately under the cornice, barely wide enough to hold an apple, with the interstices filled up with grain---in this way the ceilings are fringed with fruit. An excellent method is pursued in some of the river counties of New-York. A correspondent of the New-York Farmer says there is no difficulty in preserving winter apples through the summer by my method, which is to take a flour barrel, cover the bottom with ground plaster or gypsum, select the best and fairest fruit and place them in the bottom of the barrel, so as not to touch each other, and cover them with plaster, and so proceed until the barrel is filled, then head it up and place it in a dry and proper situation. The barrels and plaster should be taken to the orchard, and the apples laid down as taken from the tree. The apple is not only preserved in a perfect state, but the flavor remains uninjured; the plaster absorbing the moisture from the apples and excluding the atmosphere. By the farmer no risk is run, as the plaster can be used upon his land. The method adopted by Mr. Nathan Warner, of New-Hampshire, is very simple, and one that may be easily practised. The apples are to be laid down in dry flax seed chaff, where they remain until the month of June following, when they are to be overhauled, those that are unsound thrown aside, the chaff spread out and dried, and the sound apples packed down again along with the chaff as at first. Managed in this way, Mr. Warner has had plenty of fresh apples through the whole of the past season, and until the ripening of the same fruit this autumn. Noah Webster, Esq. maintains that the usual practice of many persons of picking apples in October and spreading them on the floor of an upper room for the purpose of rendering them more durable by drying, is a grand mistake. He says apples, after remaining on the trees as long as safety from the frost will admit, should be taken directly from the trees to close casks, and kept dry and cool as possible. If suffered to lie on a floor for weeks, they wither and lose their flavor, without acquiring any additional durability. The best mode of preserving apples for spring use, I have found to be, the putting them in dry sand as soon as picked. For this purpose, I dry sand in the heat of summer, and late in October put down the apples in layers, with a covering of sand upon each layer. The singular advantage of this mode of treatment are these:—1st. The sand keeps the apples from the air, which is essential to their preservation. 2d. The sand checks the evaporation or perspiration of the apples, thus preserving in them their full flavor—at the same time, any moisture yielded by the apples, (and some there will be,) is absorbed by the sand; so that the apples are kept dry, and all mustiness is prevented. My pippins in May and June, are as fresh as when first picked; even the ends of the stem look as if just separated from the twig.]

Apples for Stock.

We have from time to time published accounts of experiments in fattening pork with apples, which has been done with success and profit. The use of apples as food during winter for stock, has been abundantly successful during the past winter.

Several of our acquaintance have used them for this purpose, and consider them a valuable acquisition to their stores of fodder. Mr. J. Bacon, of this town, informs us that he has fed them out daily to his sheep, and has seldom had a flock of sheep do better during a winter. Several other farmers, who have had two or three hundred bushels, have used them with their hay with good effect. Here then is another reason why farmers should not only preserve their orchards, which they now have, with care, but also set out more, and such kinds as will keep well during the winter. An orchard may be considered as a fixture. When the trees once arrive to the bearing age, they require but very little care to keep them in a thrifty condition. They may be considered as a permanent crop, always planted out, and always ready for the summer.—*Maine Farmer.*

It would be as unjust and inhuman to hate a man for *honest* errors of opinion in religion, politics, &c. as it would be to hate another because he is infected with some constitutional disease.

A Clover Box.

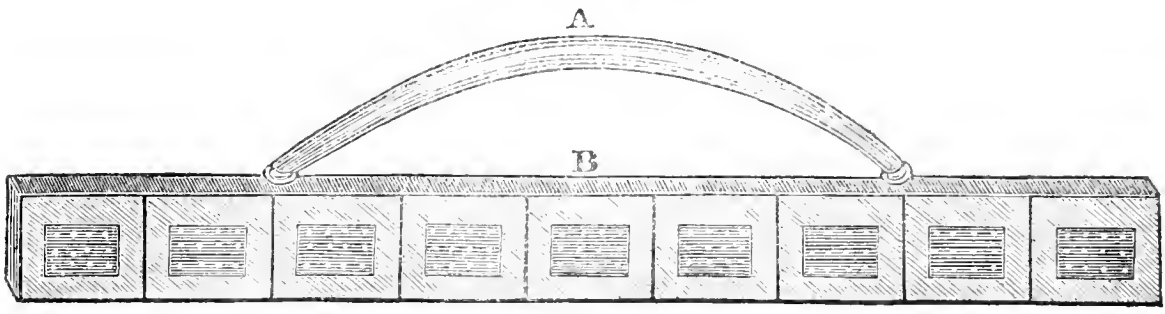

Fig. 30. A. Leather Strap B. Clover Box.

A gentleman who is much attached to agriculture, on a recent visit to the Eastern Shore of Maryland, saw there a box, which is in general use for sowing clover seed; by which great economy is produced, and the seed is placed on the ground with entire certainty and equality.

Fifteen acres were sown with one bushel of seed, and the clover was well set, and the plants in sufficient numbers—not a part of the field was passed over without its having been well seeded.

The Box is exceedingly simple in its construction, and could be made at a very small expense. A drawing of it is given above.

It is ten feet, or eight feet in length, and about four inches in breadth, divided into partitions of six inches long. In the bottom of each partition is an opening of about three inches square in which is inserted a piece of tin, or parchment, or stiff paper, perforated with a number of holes of a sufficient size for the clover seed to pass through. In each partition the seed is placed. To the box is fixed a strap, which is passed over the shoulders of the sower, and carrying the box before him, he walks over the field, agitating the box by his hand if it requires more movement than it receives from his walk. In this manner the seed is equally scattered over all the ground.

If thought necessary, a piece of wood may be hooked on the bottom of the box, to prevent the seed dropping out before the sowing commences. The box may be made of light cedar, and cut to weigh six or eight pounds without the seed.

October 24, 1836.

Horticulture and Botany.

See various trees their various fruits produce,
Some for delightful taste, and some for use;
See, sprouting plants enrich the plain and wood,
For physic some, and some design'd for food;
See, fragrant flowers, with different colors dy'd
On smiling meads unfold their gaudy pride.
Blackmore.

On the Cultivation of Flowers.

[The following remarks on this interesting subject are both just and beautiful. We copy from an Eastern print.]

In former times if Flora was named as a nymph of lovely mien, it was Ceres alone who received all the honors from the cultivation of the soil. A century ago when Lord Kaimes and others were writing upon ornamental gardening, but little attention had been paid to the subject in America. A few royal governors and opulent merchants began about that time to cultivate ornamental gardening; but most of these men knew nothing of plants or of flowers, but sustained the expense of a garden as a mark of distinction. The greater part of these cultivators of flowers in their own gardens, could have given you no more technical, botanical information than they could of heraldry, if you enquired of them an explanation of their armorial bearings, blazoned on the pannels of their coaches. The *Fess Point* would have been to them an enigma, and nothing but the name of a flower was sought for. Not that these were ignorant men; far from it; they were business men, politicians and scholars; but it was not the taste of the times to attend to such things. In fact, with the great mass of the people, perhaps, it would have been a mark of effeminancy to have shown a fondness for flowers. But in this the taste has changed, and the gravest statesman and profoundest philosopher may cultivate, admire and minutely describe a flower without losing any particle of his greatness with the people.—When the Vassals, the Brattles, the Tracys, lavished wealth in gardening, it was not so. The doings of royal governors; the rights of man; the conjectures upon the course the legislature would pursue the next session! who would be Mandamus Councillors! whether the Walpoles would still hold their power! were the subjects of discussion. The beauties of nature were but little thought of at that time; now and then some one would be singular, and take some pains to change, by cultivation, a single pink to a double one,

but then his neighbors, winking to each other, said, "he is more nice than wise."—Such refined and delicate pursuits as the study of botany were not proper for those who had frontiers to defend, institutions to build up and all the elements of society to fashion, in forming a new nation. At least they thought so. The revolutionary war following this labor; and Ceres, Pomona, and Flora, were all more or less neglected; ploughshares and pruning-hooks were beaten into swords and spears. The soldier, however tasteful, on the track of blood, could not stop to admire a wheat-field, nor to examine the beauties of the flowers in his path-way. Soon as the country began to recover from the evils of the revolution, a taste for agriculture and gardening became fashionable, in some measure. WASHINGTON set the example. He was a practical farmer, and an excellent gardener. He brought trees, shrubs and flowers from every clime, and spent every hour he could spare from indispensable business, to enriching his collections for the field and the green house. This example was followed in every State in the Union; in the city of Philadelphia with great success. Every garden in that city for eight years, was under his eye. Massachusetts was not behind any other state in her attention to horticulture as well as agriculture.

The means of indulging in a luxury of this nature were soon acquired after the peace of 1783; and the nucleus of all the vast improvements of this day was then established. The pleasure to be derived in cultivating flowers can now be appreciated by most persons, as their biography and science have become household ornaments; and the utility of the pursuit is a little more remote, but easily traced when our attention is turned to it. The cotton plant, now the great staple article of the world, as to growth and manufacture, was, as oriental tales inform us—and they are always the truth, or the shadow of it—once the garden plant of some Asiatic beauty, who, to the delights of vision, as the pods of the plant opened with snow-blown loveliness, with a natural curiosity and taste, added that of touch. The soft and fibrous mass, as her dainty fingers played upon it, seemed to attenuate under the pressure—and at that moment the thought of making a thread was conceived, and the progress from the distaff to the loom, and from that to ornamental dress, was rapid and astonishing. Taste and fancy have more to do with improvements and science, than we imagine. The culture and the manufacture of cotton have now become the support of more than ten millions of the human race in Europe and America, and of more than fifty millions in Asia and Africa.

Agriculture has received many advantages from accident. Celery, now a common dessert of every table, it is said, came into the garden plants from the following circumstance:—An Italian nobleman, in a paroxysm of passion, slew his only brother; the church condemned him for three years to a monastery, to prayer and penitence;—his food to be of the weeds which grew within the enclosures about his prison; celery, bleached in the shade of the cloister, then became a favorite food; and when released from his confinement, he transplanted the weed, then but little better than a night shade to his garden—it was set in trenches to bleach it, and to make it crisp and tender for his palate. He was a leader in fashionable life, and his example was imitated throughout Europe; and celery became at first a garnishment for the table, then a luxury, and now a necessary for every palate.

The dyes of all the looms of ancient and modern times were borrowed from flowers. The philosophers of the East saw that to please the world they must follow nature. "Mark the lily how it grows—Solomon in all his glory was not arrayed like one of these." says an inspired writer. The poets of a later age, those great interpreters of nature, have followed up the thought, and expanded it with philosophical ingenuity. This thought is scattered through every page of their works, for they have adorned every column of their imperishable temples with these wreaths of nature.

"Who can paint
Like nature? Can imagination boast,
Amid its gay creation, hues like these?
Or can it mix them with that matchless skill,
And lose them in each other, as appears
In every bud that blows?

Among a prosperous people, there is always a surplus measure of time, which may be used to their advantage if properly improved; and how can it be better filled up than in such sweet and innocent pursuits?

A love of distinction is an inate passion of our souls; the glories of war and of eloqrence are fast declining, and yet the love of distinction must be supplied from other sources: Nature is ready, when properly interrogated, by her responsers, to fill up the void created by this decline. That which was once said in bitter but playful sarcasm, will soon be acknowledged as a settled truth:—"That he who makes two blades of grass grow where only one grew before, is preferable to all the warriors and statesmen put together;" and in modern times we shall find these occupations the more imperishable monuments of fame. The low-

ells, the Kindricks, the Cushings, the Windships, the Wilders, the Walkers, the Haggerties, and others, that I have forgotten, have found that their labors have been "like words fitly spoken"—the glory of wisdom —"flowers of gold in pictures of silver."

The cultivation of flowers at the present day seems not merely confined to gratify a laudable ambition; but to extend itself far, very far beyond it. The florists have gone back to ancient days, as every one must, who intends to follow nature in matters of taste. The greatest efforts of the present generation of florists have been the use of flowers in depriving the grave of its horrors; I allude to the connexion of a garden with a cemetry, as at Mount Auburn. The dark and silent chambers of the dead have always been distressing to the living; they say, with Othello—

'Here is my journey's end, here is my birth,
And every sea-mark of my utmost sail."

The horticulturist of Mount Auburn leaves his flowers with a different feeling than that experienced by our great ancestors when driven from Eden,

"O flowers,
That never will in other climate grow,
My early visitation, and my last
At ev'n, which I bred up with tender hand
From the first opening bud, and gave ye names,
Who shall now rear ye to the sun, or rank
Your tribes, and water from th'ambrosial fount?"

The florist now knows that from the garden he loved, that those very flowers which he reared to the sun, are to be planted around his grave; to shed their perfume and scatter their leaves on every summer breeze.

This "lovely conceit," like Ophelia's pure imagination, "has turned every thing to prettiness;"—and the traveler, as he wanders through the labyrinth of flowers, which seem to cover the hearse and the pall, and to hide the spade and the mattocks, whispers to himself "can this be death?"—if it be.

"Death is the privilege of human nature;
And life without it were not worth the taking!"

Go on, ye florists; and while you extend in innocent rivalry in making Earth's bosom each year more lovely than the last, be assured that you will secure the affection and gratitude of all; and that even he who has no parterre of flowers to boast of, no garden from which to gather golden fruits, will select those which the Muses have scattered over the fields of knowledge and taste, and bind them on your brows.

PHILO FLORIST.

A PLANT POSSESSING THE PROPERTIES OF SPONTANEOUS COMBUSTION.—A very interesting paper was recently read by Mornay, before the London Linnean Society, dercribing a shrub which grows on the rivers of Brazil, and which is called the Euphorbia Phosphorescens. Where this Euphorbia forms large entangled impenetrable masses, covering, perhaps, a quarter of an acre of ground, and growing some twenty feet high, it will take fire spontaneously, emitting, for some time, a vast column of dense black smoke, and at last, bursting out in flames. Whenever the author had an opportunity of observing the combustion of the juice of this plant, on its coming into contact with atmospheric air, the temperature was a very little raised; the combustion (with flame) went on a low temperature, until stopped by the formation of a crust, which quickly takes place. The temperature always appeared to be too low to spread into a conflagration.

RURAL & DOMESTIC ECONOMY.

To cure Bacon.—To half a bushel of small hominy salt, pounded, and one bushel of blown salt, put two pounds of salt petre and three quarts of molasses—mix all well together, and rub your hams and shoulders thoroughly with it, and put a thin layer on each; then pack the hams in the powdering tubs, with the skins downards and as compact as possible; first sprinkling the bottom of the tub with unmixed blown salt. When the tub is half full of hams, put in the shoulders until three quarters full, then fill up with the middlings, jowls and heads, giving a thin layer of unmixed blown salt between every layer of meat. After your meat has remained, (if small, four weeks, if middling size five weeks,) take it out and hang it up to smoke, with the hocks downwards. When well smoked, take it down and rub it thoroughly with hickory ashes, and pack it in dry hogsheads, with the hocks down: once or twice during the summer examine, rub it again with hickery ashes, and towards the fall it may be hung up, and it will then keep for many years.

The method of making Transparent Soap.—Tallow is the basis of all soaps for the toilette, known under the name of Windsor, because olive oil forms a paste too difficult to melt, and having an oder too powerful for mixing with perfumes. Tallow-soap, dissolved with heat in alcohol, returns to its solid state on cooling. It is this fact which has led to the discovery of transparent soap. When well prepared, this soap should have the appearance of fine white sugar candy. It may also be colored, and vegetable colors

are for this purpose preferable to minerals. Any person can make the soap, by putting into a thin glass phial half a brick of Windsor soap cut small, filling the phial half full of alcohol, and placing it near the fire till the soap is dissolved. This mixture put to cool in a mould gives the transparent soap.

Cure for the Croup.—The Croup, one of the most dangerous and rapid of diseases, may be effectually checked by the external application to the throat of equal parts of Camphor, Spirits of Wine and Hartshorn, well mixed together.—*Hunterdon Gazette.*

Potatoe Beer.—The Germans will now manufacture their favorite beverage in greater abundance and at a cheaper rate than ever. M. Balling, Professor of Chemistry, at Prague, has succeeded in making an excellent Beer from potatoes. It is the color of wine, is very strong, and very agreeable to the taste.

Method of curing bad Tub Butter.—A quantity of tub butter was brought to market in the West Indies, which, on opening, was found to be very bad, and almost stinking. A native of Pennsylvania undertook to cure it, which he did in the following manner: He started the tubs of butter in a large quantity of hot water, which soon melted the butter; he then skimmed it off as clean as possible, and worked it over again in a churn, and with the addition of salt and fine sugar, the butter was made sweet and good.

Recipe for the cure of Bots in a Horse.

When a horse has bots, it may often be known by his biting his sides; when he has many, they often throw him into great pain, and he lays down, rolls, and if not cured soon, dies. When it is believed that a horse has the bots, by the above symptoms, give a pint of sweetened milk; which the bots are fond of, and they will let go their hold on the horse, and feast on the milk. Immediately give the horse a small quantity of oats or other provender, in which put two thirds of a common fig of tobacco pulverized. If he refuses the provender thus mixed, steep the same quantity of tobacco in a pint of boiling or warm water, until the strength is out, as we say, then put in enough cold water so that the whole will fill a common junk bottle, and turn it into the horse.—When it reaches the bots it kills them, as all will believe, who have ever spit tobacco juice on a worm, or similar insect. The horse in less than twenty hours will void all his bots; there is no mistake in this, though no patent has been obtained. The writer would not have it tried on an old poor horse in the fall or first of winter, for he would certainly recover to the damage of his owner. If one worth curing is affected with bots, and the symptoms are severe, never stop for the milk, but in with the tobacco,—this is the *kill all.*—*Maine Farmer.*

A discovery was accidently made by a chemist in Durham, England, a short time since, which is worth recording. He had been stung by a wasp in the hand, and while suffering extreme pain, had occasion in the course of his business, to put his hand into a jar of potash, when the pain instantly left him.—Surprised at this effect, he determined to try an experiment to prove the efficacy of the remedy, and accordingly on the following day, he caught a bee, which he irritated till it stung him. He applied a drop of the liquor potasse to the wound, and the pain he had previously felt was instantly removed.

Harvest Hymn.

Written for a late Agricultural Exhibition.

BY MRS. LYDIA H. SIGOURNEY.

God of the year!—with songs of praise,
And hearts of love, we come to bless
Thy bounteous hand, for thou hast shed
Thy manna o'er our wilderness;—
In early spring-time thou didst fling
O'er earth its robe of blossoming—
And its sweet treasures day by day,
Rose quick'ning in thy blessed ray.

And now they whiten hill and vale,
And hang from every vine and tree,
Whose pensile branches bending low
Seem bowed in thankfulness to Thee,—
The earth with all its purple isles,
Is answering to thy genial smiles,
And gales of perfume breathe along
And lift to Thee their voiceless song.

God of the seasons! Thou hast blest
The land with sunlight and with showes,
And plenty o'er its bosom smiles
To crown the sweet autumnal hours;
Praise, praise to Thee! Our hearts expand
To view these blessings of thy hand,
And on the incense—breath of love,
Go off to their bright home above.

To CLEAR IRON FROM RUST.—Pound some glass to a fine powder, and having nailed some strong linen or woollen cloth upon a the jet is continually diminishing. The moving power is renewed once in three months. This application of the expansive force of air, if achieved, is among the most remarkable improvements of the age.

Cultivation of Wheat.

* * * * I will give you my opinion on raising wheat which I have gathered from my own experience, and from a close observation of my neighbors. Every farmer ought to select a piece of land in the spring of the year for a summer fallow, of a suitable soil, and a field that wants improving, and through the course of the summer remove all the stones, if it should be stony land, and convert them into a good substantial wall around the field, and if necessary drain it sufficiently with under ground drains, which will take the smaller stones that are not useful for fencing, and give it as many ploughings as you think is necessary, and if the field should be infested with Canada thistles it ought to be ploughed so often as to prevent them from making their appearance above ground that season; for I know of no way to destroy them so effectually as this. But they ought not to have a breathing time at all through the course of the summer. After your fallow is turned over for the first time, it will require but one or two extra ploughings, and the next year after harvest, you will find little or nothing of that noxious weed. But if any should be left they will be feeble and sickly plants. After your land is prepared in this way, draw out your manure about the first of September. The manure that is intended for the summer fallow ought to be thrown in heaps or ridges in the spring of the year in the barn yard, unless it be of the depth of from one to two feet in the yard. To prevent it from leaching in wet weather, prepare it by fermentation through the summer, which will also destroy all the foul seeds that may have collected in the winter, as the smaller grains require manure of this kind, that is sufficiently fermented and decomposed. As our success in farming depends much on the manner and quantity of manuring our land, each farmer should so consruct his barn yard as to keep the manure in a small compass, and to water his stock in the yard or have them returned to it immediately after watering, to prevent them from wasing manure in the high way, and other places. After the proper time for sowing arrives, which is about the middle of September, then spread your manure very even over the ground and give it a ploughing immediately after spreading, by laying it in lands for sowing. Then prepare your wheat, giving it a thorough liming with quick lime, either by wetting the wheat first and mixing as much lime with it as will adhere to it, or by letting the wheat stand in strong lime water over night before sowing. This process is indispensably necessary to destroy the eggs of the Hessian fly, and to prevent it from being smutty, and also cause it to come up stronger. The quantity of seed wheat ought not to be less than two bushels to the acre. Some number of years ago, our wheat crops failed altogether and it was supposed that our land would no more produce wheat; but by taking a different method of preparing our land, such as I have stated, we can raise as good crops of wheat as when our land was new; for I believe the whole secret in raising wheat consists in preparing the ground in a proper manner.—And we can raise good crops of wheat on stubble ground, such as barley stubble, peas, or oats, and even wheat stubble will produce good crops for some number of years if kept in a high state of cultivation; although I approve of rotation in crops. By a farmer improving one piece of land to a degree of perfection, both as it respects the soil and fences he will soon find his farm in good order; and there is but little danger of your crops being winter killed, if they are put in as they ought to be, and the improvement on the land cannot be lost.

Shoeing Horses in Winter.—Canada, where the winter is never of less duration than five months, they shoe their horses in the following manner, which serves for the whole winter:—The smith fixes a small piece of steel on the fore part of each shoe, not tempered too hard, which turns up about 1-3 of an inch, in the shape of a horse's lancet; the same to the hind part of the shoe, turned up a little higher than the fore part, tempered in the same manner. In going up a hill, the fore part gives a purchase that assists the horse, and in going down prevents him sliding forwards.

New and Cheap Paint.—*More impervious to the weather than common paint.*—Take of unslacked lime a quantity sufficient to make two gallons of white wash when slacked—mix it with a due quantity of water—add to it 2½ lbs. of brown sugar, and about 3 oz. of salt. The exact proportion of each will be best ascertained by experiment. This, when applied as a paint, becomes perfectly hard and glossy—by mixing either ivory black or lamp black with the ingredients, a beautiful lead color may be had, or a yellow by mixing simple ingredients—this paint is now almost altogether used at the south for houses, fences, &c.

New Cement.—The French in Algiers have discovered a new plaster or cement, made of 2 parts ashes, 3 of clay, and 1 of sand—which being stirred and mixed with oil will resist all weathers better than marble.

The Office of the Farmers' Cabinet is removed from No. 31 South Third Street, to No. 67 South Second Street.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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THE FARMERS' CABINET.

Green's Patent Hay and Straw Cutter.

This most valuable machine can now be obtained at Melony's, No. 5 South Fifth street, Philadelphia. We are assured by gentlemen who have seen and used this machine, that its capacity to do all that is represented, is fully verified by their experience.

It is used without labor; a boy of fifteen years old can cut as much hay or straw in thirty minutes, as will supply a stock of twelve head for twenty-four hours.

The advantages of using all kinds of fodder *cut*, is not known, or certainly is not attended to, by livery stable keepers, farmers, or gentlemen who keep their own horses. It saves full one-third of the fodder, and makes the animal healthier. A horse or a cow will become fat on one-half of the grain which is usually given, mixed with two-thirds of the usual quantity of hay if cut.

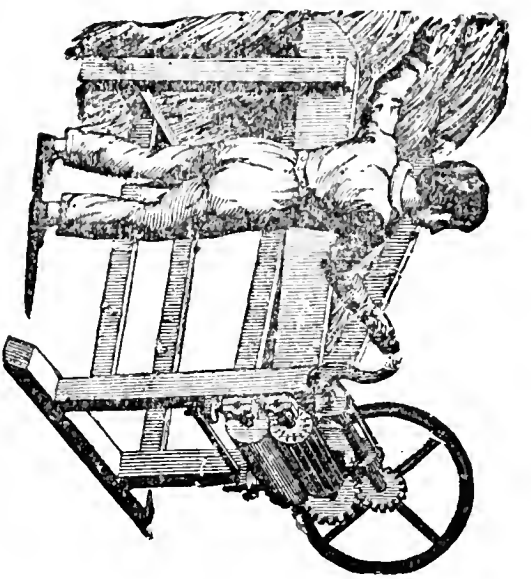


Fig. 31.—Green's Hay and Straw Cutter.

The grain must be mashed, or ground, and allowance is made for the cost of thus preparing it in this statement.

We shall, probably, publish an Extra Farmers' Cabinet, with full testimonials of the superior excellence of Green's Hay and Straw Cutter, and of the importance of its use, now the property of J. D. Shuler & Co. Lockport, New York; but we, in the mean time, subjoin some extracts from the "Cultivator Extra," published at Albany, August 1, 1836.

Mr. H. Colman, under date of January, 1836, from Madison county, states:—

"The next authority I quote is that of RICHARD PETERS, Esq., of Philadelphia, a name always to be in the highest measure revered by the friends of an improved agriculture. A more enlightened, active, disinterested, devoted friend to the cause, has never appeared among us. In a letter dated April 8, 1817, he says, "I find a wonderful saving of provender by chaffing it. I account

for the utility of chaffing, by its exposing more points for the extraction of nutriment to the maceration of the liquids in, and the action of the stomach, or stomachs, of, animals. And no provender is wasted, as it is by feeding it entire, either by negligence in servants, or uselessly passing through the viscera. I have strong hopes that the practice of chaffing will be a great relief in this season of comparative scarcity. We are so much accustomed to abundance, that we have never studied or practised the economy which necessity enforces. Three bushels of my chaffed hay weigh a stone, (fourteen pounds,) and this is enough for a horse, with a common allowance of oats or chopped grain, for twenty-four hours. Very little more will be sufficient for a horse standing idle, without other food. Mr. Jones saves more than the wages of a man in a year, viz. more than seven tons of hay in the keeping of his four horses; for I allow five hundred pounds of hay, including waste, to keep a horse for a month. In the common and careless manner of feeding, this quantity will not do it."

I subjoin to these an extract of a letter from Mr. Jones, the gentleman above referred to, addressed to Judge Peters, about the same time. "My attention to feeding my horses, four in number, with cut hay, by measure, commenced in the fall of last year, in consequence of a publication I saw in one of our city newspapers, in which were detailed great advantages that had been derived from adopting that practice. Experimenting on that mode of distributing hay to the number of horses above mentioned, I found, as nearly as I could calculate, a saving of thirteen hundred pounds per month.

"I have since extended the practice to the whole of my farm stock of cattle, and believe the saving to be in the same ratio, as stated relative to the horses. In addition to this saving may be added the advantage of an intermixture of cut corn stalks and other descriptions of food that would not be eaten separately, and without being chaffed. My horses and cattle are all healthy, and look well."

"The statement which I shall next quote, is that of Amos Sheldon, Esq., Beverly, Mass., a gentleman with whose character as an intelligent, excellent, and successful farmer, I have the pleasure to be well acquainted.

Beverly, Jan. 25, 1834.

Mr. J. R. Newell,

"Dear Sir: It is with pleasure that I comply with your request, asking the result of my experience on the subject of feeding stock. My stock consists of fifty-one head, namely: 8 horses, 4 oxen, 35 cows and two yearlings. The stock was fed in the usual way, with English salt and fresh meadow hay, with meal and potatoes as their case required, until the 1st of December last, at which time I commenced chopping my hay. In giving my experience, I must in some measure, ask the privilege of a Yankee, viz. that of guessing, but in this case I think I can guess pretty correctly, as much of the hay has been loaded in consequence of having to remove it from one barn to another, and calculating the number of days a load would last, the result is as follows:

700 lbs. of English hay, at $16 per ton	$5 60
200 " fresh, do. " 4 do.	40
100 " salt do. " 8 do.	40
3 bushels corn meal,	2 25
8 bushels long red potatoes,	1 60
1 man and board.	48
Per day,	$10 73

400 lbs. English hay, chopped, at $16 per ton,	$3 20
100 lbs. fresh hay, chopped, at $4 per ton,	20
100 lbs. salt hay, chopped, at $8 per ton,	40
3 bushels of corn meal,	2 25
4 " long red potatoes, chopped,	80
140 gallons pure water,	0 00
1 man at 8 dollars per month,	26
Board of a man at $1 50 per week,	22
Per day,	$7 33

Balance in favor of straw cutter, $3 40 cts. per day.

In addition to the above balance may be added an increase of six gallons of milk, and likewise something for the improvement of the condition of my whole stock."

Mr. Hale is proprietor of a line of stages running between Newburyport and Boston.

The whole amount of hay purchased from April 1, to Oct. 1, 1816, (six months,) and used at the stage stable, was,

tons.	cwt.	qrs.	lbs.
32	4	0	10

At 25 dollars per ton, (the lowest price at which hay was purchased in 1816,) amounted to $800 00

From October 1st, 1816, to April 1st, 1817, whole amount of hay and straw purchased for and consumed by the same number of horses, viz.

	tons.	cwt.	qrs.	lbs.		
Straw,	16	13	3	10	162,23	510 23
Hay,	13	14	1	00	350,00	

Deduct on hand, April 1st, 1817, by estimation, four tons more than there was Oct. 1st, 1816, at $25 per ton, 100 00

Saving by the use of straw cutter, 4 months of the last 6 months, or

the difference in expense in feeding with cut fodder and that which is uncut,		389 77
Whole amount of hay used for the horses of the Salem Stage, 25 in number, from April 1st, to October 1st, 1816, viz : 22 tons at $30 per ton, (lowest price in Salem,)		660 00
Whole amount consumed by the same number of horses from October 1st 1816, to April 1st, 1817 :		
	tons. cwt. qrs. lbs.	
Straw	15 13 0 0 187,80 }	268 80
Hay	2 15 0 0 81,00 }	
Saving in using chopped fodder five months,		391 20
Total saving in using the straw cutter nine months, viz.		
At Newburyport, 4 months	389,77 }	
At Salem, 5 months	391,20 }	
Total,		780 97

R. Peters, Esq. of this city, informs us that he has purchased one of Green's Hay and Straw Cutters, and he proposes to feed his stock on cut food during the winter; and he feels assured that he will save at least one half of the expense usually attending their support. His stock consists of six horses and two high bred colts, and two cows. He also proposes to use this machine at a milk dairy, consisting of fifteen cows. He has promised to communicate the results of these experiments, after the winter season is over.

Live Fences.

To the Editor of the Farmers' Cabinet:—

Sir.—Having heard much complaint during several years past respecting the scarcity of suitable materials for making fences, I have concluded to inform those who read your valuable paper, and who are not already informed on the subject, that the *Virginia* or *Washington Thorn*, (Crataegus Populifolio) is much used in this county, in the construction of live fences, and when properly managed seems to answer remarkably well. I will merely say, at this time, that the berry or seeds may be gathered from this time until they drop from the tree, several weeks hence, and that there is a considerable quantity of them growing in the vicinity of Westchester, and other parts of this county, and that the seeds can be separated from the other parts of the berry, by mashing and throwing the whole into water; the whole sound seed settle to the bottom of the water, while the other parts swim, and can thus be separated. The manner of treating the seed when thus separated from the other part, I will reserve for another communication probably in time for your next number. P.

Chester Co. Pa. Oct. 18th, 1836.

Manures—Application of Lime.

The following remarks are from a letter from Daniel Buckley, Esq. of Salisbury, Pa. published in the Memoirs of the New York Board of Agriculture, vol. III. page, 124.

The land which I cultivate, according to M'Clure's treatise, is transition, composed of white and yellow clay and limestone, much of the latter appearing on the surface, intermixed with flint. Upon this soil I have made a liberal use of lime, ever since the year 1790, and think I have been well rewarded for the expense and labor, by the increased value of my crops.

The method of applying the lime which I have adopted in common with my neighbors is, in the first place, to plough up a sod field with a strong team, in the spring or fall; harrow it the way it is ploughed, and mark the field into as many squares as you intend to put on half-bushels, say one hundred on the acre, which will bring the furrows about twenty feet apart each way, and require fifty bushels to the acre. This quantity I have found to be most profitable. When the lime is burnt, and as soon as it is cool enough to handle, it ought to be be hauled on the land already marked, and a half-bushel deposited in the centre of each square, in as compact a heap as possible. If water is convenient, I prefer to slack the lime immediately, rather than to wait for rain, as it becomes finer and can be more evenly spread. As soon as it has slacked, it is immediately spread and well harrowed. This method I prefer for Indian corn, barley, oats, rye, and potatoes. On all the above crops I have experienced a great benefit from lime the first year after its application. With potatoes I add about fifteen two-horse loads of barn-yard manure to the acre, before planting. A second liming is often given, and much approved of, after an interval of three or more years. This amalgamates better, and can be more intimately mixed with the soil.

There are good farmers who differ as to the quantity of lime that is most profitably applied; some say sixty bushels on the acre, some seventy, and some more. I have applied one hundred on an acre of limestone land, at a dressing; but have not been able to discover any benefit from using it thus freely, nor any injury except in the loss of lime.

Wheat seldom receives any benefit from lime until the second or third year after it has been applied, except it has been mixed in a compost of yard manure and earth. This

method is much practised in the lower counties of this state; though not by good farmers until they have applied lime as the basis of melioration. By this management they have raised their lands from an impoverished state, produced by injudicious cropping, to such a state of fertility, as I am informed, to enable them to fatten a bullock of six hundred weight on an acre, and to cut grass from the same acre sufficient to winter another.

Sandy soils are greatly improved by the use of lime. I lately purchased some of that kind, which was originally covered with chestnut timber, and was called mountain land. It has been cleared seventy years; but lying a distance from the farm buildings, had never received any manure but a dressing of lime. This land I have had repeatedly farmed since I owned it; and although to appearance it seemed to be almost a *caput mortuum*, with the aid of ten or twelve four-horse loads of the gleanings of a yard of a public house, it has produced as much, and as good, wheat, rye, oats, timothy, and clover to the acre, as any land in the township in which it lays. I consider the liming which it had fifty years ago as the principal cause of its fertility.

It is a general opinion amongst good farmers, that liming should be repeated every ten or fifteen years, and that the increased crops richly compensate the expense. It matters very little how it is applied, provided it is evenly spread immediately after it is slacked. If suffered to air-slack, or to lie after it has been water-slacked, it re-imbibes carbonic acid, which the fire had expelled, becomes lumpy, and is more difficult to be incorporated with the soil. Some spread it upon the sod and plough it under, and think they have as much profit from it in this way as in the other. When thus applied, it powerfully contributes to decompose the tougher fibres of the sod, and to convert them into nutriment for the crop.

New Inventions—American Institute.

A New York paper, (The Times) gives the following account of some of the Inventions exhibited at the Fair of the American Institute in that city; particularly those for obtaining power, and those adapted to agricultural purposes. "We shall," says the Editor, "commence with the former, it being the most important article in mechanics, and in our poor opinion capable of great improvement. The present expensive and hazardous mode of procuring it by steam, or by the isolated principle of locating on a run of water, rendering the cost for the purchase and transportation of fuel, and of sending grain and goods to the mills, and from thence to market, so great as almost to overbalance the benefit that is derived from them. There are two articles at the Fair which will go a great way towards remedying the evil, at least for all the common purposes of life, viz: Gleason's self-supporting Portable Horse Power Machine, and Barton's Suction and Forcing Pump. The former is a machine about 3 feet by 10, calculated for one horse, or it can be made to any width, and for as many horses as may be desired. It is a chain composed of a species of cog-wheels, and skillfully arranged so as to act upon each other. There is a floor composed of various pieces of pine or oak, detached, one for each cog. On this the horse is placed, being secured by sides. He has but to tread on the floor, forming a slightly inclined plane, and the machine is kept continually revolving under him. The full weight and strength of the horse is thus brought to bear, without in the least fatiguing him, and which, aided by well-applied machinery, produces great power. The cost of the machine is but $150, and comes within the means of every farmer and every person requiring machine power, to purchase. There were several machines at the Fair for which the invention is incalculably beneficial, both agricultural and mechanical. At this expensive time for all the necessaries of life, when a six cent loaf is only sufficient, with the et ceteras, for one hearty boy's breakfast, when good beef is selling in our markets at 15 1-2 cents, pork 14 1-2 cents per lb.; butter 34 cents per lb., and other articles of food in proportion, and when we are threatened with a rising market, it is well that we should first glance at that calculated to support the staff of life.

At the Fair there were machines for thrashing, winnowing and grinding grain; there was also a machine for forming the flour into bread, and all that was required to complete it was the patent baking apparatus which is now in use, but which had a good substitute in one of Pierce's Kitchen ranges, which has been in great demand, and done wonders, in the culinary line, at the Fair. The power and ability of the machines may be known, from the fact that good bread was made from the grain on the straw in 15 minutes, having gone through the various processes of being thrashed (or the wheat taken from the straw,) winnowed or sifted, (separating the wheat from the chaff) ground into flour, kneaded into dough, formed into biscuits, and baked ready for the table.

Attached to the power machine was one of Warren's Patent Thrashing Machines, the cost of which is but 25 dollars, and which, with the aid of the machine, (requiring but one horse to work it,) will thrash from 75 to 100 bushels of wheat per day.—There are also machines of this invention calculated for

four horses, which cost 50 dollars, and will thrash 300 bushels a day, also those intended for hand power, which cost but 20 dollars.

Passing from the thrashing machine, the wheat and husks were placed in one of W. P. Bean's winnowing machines, the construction of which is very compact and simple, and which separates the wheat from the other in an astonishingly rapid style. We were not enabled to learn the price of this machine, or who it is sold by, but believe it to be a most excellent accompaniment to the other.

From here the wheat was placed in one of the Patent Premium Mills of Mr. L. Jackson, No. 41 Dominick street, and 145 Front street, the cost of which, for one horse power, is but 100 dollars, and which will grind 20 to 25 bushels per day, equal to any flouring mill in the country, or those for four horse power, will grind 75 to 100 bushels per day. This mill can also be guaged to hull Rice, and is very portable and compact.

The Flour thus manufactured, (and it appeared to be of excellent quality,) was then placed in a patent kneading and moulding machine, the proprietor of which we do not remember, although we intended to have noticed particularly, and formed into bread ready for the oven.

Thus, instead of the old and wasteful principle of thrashing by the hand, and transporting to the mill and back, thence to market, a farmer, at an expense of 250 or 300 dollars, can have a thrashing and winnowing machine and perfect mill on his own premises, in his own barn, and worked at his leisure, by his own horse. His own family or two or three hired men attending them.

But this is not all. We know that there are machines for *sowing* grain, but none appeared at the exhibition. An invention, however, for cutting down grain and mowing, which appears to be one of the most valuable inventions of the age, was presented. It is the production of Mr. Alexander Wilson, and seems perfectly well adapted for what it is intended. It is a carriage, standing on light, large, broad rimmed wheels, with a large cylender or trough in front, the lower outer surface of which is near the ground, and contains several knives, somewhat in the form of teeth, each being about a foot long and three inches broad at the extremity, which revolves or sweeps in the manner of the scythe, and is propelled by the turn of the wheels,—the machinery being so placed as to cause that effect. The knives pass a whetstone as they revolve, and are continually kept sharp.

The machine is driven by a horse, in the same manner that a handcart is pushed forward, the horse being tackled with his head towards the wheels, and drawing upon the cross-piece or handle behind him. The carriage can be turned round any object, such as a rock or tree, and made to cut clean and with perfect ease. Mr. Wilson states that he cut a hundred tons of hay with this machine last summer. This we repeat, is an invaluable invention, and will save many thousand dollars worth of hay and grain that are now left to rot where they grow, for want of sufficient hands or means to secure them. There are also new Inventions for threshing Clover Seed, cutting potatoes for feed, shelling corn, cutting straw, churning butter, &c.

Farm Buildings.

[Concluded.]

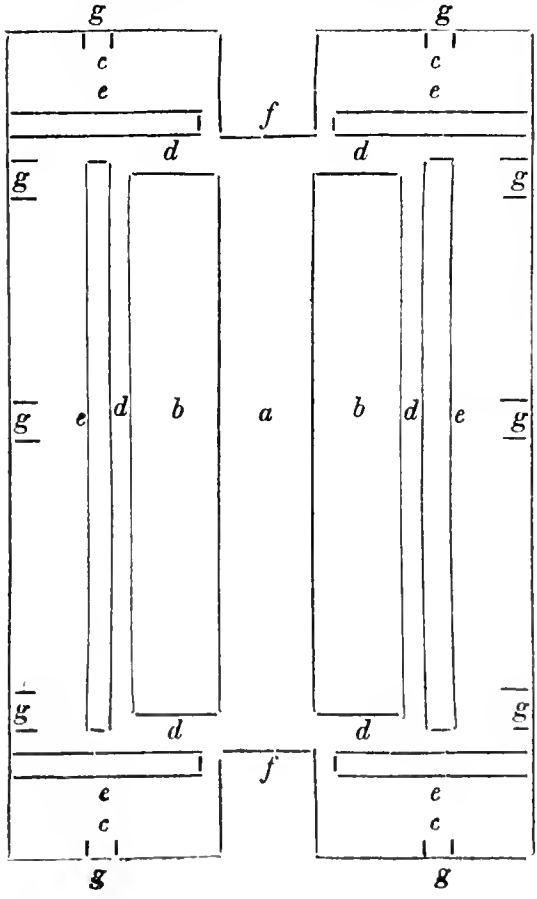
Economy of feeding Stock.

There are so many collateral subjects connected with the barn and other out-buildings of a farm, that it is hardly possible to give an essay on this subject, without discussing the different methods and economy of feeding stock, with the preparation of the food, preservation of manures, &c. &c. But as the *principle* of feeding is the same in all kinds of neat cattle and horses, it will apply to all cases. In the first place, I hold that there is no straw, corn, fodder or grass cut on a farm, with the exception, perhaps, of the straw of peas, beans and buckwheat, but what may be consumed as *food;* therefore all reasonable pains should be taken to secure them in good order, and have them well stored and sheltered for winter food. How many thousand tons of valuable wheat straw have I annually seen in our wheat counties thrown out from the threshing mills, and piled up year after year to rot and taint the atmosphere with its offensiveness, when it might all be made into the best of food for cattle, by being housed and chopped, with trifling labor! It appears with many farmers to be a matter of no sort of consequence *who* feeds the stock, or *how* they are fed, provided they are only fed at all; not considering that there is equal economy in expending the food as in securing it. Look at the season of haying and harvest among our farmers. What preparation for toil and incessant labor, increase of help, high wages, &c. &c. Up by day-break in the morning, and at work, and no rest till dark. It is the extraordinary season of the farmer, when every thing is sacrificed, even the Sabbath, oftentimes, to toil, and no cessation till it is all over. But when the winter comes on, this invaluable food, collected at so much cost and toil, is expended with a heedlessness and prodigality unaccountable to any rational or thinking mind. My own method of feeding is to cut *every* kind of straw, and even the coarse marsh

or meadow hay, in the cutting box, and mix it with a light portion of shorts, bran or oat meal, just enough for the cattle and horses to eat it. In this way they consume every thing. Nothing is lost; for what they leave is taken from the mangers and mixed over again with the new mess. It is the exclusive business of one man to cut the food, clean the stables, and feed the cattle: and if he needs assistance, he has it. By this means he becomes acquainted with the appetite and health of each animal, a matter altogether important. If they be out of health, or need extra nursing or attention, he knows it and provides for them. A change of food is occasionally given, and by this operation all is relished and eaten perfectly clean. We now feed about forty yoke of oxen, eight or ten horses, a dozen cows, some sheep and young stock, all in this manner, though not all in one building, without any waste at all. Every thing is saved. Every animal is tied up in its place excepting the sheep, and each has its own portion without fear or molestation. I well know that they consume less food per head by thirty per cent. than they did during the last winter, when they were fed nearly, if not quite equal to, the ordinary method practised throughout the country. Our oxen, I am satisfied, perform more labor, the cows yield more milk, and all the animals consume less food by being thus housed and attended.

But to the plan of the barn. It is here given.

Fig. 32.—Ground Plan.



Explanation.

a, barn floor, 14 feet wide.

b, *b*, bays for hay and grain, 18 feet wide and 92 feet long.

c, *c*, stables for cattle and horses, 13 feet wide in the clear.

d, *d*, passages to stables, 4 feet wide.

e, *e*, mangers for feeding, 2½ feet wide.

f, *f*, great doors, 14 feet wide.

g, *g*, stable doors, 5 feet wide, double.

Length of barn, 100 feet.
Width of do. 50 do.
Posts of do. 18 do.
Pitch of roof, 12½ feet.
Height of leanto posts, 7 feet.
Pitch of stable roof, 8 feet.
Length of side leantos, 100 feet.
do. end do. 38 do.

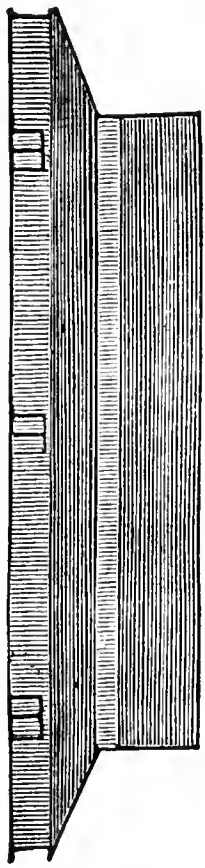


Fig. 33.—Upright—Side View.

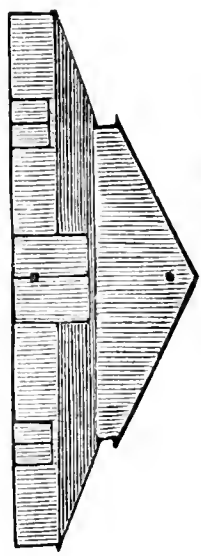


Fig. 34.—Upright—End View.

The barn is framed as if to stand alone, omitting the lower girt at the ends on each side of the large doors. The leantos are then framed on to the barn in the simplest manner—the passage being *round* the main body of the barn, excepting at the ends, where the passage is *in* the main barn, and the leantos there only sixteen feet wide, and the manger is fitted up to the main barn. Only one passage is made to go into the short stables at the ends. Stalls are made seven and a half feet wide and broad between, and each ox or cow is tied next to the partition side of the stall, which prevents their getting together, and saves much room. The doors

are sufficiently wide to drive in a pair of oxen yoked, and large spikes are driven in the plates all round the stables to hang harness, yokes and chains upon.

The bottoms of the mangers are raised ten inches from the floor, and laid double. The sides of the stable are also battened with thin boards inside, which makes them perfectly tight and warm; windows with sliding shutters are made in the sides, to throw out the manure.

Girts run parallel with the main floor in the posts, across which are laid poles, nine feet above the floor, on which hay or grain can be piled up to the peak.

This barn will hold two hundred tons of hay and forty-six yoke of oxen, or one hundred cows or horses. If only ordinary stock is kept, the *long* leantos need be only eighteen feet wide, and the *short* ones fourteen feet. Granaries can be partitioned off from the bays or stables, as may be convenient. If a threshing machine is used, a part of the stable can accommodate it. Its whole expense, finished complete, is about $1,500.

On this model, barns of any size may be built, and I am well satisfied that, according to the room required, it is altogether the *cheapest* in cost and simplest in construction of any plan I have seen. If a less proportion of stable room be needed, it may be omitted where convenient.

The passages around the ends of the bays and in front of the mangers, are for feeding the cattle, every thing being put in front of them. The passages are wide enough to carry hay, and when the bay is partially fed out, the hay may be thrown directly into the passages.

I would on no account store hay or other material over the cattle, under the stable roofs, although there is considerable room, as I am satisfied from experience, that there is none too much space left for ventilation.

The floors are lined with thin refuse boards, excepting a part of the stables, it being my wish that *nothing be lost*.

This barn is placed on level ground, having no side hill convenient on which to place it. I would prefer, if possible, a sloping piece of ground, and make an ample cellar beneath it, to receive the manure, preserve roots, &c. &c. It will add to the expenses of building, but greatly to the convenience and economy of the farm.

This, it is true, is on a larger scale than is needed for an ordinary farm; yet many farms require as much and a larger quantity of barn room. If every thing be saved and housed that can be profitably expended in the feeding of stock, much more shelter is required than is supposed. If the farm be small, the size of the barn should be graduated to its wants.

This plan has been closely examined by many farmers of great experience, and pronounced to be the best they have seen. The utmost possible economy of room is made for packing the hay and grain, and the stables are mere leantos, made of light frame, attached to the sides and ends of the main building. If wood covering for either of the sides or roof of boards and shingles are not to be obtained, they may be made of thatch. The bodies of the building may even be laid up of logs and covered with slabs, so that they be well chinked and comfortable. It is true that there is some waste room over the cattle in the stables, but no more than is wanted for ventilation and to pass off the respired air, which is deleterious to their health. The letting in of fresh air in cold and stormy weather, through the sides of the building, gives them colds and disease, to which they are as liable as the human family. But even if only sheds are wanted, I am satisfied that they are better to be attached to the sides of the barn in the way these stables are, than in any other, being more convenient, and allowing the stock to be fed in them with greater economy. The stables attached to this barn being for the accommodation of working cattle mostly, are wider than need be for an ordinary stock, and may be made narrower. But amongst all other plans, I have found none which combine the requisites of cheapness, economy of feeding and storage, like this. It has, withal, an appearance of snugness and comfort about it that greatly embellishes the farm.

If sheds are wanted in addition, they can be attached to the stables and run off in either direction, and accommodated with racks and mangers, as may be required. But every domestic animal on the farm should be fed at the barn, with the exception of sheep, which require, if kept in large numbers, a different and separate course of management. The custom of stacking hay or grain in the fields is at best a bad one, and if resorted to, it should be removed to the main barn as soon as the cutting season is over, or there is room in the barn to receive it. Small moveable barns are frequently built to store it in, and from them fed to cattle during the winter: but this, in the best of weather, is accompanied with waste, particularly in the manure, which is valuable even on the best of soils. It is, besides, much less labor to carry the hay either on sleds or wheels to the barn, and then feed it to the stock, than to go daily two or three times to fodder it out. So much has been said and written on the wasteful method of feeding at stacks, that at this time it is almost superfluous to mention it.

As to the other ordinary outbuildings to the farm, it is only material that they be

conveniently and economically built. No farm house should, however, remain without a swill house, with a large cauldron set in brick, an ample wood house, wagon and tool house, corn-crib, &c., near by. As to the dwelling, it is a matter of fancy with many, and to those who have the ability, provided they make it comfortable and convenient, it matters little what is the shape, size or style of it. Still there is a model that I consider cheaper and more convenient than almost any other, and for those landholders and farmers who build for the accommodation of their tenants, I consider it a most excellent one to follow. I am about building one on a farm of my own for the manager to live in, sufficiently capacious to accommodate his own family and half a dozen hired men. Its whole expense will not exceed a thousand or twelve hundred dollars, and if opportunity offers, I may send you the plan in some future communication.

Most truly and respectfully yours,

L. F. Allen.

Buffalo, Dec. 5, 1835.

Choice of Live Stock.

Before the improvements introduced by Bakewell, the value of an animal was entirely judged of by its bulk; and if a great size could be obtained, more regard was paid to the price the animal ultimately fetched, than to the cost of its food; of late, since breeders began to calculate with more precision, small or moderate sized animals have been generally preferred, for the following reasons:—

Small sized animals are more easily kept, they thrive on shorter herbage, they collect food where a large animal could hardly exist, and thence are more profitable. Their meat is finer grained, produces richer gravy, has often a superior flavor, and is commonly more nicely marbled or veined with fat, especially when they have been fed for two years. Large animals are not so well calculated for general consumption as the moderate sized, particularly in hot weather; large animals poach pastures more than small ones; they are not so active, require more rest, collect their food with more labor, and will only consume the nicer or more delicate sorts of plants. Small cows, of the true dairy breeds, give proportionably more milk than large ones. Small cattle may be fattened solely on grass of even moderate quality; whereas the large require the richest pastures, or to be stall-fed, the expense of which exhausts the profits of the farmer. It is much easier to procure well-shaped and kindly-feeding stock of a small size, than of a large one. Small sized cattle may be kept by many persons who cannot afford either to purchase or to maintain large ones, and by whom the loss, if any accident should happen to them, can be more easily borne. The small sized sell better; for a butcher, from a conviction that in proportion to their respective dimensions, there is a greater superficies of valuable parts in a small than in a large animal, will give more money for two oxen of one hundred and fifty pounds each per quarter, than for one of three hundred pounds.

The form of animals a few years ago attracted the attention of an eminent surgeon, Henry Cline, Esq. of London. The following is the substance of the doctrines which he lays down:—That the external form is only an indication of the internal structure; that the lungs of an animal is the first object to be attended to, for on their size and soundness the health and strength of an animal principally depend; that the external indications of the size of the lungs are the form and size of the chest, and its breadth in particular; that the head should be small, as by this the birth is facilitated; as it affords other advantages in feeding, &c. and as it generally indicates that the animal is of a good breed; that the length of the neck should be in proportion to the size of the animal, that it may collect its food with ease; and that the muscles and tendons should be large by which an animal is enabled to travel with greater facility. It was formerly the practice to estimate the value of animals by the size of their bones. A large bone was considered, to be a great merit; and a fine-boned animal always implied great size. It is now known that this doctrine was carried too far. The strength of an animal does not depend on the bones, but on the muscles; and when the bones are disproportionably large, it indicates, in Cline's opinion, an imperfection in the organs of nutrition. Bakewell strongly insists on the advantage of small bones, and the celebrated John Hunter declared that small bones were generally attended with corpulence in all the various subjects he had an opportunity of examining. A small bone, however, being heavier and more substantial, requires as much nourishment as a hollow one with a larger circumference.

Treatment of Milch Cows.

There is, perhaps, no part of the husbandry of our country so much neglected as that which relates to the providing of provender for the milch cows on our farms. On many estates, even those of magnitude, the chief part of the food, if not the entire, which they get, are the blades, the tops and the husks of the corn, with an occasional gratuity of nubbins by way of a holliday feast. The consequence is, that if the winter be severe and

protracted, there is nine chances out of ten, that every cow, long before spring arrives, is either dry, or so near it, that the milk she will give is not worth the trouble and cost of *stripping*, so that many farmers with half a dozen or more cows have neither milk nor butter sufficient for the domestic uses of their tables, during the latter part of each winter; and by the time that the cold and bleak winds of March arrive, many of the cows are on the *lift*. How is it possible that it can be otherwise? There is little or no succulence in the food we have described in its dry state, and consequently cows fed upon it, must, for the want of matter convertible into milk, cease to yield it. In every other country save our own, it forms a part of the business of every farmer or planter, to provide full supplies of nutritious food for his stock of every kind, and for those which comprise the dairy cows, especial pains and care are taken to provide a sufficient quantity of such roots as are heartening and succulent, so that by thus providing a substitute for the grasses of the pasture, or the soiling stalls or yards, his dairy, even through the dreary and inclement period of the winter, may continue to contribute largely to the comfort of his family, and to the increase of his fortune. No good farmer, then, will keep more cows than he can *keep well*, and in so keeping them, he finds his interest rewarded, and has besides the satisfaction of knowing, that in thus acting he has fulfilled an obligation imposed upon him by every humane consideration, and discharged a duty required by Him, who, in placing the beasts of the field in subjection to man, enjoined that he should extend towards them his kindest protection and care. We frequently hear gentlemen complaining of the difficulty of procuring such cows as will make profitable returns, and of the impossibility of keeping them to their milk during winter. The reason is obvious. No cow, and we care not what her breed may be, whether she be of the improved *Durham Short Horn*, the *Devon*, the *Alderney*, the common cow of the country, or any other kind—we say no cow can be kept to the milk pail unless you give her something which will both nourish her system and replenish her udder. To make a cow yield a liberal supply of milk through the winter, she should have, in addition to full supplies of good, wholesome hay or fodder, at least half a bushel of roots of some kind, or an eqivalent of cabbages or kale per day. And if the hay should be fed *long*, each cow should have, at least two days in the week, messes of chopped rye and cut straw, to be either steamed or mixed up with boiling water, and permitted to remain until it is fermented before feeding. The ambition for procuring fine breeds of animals of all kinds, is one worthy of every praise; but *that of taking good care* of what we have, is equally if not more laudable. Besides these considerations, the interest of every farmer is always promoted by feeding his cows well. If fed in the niggard manner we have described, their keeping, such as it is, is a dead loss to their owners; they make no manure worth speaking about and the animals themselves are comparatively valueless; and if kept *generously* through the winter, and sheltered from the weather, each cow will give her two gallons of milk per day, and make from four to seven pounds of butter per week, which latter should be set down as the profit, as the milk and cream consumed by the family will more than compensate for the feed. In addition to this, animals thus fed make three times the quantity of manure, and are always in a condition to command good prices. We have indulged in no speculative theories in what we have said, but have addressed ourselves to the common sense of the agricultural community, in the hope that they will see the propriety of adopting some plan by which our object can be obtained.—*Western Advocate.*

Planting Trees.

The best month for planting trees is November; observing the old saying of a celebrated gardener—"Take them with their old leaves to their new graves."—Just as the sap begins to go down—and the leaves to turn, there can be no better time for planting all sorts of fruit, and other deciduous trees; but with respect to ornamental shrubs, and particularly evergreens, early planting is of the greatest consequence. When the weather is open, fruit trees and forest trees may be planted from the beginning of October to the end of February; but those that are planted before Christmas will do the best, especially if the following summer should be very hot and dry. But evergreens must be planted early, so that October is a better month for them than November, that the soil may get settled about the roots before the frosts come, and that the trees may have, at least, some hold of the ground before they have to encounter the heat of the sun and the cold east winds of March, the most trying month they have to stand against. It is folly to ask a gardener whether it be a good time to plant, if he is standing in market with trees to sell. Persons who have done so, and at their recommendation, planted evergreens in February and March, found that they almost all died, while to the gardener, who was paid for his trees, it was no loss at all; but, on the contrary, he had to supply others at Michaelmas.—"In the borders of

my pleasure garden," says a practical gardener, "I have no shrubs but evergreens, and the more I view them in the winter, the more I rejoice that I had planted no others; always green and cheerful in the gloomy months of winter, they give a beauty to my garden which it otherwise would not possess. The Portugal and common laurel, and broad leaved phillarea, the red cedar and evergreen oak —these, as they grow to such a considerable height, may, with here and there a yew, be planted in the back ground, and form a rich variety; while these, the Grecian and Siberian arbor vitæ, the juniper, orbutus, the cypress, the silver holly, the laurustina, &c., should be planted in the fore ground, especially the laurustina, which is handsome in its growth, as well as beautiful in its flower. As it is rather a tender shrub it is better to buy them in pots and then turn them out carefully and plant them in a sheltered warm situation, with the soil adhering to the root. But no evergreens should be planted thickly, as they do not like the knife, and few persons have resolution enough to remove a tree, before it has materially injured, and perhaps spoiled the growth of its neighbor. Where the soil is good and the situation open, evergreens planted in October will make some vigorous shoots the second spring, and will fill the ground they are intended to occupy, with astonishing rapidity."

Housing and Wintering Potatoes.

The erroneous practice pursued by our best farmers generally, induces me to state the manner I have pursued for years with unvaried success. To preserve 500 or 600 bushels, I make a box or bin, 4 feet wide, 3 feet high, and of sufficient length to contain the required quantity; have the joints well fastened and made as tight as possible—put into the cellar bottom. If the potatoes are intended to be taken out at different times, two or three petitions should be put in, crosswise of the bin, to preserve such as are not required for immediate use from exposure to the atmosphere. After this preparation is completed, the next operation is gathering and housing them. Here I must again dissent from the usual practice of farmers generally. Instead of leaving them in the sun and wind to dry, after digging in small parcels, in carts or heaps, they should be immediately covered with tops, or something else, even if they remain in the field but a few hours. This destructive practice must, I think, be attributed to want of reflection. It is the sole cause which produces the evils so much complained of by us, called the watery potatoe—by the Irish, the winded potatoe—destroying not only the flavor, but a great portion of the nutriment. In fact, sun, wind and rain, are as destructive to a new dug potatoe, as moonlight is to a fresh caught fish. When your potatoes are removed to the cellar, put into the bottom of the bin two inches of fresh earth; then fill one apartment with potatoes, within three or four inches of the top—immediately cover it with tough grass turf, cut up with the spade a little dovetailing, to the thickness of three or four inches—cover them with turf, grass side up, packed close, and pounded down with a wooden maul, to exclude as much air as possible. In this manner, in a cellar of suitable temperature, they may be kept fresh and good for a year, without germinating. No danger is to be apprehended of having too much dirt stick to the potatoes,—it assists in preserving them. An occasional sprinkling of fresh earth among them will be found serviceable.—*Genesee Farmer.*

Diseases of Sheep.

The following excellent article we copy from the "Silk Culturist." The Editor of that useful paper says, "The great losses which wool growers frequently sustain in consequence of the sickness and death of large numbers of their flocks, has induced us to compile from a rare and valuable English work a synopsis of the diseases to which sheep are liable, together with the symptoms by which they are known and the treatment by which they are remedied. The causes of the disease are in some cases assigned, and it is believed if they are carefully avoided and the remedies promptly and faithfully applied, the losses from disease and death would in a great degree be prevented, and the profits arising from their fleeces and young materially increased. As the remedies are simple and the ingredients composing the prescriptions within the reach of every farmer, it is to be hoped that every wool grower who has the misfortune to have a diseased flock will give them a thorough trial.

Fever.

Fever in sheep is an inflamed state of the blood, disordering the eyes and mouth, and affecting the whole body, though not visibly. When any of the symptoms of a fever appear, the feet of the sheep should be examined, and if found to be hot, there is no doub

of the character of the disease. Other diseases will produce an inflammation of the eyes and mouth; but hot feet are an infallible symptom of fever. This disease is often fatal in itself, and frequently induces others which are equally so. The cause is generally a cold. When only two or three of the flock are affected by it, the case is less desperate; but when many are attacked with it, it is more fatal.

The remedy is to keep the sheep in warmer and more sheltered places, bleed and give the following medicine. Heat a quart of ale, and dissolve in it an ounce of mithridate—add half an ounce of Virginia snakeroot, and one dram of cochineal in powder. This quantity serves for four doses, and one of them to be given morning and evening. If the sheep is bound in its body, an ounce of lenitive electuary is to be mixed with each dose; but if looser than ordinary it ought not to be checked as it will contribute to the cure.

Purging.

Leave nature to her course when a purging comes on with a fever; but when the fever is abated it should be stopped; and the same remedy that answers for this purpose, may be adopted for such purgings as come on of themselves. Boil a quarter of a pound of raspings of logwood in two quarts of water, till but a quart is left, and when it is nearly boiled down put in a stick of cinnamon, strain it off, and give the sheep a quarter of a pint, four times a day, till the purging ceases.

If this does not produce the desired result, the following addition will render it sure of success. To every dose add a quarter of an ounce of diascordium without honey, and ten grains of Japan earth powdered, and give the doses only morning and evening.

Tag.

The tag is an external disease owing to the complaint last named. It is a distemper of the tail, beginning with filth and foulness, and ending in ulceration. The tag is situated in the inner part of the tail—it consists of scabs and sores, very painful and wasting to the animal, and is owing to the fouling this part by a purging. That tag is worst which follows a fever, because the inflamed state of the blood tends to increase the disorder, and when it begins, during the continuance of the disease, the matter of the fever may chance to settle it there. Two things are to be done; the first is to stop the purging; and the other, to clean the tail.

The last mentioned remedy, either in its weaker or stronger form, is to be used to stop the purging; and the tail being clipped, and the sore part laid bare, first wash it with milk and water blood warm, and then with lime water. After this turn the sheep into a clean dry pasture. Two days after look at it again, and, if not well, repeat the washing, and anoint it with grease and tar mixed together. Twice doing of this is generally sufficient to complete the cure.

Diseases of the Lungs.

Sheep are subject to be diseased in the lungs, which is easily perceived by their breathing, or by their coughing. Nothing requires a more speedy remedy; for they grow incurable, when it is neglected but a short time, and die as men in the consumption. Change of their pasture is essential to the cure—without it no remedy is effectual. It is owing to cold, and generally attacks sheep that have been kept on low grounds in wet weather.

When any of the flock exhibit symptoms of diseased lungs, drive them into an enclosed pasture where there is short grass and gravelly soil; and where there is spring or other running water. Bruise a basket full of the leaves of colt's foot, and press out the juice. Bruise a quantity of plantain leaves and roots together, and press out the juice.—Mix these, and bruise as much garlic as will yield about a fourth part as much juice as one of the others. Mix all together, and add to them a pound of honey, an ounce of aniseeds, and an ounce and a half of elecampane. Give a quarter of a pint of this, warm, to every sheep that is affected, once in a day, and it will by degrees make a perfect cure.

Jaundice.

Sheep are more subject than any other animals to obstructions of the liver. When this is the case it is seen in a yellowness of the eyes, and a tinct of the same kind in the skin. Farmers in some places, call this the choler, or, in their language, the color.

When sheep are attacked with jaundice they should be put into an open pasture, and kept in moderate motion, but not fatigued. Boil in four gallons of water two pounds of fennel roots, the same quantity of parsley roots, and twice as much roots of couch-grass, all cut small. When the water is very strong of them, and there is about half the quantity left, strain it off, by pressing it hard. Bruise as much great celandine as will yield three pints of juice, add this to the liquor, and put in three drams of salt of steel. Mix all together, and every day heat so much of it as will serve to give every sheep that is ill, a gill and a half for a dose. This, with the forementioned directions, rarely fails of a cure.

(*To be Continued.*)

Silk Culture.

The importance of this branch of agriculture is becoming every day more apparent. The soil of the Atlantic states, otherwise poor and run out, is found admirably adapted to the cultivation of the Mulberry, and promises through this source a rich remuneration for the trifling trouble necessary to bring the trees to perfection. If the business is pursued with industry and zeal, the old States will be able to compete with the new, in despite of difference of soil and climate. Few farmers have any idea of the vast profit of the silk business. Four hundred and twenty pounds of silk was produced from four acres of ground, near Boston, planted with mulberry trees. This silk sold for $3,50 per lb.—amounting to $1470. The labor was performed by four girls, whose attention was required but a small portion of the time. The following statement of the profit of one acre of ground is given by Andrew Palmatier, Esq. of New York:

One acre fenced with mulberry hedges and set out with trees,	250 00
Interest and additional expenses during 5 years,	187 50
	$437 50

The acre will then produce:

From 5 to 10 years	- -	20 per cent.
" 10 to 15 "	- -	47 " "
" 15 to 20 "	- -	112 " "

after 20 years the average will continue 112 per cent.*

The proportion of silk to the acre has been variously stated from 40 to 100 lbs.—a fair estimate would probably be about 60, which at $3,50 per lb. would be $210—a much larger sum than could be realised in any other manner from the same quantity of land. The demand for silk goods has been constantly increasing in this country. The importations last year amounted to nearly 16 millions of dollars, and it is probable that like the cotton business, the consumption of this elegant article of dress will more than keep pace with its increased cultivation. When the fact is generally known that any young lady, by a few hours of pleasant recreation in each week, can clothe herself in a splendid suit of native silk at the low rate of 12½ cents per yard, there will not be a garden without its mulberry trees nor a chamber without shelves for the accommodation of the industrious spinner. The individual who devotes a portion of his leisure to the introduction of this elegant and profitable business should be regarded as a public benefactor.—*Portsmouth Gazette.*

* We presume this estimate is fixed rather high.

NATURAL HISTORY.

Radiata, Worms, Insects.

The *radiated* animals are so named, on account of the different parts of which they are formed, being placed like rays around a common centre. The star-fish so frequently seen on the English coasts, is a familiar example of an animal of this class. The *Echinus* Sea-egg, or Sea-urchin, is another instance; the shell, which, when the creature is dead, is frequently found on the sands, and which, in that state, bears some resemblance to an egg, was, when its inhabitant was living, covered with an immense number of spines or prickles, by means of which, as if with legs, it moved from place to place; on account of these appendages it is called the Sea-urchin, or Hedge-hog. In the smaller species, these spines, when magnified, are very beautiful objects. Annexed (Fig. 35) are enlarged representations of three varieties. The animals themselves

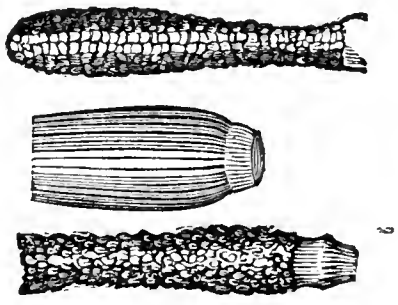


Fig. 35.

are curious in their formation, but can only be seen to advantage when in a living state; on this account great dexterity in the observer, and the best opportunities of observation are required; as the objects must, in all cases, be enclosed in some vessel containing sea-water, and will not live for any length of time if removed from the sea-side.

Worms of all kinds present the same difficulties of observation as the radiated animals. We give a magnified view of the head of the *Echinorhyncus*, (Fig. 36,) a worm which infests the intestines of animals. A simple inspection will show how difficult it must be

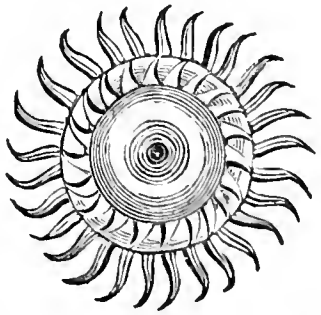


Fig. 36.—*Head of the Echinorchyncus.*

to dislodge the intruder, when once it has fastened the numerous hooks with which the mouth is surrounded, in the flesh of its victim.

Upwards in the scale of the creation, we next come to the Insects; and here the microscopic observer will find abundance of

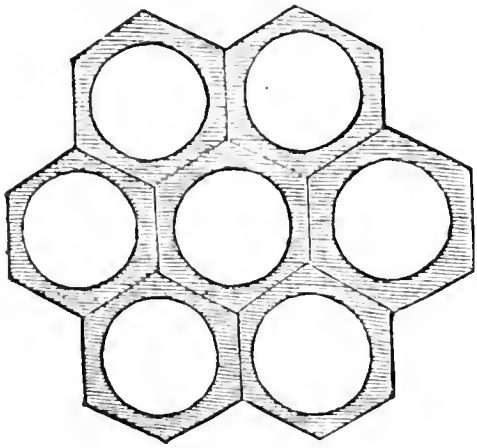


Fig 37.—*Eye of the House-Fly.*

materials for his curiosity, for the most insignificant being of this class, will afford him amusement for hours; its eyes, wings, legs, sting, horns, nay, the very down with which its body is covered, present an interesting and splendid spectacle. The eye of the common house-fly is formed of numerous lenses, or magnifying-glasses, placed close to each other, and curious both for their form and arrangement. The engraving (37) represents the order in which they are arranged with reference to each other. The number of these lenses in a single eye frequently amounts to several thousands. The following figures show the curious structure of the foot of the same fly. The two broad flat pieces seen beneath the claws act something like suckers, and give the fly the power of walking upon the ceiling, or upon glass, without the danger of falling.

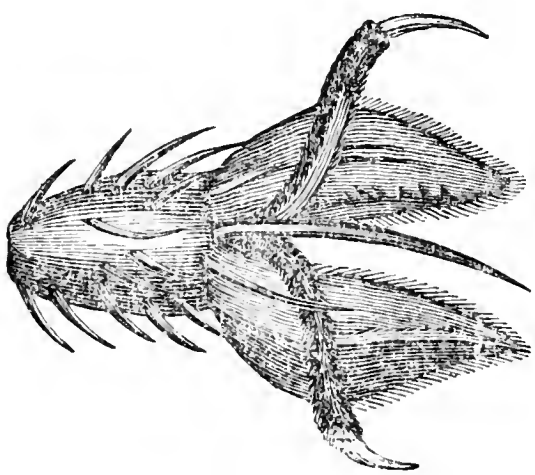


Fig. 38.

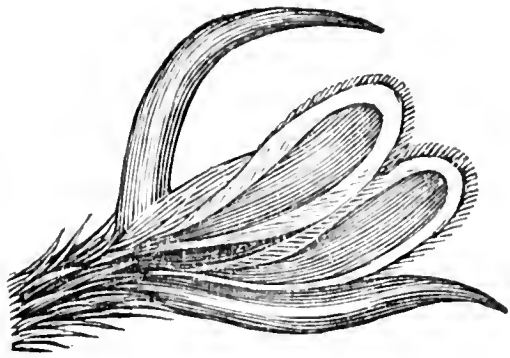


Fig. 39.—*Foot of the Fly.*

The sting of the gnat, when its parts are carefully separated and highly magnified, presents a terrible display of barbed darts and cutting instruments; this weapon is placed under the throat of the insect, and it is curious and instructing to notice the manner in which it is employed; if the gnat uses it for the purpose of penetrating flesh, the darts are inserted, as well as the rest of the apparatus; but if feeding on fruit, it only thrusts in a little sucking tube, and by that means extracts the juices.

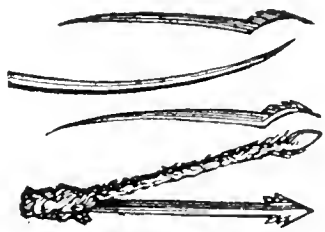


Fig 40.—*Sting of the Gnat.*

(To be continued.)

MISCELLANEOUS.

POTATOES MANURED WITH PINE LEAVES.—A Southern paper states that pine boughs and leaves make an excellent manure for potatoes. A farmer in New Jersey having a large number of young pine trees growing near his potatoe grounds, he gathered a sufficient quantity of the boughs to form a considerable covering to a row of potatoes which he was planting in drills. In the drill, on one side of this he used lime for manure, and on the other he put in marl. They were all covered with earth in the same manner, and received the same culture. On digging them, those that were manured with the pine was twice as large as the others, and double in quantity.

LIME.—As farmers are now engaged in ploughing up their ground for winter fallow, to receive the meliorating influence of the frost and snows, would it not be well to turn

in a coat of lime with the vegetable lay. By so doing, it appears to us they would, the ensuing season, receive all the benefit from the lime which is usually derived from it the second year. The peculiar virtue of lime consists in part, in accelerating the progress of vegetable decomposition, and thus, within a given time, increasing the quantity of carbonic acid evolved, and in correcting any superabundance of vegetable acid which may abound, and so far as these benefits may be derivable from the application of lime, corn planted in fields next spring, manured this fall with lime ploughed in, would receive every advantage which usually appertains to crops the second year.

Lime.—Lime, now so extensively and profitably used in agriculture, exists in its purest state in good marble. The refuse of marble, which is in great abundance at our valuable quarries in Montgomery and Chester counties, has recently been burnt into lime of the best quality, and promises to be a valuable acquisition to our farmers, and a profitable appropriation of a refuse article to the owners of marble quarries.

Maize Sugar.—Dr. Ballas, having sent two specimens of the Maize Sugar to the French Academy of Sciences, M. Biot has submitted them to certain experiments of polarization, in order to ascertain their percise nature. The deviation of the luminous rays to the right of the place of polarization, in an aqueous solution of this sugar, after filteration, and the proportion of its aversions to the left by the addition of liquid sulphuric acid, have been found by M. Biot to agree with the pure sugar derived from the cane.

Disease among the Stock in Louisiana.—According to the Louisiana Advertiser, *Chorbon* is the name of a disease as fatal among the horses, mules, horned cattle, sheep, hogs and wild deer of Louisiana, as the Cholera is to man. Neither is man wholly exempt from it. Many instances have been known, where those who have been attending to their horses and cattle in the disease, have been attacked with it, and repeated instances have occurred of death ensuing. Planters in the very pinch of a crop, have been known within a week not to have a horse to put in the plough; although he may have had a dozen—all having died of the fell disease. A planter writes to the editor of the Advertiser that an ox which died of the disease, had been skinned and left in the pasture, where his hogs ate of it and were instantly attacked with the charbon. Sulphur, flour of sulphur and brimstone, it is said, will effect a speedy cure.

Seed Wheat.—An amusing and instructive anecdote was related to me of a farmer in Vermont, to whom his neighbors were accustomed to resort, for the purpose of securing their seed wheat; and was able to supply with that which was very superior in its appearance, productiveness, and early maturity, which hewas accustomed tocall barrel wheat, and which readily commanded three dollars per bushel, when other wheat was sold for one dollar, and one dollar and a quarter.—The secret was at last discovered. He used, before threshing his wheat, to select the best sheaves, and striking them over the head of an open barrel, three or four times before laying them down to be threshed, obtaining in this way a superior seed. As in this way the largest and earliest ripe kernels would be shaken out, and fall into the barrels, he obtained what might be considered a select seed which he denominated his "barrel wheat;" and which the farmers, until they heard how to do it for themselves, found their advantage in purchasing.

Progress of the arts.—The May-bug is now becoming an entirely new article of commerce. A society formed for the purpose, at Guedlinbourg, has caught nearly 19,000,000 of May-bugs to make oil of them. They have already made the attempt in Hungary and obtained three measures of oil from eight measures of the May-bug. They put the insects into earthen pots, covered with straw or a tissue of metallick threads, and turn them over upon a heated vessel, which is destined to receive the oil which flows out—this oil is particularly good for greasing wheels. *Paris paper.*

Beet Sugar.—The manufacture of beet-root sugar in Belgium is extending on a large scale. Six new establishments have been authorized, all in the province of Hainaut. The government could not refuse the licenses; but it appears they are devising means for filling up the gap made in the revenue by this novel produce.

A young farmer having purchased a watch, placed it in his fob, and strutting across the floor, says to his wife, 'Where shall I drive a nail to hang my watch upon, that it may not be disturbed and broken?' 'I do not know a safer place,' replied his wife, 'than in our *meat barrel*, I'm sure no one will go there to disturb it.'

Early rising is a merit in whoever practices it. Farmers are generally early risers.

Neatness.

Let order o'er your time preside,
And *method* all your business guide;
One thing at once be still begun,
Contriv'd, resolv'd, pursu'd and done;
Ne'er till to-morrow's light delay
What might as well be done to-day;
Neat be your barns; your houses neat;
Your doors be clean; your court-yards sweet;
Neat be your farms; 'tis long confess'd,
The neatest farmers are the best.

The Farmer.

Let monied blockheads roll in wealth,
Let proud fools strut in state—
My hands, my homestead and my health.
Place me above the great.

I never fawn, nor fib, nor fain,
To please old Mammon's fry;
But independence still maintain
Of all beneath the sky.

Thus Cincinnatus at his plough,
With more true glory shone,
Than Cæsar with his laurelled brow,
His palace and his throne.

Tumult, perplexity and care,
Are bold ambition's lot;
But these intruders never dare
Disturb *my* peaceful cot.

Blest with fair competence, I find—
What monarchs never can—
Health and tranquility of mind,
Heaven's choicest gift to man.

T. G. Fessenden.

Apple Pepper.

A few summers since, we were presented, through the kindness of Dr. Munroe, of the United States Army, with a few seeds of this delightful and useful vegetable. We planted them in our garden, and have been thus enabled to increase our stock of seed.

This pepper was introduced not many years since, from the East Indies, by the Superintendent of the Marine Hospital at Norfolk. Among the natives of the East, it is highly valued for its many excellent qualities. Dr. Monroe informs us, that as a preventive of cholic, and spasmodic complaints, it is highly useful, and as such, has been used with great success in the large hospital above alluded to.

The great peculiarity of this pepper over all others, is its flavor. It so much resembles the apple in this respect, that any one might easily mistake it for that fruit while eating it. To the taste it possesses not the least acridness or burning; its seed and veins may be eaten without any unpleasantness.

In its green state the pepper makes a most delicious pickle, and when dried and powdered and rubbed upon meat, it is an infalliable preventive against the attack of all kinds of bugs and insects. In this respect it is preferable to the common pepper, inasmuch as it leaves upon the meat no acrid taste. The rind is very thick, and the pods about the size of the common bell pepper.—*Southern Agriculturist.*

Beautiful tree.—A beautiful tree has been discovered in the Bay of Bambatoe, on the western coast of Madagascar, by M. Boyer. It makes a magnificent appearance, and is supposed to come originally from the eastern coast of Africa. Some seeds from it, sown at the Mauritius, have perfectly succeeded. It belongs to the order Leguminosæ, and M. Boyer thinks it is a new genus, which he calls Colvillea racemosa, the first name being given in honor of the Governor.

American Silk.—Mrs. Kimball, of Hopkinton, appeared at the Fair of the Merrimac County Agricultural Society, in Concord, on Wednesday last, clad in rich and durable Silk of her own manufacture. She procured the mulberry trees, raised the worms, reeled, twisted, coloured, and wove the silk with her own hands.—*Dunstable (N. H.) Telegraph.*

Wool.—The growing of Wool is a subject which engages the attention of many of the farmers and speculators in the eastern states; and it proves to be a business which affords them a very fair profit, and will we doubt not continue so to do, so long as wool remains as important a staple in the manufactures of our own country as it does at present. The rearing of sheep is too much neglected in this vicinity. Many of our farmers have supplied the butchers and dovers until their flocks have become much reduced in numbers and depreciated in value. This ought not so to be, for in the language which John Hancock put into the mouth of an ancient sheep, "Farmers gain more by our lives than by our deaths;" which saying holds good at the present day. But if a farmer wishes to dispose of a part of his flock, it is a great error to cull the best for this purpose, as is the practice of many, who wish to get the highest price. On the contrary, the aged and inferior as to wool, should alone be spared if you wish to keep your flock in a flourishing condition.

PRICES CURRENT.

ARTICLES.	Philadelphia, Nov. 14.	Baltimore. Nov. 11.	New York, Nov. 12.	Boston, Nov. 11.
Beans, white, per bush	$1 87—	1 75—	1 45—1 87½	1 85—2 15
Beef, mess, new, per bbl	13 00–13 50	12 00–13 00	12 00–13 00	13 50–14 00
Bacon, western, per lb	11— 14	10— 11½	.....	.....
Butter, extra, per tub	19— 20	.....	.....	.....
Butter, fresh, per lb. (market,)	25— 37	25— 37½	25— 40	30— 37½
Hams, Jersey, per lb	— 15	.....	13½— 14	.....
Hog's Lard, per lb	.....	15— 16	17— 17½	15— 15½
Cheese, American, per lb	10— 11	10— 11	8— 10	8— 12
Beeswax, yellow, per lb	27½— 28	30—	27— 29	28— 30
Beeswax, white,	37— 39	40—	— 40	38— 40
Bristles, American,	60— 70	.....	25— 65	30— 75
Flax, American,	10— 12	.....	8½— 9½	9— 12
Flour, best, per bbl	10 00–10 25	—9 62½	9 62½–10 00	—10 00
Grain—Wheat, per bush. Penna	2 10—2 15	.....	1 75—	—2 12½
do. Maryland,	1 90—2 00	1 30—2 05	1 50—1 75	.....
Rye, per bushel,	—1 35	.....	1 10—1 20	.....
Corn, do	— 85	81— 83	1 00—1 06	98—1 00
Oats, do	40— 43	48—	50— 60	53— 65
Barley, do. Penn	77— 80	.....	.....	.....
Peas do	.....	1 12½—	1 00—1 12½	.....
Hay, Timothy, per 100 lbs	1 00—1 10	.....	1 12—1 25	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	.....
Hops, first sort, 1836, lb	15— 16	.....	.....	.....
Plaster Paris, per ton,	3 25—3 50	3 00—3 25	—3 25	3 25—3 50
Seeds—Cloverseed, per bushel,	—6 50	7 50—	.....	.....
Flaxseed, rough, do	1 75—1 80	1 50—	1 65—1 75	—1 50
Timothy,	3 00—3 25	3 00—3 50	2 25—2 50	2 75—3 25
Tallow, per lb	— 10	— 8½	— 9¼	9— 9½
Wool—Saxony, fleece, per lb	68— 75	55— 68	75— 80	85—1 30
Merino,	60— 67½	48— 55	50— 68	65— 70
1-4 and common,	40— 44	36— 40	25— 40	50— 55

Remarks.

FLOUR AND MEAL.—*Superfine Flour* continues to advance; several thousand barrels of Pennsylvania and Delaware have been sold at $10. *Corn Meal* is in demand; *Rye Flour* remains firm at former quotations.

GRAIN.—The market is very dull for all descriptions of Grain. *Wheat*—Pennsylvania white sold at $2,15 per bushel; Foreign sold at $1,93 a $1,95 per bushel. *Rye* is in slow demand; Southern sold at $1,12 a $1,16 per bushel. *Corn*—the article is dull, but sales to some extent have been made; 7500 bushels round yellow sold at 95c. per bushel; white at 85c.; some Southern at 90c. for flat yellow. In Oats we hear of no sales.

HOPS—Are plenty and dull of sale, at present, at 14 cents per lb.

PROVISIONS.—*Beef* remains at about our last quotations. *Pork*—small sales of Mess at $26 a $28; Prime $22, being an advance. *Butter* has declined slightly.

WOOL—Remains firm; supplies from the interior are falling off—sales since our last, at former prices, of from 50 to 60,000 lbs.

In the Cattle Market little or no change since our former report.

Baltimore, Nov. 10.—*Flour*—Howard Street—Holders have become more firm, and some of them are asking an advance of 12½ cents ($9,62) on the heretofore prevailing store rate. We hear of no transactions, however, above $9,50, and we quote accordingly. The wagon price has advanced a little, and now ranges from $9,25 to $9,37½. Sales of City Mills, early in the week at $9,25. Some sales have since been made at $9,25 and $9,37 1-2, and lots of extra at $9,50. Sales of Susquehanna at $9,62 1-2, and occasionally for a lot of choice brand at $9,75. Inspections of the week, 7675 barrels, and 215 half barrels. *Grain*—Two cargoes Wheat, 17,000 bushels, sold on Tuesday at $1,95, $2,05, and $2,10, according to the quality. Sales of Md as to quality, range from $1,50 to $2,05. Corn—Sales of white at 83 a 84 cents, and yellow at 88 a 89 cents. To-day we quote white at 81 a 83 cents, and yellow at 88 cents. Rye—We quote at 1,20 per bushel. Oats—We quote to-day at 48 cents per bushel.

Pittsburgh, Nov 7.—Business of all kinds continues very lively. *Cheese* has been scarce, but one of our most active and vigilant merchants has just received near 200 casks of good *Ohio*. He expects 9 to 10 cents for his Ohio, which is a fine article. *Feathers* have been very high and scarce in our market; a lot of Kentucky, about 10,000 lbs. was brought to our city on Monday, and bought at once by two of our merchants; terms cash; price not transpired, and a large part of them have already been sold. *Fruit*—Dried Apples and Peaches are both in fair demand, for the former 50, and for the latter 1,50 to 1,75 is freely given, by the quantity—good Raisins command 3 to 4,50 a box, and are not plenty—good green Apples sell readily at 1,00 to 1,25 per bbl.—choice articles higher. *Fish* are not plenty, and the prices high. *Flour*—The supplies of Flour are light for the season, and very readily commands 7,25, cash, per barrel, out of wagons, and 7,50 out of stores.

Subscribers are informed that we are engaged in reprinting the back numbers, and as fast as executed, the numbers necessary to complete their sets will be forwarded.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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THE FARMERS' CABINET.

Chester County, Pa. Nov. 1836.

The Wheat Fly.

SIR.—In No. 5 of the "Farmers' Cabinet," I observed some remarks on the WHEAT FLY, and a mode or plan for its destruction pointed out; and in conversation with a gentleman on the subject have been informed, that he has pursued the following process for three successive years with uniform success; his wheat having escaped the Fly, when his immediate neighbor's crop was much injured by it. If you think the information will be of service to the readers of your paper, please publish it when most convenient.

He soaked his wheat in clear water, for about twelve hours, and then placed it in a heap on the floor, and pounded *unslacked* lime so as to pulverize it as finely as convenient, and mixed with a shovel about equal quantities of lime and wheat intimately together, and let them remain in a heap about twelve hours more, and then sowed the wheat and the small quantity of dust that adhered to it; he observed the egg on the grain, and supposes the heat produced by the water, on the wheat slackening the lime, together with the caustic quality of it, destroyed the embryo of the insect, without injuring the grain.

Note.—If this process should not uniformly succeed, perhaps strong ley or a decoction of tobacco, or some other substance might be used to destroy the egg without injuring the grain.

P.

Sheltering Farm Lands.

The practice, almost every where prevailing in the United States, of removing every tree from the ground, in clearing new land, shews that the importance of affording shelter to farms exposed to high winds and bitter blasts, is not sufficiently appreciated. When interspersed with stripes or masses of plantation, not only are such lands rendered more congenial to the growth of grass and grain, and the health of pasturing animals, but the local climate is improved. The fact that the climate may be thus improved, has, in many instances, been sufficiently established. It is, indeed, astonishing how much better cattle thrive in fields, even but moderately sheltered, than they do in an open, exposed country. In the breeding of cattle, a sheltered farm, or a sheltered corner in a farm, is a thing much prized, as, by affording them protection from the keen winds of spring and autumn, they uniformly feed with more freedom, and much better than if they were exposed.

The operation of skreen plantations, observes Marshall, is not merely that of giving shelter to the animals lodging beneath them; but, likewise, in breaking the uniform current of the wind—shattering the cutting blasts, and throwing them into eddies; thus meliorating the air to some distance from them. Living trees communicate a degree of actual warmth to the air which envelopes them. Where there is life, there is warmth, not only in animal, but vegetable nature. The severest frost rarely affects the sap of trees. Hence it appears, that trees and shrubs, properly disposed in a bleak situation, tend to improve the lands so situated, in a three-

fold way, for the purposes of agriculture: namely, by giving shelter to stock; by breaking the currents of winds; and by communicating a degree of warmth, or softness, to the air in calmer weather.

Nor ought it to be altogether kept out of view, that the retaining, and judiciously arranging a portion of growing timber on a farm, confers a richness, and picturesque beauty on the landscape. We have seen some lands, on which nothing was sought for but profit and shelter, where the greatest beauty was produced by adopting thissystem. Where, however, trees for shade may be requisite for agricultural purposes, they should be sufficiently open to admit a free circulation of air. For this purpose, trees with lofty stems, and large heads, pruned to single stems, are preferable. To shelter live stock, the skreen should be open at the bottom. Otherwise, it is injurious, rather than beneficial. The blast not only acquires additional current, but snow is liable to be blown through, and to be lodged in drifts on the leeward side, to the annoyance and danger of sheep that have repaired thither for shelter.

Live Fences.

To the Editor of the Farmers' Cabinet:—

Sir.—I wrote to you some time since on the subject of *Live Fences*, and stated where I supposed the berry could be procured, and the method by which the seeds could be separated from the other parts of the berry. The object of this communication, is to state the process by which the seed is managed before sown, which is different with different persons; the principal object aimed at by all, appears to be for the frost to act sufficiently on the stone or hard part of the seed, to open it, so that the germ may vegitate when the seed is sown the ensuing spring, and not to operate so powerfully as to endanger its vitality. Some place the seed in a box with a hole or openings in the bottom, and a thin layer of sand or earth on the top of the seed, and place the whole so that water may run from the roof of a building, whenever rain falls during the winter, which passes through the whole and out at the bottom; this, with the frost of the winter, prepares the seed, which may he sown about the same time as flax, (say Easter) in a strong mellow soil, sufficiently thin, for the plants to grow to the height of a foot, without materially injuring each other.

One person, who has generally succeeded well, places the seed as aforesaid, but without the earth or sand on them, in the shade, about the middle of February, and is careful to keep them moist, by pouring water on them occasionally till the time of sowing, the frost having full power on them during this time. After the plant begins to grow, the weeds and grass is to be kept out, and the ground mellow, similar to a nursery of appletrees, until the plants are one or two years old, when they are to be transplanted into the place for the fence. P.

Ch ster Co. Nov. 9, 1836.

(*To be Continued.*)

Drilling.

The improvement made by the great saving of seed in modern practice is very great. It is certain from experiments, most satisfactorily authenticated, that about one-third of the seed which was formerly used, and indeed is still in most places, is fully sufficient. In general it produces a better crop than the whole quantity. In the old husbandry or broad-cast method of sowing, it is usual to allow from two to three bushels of seed-wheat, as the season happens, to a statute acre; but in drilling or setting, it is found that from three to five pecks is quite sufficient; so that the difference between the two modes of planting amounts, at least, to a saving of one bushel and a half per acre. If then these new modes of planting all sorts of grain were equally adopted, the saving would be an addition to the year's produce, a tenth or twelfth of its whole amount. The farmer, therefore, who in any one year might plant one hundred acres of wheat in the new method, would save at last one hundred and fifty bushels of seed. If the savings of seed then on one hundred acres would be one hundred and fifty bushels, how amazing would be the amount of the quantity saved on all the tillage lands of this country.

The improvement in planting has all the prejudice of the farmer to contend with. He has been used, perhaps, almost a century, to sow his land with wheat at the rate of two bushels and a half per acre, and at harvest too frequently has observed he has not half a crop; from which he hastily concludes, that if he had sown but half the quantity, small as his crop was, it would have been but hall as great. His land is frequently in very imperfect tilth, very rough, and full of large lumps; however, the seedsman scatters the seed on the surface, and in harrowing, a part is covered so deep as never to appear, another is never covered at all, but is picked up by the birds; so that it frequently happens that not one-third of the seed ever vegetates and arrives at maturity. But in planting by hand, every grain is placed at the intended depth and distance and not one in a thousand miscarries. The mode of planting has been in use several years in this country as well

as Great Britain, and is annually extending itself, and doubtless will continue to do so, as in general it produces considerably better crops with so great a saving in the seed. The only objection which can be made to it is the expense of setting it, and the great number of hands it requires; more indeed than can at any rate in many places be procured. In answer to the first objection, the price of planting by hand is very little in proportion to the increase of produce, and the value of the seed saved. The second objection is entirely obviated by the many instruments lately invented for sowing the seed very regularly at any required depth and distance either in close drilling to be hand-hoed, or in open drilling with intervals of a proper width for horse-hoeing.

Tillage.

Improvements in tillage may truly be said to be the basis, or real foundation, on which the successful introduction of all the new articles of field culture depend. When the ground is well tilled, it is in the most perfect condition for receiving the fertilizing principles of the atmosphere. Rain, snow, hail, dews, and hoar frost, &c. convey the nutriment of vegetation, which floats in the air, most plentifully into the bosom of the earth, as deep as it has been broken, and well pulverized. It is the only effectual mean of rooting out weeds, so necessary to the beneficial growth of all crops, and should be repeated till they are in a great measure destroyed. The roots and fibres of weeds are the ligaments and braces which in a great measure knit and bind the clods together, and are indissoluble, till by being exposed to the action of the air, the roots within rot and decay, and the clods, almost by their own gravity, expand into small crumbles, and are reduced to a perfect state of pulverization.

The destroying of weeds, however, is not the only immediate benefit accruing from a due state of tillage; grubs, beetles, worms, and maggots of many different kinds, which abound in most fields, may be greatly diminished, if not entirely extirpated by the well-timed use of the plough, and its auxiliary instruments necessary to the reduction of the soil. Nothing so effectually prevents the ravages of the several tribes of subterraneous insects, as the frequent stirring and crumbling the ground. Large patches, of several poles square, in a field of beans, are frequently destroyed by the grub of the cock-chaffer; and many hundreds of cabbage plants by a kind of grey grub of less size. Both these execute their mischief under ground. The first eats the roots of the beans even when in kid, when they wither, fall, and die; and the latter bites off the stem of the plant just under the surface. Tillage duly performed, always destroys the whole race.

The improvement the soil acquires by means of frequent and well-timed tillage, is gradual and progressive, and the longer it is kept in tillage, if duly performed, the more fertile it becomes. One ploughing in the beginning of winter, and a second early in the spring, will be more effectual in pulverizing the soil than half a dozen at any other time of the year. This improvement in tillage is so very clear and certain, that it surprises one much that it is not universally practised.

Farmers' Work.

Sewing Seeds of Garden Vegetables in Autumn.—Many things which are usually sown in the spring, would be better *sown in the fall;* and especially when we consider how *little time* there is for doing all things in the spring. Parsneps, carrots, beets, onions, and many other seeds may be safely sown in autumn. The seeds will not perish if covered by the earth. Cabbages, parsneps, carrots, spinach and onions are sowed to the best advantage in the fall, when it is desirable to get them early the next season. Miller's Gardener's Dictionary says, "to cultivate parsneps, *sow the seed in autumn, soon after they are ripe;* by which means the seed will come early in the following spring, and let the plants get strong before the weeds grow up to injure them. The young plants never materially suffer through the severity of the season."

Cobbett's American Gardener asserts that "early peas would be best sown in the fall, could you have an assurance against *mice.* We all know what a bustle there is to get in *early peas.* If they were sown in the fall they would start up the moment the frost was out of the ground, and would be ten days earlier in bearing in spite of every effort made by the spring sowers to overtake them. Upon a spot where I sowed peas for seed, last year, some that were left in a lock of haulm at the harvesting, and that lay upon the dry ground till the land was ploughed late in November, came up in the spring the moment the frost was out of the ground; and they were in bloom full *fifteen days* earlier than those sown in the same field as early as possible in the spring. In some cases it would be a good way to cover the sown ground with *litter,* or with leaves of trees as soon as the frost is fairly set in; but not before, for if you do it before, the seed may vegetate, and then may be killed by the frost. One object for this fall sowing is to get the work done ready for the spring; for

at that season you have so many things to do at once. Besides you cannot sow the very instant the frost breaks up, for the ground is wet and clammy, unfit to be dug or trodden upon, so that here are ten days lost. But the seed, that has lain in the ground all the winter is ready to start the moment the earth is clear of the winter frost, and it is *up* by the time you can get other seed into the ground in a good state.

Fall of the year. In a country where the springs are backward as in the northern parts of New England, farmers should do all they can in autumn, to diminish or lighten the labors of the following spring, when they will have much work to perform in a short time. Summer dung and composts should be carted out at this season. Fences should be built or repaired, not only to prevent having them to do in the spring, but to prevent cattle from injuring the land with their feet. All the ground should be ploughed in the fall, that is to be seeded in the following spring. Ploughing in autumn is saving labor at a time when teams are most apt to be faint and feeble, and when there is to often a scarcity of food for them. Ploughing in autumn is of great importance in a clay soil, as by exposing it to the frost, the cohesion of the parts is much broken—*Deane.*

But although fall ploughing may be recommended as a general rule, we believe that in some soils it ought not to be practised. A light, sandy soil, which is naturally too loose for vigorous vegetation, is injured by late ploughing. The frost destroys what little tenacity the land possesses, and reduces it to such a state that many of its most fertile particles are either swept away by winds or washed away by floods. Such soils should be kept coated and bound together by vegetation as much as possible. No farmer should suffer such land to lie in a bare and finely pulverized state either in summer or in winter.—*N. E. Farmer.*

Diseases of Sheep.

[Concluded.]

Stoppages in the Throat.

Sheep affected with stoppages in the throat. wheeze and breath with difficulty. It is commonly occasioned by bad pasturage and colds. The remedy is to put them on higher ground, keep them warm and give them the following medicine. Bruise a good quantity of penny-royal, and squeeze out the juice. Put to a quart of it, a pound of honey, and half a pint of sharp vinegar. Give half a pint of this, blood warm, every night.

Sturdiness.

This is a giddiness in the head.—It is owing principally to rich feeding. The remedy is as follows:

Bleed profusely and give the following medicine. Bruise some roots of wild valerian, squeeze out the juice, heat it, and give a quarter of a pint. Repeat the dose every four hours. When the sheep is recovered, turn it upon the common, or into some barren hilly pasture. It will be kept from relapses by having but little food, and that perfectly wholesome. If the disease returns it is commonly fatal.

Wood Evil.

This disorder is a kind of cramp. It siezes the legs and will often attack a whole flock at once. The cause is cold and wet. Laying under the drip of trees in raining seasons has often occasioned it, and hence its name.

In order to effect a cure the sheep must be removed to a dry pasture and then proper remedies may take effect. The following medicine is recommended.—Boil in a large quantity of ale as much cinquefoil and hedge mustard as can be well stirred into it. When the liquor is very strong, strain it off, and add a pint of juice of valerian root to every gallon. Give half a pint of this, morning and evening. Boil in vinegar a large quantity of the leaves of hedge mustard, and with the liquor hot rub the legs.

Staggers.

Sheep as well as horses, are sometimes afflicted with the staggers. It is occasioned by improper food. Oak leaves and buds are particularly prejudicial. They bind the bowels and staggers frequently follow. The symptoms are the same as in sturdiness, but more violent; and there is generally a trembling, at the same time, in all the limbs.

To cure this disorder dissolve an ounce of assafœtida in two quarts of water. Give a quarter of a pint, warm, every three hours. It commonly opens the bowels at the same time that it takes immediate effect on the nervous system, and thus performs a cure. When the sheep are recovered, let them be kept out of the way of a return to the same food, and they will be in no danger of a relapse.

Scab.

This is a disorder to which sheep are very liable. When they are kept in dry wholesome pastures they are but seldom afflicted with the scab; but when they are on low wet grounds, or get under the drippings of trees in bad seasons they are frequently affected by it, in the severest manner.—The symptoms are scurfy skins, which in a little time rise

to scabs—the wool grows loose and the sheep pine and become lean.

If they are attacked in a season when they can be sheltered, it should be immediately done, as nothing is so sure to effect a cure. If the season will not admit of shearing, they must be washed with soap suds, made very strong, and used warm with a piece of flannel or a brush. After this they must be turned loose into a clean pasture and driven up again as soon as well dried, and the sore parts of the skin must be well wetted with lime water. The scurfy part of the skin must be regarded; and the doing this three times, at two days distance each, will generally effect a cure. But if it fail, the parts that have been thus washed and cleaned, must be anointed with a mixture of equal parts of tar and grease, and they will soon be perfectly well. No inward medicine are required, for the complaint is only of the skin.

Red Water.

This is an inflammation of the skin that often raises it into blisters, in which are contained a sharp humor, thin, watery and colored with blood. Nothing should be done to strike it in, but the cure must be effected by correcting the bad state of the blood. Sheep afflicted with it should be separated from the flock, otherwise it will be very apt to spread through the whole. They should also be put into a pasture where the grass is sweet and where they can have access to good water.

Mix half an ounce of sulphur with an ounce of honey; work it well together, and then divide it into two. Dissolve one of those in half a pint of juice of nettles, and give it every day for a fortnight. Slit the blisters when they are full of this watery humor, and having let the matter out, wet the place with juice of wormwood. After four days of this course, bleed them; and then continue the same.

Foot Worms.

Sheep are liable to breed worms between their feet; principally, however, when they are kept in wet pastures. It is very painful to them, and will make them pine away. It is perceived by their frequent holding up one foot; and by setting it tenderly down.

Let the foot be washed clean, particularly between the toes, and there will be found a little lump like a tuft of hair. This is the head of the worm.—It is to be taken out with care, for it is of a tender substance, and if it be broke in the foot, it will occasion inflammation. The best method is to open the flesh on each side of it, and then, by means of a pair of knippers, to take it out. Dress the wound with tar and grease melted together in equal quantities, and turn the sheep loose. It is better to put it into a fresh pasture; for if the same disorder returns, it is generally worse.

Wild Fire.

This is a violent inflammation, not unlike the Saint Anthony's fire, upon the skin in different places; and generally affects the whole flock. Our forefathers used to bury the sheep alive with its feet upwards at the door of the fold, superstitiously believing that it acted as a spell to drive away the disease. The following, however, is a more modern and rational method of cure.

Separate such as are affected with the disease from the flock, bleed, and prepare the following external remedy. Bruise the leaves of wild chervill, and add to them as much lime water as will make the whole very soft. When it is beat up together, add as much powder of fenugreek seed as will reduce it to pap; then put it into a pan, and set it in a cool place. Rub the inflamed part carefully with this every evening, and make as much lie on as can be kept there; it will take effect during the time of rest, and is to be repeated as long as there is occasion.

Disorders of the Eyes.

Sheep are often affected with colds falling upon their eyes, and almost blinding them; and, at other times, the same accident even without any visible cause. The remedy in either case is the same. Press out the juice of great celendine, and drop a quantity of it into the eyes night and morning.

Dropsy.

Sheep are often swelled with water in their bellies; and this, if not regarded in time, is certain death. There are two ways in which it is lodged; the one is between the outward flesh and the rim—the other within the rim. In the first case the cure is easy; in the other, nothing can be done.

The method in the first case, is by a course kind of tapping. An opening is to be made in the flesh, and a quill thrust in. This wil give the water a free passage out, and the wound heals of itself.—But when the sheep is emaciated, nature will not have strength to heal it; and the sheep must be examined daily, and the wound dressed with tar and grease. It must also be put into a fresh, dry and wholesome pasture, and then disposed of as soon as recruited; for this is a disorder that never fails to return upon any mismanagement in keeping.

The Rot.

This is the most destructive disease to which sheep are subject. Like the murrain

it is contagious and generally spreads through the whole flock, and often over the neighboring country.—Flocks that are fed upon open commons are more subject to it than such as have shelter, and are taken care of at night. It frequently prevails in cold seasons and when dribbling rains come on soon after shearing. Want of food will also occasion this disease; as will likewise the eating of such grass as is full of unwholesome plants. These are among the causes of this fatal distemper; but the worst and most common is infection. Keep sheep out of the way of these causes of the rot, and the same care will preserve them from most other disorders to which they are liable, damp grounds are always dangerous, and especially in wet seasons.

When a sheep is infected with the rot, the white of the eyes looks dull, and they have a faint aspect, the animal is feeble and his skin is foul—the wool comes off in handfulls with the least touch and the gums look pale and the teeth foul. He will also be dull and listless in motion and heavy, as if his legs were not able to carry him. Many are generally infected at a time, and the first care must be to remove them from the sound ones, and put them in a close fold. They must have but little water, and their food must be dry hay and oats. Bleeding is destructive in the rot. The fact that sheep fed in salt marshes never have the rot, suggested salt as a remedy. It is a good preventive, but not an infalliable cure. Though the farmer cannot rely upon it, yet among other remedies, it is highly useful.

The following remedies and treatment have often effected cures. Bruise an ounce of the grains of paradise, and four ounces of juniper berries dried; add to these four pounds of bay salt and half a pound of loaf sugar, grind them all well together, and sprinkle some of this upon the hay and oats that are given the sheep. Let this be continued three days, and look from time to time to the eyes, and examine every other way, to see whether they mend or grow worse. If there be signs of amendment let the same course be continued; if not, the following must be used. Steep four pounds of antimony in two gallons of ale, for a week—then give the sheep this every night, and morning, a quarter of a pint at a time. Boil a pound of the roots of avens, and two pounds of the roots of master-wort, in two gallons of water, till there is not more than six quarts remaining—strain this off, and press it hard, then pour a pint of it into a pail full of water that is to be given to the sheep for their drink.

By these means, carefully managed, and under a good regulation in cleanness, dryness and warmth, the rot will often be cured. This is all that can be promised—for there are times when the disease is rooted, and when the temperature of the air so favors it, that nothing will get the better of it. If the sheep have a distaste to their food, because of the salt and other ingredients mixed among it, they must be omitted for two or three feedings, and then given in less quantity.

The Cheviot Sheep.

The Cheviot Hills are a part of that extensive and elevated range which extends from Galloway through Northumberland into Cumberland and Westmoreland, occupying a space of from 150 to 200 square miles. The majority of them are pointed like cones; their sides are smooth and steep, and their bases are nearly in contact with each other. The soil, except on the very top, is fertile; and from the base to the summit of most of them there is an unbroken and rich greensward.

On the upper part of the hill in Northumberland, which is properly termed *the Cheviot*, a peculiar and most valuable sheep is found. They have been there almost from time immemorial. Tradition says that they came from the border district of Scotland; but they are totally different from the black-faced sheep and bear but little or no resemblance to the original dun-faced Scottish stock. How two breeds so totally different from each other, came to inhabit the neighboring hills of Ettrick forest and the Cheviot hills, neither history nor tradition has attempted to explain.*

The Lammermuir farmer, an ardent admirer of them, says, that they are hornless; the face and legs generally white; the eye lively and prominent; the countenance open and pleasing; the ear large, and with a long space from the ear to the eye; the body long, and hence they are called "long sheep," in distinction from the black-faced breed. They are full behind the shoulder, they have a long straight back, they are round in the rib, and well proportioned in their quarters; the legs are clean and small-boned, and the pelt is thin, but thickly covered with fine short wool. The wool extends over the whole of the body, and forward behind the ear, but leaves the face uncovered—a circumstance, that gives a very pleasing appearance to the face and head. The muscle and the wool fall well down towards the knee; and although on the thigh the wool is somewhat coarse, the farmer is compensated by the abundant growth of it on that part.

Those who are accustomed to the Cheviots

* Farmer's Mag., February, 1824.

pay much attention to their appearance when young. The eyes and ears are carefully examined in the lambs, and if there is a redness about the one or the other, the animal is considered not to be in health, and he seldom shakes off the fever under which he is then laboring in sufficient time to overtake his companions in growth and endurance. The coat is also closely examined, and especially that of the young ram, for if it is not thoroughly compact, no beauty of form can compensate for the want of hardiness which this clearly indicates.

The Cheviot possesses very considerable fattening properties, and can endure much hardship both from starvation and cold. He is now fit for the butcher at three years, and at two when crossed with the Leicester. The wethers average from 12 to 18 lbs. per quarter, and the mutton is of excellent quality. They have been exhibited at the Highland cattleshow, 30 and 32 lbs. per quarter. The wool is inferior to the South Down, and it is not so fine as it was before the improvement of the carcass commenced. It is longer and more useful for many combing purposes, but is quite abandoned in the manufacture of fine cloth. Mr. Varley's evidence on the point contains much truth and sound philosophy, and deserves the serious consideration not only of the Cheviot breeder, but of every sheep-master. "The Cheviot wool is deteriorated very much in point of hair, and will not make fine cloths now as it once would. I went into Scotland on purpose to inspect the Cheviot wool, and gave it up on account of its being so much altered. It is coarser and longer, and although fit for combing, yet only to make low coatings and flushings. I allude to the Cheviot which has a partial cross of the Leicester. As sheep increase in weight, the wool will necessarily do so; it becomes longer in the hair and coarser."* It follows as a matter of necessity that if as Mr. Sutcliffe states, the grazier "can now get as much weight in sixteen months in the Cheviot and Leicester cross, as he could in a three year old wether in former times," that the wool must necessarily undergo a corresponding change. †

Sir John Sinclair's description of them in 1792, and before they were thus changed by the admixture of the Leicester, is too valuable to be omitted even in in this rapid sketch of the history of the Cheviots. It is here given in a somewhat condensed form:— "Perhaps there is no part of the whole Island where, at single sight, a fine woolled breed of sheep is less to be expected than among the Cheviot hills. Many parts of the sheep walks consist of nothing but peat bogs and deep morasses. During winter the hills are covered with snow for two, three, and sometimes four months, and they have an ample proportion of bad weather during the other seasons of the year, and yet a sheep is to be found that will thrive even in the wildest part of it. Their shape is excellent, and their fore-quarter in particular is distinguished by such justness of proportion, as to be equal in weight to the hind one. Their limbs are of a length to fit them for traveling and enable them to pass over bogs and snows, through which a shorter legged animal could not penetrate. They have a closer fleece than the Tweeddale and Leicester breeds, which keeps them warmer in cold weather, and prevents either rain or snow from incommoding them. Their fleece is shorter and consequently more portable over mountainous pastures. They are excellent snow travelers, and are accustomed to procure their food by scraping the snow off the ground with their feet even when the top is hardened by frost. They have never any other food, except when it is proposed to fatten them, than the grass and natural hay produced on their own hills. Their weight, when fat, is from 17 to 20 lbs. per quarter; and when fed on heath and kept to a proper age, their meat is fully equal in flavor to any the Highlands can produce."

Mr. Cully, an excellent judge of live stock, differs from Sir John Sinclair in this respect, and says of the Cheviot sheep— "Fore-quarter wanting depth in the chest, and breadth both there and on the chine."* This might be correct as to the Cheviots of that day; but the system of crossing with the Leicester which has been pursued, has remedied this defect.

The black-faced sheep and the Cheviots share the mountainous parts of the north of England and the whole of Scotland between them. Each has its advocates, and each is a useful and valuable sheep. There are three important points among them—the wool, the carcass, and the hardiness.

First, as to the wool. Here there can be little doubt: a certain weight of the wool of the Cheviot sheep is, on an average, fifty per cent. better than the same weight of the wool of the black-faced breed; and the white Cheviot wool is more valuable in a still higher proportion. † Lord Napier, in his examination before the Lords, estimates the difference in value to be yet greater, for he says, "The black-faced sheep produce a wool only half the value of the Cheviots."

* Evidence before the House of Lords, in 1828, p. 156.
† Ditto, p. 183.

* Cully on Live Stock, p. 150.
† Little on Mountain Sheep, p. 98

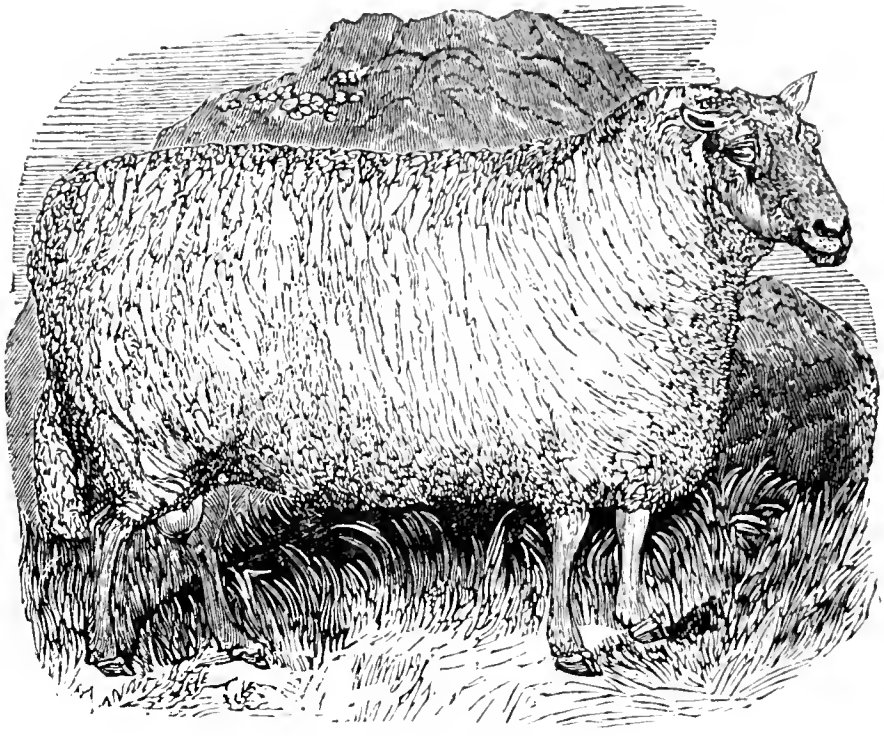

Fig. 41.—The Cheviot Ram.

This is quite an important consideration to the sheep-farmer, whose wool is nearly or quite three-eights of the produce of his farm. The Cheviot is capable of much improvement in this respect. By careful attention to the selection it might be made finer in the pile; it might be shorter in the staple, and closer and thicker on the body of the animal, losing nothing in weight, but forming a warm and more impenetrable coat; and lastly a very important desideratum with regard to the Cheviots, for the want of it is their grand defect—there might be more equality in point of firmness and felting property on the different parts of the carcass. Very considerable progress has been made within a few years towards the effecting of all these purposes, and particularly the last.

The second comparison between these sheep has reference to the carcass. It cannot for a moment be denied that the Cheviot is by far the most contented of the two on whatever kind of pasture he may be put, and there is no axiom so universally admitted as that contentedness and a disposition to thrive are inseparable companions. The Cheviot comes to maturity a twelvemonth sooner than the black-faced sheep; and at whatever age the fattening process commences with them, the Cheviot will ever leave the black-faced far behind. Placed upon turnipes, the Cheviots will gain many weeks on the black-faced, or placed on the scantiest pasture he will manage to retain his condition as much and as long as his antagonist. It is true that from the superior size and weight of the Cheviot so many of them cannot be kept on the same quantity of ground as of the black-faced sheep, but a greater quantity of mutton will be produced, and a greater profit to the farmer, and it is on this account that the sheep-farms are more numerous than they used to be, and the value of them has almost doubled, and the number of sheep has multiplied almost beyond belief. Much of this is doubtless to be attributed to the superior system of management which has been adopted; but that superior system of management takes for granted a superior animal on which to work. A great proportion of Scotland is now exclusively employed in the rearing of sheep; and there are very few parts of the South Highlands at least where the Cheviot has not superseded, or is rapidly superseding the native black-faced sheep.

One point of comparison alone remains—hardiness; the power of resisting the combined and long-continued influence of cold and hunger. When the contest first commenced on this point, there is no doubt that the black-faced sheep claimed a decisive victory. The Cheviots did not weather the inclemcy of a Highland winter; and the loss of the ewes and lambs almost, and in some cases more than balanced the advantage of finer wool and early maturity. But the trial was not fairly made: the pasture, the soil, the nature of the climate from which the Cheviot was taken was not compared; they were often as dissimilar as possible; it was there-

fore not to be wondered at if he sunk under the unaccustomed hardships to which he was exposed. The black-faced sheep would probably have yielded if exposed to similar trials. The cases, however, are exceedingly few in which the Cheviots have failed to maintain their ground, especially those who have been imported from their native hills; for with them it was a change of locality, but not of habit, or of food, or of climate. Lord Napier, in his evidence before the House of Lords, says, unequivocally of the forest of Ettrick, and of the whole of Selkirkshire, that "the black-faced sheep have been all driven out of that part of the country, and substituted by the Cheviots." And even in the northern part of Scotland, in Sutherland, Mr. Patrick Sellar states, that from the year 1805 to 1820, from a few hundred Cheviot sheep, which the county then contained, their number has so increased that 100,000 Cheviot fleeces were annually sent into Sutherland to the manufacturer, and 20,000 ewes and wethers to the grazier; and he adds, this annual extraction from the Alpine plants of 20,000 carcasses of mutton and 100,000 fleeces of wool is indeed most wonderful. *—*Farmer's Series.*

Silk Culture.

BY WILLIAM KENRICK.

"The value of silks imported into the United States, during the year ending Sept. 30, 1835, as stated on the authority of the Hon. William Jackson, member of Congress from Massachusetts, amounted to $16,497,980, this being the original or first cost in the foreign country. During this period only $486,572 worth of this great amount was exported; and the actual cost of the above to the American people, or the whole retail cost to the amount of the actual customer, may be fairly estimated at more than $22,000,000 for the year. Most of all this was imported from Italy, Switzerland, and from France: formerly half our imports were from China. Yet neither the articles of raw silk, nor any of those numerous, substantial and elegant fabrics, which are composed of part silk and part cotton, or of mixtures of silk and worsted are included in the above amount. And the demands for silks which are now so great, is continually increasing. Not half this amount was consumed six months ago; and since 1821, and during fifteen years, the annual amount of silks consumed has doubled twice.

Silk is believed to be eminently adapted to the soil and climate of every division of this great republic; our serene atmosphere is peculiarly favorable to its growth, and the prolonged and vigorous state of vegetation during our summers. The genial climate of silk is ours, and the highly favored soil of one whole continent of the great western world, by an especial providence, with the exception only of Mexico, has fallen to our share and is ours exclusively.

Our advantages are indeed very great—to be duly appreciated, they must be estimated singly and individually; how much greater and more striking would they appear, if considered collectively—our innumerable rivers and rapid streams, our immense forests and mines, the exhaustless treasures of fuel and of flame, the combined elements of water, earth, of fire, and of mighty power, await—offering resources of unknown and immeasurable, and willing aids in abridging the labors of man.

History will record to endless remembrance the names of those illustrious individuals who have persevered as the faithful guides and pioneers in the great work—those who by their example or writings have served as lights, to illumine our way, and to cheer us through the the long dark, and dreary night.

Hope dawns auspicious, the day and its brightness will be ours: endowed as are our people with fortitude, with energy and with intellectual resources unsurpassed, is there one American who can doubt?

By those unceasing toils and mighty efforts, and matchless labors for which our people are so distinguished, the millions thus recovered will not only be their just reward, but will add to the substantial wealth of the nation and to the glory of the whole republic."

*Farmer's Magazine, Nov. 1820.

Fattening Hogs.

On the first day of December four shoats of the same breed, nearly of a size, and as much alike in every respect as could be selected from a herd of ninety odd hogs, were made choice off; each carefully weighed, and placed in a single stye where their food could be exactly regulated. They weighed between 81 pounds and 100. The two whose weights together made 185 pounds, were fed on one gallon of shelled Indian corn weighing seven pounds to each, for every 24 hours and as much water as they wanted. This quantity of food was a plenty for them; generally they about consumed it. Some five or six different days between the first of December and 4th of January, the time the experiment was going on, they did not eat their whole allowance.

For the two shoats, whose weights together made 173 pounds, seven pounds of good Indian corn meal, by measure ten pints, were

made into good mush, or hasty pudding, and divided between them for every twenty-four hours. That is, these two had allowed them exactly half the weight of meal which the others had of raw corn. The seven pounds of meal were daily mixed with scalding water, and then well boiled; the whole process of cooking was done on an average in 1 1-2 hours. They were all fed twice a day and at the same time. The evening feed of the shoats fed on mush was generally warm---the morning feed, having stood all night, was generally cold. The seven pounds, or ten pints of meal, when cocked, weighed an average of thirty pounds, and measured an average of three gallons. There was a difference of nine pounds in the weight of the latter pair—the smallest had the least appetite, and his allowance of fifteen pounds of mush was just as much as he appeared to want or would eat up clear; the other was greedy, and always sharp set, despatched his mess quickly, and wanted more.

Before the experiment had progressed a fortnight, there was a very perceptible difference in the appearance of these pigs. Those fed on the mush assumed a more thrifty, healthy, fresh appearance, particularly of their hair, and this difference became more stricking as the experiment advanced.

On the 4th of January, while preparations were making for killing and dressing, they were again weighed on the hoof. One of those then whose daily allowance had been 7 pounds of corn each, had increased 20 pounds in the 24 days: the other, which had had an equal allowance of corn, had increased only 5 pounds. I could not account for the difference by any thing I could discover, either before or after killing; the appetites of these two were much more alike than of the others; and their health was apparently equally good.

Of the pair fed on mush, whose daily allowance had been 3½ pounds of meal each, the greedy one had gained 23 pounds and the other 21 pounds.

These are all the material facts in these experiments, except that a very small portion of salt was put in each mess of mush—and there is no miracle in them. The hogs allowed 3½ pounds of each gained less than three fourths of a pound daily, and this surely they might have gained from the meal; but they gained more than those fed on double that quantity of corn. The saving of one half the immense quantity of corn consumed in raising and fattening hogs in Maryland, would be well worth the offer of a premium to have these experiments accurately repeated and tested by different persons.—*Maryland Agr. Report.*

From the Sciota Gazette.

Great Sale of Durham Stock,

Imported by the *Ohio Company for Importing English Cattle*, in the years 1834, 1835, and 1836;—held at INDIAN CREEK FARM, the residence of Felix Renick, Esq., Agent of the said Company in Ross County, on the 29th day of October, 1836. The Stock of the company was in fine condition and in great demand.

☞ Notwithstanding the high prices at which the stock was sold, some of them exchanged owners immediately, at very considerable advances; and for others more than fifty per cent. on their cost was offered and refused.

Reformer, a bull, not sound, sold to John T. Webb, of Ross county, for $18.

Matchem, a bull, sold to Abraham Renick, of Kentucky, for $1200.

Earl of Darlington, sold to Batteal Harrison, of Fayette county, for $710.

Young Waterloo, a bull, sold to R. D. Lilley, of Highland county, for $1250.

Duke of York, a bull, sold to R. R. Seymour, of Ross county, for $1120.

Experiment, a bull, sold to James M. Trimble, of Highland county, for $1150.

Comet Halley, a bull, sold to R. R. Seymour, of Ross county, for $1505.

Whitaker, a bull, sold to William M. Anderson, of Ross county, for $855.

Nimrod, a bull, sold to Elias Florence, of Pickaway county, for $1040.

Duke of Norfolk, a bull, sold to Robert Stewart, of Ross county, for $1255.

Goldfinder, a bull, sold to Isaac Cunningham, of Kentucky, for $1095. Afterwards sold at private sale to General Vance and J. H. James, of Champaign county, for $1400.

Duke of Leeds, sold to John Crouse, jr., of Ross county, for $575.

Windham, a bull, sold to Charles Davis, of Ross county, for $500.

Columbus, a bull, (not sound,) sold to Thomas Huston, of Pickaway county, for $180.

Davy Crocket, a bull, sold to Peter L. Ayres, of Ohio, for $490.

Snowdrop, a bull, sold to Stewart and M'Neal, of Ross county, for $480.

Independence, a bull, sold to Heglar and Peterson, of Ross county, for $400.

Perry, a bull, sold to William H. Creighton, of Madison county, for $400.

Goliah, a bull, sold to Isaac V. Cunningham, of Sciota county, for $300.

Logan, a bull, sold to Elias Florence, of Pickaway county, for $750.

John Bull, a bull, sold to William Renick, jr., of Pickaway county, for $615.

Paragon, a bull, presented by the Company to Felix Renick, Esq. their agent.

Rantipole, a bull, sold to Athur Watts, of Ross county, for $810.

Powhattan, a bull, sold to George Renick, sen., of Ross county, with Flora.

Gaudy, a cow, sold to James A. Trimble, of Highland county, for $985.

Blossom, cow, sold to R. R. Seymour, of Ross county, for $1000.

Flora and her calf Powhattan, sold to George Renick, sen., of Ross county, for $1205.

Lilly of the Valley of Tees, sold to Thomas Huston, of Pickaway county, for $950.

Matilda, sold to Arthur Watts, of Ross county, for $1000.

Calypso, cow, sold to Strawder M'Neal, of Ross county, for $325.

Young Mary and her calf Pocahontas, were sold to Edwin J. Harnes, of Ross county, for $1500.

Lady Blanch, (no proof of this cow being a breeder,) sold to Charles Davis, of Ross county, for $250.

Tees Water and her calf Cometess, sold to John J. Van Meter, of Pike county, for $2,225.

Duchess of Liverpool, sold to William M. Anderson, of Ross county, for $570.

Lady Colling, (it is doubtful whether this cow will ever be a breeder,) sold to John T. Webb, of Ross county, for $205.

Beauty of the West, sold to Asahel Renick, of Pickaway county, for $900.

Lilac, sold to Elias Florence, of Pickaway county, for $425.

Lady of the Lake, sold to R. R. Seymour, of Ross county, for $775.

Lady Paley, sold to Alexander Renick, of Ross county, for $510.

Poppy, sold to Harness Renick, of Pickaway county, for $610.

Pink, sold to William Trimble, of Highland county, for $575.

May Flower, sold to Batteal Harrison, of Fayette county, for $405.

Lucy, (pedigree doubtful) sold to George Radcliff, of Pickaway county, for $105.

Moss Rose, sold to Jonathan Renick, of Pickaway county, for $1200.

Celestina, sold to Thomas Huston, of Pickaway county, for $930.

Malina, sold to Isaac Cunningham, for $1005.

Illustrious, sold to Abraham Renick, of Kentucky, for $775.

Lady Abernethy, sold to Thomas Huston, of Pickaway county, for $815.

ATTEST, J. L. TAYLER,

Sec'y of the Ohio Importing Company.

Seed Corn.

Mr. HOLMES—Much is said and written of late on the choice of seed corn—some preferring eight, some ten, and twelve rowed—some a large and some a small eob. When I select my seed corn, I attend but little to the number of rows, or the size of the cob, but to what the eob contains.

When we peel the trees of the forest where the bark is the prineipal object, we ehoose the largest trees because the bark is the thickest, the trees the longest, and still if smal! tress have as thick a bark as large ones it is evident that we obtain more bark in proportion to the bulk of timber, than we should from large trees. So with corn—the bark or coating being the sole object, it behoves us to obtain those ears that are best coated. When I select my seed corn, whether taken from the field or the heap, I take the largest, ripest, and best filled to appearance—but when I come to shelling, which I always do by hand, it is subject to a more minute selection. When I have shelled about one fourth part from the top end of the ear, which part I always exclude from my seed, I can judge whether it is well coated or not, or whether the kernels are deep and of good length and well set, and if I find the coating thin or shallow, I at once exclude it without any regard to the number of the rows or size of the cob.—*Maine Farmer.*

How to make a double crop on poor soil.

Plough up your ground intended for corn in the fall of the year, as you can plough it—let it lay till spring—at the opening of which, when the frost is entirely out of the ground, give it a good ploughing and harrow it down. It is then in good order for preparing to plant. Take of slaked ashes, two thirds, and of ground plaster one third; mix them well together, and follow the droppers, and put as much of this mixture on the seeds as you can grasp in your hand, and cover it well over in the usual way. The corn will grow off finely, and retain a strong vigorous growth and green color, and stand the drouth much better than upon the strongest culture. The writer of this having tried the experiment for two years has fully tested its value.

Farmer's Evenings.

In one respect the farmer has the advantage of almost all other classes of the laboring community—his evenings he has to himself. While the mechanic has to labor from morning till nine o'clock in the evening, the farmer's day commences with the rising and

closes with the setting sun. Although the *industrious* farmer finds many little jobs of work to which he very economically appropriates his evening leisure, yet the greater part of the long winter evenings he can appropriate to his amusement and instruction. In no place do we see more cheerful countenances than around the blazing fire upon the farmer's hearth. There, at the merry apple pearing, or at the neighborhood collection, or even in the family circle alone, do we find social happiness in its purest simplicity. What an opportunity this for the acquisition of knowledge! What farmer who improves these opportunities can but be intelligent? And what instruction so interesting as that which gives him a knowledge of his own employment? Here we would suggest the importance of every farmer having a supply of agricultural books and papers. It seems to us that no one can be insensible of their utility. If this should be a suggestion of self-interest, which we do not deny, still we believe it coincides with the interest of the farmer. We will not enlarge on this subject, as we apprehend it would not convey that knowledge which we recommend. We will barely say, that we expect our subscribers to increase as the evenings lengthen. *American Silk Grower.*

Important to Farmers.—Judge Strong, in a recent case in our common pleas, has decided that no one has a right when making a division fence, to run half the same on the lot of the neighboring owner; but that it must be *wholly* on the land of him who makes it. The case which called forth this decision, was an action of trespass, for cutting a ditch in meadow land, for the purpose of a fence. It appeared that the defendant, in this case, cut a ditch some five feet wide on each side of the line which constituted the boundary between him and the plaintiff; and the judge, in his charge, enforced upon the jury that by no existing statute was the making of a fence on the lot of the adjoining owner justified; but that those constructed half on one side and half on the other, must be constructed by *mutual consent*, otherwise legal measures could be instituted for damages, &c. The owners of real estate should recollect this decision, as cases in which it would be applicable are not unfrequent in our courts of justice.—*Massachusetts paper.*

Egyptian Wheat.

We learn by a letter from Mr. John Calkin of Elizabethtown, Essex county, N. Y., that he has a new variety of Wheat, which he believes to be the true Egyptain. It was originally taken from a wild goose, has a number of small heads growing on each side of the principal head and making a head an inch or an inch and a half in diameter, and containing in some instances 150 kernels of grain. It is more productive than common wheat and is not liable to smut or the attacks of the weevil. It is a spring grain and requires early sowing. Mr. C. being desirous to contribute his mite towards the improvements of the present age, requests us to say to such farmers as wish to procure seed that he will furnish them on making their applications to him, post paid. We are inclined to the opinion that it is a valuable variety and worthy the attention of wheat growers.—*Silk Culturest.*

Liming and Draining.

To the Editor of the Farmers' Register.

Fairfax County, Sep. 6th, 1836.

Your pamphlet upon the use and value of calcareous manures is a public benefaction in as much as it promises individual wealth. My corn crop, from its use, is far better than I expected, and I am now burning shells for 100 acres of fallow, and if I am not deceived the difference in the crop will more than pay the expenses. Be this however as it may, I shall plough no more land than I can lime. It may be well to remark that no wet land should be limed until *well drained*, for upon this *materially* hangs the result. Much has been said and written upon draining; but one from the dead would not convince ten men in this county so far as to move them to action. All the flat lands or low grounds of this county have a tight impervious pan near the surface, which holds the water that falls upon it, and subjects it to regular and perpetual deterioration from the action of frost and sun.

I could name farms all around me upon which the manner of cultivation has been much improved, yet from having neglected to drain their land, not more than one third is now made on it which was made forty years ago. I blush, sir, when I say that I believe I have defeated my own purpose in agriculture by seeking to force nature. She will not be forced. Man cannot force her to grow Indian corn and wheat where she has resolved by an unchanging law that the bullrush, wild oat, and corn grass shall grow.* Let th

[* We must express our entire dissent to the doctrines here broadly stated. It certainly is possible to produce profitably the vegetables which require a dry soil, on land imperfectly drained. But there are not many cases (in this country) in which wet land (not subject to inundation by tide or floods,) may not be perfectly drained; and when that is done, nature readily yields to th

ltivator watch the will and purpose of na-
re: a dry soil, vegetable matter and lime
ve made 100 bushels of corn to the acre,
d I leave it to your readers to say what a
et one has produced.

Have any of your correspondents ever
eded spring wheat—and if so what was
e result?

Who has cultivated the same land in corn
r ten years and what were the comparative
ops? My small drains are so much derang-
l by the corn crop, that I wish to have my
it lands entirely exempted from the crop.—
armers' Register.

A method of making good butter from the ilk of cows fed on turneps.—Let the vessels hich receive the milk be kept constantly ean and well scalded with boiling water. /hen the milk is brought to the dairy, with very eight quarts mix one quart of boiling ater, and then put it up to stand for cream. -*Hunter's Geological Essays.*

NATURAL HISTORY.

Insects.

The manner in which the various animals reathe differs very greatly. In Quadrupeds, irds, and Reptiles, breathing is performed rough the mouth, by means of the lung; Fish, the gills answer the purpose of ex-acting air from the water: in Insects, a umber of little spiracles, or little breathing oles, are placed on different parts of the ody; the engraving shows two of these reath-openings in the pupa or butterfly.

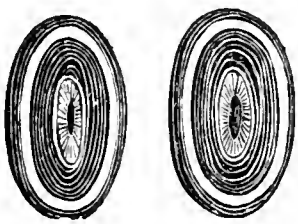

Fig. 42.

That to the right hand is open and surround-ed with a belt of fine hairs, by means of which it may be completely closed, as in he left hand figure, to prevent the entrance of water, or any other fluid that would be in-urious to it. Oil, however, will penetrate and destroy the insect. The air-opening in the larva of the gnat, has a very extraordi-nary appearance: the creature, in this state, being an inhabitant of the water, needs some contrivance to give it the means of ob-taining a supply of air; to this end it has a slender tube attached to one of the rings of its body, near the tail: the end of this tube is surrounded with a fringe of hairs, which

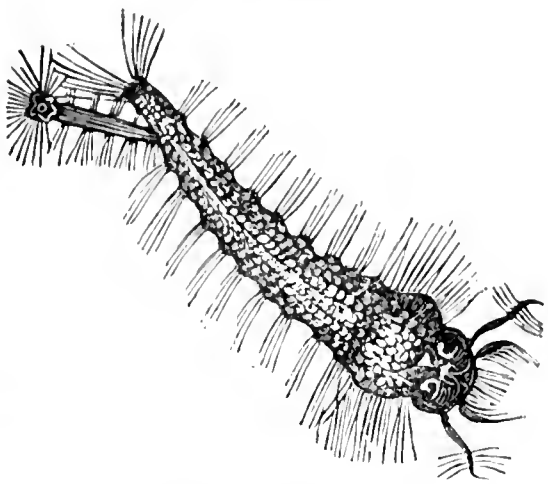

Fig. 43.—*Larva of the Gnat.*

when expanded, has sufficient bouyancy to keep the body floating; and when the insect sinks in the water, these hairs are folded over the opening of the tube, and enclose a small bubble of air, which serves as a supply, until its return to the surface.

Several parts of the Spider are very curious and none more so than the spinning appa-ratus: annexed is a highly magnified view of this rope making organ. The thread of the spider, it will be seen, small as it appears to be to the naked eye, is composed of numer-ous filaments, of a still finer nature, which unite together at a short distance from the openings through which they are drawn.

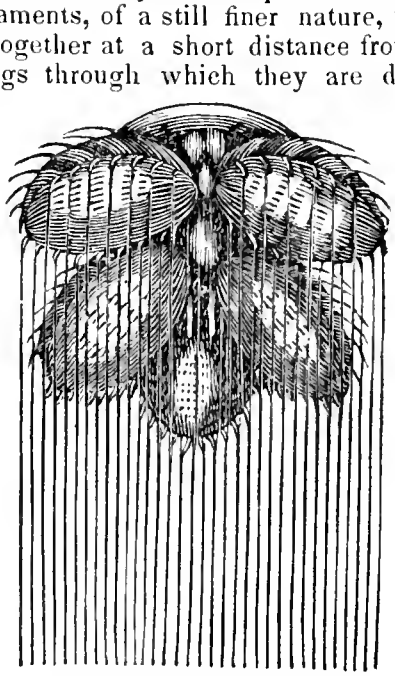

Fig. 44.—*Spinneret of the Spider.*

The *Palpi*, or feelers of the spider have a curious pointed hook at the end of each, which closes, for the purpose of taking hold of any thing, something like a clasp-knife.

The down with which the wings of moths

new state of things, and will herself, if man does not, eradicate the bullrushes and other products of watery lands, and substitute them by grasses which flourish on dry soils.—Ed.

Fig. 45.—*Palpi.*

Fig 46.—*Poison Claw.*

and butterflies are covered, appears when examined by the microscope, to be a series of minute scales varying in form in different species, and arranged in rows, as may be seen by the lower part of the figure.

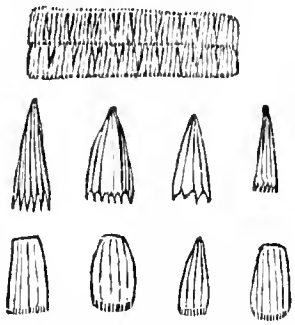

Fig. 47.—*Scales of the Butterfly's wings.*

The annexed is a magnified view of ths common Flea. The great muscular power of the flea has caused many curious contrivances; it has been harnassed to carriages of various descriptions, which have been drawn along with apparent ease, although seventy or eighty times its own weight. With its powerful legs, it can make the most extraordinary leaps, upwards of two hundred times the length of its own body. Considering the size of the animal, this is the same as if a man were to jump about twelve hundred feet. If the strengh of an elephant was equal, in proportion to its bulk, to that of this little tormenter, its powers would be irresistible. The weapon with which the Flea is provided may, by dexterous management, be seen through a good microscope; they consist of a most delicate set of cutting instruments, acting something like scissors, with a sucking-tube in the centre, to extract the nurishment from its prey.

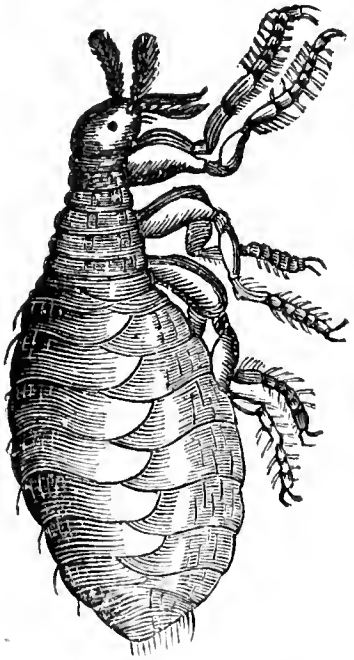

Fig. 48.—*Magnified view of he Flea.*

Such are a few of the wonderful objects which the Microscope has enabled us to discover in this portion of the animal kingdom; but the diligent observer will find their number to be inexhaustible, and each fresh discovery will incite him more and more to continue his resources.

While on a visit to a neighbor some evenings since, he showed us a part of his corn field which had formerly been a cellery bed, on which he assured us the corn grew more luxuriantly and withstood the drought better than in any other part of the field, although every part was manured and ploughed alike. He ascribed, and as we thought with great propriety, the difference to the circumstance that that peculiar spot had been deeply penetrated with the spade in its preparation for the cellery, and allowed the roots of the corn a better opportunity to search for food beyond the influence of the parching sun. This fact would seem to plead in favor of deep ploughing, and we hope the hint will be improved upon the ensuing season. We have ever been its advocate, and we have been so from a conviction of the common sense that was about the argument that presented itself to our mind in favor of the practice.—*Farmer and Gardener.*

A farmer in Southampton took one hundred and fifty bushels of potatoes from a single acre of land for his own use, and sold the remainder of its product for one hundred dollars.

Warm Clothing vs. Croup.

Eberle in his excellent work on the diseases of children, says, the mode of Clothing infants with their necks and the upper part of the breast bare, cannot fail to render them more subject to the influence of cold, and its dangerous consequences. In this country, especially the Germans, who are in the habit of clothing their children in such a manner, as to leave no part of the breast and lower portion of the neck exposed, Croup is an exceeding rare disease. Whereas in the cities, or among people who adopt

the mode of dress common in cities, this frightful disease is, in proportion to the population, vastly more frequent. During a practice of six years among the 'Pennsylvania Dutch,' he met with but a single case of this affection; and this case occurred in a family who had adopted the present universal mode of suffering the neck and upper part of the breast to remain uncovered.—*Baltimore Transcript.*

Hop Culture.

A subscriber wishes some of our correspondents to describe through the columns of the Cabinet the proper method of cultivating Hops—the entire process from the beginning to the end. The quantity of work and care they require—the preparation of the land, &c. According to a late publication it appears that about 50,000 acres are appropriated to this crop in England, and that the duties paid to the British Government (tax on the crop, from which the American cultivator is happily exempt,) amounted to one million seven hundred thousand dollars in a single year.

A mechanic of Paris, has lately invented a machine which he calls *voiture moulin*, destined to follow armies and grind and bolt all kinds of corn. It is with two wheels, one horse, and is driven by a man who sits like a coachman, and can stop the mechanism at pleasure. The impelling force is the movement of the wheels. When it stops, however, it may be worked by hand or by water. In action the whole day, it can grind two hectolitres and a half, with one man; five with two; and nine with a horse.

Important.—A Mr. Gabriel Winter has succeeded in extinguishing all sparks from the chimney of the steam engine by passing the escape steam into it at a proper distance above the boiler. The vapor entirely extinguishes the sparks.

Valuable Recipe.—Mr. A. Bronson, of Meadville, Pa., says, from fifteen years experience, he finds that an Indian meal poultice, covered over with young hyson tea, softened with hot water, and laid over burns and frozen flesh, as hot as it can be borne, will remove the pain in five minutes; that if blisters have not arisen before they will not after it is put on, and that one poultice is generally sufficient to effect a cure.

Beet Sugar.—Pennsylvania takes the lead in introducing the sugar beet, and agents are now in France from that State procuring seed and collecting information. A gentle man who has been conversant with the rise and progress of this production in Europe, says that as to climate, a northern latitude is found to suit this plant best. The north of Germany, Prussia and Siberia, the countries where this new application of it was first made, are more favorable to it than the northern department of France, as experiment has amply established, and the trial of it in the South of France has constantly failed, though it was at first supposed that this root would as well as other productions, contain a larger proportion of Saccherine principle than those of colder countries. This hypothesis is founded on a mistaken analogy supposed to exist between plants growing above and below the soil, proved, as might have been expected, completely fallacious, and the culture is now given up.—*Newburyport Herald.*

Peach trees.—A correspondent of the New York Farmer says that a cultivator of peach trees in Pennsylvania preserves them in a bearing condition until they are ten or twelve years old, by the following very simple mode of treatment. From the second year of the growth of the tree he seeks for traces of the gum, which he considers a sure indication of worms beneath. This he removes so as to expose the aperture into the body of the tree, and then fills it with quick lime. He repeats this operation every month, examining the roots as well as the body. The short life of the peach tree, and their liability to be destroyed by worms, has discouraged most farmers from attempting to cultivate this delicious fruit;—but if their lives can be prolonged and effectually secured against the attacks of the worm thus easily, we have no doubt our markets will be supplied and at reasonable prices.—*Silk Culturist.*

Penny Royal.—Farmers might easily save the flesh of horses and cows, and confer great kindness on their animals, in preventing the usual annoyance of flies by simply washing the parts with the extracts of Penny-royal. Flies will not alight a moment on the spot to which this has been applied. Every man who is compassionate to his beast, ought to know this simple remedy, and every livery stable and country inn ought to have a supply on hand for travelers.—*Yankee Farmer.*

Universal Language.—At a Scientific Congress now assembled at Liege, one of the subjects under discussion is the possibility of a universal language, as a consequence of iron rail-roads.—*Tennessee Farmer.*

PRICES CURRENT.

ARTICLES.	Philadelphia, Nov. 29.	Baltimore. Nov. 26.	New York, Nov. 28.	Boston, Nov. 26.
Beans, white, per bush.	$1 87—	1 75—	1 45—1 87½	1 85—2 12
Beef, mess, new, per bbl.	13 00–13 50	14 00–15 50	13 00–13 50	13 50–14 00
Bacon, western, per lb.	11— 14	10— 11½	.....	.....
Butter, extra, per tub.	18— 19	.....	.....	.....
Butter, fresh, per lb. (market,)	25— 37	25— 37½	25— 40	30— 37½
Hams, Jersey, per lb.	— 15	.....	13½— 14	.....
Hog's Lard, per lb.	.....	15— 16	16— 17	15— 15½
Cheese, American, per lb.	10— 11	10— 11	8— 10	8— 12
Beeswax, yellow, per lb.	27½— 28	30—	27— 28	28— 30
Beeswax, white,	37— 39	40—	38— 40	38— 40
Bristles, American,	60— 70	.....	25— 65	30— 75
Flax, American,	10— 12	.....	8½— 9½	9— 12
Flour, best, per bbl.	10 75–11 25	10 00–10 50	10 25–10 75	—10 00
GRAIN—Wheat, per bush. Penna.	2 10—2 25	.....	1 75—	—2 12½
do. Maryland,	1 90—2 00	1 30—2 05	1 50—1 75	.....
Rye, per bushel,	—1 49	.....	1 15—1 20	.....
Corn, do.	84— 85	81— 83	1 00—1 06	98—1 00
Oats, do.	50— 55	48—	50— 60	53— 65
Barley, do. Penn.	85— 90	.....	.....	.....
Peas do.	.....	1 12½—	1 00—1 06	.....
HAY, Timothy, per 100 lbs.	1 00—1 10	.....	1 12½–1 25	1 15—1 15
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	130 00–140	130 00–140	.....
Hops, first sort, 1836, lb.	15— 16	.....	.....	.....
Plaster Paris, per ton,	3 25—3 50	3 00—3 25	—3 25	3 25—3 50
SEEDS—Cloverseed, per bushel,	6 25—7 00	7 50—	.....	.....
Flaxseed, rough, do.	1 80—1 82	1 50—	1 65—1 75	—1 50
Timothy,	3 25—3 50	3 00—3 50	2 25—2 50	2 75—3 25
Tallow, per lb.	— 10	— 8½	— 9¼	9— 9½
WOOL—Saxony, fleece, per lb.	68— 75	55— 68	75— 80	85—1 30
Merino,	60— 67½	48— 55	50— 68	65— 70
1-4 and common,	40— 44	36— 40	25— 40	50— 55

Remarks.

FLOUR AND MEAL.—Sales of good brands Superfine *Wheat flour* at $11 per barrel; retail $11,50; *Rye*, $7,25; *Corn meal*, $4,62½; *Buckwheat meal*, $3,75 to $4,00 per cwt.

GRAIN.—The supplies of old Pennsylvania Wheat have been light and the prices higher, some good in store at $2,25; a lot of inferior new crop southern at $1,98. *Rye*, a sale of 1500 bushels handsome, from Odessa at $1,50; inferior new crop southern at 1,20 a 1,25. *Barley*, sales of about 10,000 bushels North River at 90 a 95c per bushel. *Corn*, demand quite limited, sales of Southern white afloat at 83 cts, yellow 89 a 90, and from store 91c; Pennsylvania mixed 90 a 92 delivered, round yellow 96 a 69½ cts. in store. *Oats*, cargo sales of Southern at 48 a 50 cents per bushel.

PLASTER.—A cargo sold on the Delaware at $4,75 per ton.

PROVISIONS.—Beef and Pork remain as formerly rated. *Lard* and *Butter* are declining. Jersey Lard is held at 16c. Sales of Keg Butter at 18, tub 19c per lb.

SEEDS.—Sales of Cloverseed at $5 for inferior old, and 6,25 a 6,37½ for fair to good new. Sales of Flax seed at 1,81 to 1,84 per bushel.

WOOL, no change since our last report. *Fresh Pork*, 8 to 10 cents. *Potatoes*, 75 cents.

[NOTE.—Country produce of all kinds in demand—prices fair. We think it a good time for farmers to bring in their supplies of produce.]

CATTLE MARKET.—The supply of the last week consisted of 465 Beeves, 105 Cows and Calves, 425 Hogs, and 1300 sheep. Beef Cattle were in demand at $7 to 8,25 per cwt. Cows and Calves, part were taken at $25 to $35, and Dry Cows $14 to $18. Hogs were dull and prices on the decline, sales at 7¾ to 8½. Sheep sold from $2 to 4,25, and some from Washington County $4,50 to 4,62½.

Pittsburg, Penn.—A very heavy business has been done this fall in Pittsburgh. The market is well supplied with CHEESE, but prices remain firm, a large lot of 160 casks sold at 9 cents per lb. FLOUR, on the decline; sales $7 .25 a 7.50 per barrel. GRAIN is in good demand; wheat readily commands $1.31; BARLEY 75; RYE 66, and OATS 33 cents per bushel. PORK is in demand at 5 to 5½ cents per lb for large quantities; small lots 7 to 8½ cents per lb. HOPS 13 to 14 cents per lb.—LARD 10 to 11—SEEDS, Red Clover $5 to 5,25; Timothy $1,62 to 1,75; FLAX, (clear) $1,15 to 1,20 per bushel.—WOOL, common and quarter blooded, washed, 43 to 45 cents, Merino 45 to 60 cents per lb. (unwashed from 25 to 33 Per cent less).

Subscribers are informed that we are engaged in reprinting the back numbers, an as fast as executed, the numbers necessary to complete their sets will be forwarded

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY

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The Cabinet is published on or about the first and fifteenth of each month. Each number will contain 16 octavo pages on good paper and fair type. The subjects will be illustrated by engravings on wood whenever they can be appropriately introduced. TERMS.—*One Dollar per year, payable in advance.* For the accommodation of those who wish to subscribe for six months only, the twelfth number will be accompanied by a title page and index, in order for binding. Any person remitting us five dollars, will be entitled to six copies of the work for one year, or twelve copies for six months. The Cabinet, by the decision of the Post Master General, is subject only to *newspaper postage;* that is, one cent on each number within the state, and within one hundred miles of Philadelphia, out of the state,—one cent and a half on each number to any other part of the United States. Gentlemen disposed to assist the objects of the work, are not only requested to use their influence in promoting its circulation, but also to aid it by their communications. ☞Six copies for five dollars

THE FARMERS' CABINET.

Rural Industry.

In the establishment of the Farmers' Cabinet, the proprietor had in view the benefit of the agricultural community, and of the public at large. In the outset he was assured, and that too, by gentlemen whose opinion he could not but respect, that it would prove at best a hazardous, if not a loosing concern—that works of similar pretensions had been repeatedly commenced, and as repeatedly failed—and that no work of the kind, could succeed to any great extent. He was determined, however, to make the effort, and so far he has been successful, having found the farmers of the middle and western states disposed to sustain him. Some have lent their hearty co-operation, and many othe have promised their assistance. It is tru that the subscription is not as large as w could wish. We are, however, steadil making our way, and we hope to take o stand, before many months, by the side of th most favored and ablest advocates of Amer can husbandry. The publisher would ava himself of this opportunity to say, that ge tlemen of acknowledged and deserved rep tation as experienced practical agriculturist have joined him in the publication of th Cabinet—and that no effort shall be wit held on the part of its present proprietors make it in all respects a publication worth the liberal countenance of the agricultur community.

But in the prosecution of this work, th assistance of intelligent and practical me is needed, and is most respectfully solicite The great importance of the agricultural a is beginning to be duly appreciated—and i fact it is justly acknowledged to be one the noblest occupations in which man ca engage. But on the advantages, the com forts and enjoyments of a rural life, we nee not enlarge. Our design was simply t state the object of the work, and to solic from gentlemen answers whenever practica ble, to all or either of the following inquiries respecting RURAL INDUSTRY, in the variou sections in which they reside. Our objec is to obtain all necessary information on thes various points, and present the same to ou readers, in order that they may be able t compare their present state and practic with that of their brethren in different places Persons who may be so kind as to furnish u with information on any of the points speci fied in the following questions are requeste to state whether their answers refer to *town*

ships or *counties*. We wish, as far as possible, that the answers may embrace entire counties.

Question 1. The agricultural productions of the county in general, and what are the principal ones both as to quantity and quality?

2. The best, common, and middling crops of the various kinds of productions?

3. The variations they have experienced in the course of ten or fifteen years, and the probable causes of them?

4. The lowest, middle, and highest prices obtained for the principal productions of agriculture—the alteration of the prices in a period of ten or twelve years, and, when practicable, the causes of such variation?

5. Fruit Trees.—Their principal species; whether they are in sufficient quantities, not only to supply the district or county, but to afford a branch of trade; what is the probable value of fruit, carried to market.

6. The diseases to which the various fruit trees are liable, and the most approved remedies?

7. The various kinds of vegetables, cultivated both in the fields and gardens. The principal ones as to quantity and quality? What progress has been made within a given period, say ten to fifteen years, in that branch denominated root culture? Is it attended to for the purpose of carrying to market or the feeding of stock?

8. The extent and quality of Pastures—whether the land is particularly fit for that culture; whether the cultivator exerts all the means rural industry can afford to assist this natural property of the ground; or if sluggishness or ignorance prevail; what is the importance of this culture to the county?

9. Cattle Husbandry.—The different and most approved breeds. The number of each kind in the county, according to the general received calculations; the increase and decrease for a given time, say ten or fifteen years; are they subject to any diseases peculiar to your region—if so describe the symptoms and the best method of treatment.

10. The prices of the animals, the variations they have experienced in a certain number of years, and the causes of them?

11. What breeds are considered as the most desirable for the dairy; and which possess in the highest degree, fattening properties?

12. The improvements or deterioration which these various kinds have experienced, as to *quality*, from fifteen to twenty years, and the cause of it?

13. The districts in which this culture is prevalent—whatever there is worthy of notice in farms appropriated chiefly to it, with regard either to the number or quality of the animals; in short, every thing relating to this subject?

14. The number of Sheep; the breed best adapted to the county—the kind most advantageous to the common farmer, on account of the fineness, quantity or quality of the wool, weight of carcass, disposition to fatten, capability of enduring the changes of weather, &c?

15. What is the present state of sheep husbandry in the county?—the probable amount of wool raised yearly, where disposed of generally, and the average price of each quality for a given number of years?

16. The advantageous or disadvantageous measures taken with regard either to the care of the animals themselves, or to the preparation of their produce; the good or bad effects attending them?

17. The culture of Insects, the industry of which is useful to mankind, such as Silk Worms, Bees, &c.

18. The annual produce of that culture, and especially all information connected with the silk business?

19. The various kinds of animals of which the culture is the most important to the county, either on account of their number, qualities, or productions; designate those of which the traffic is the most considerable.

20. The nature of soil? Its various qualities, such as argillaceous, calcareous, &c.? Does it vary in different parts of the county?

21. The divisions of the soil with respect

to its fertility into three different classes, the good, the middling, and the bad—the names of the townships in which any of these kinds of soil prevail, and their respective extent?

22. To what sum is the annual produce of a determinate quantity of each of these three sorts of soil rated; the price of each of them; the variations they have experienced in a certain number of years, and the causes of these variations?

23. The mode of culture peculiar to the county, either with respect to the works themselves, or to the husbandman's implements, or other similar objects—the advantages or inconveniences attending it—in what respect is it superior or inferior to that of other counties?

24. The methods of gathering or storing up the varions productions of the soil—whether, considering localities, they are more or less advantageous than those practiced in the adjoining districts?

25. The number of square miles or acres which, according to the most probable calculation, is devoted to agriculture in general, and to its various branches in particular, such as the different kinds of grain raised, the average quantity of each, and the yield per acre?

26. The sections in which rural industry in general, or any of its branches, is the most flourishing—whether the kind of culture most in use is the best adapted to the nature of the soil, and other localities—and whether from this happy distribution the whole county exhibits, as it were, an elegant and well understood picture of rural industry?

27. The probable extent of uncultivated ground—that of marshes—the obstacles to the cultivating of the former, and to the draining of the latter?

28. Whether the lands in general are equally well cultivated; or whether the ingenuity and skill of the cultivator appears only in some kinds of culture? What are the respective causes of these two cases?

29. Whether there exists agricultural societies for the purpose of improving rural economy in general; when and how organized? names and residence of the officers—what measures have been taken by said societies to encourage the study of rural economy; the means they employ to promote experiments; and what have been in the course of time the effects of this zeal?

30. The obstacles to agriculture and rural economy in general; the causes they proceed rom, and the best means to remove or conquer them?

31. The most striking historical facts with regard to the introduction, improvement, neglect, success, or failing of the various branches of rural industry, and all the variations they have experienced.

Notice to Farmers, Graziers, &c.

The publishers of the Farmers' Cabinet are extremely desirous of obtaining correct information upon the following points, from various parts of the country, and at as early a day as may suit the convenience of correspondents: Answers to the enquiries, with the name and address of the person who transmits them, and the section of country to which they refer, may be sent by mail or otherwise, directed to the publishers of the Cabinet, No. 67 South Second street, Philadelphia, the receipt of which will be duly acknowledged and appreciated.

Cattle.

The prevalent Breed—The attempts at Improving and Crossing, and their success—Comparative Value as Milkers, or for the Butcher—How far used in Husbandry labor—Diseases, generally—Causes and Treatment:——particularly, Redwater——Blain—Blood—Hoose—Diarrhœa—Dropping after Calving—The supposed Causes of each, and Treatment.

Sheep.

Breed—Crosses—Value, as it regards Wool or Flesh—Diseases generally:—particularly, Rot—here most especially—Sturdy, or Hydatids—Kind of Sheep most affected—Origin of the Disease—Foot Rot, and whether infectious—Scab.

Swine.

Breed—In what Valuable—Diseases and Treatment.

East Indies---Triumph of the American Plough.

MATCH BETWEEN AN AMERICAN AND DECCAN PLOUGH.

In the early part of the present year, Mr. Ashburner placed at the disposal of Col. Williamson, of Bombay, two American ploughs; they were forwarded by the latter gentleman to Indapoor, for the purpose of having their utility fairly ascertained. The trial was made under the direction of Mr. Goldsmid, of the larger American plough against a Deccan plough, and the result was highly satisfactory, inasmuch as the American plough, with six bullocks, actually did double the work of the Deccan plough, drawn by ten bullocks. No doubt an experienced hand was selected to guide and maintain the reputation of the old Mahratta implement, while both the ploughman and his team, in the case of the American plough, were new to their task. Every effort will now unquestionably be made by the Agricultural Society of Western India to introduce the extensive use of this plough.—That great and important benefits would result therefrom we entertain no doubt.

A full and clear account of the trial, prepared by Lieutenant Wingate of the Engineers, an eye-witness of the experiment, and said to be a very competent judge, from his knowledge of the husbandry of the Deccan, has recently appeared. He pronounces the victory of the American plough complete. We make the following extract:

"A level spot of ground which had been laying waste for several years, was selected as likely to afford a fair specimen of the powers of the respective ploughs. The soil was of moderate stiffness, less difficult to break up than the fine black soils, but more so considerably than those generally used for the Khurreef crops, and covered in patches by the grass called 'Koonhah.' *

A team of ten well conditioned bullocks, of ordinary size, having been yoked to the Deccan plough, and six to the American, the two were started together. It was found, after the lapse of an hour, when the tr terminated, that the ground broken up the latter measured two roods six perch and by the former two roods. The team six bullocks appeared slightly more distre ed than the other, but the difference, if ar was hardly perceptible. The furrows w then in several places accurately gaug when it appeared that those made by t Deccan plough varied in depth from seven ten inches, and by the American from sev to eight and a half inches. The superior of the Deccan plough, in this respect, ho ever, was more apparent than real; for t lower portions of its furrows were m scratches, made by the sharp points of t share, and a ridge of firm, unbroken grou remained between every furrow. This, course, entails the necessity of anot ploughing, while, on the contrary, the Am ican plough ensures every portion of the s even to the bottom of the furrow, being co pletely broken up and turned over.

This consideration alone is conclusive to the great superiority of the latter, w which, as the cultivators themselves asse bled to witness the experiment, fully knowledged the ground was as complet broken up in one ploughing as could be d with their own in two.

The American plough, however, posses other advantages. Its extreme lightness such as to admit of its being carried eas by one man, and would thus offer no stacles to a Coonbee cultivating fields wid apart. It requires no other tackling tha simple rope or chain. Its surfaces in c tact with the soil, being of cast iron, wo soon acquire a high polish, and thus ena it to glide easily through a wet heavy s which would offer serious impediments the Deccan plough.

Such are a few of the advantages which t plough has over the native; but in the f lowing respects it appears to be somew inferior. Its small size and lightness r der it somewhat inapplicable to the purp of breaking up heavy black soils, wh form some of the most valuable lands in t Deccan. A larger and stronger plough, similar construction, might, however, eas be made, and rendered applicable to the p pose. Another disadvantage urged by t natives, and one for which it is difficult devise a remedy, is, that instead of tear up, it cuts through the roots of the 'Koond The Deccan plough, however, is far fr answering the purpose of rooting out t powerful grass effectually, and its superi ity in this respect appears to be trifling.

It is gratifying to add, that the Coonbe (who were assembled in crowds,) seemed view the experiment throughout with t

* A powerful grass, with large woody roots striking deeply into the soil. It grows with wonderful rapidity, and being extremely difficult to extirpate, forms one of the formidable obstacles to the successful cultivation which the Deccan cultivator has to contend against.

deepest interest; and at its conclusion were eager in their inquiries as to the price of the new plough, the possibility of procuring it, and of its being repaired by the village artificers, &c."

Notice to Subscribers.

The next (12th) number will complete the first half year of the Farmers' Cabinet, and as some few of our patrons subscribed for six months, we shall with that number discontinue the work to all those whose term of subscription then expires, unless they order it to be continued. Orders may be given to such post-masters as are found willing to act as agents—or at the office, No. 67 South Second street.

We are now engaged in re-printing the back numbers of the Cabinet, and persons who wish to perfect their sets of the work can be supplied with the necessary numbers, if early application be made.

New subscribers will be furnished with the back numbers, unless we are otherwise ordered.

Agricultural Societies---Union County.

The New Berlin "Star" of the 3d inst., contains the proceedings of a meeting held in that village on the preceding Tuesday, (Nov. 29) for the purpose of considering the expediency of forming a county Agricultural Society. The preparatory steps were taken and a committee appointed for the purpose of calling a county meeting with a view of organizing the Society. Much more depends upon starting right in this business than people are generally aware of—a great deal rests upon a proper organization, a just distribution of the duties of the officers appointed, and the faithful performance of these duties,and the degree of interest excited in the whole body. Rural industry has always advanced wherever Agricultural Societies have been formed and sustained. We do not refer to nominal societies; they are worse than none at all, and generally have an unfriendly influence on the agricultural character of the county where they exist. We refer to those, and we could point to some in this section, and to many in New-England, that have a healthful and vigorous existence, whose officers and members are alike emulous to promote the interest of the institution. Agricultural societies, judiciously organized and liberally sustained, not only benefit the individuals immediately connected with them, but they also promote the public welfare. We hope the time is not far distant when we shall have a "State Agricultural Society," with its auxiliary branches in every county—indeed in every township, all acting together for the benefit of the whole. What an immense amount of valuable information would by this means, be disseminated throughout the State. It has long been a reproach to Pennsylvania, an agricultural state, that the old society, in which some of her choicest spirits were engaged, was suffered to languish and die. The renovating spirit, however, is abroad, and we hope, that Phœnix like, she will rise from her ashes, to beautify and bless our land. When the farmers awake to their true interests; when they form themselves into a state society, with their branches extending through every county and township in the commonwealth, they may expect from the state government liberal appropriations.

We give below the proceedings of the meeting referred to. We hope the effort may prove successful.

From the New Berlin (Union county) Star.

Agricultural Meeting.

At a meeting of the citizens of New Berlin and vicinity, at C. Shroyer's, on Tuesday evening last, agreeably to public notice, for the purpose of considering the expediency of organizing a County Agricultural Society, JOSEPH STILLWELL, Esq. was called to the Chair, and ISAAC SLENKER, Esq. appointed Secretary.

The following gentlemen were appointed a Committee to draft a preamble and resolutions,—*J. H. Horning*, *John Lashells*, *James Harrison*, *Isaac Slenker*, *Samuel Weirick*, *Gabriel Yearick*, and *Michael Clemmens*, who reported as follows:

WHEREAS, Agriculture, though in operation a long time, and has been a discussion of many ages that are now no more; is still but imperfectly understood, particularly in many parts of the United States. In England, it is, perhaps, better under-

stood than in any other part of the habitable globe. The pre-eminence that there prevails, not only in the cultivation of the soil, but the rearing of domestic animals, is to be attributed to the peculiar attention they have paid to this subject. The researches and investigations made by scientific and practical farmers. For it is not to be doubted that agticulture is a science, and like all other systems of education or learning requires experience, application and attention. Connected with the culture and improvement of the soil, is the rearing and care of domestic animals, and the treatment of the various diseases they are liable to. All this we conceive could be better learned or accomplished by an association such as is now under consideration. And in addition it would bring annually together the experiments of the farmer, the ingenuity of the Mechanic and Manufacturer, and of the industrious both male and female; thus giving to each a spring of industry and rivalry that could not fail of bringing together those peculiar concomitants that tend to enrich themselves, their country, and their posterity. By endeavoring to establish a *Union county Agricultural Society*, we do not wish it to be understood that we in the least wish to detract any thing from the merits of the *Union Agricultural Society;* our only objection is, that the territory is too extensive, embracing within its limits the counties of Lycoming, Columbia, Northumberland and Union, and on this account precludes many of our industrious farmers, manufacturers and mechanics, from attending the annual exhibitions, &c. Our only aim and ambition is to bring the advantages such a society may afford, within the reach of the citizens of our county generally. Therefore,

Resolved, That we deem the formation of a *Union County Agricultural Society*, a measure that would be highly beneficial, alike to the farmer, the manufacturer, the mechanic, and indeed to every class of our citizens; as it would tend to create a respectful rivalry in every branch of industry; and perhaps would lead to the developement of some hidden resources that would be the means of aggrandizing our citizens and be of general welfare.

Resolved, That a committee be appointed to call a county meeting on this subject and to take such other measures as they may deem advisable.

On motion of Mr. Lashells, said committee to consist of nine, viz: John Lashells, James Merrill, Isaac Eyer, Samuel Templeton, M. Clemens, R. P. Maclay, Philip Seebold, Philip Gross, M. Benfer.

JOSEPH STILLWELL, Pres't.

Isaac Slenker, Sect'y.

For the Farmers' Cabinet.

Castor Bean.

Information is wanted respecting the culture of the Castor Bean, (Palma Christi) 1. When to be planted? 2. How?--distance apart?—how worked? 3. Kind of soil—wet or dry—rich or thin? 4. Produce per acre? 5. When ripe? and machinery used in preparing the oil? 6. Quantity of oil to the bushel—of cold and of warm pressed? 7. Average market price per gallon?

AGRICOLA.

We give the above in the hope that some person skilled in the culture of the Castor Bean and its fabrication into oil, will impart the information sought for. For the process of extracting the oil in Illinois, Agricolo is referred to No. 5 of the Farmers' Cabinet. Our climate and soil are unquestionably favorable to its cultivation, and we invite the attention of farmers to experiments in its culture. There is considerable demand for the article, and we believe that its cultivation might be rendered very advantageous. Any information directed to the Editor of the Farmers' Cabinet, will be duly acknowledged.

Clover and Rye Grass.

In the selection of clover and rye grass seeds, particular attention should be paid to their quality and cleanness; the purple color of the clover seed denotes that it has been ripe and well saved; and the seeds of weeds may be detected in it by narrow inspection, if there be any; but various noxious weeds are frequently mixed up with the seeds of the rye grass, which it is difficult either to discover or to separate from them. Between the seeds of the annual and perennial rye grass, the difference is hardly discernable; and therefore, unless it is of his own growth, the cultivator must depend in a great measure on the character of the person from whom he purchases it.

The after-culture of clover and rye grass consists chiefly of picking off any stones or other hard bodies which may appear on the surface in the spring succeeding that in which it was sown, and cutting out by the roots any thistles, docks, or other large grown weeds. After this the surface should be rolled once, to smooth it for the scythe. This operation is best performed in the first dry weather of March. Some give a top-dressing of soot, gypsum, common lime, peat, or wood-ashes, at this time or earlier; gypsum has been particularly recommended

as a top-dressing for clovers, and the other herbage legumes, because as their ashes afford that substance in considerable quantities, it appears to be a necessary ingredient of their food. Dutch ashes have been strongly recommended as a top-dressing for red clover, and they also contain gypsum; but where the soil is in good heart, and contains calcareous matter, any description of top-dressing, though it may be of advantage when it does not interfere with the general economy of the farm, cannot be considered as necessary.

The taking of the clover, or clover and rye grass crop, is either by cutting green for soiling, by making into hay, or by pasturing. It is observed in *The Code of Agriculture*, that it is a most important point to ascertain, in what cases cutting, or feeding, is most beneficial. If fed, the land has the advantage of the dung and urine of the pasturing stock; but the dung being dropt in irregular quantities, and in the heat of summer, when it is devoured by insects, loses much of its utility. If the dung arising from the herbage, whether consumed in soiling, or as hay, were applied to the land in one body, and at the proper season, the operation would be more effectual. The smoother of a thick crop, continued for any time upon the ground, greatly tends to promote its fertility; and it has been pretty uniformly found, after repeated trials, upon soils of almost every description, that oats taken after clover that has been cut, either for soiling or hay, is superior to the crop taken after clover pastured by sheep.

General Principles of Rearing, Managing, and Feeding Domestic Animals.

After the birth, the first interference on the part of man should be that of supplying the mother with food of a light and delicate quality, compared to that which she had been in the habit of using, and also of administering the same description of food to the offspring, so far as it may by its nature be able to use it. The gentlest treatment should accompany these operations; and the opportunity taken of familiarizing both parent and offspring with man, by gently caressing them, or at least, by familiar treatment on the part of the attendant.

As the animals increase in size and strength, they should have abundance of air, exercise, and food, according to their natures; and whatever is attempted by man in the way of taming or teaching should be conducted on mild and conciliating principles, rather than on those of harshness and compulsion.

Food.

Food, though it must be supplied in abundance, ought not to be given to satiety. Intervals of resting and exercise must be allowed according to circumstances. Even animals grazing on a rich pasture have been found to feed faster when removed from it once a day, and either folded or put in an inferior pasture for two or three hours. Stall-fed cattle and swine will have their flesh improved in flavour by being turned out into a yard or field once a day; and many find that they feed better, and produce better flavoured meat when kept loose under warm sheds or hammels, one or two in a division, a practice now very general in Berwickshire. * * * * * In general it may be observed, that if the digestive powers of the animal are in a sound state, the more food he eats, the sooner will the desired result be obtained; a very moderate quantity beyond sufficiency constitutes abundance; but by withholding this additional quantity, an animal, especially if young, may go on eating for several years, without ever attaining to fatness.

Growing Animals.

In young growing animals, the powers of digestion are so great, that they require less rich food than such as are of mature age; for the same reason also they require more exercise. If rich food is supplied in liberal quantities, and exercise withheld, diseases are generated, the first of which may be excessive fatness. * * * * Common sense will suggest the propriety of preferring a medium course between very rich and very poor nutriment. * *

Salt, it appears, from various experiments, may be advantageously given to most animals, in very small quantities; it acts as a whet to the appetite, promotes the secretion of bile, and, in general, is favourable to health and activity. In this way only can it be considered as preventing or curing diseases; unless perhaps in the case of worms, to which all saline and bitter substances are known to be injurious. * * *

Where a sufficient degree of warmth to promote the ordinary circulation of the blood is not produced by the natural climate, or by exercise, it must be supplied by an artificial climate. Houses and sheds are the obvious resources both for this purpose, and for protection from *extremes of weather*. Cold rains and northerly winds are highly injurious, by depriving the external surface of the body of caloric more rapidly than it can be supplied from within by respiration, and the action of the stomach; and also by contracting the pores of the skin, so as to impede circulation. When an animal happens to shed its covering, whether of hair, wool, or feathers, at

such inclement seasons, the effects on its general health are highly injurious. The excessive heats of summer, by expanding all the parts of the animal frame, occasion a degree of lassitude, and want of energy even in the stomach and intestines; and while the animal eats and digests less food than usual, a greater waste than usual takes place by perspiration. Nature has provided trees, rocks, caverns, hills and waters, to moderate these extremes of heat and weather, and man imitates them by hovels, sheds, and other buildings, according to particular circumstances.

Air and Water.

Good air and water it may seem unnecessary to insist on; but cattle and horses, and even poultry pent up in close buildings, where there are no facilities for a change of the atmosphere, often suffer on this account. A slight degree of fever is produced at first, and after a time, when the habit of the animal becomes reconciled to such a state, a retarded circulation, and general decay or diminution of the vital energies takes place.

Moderate Exercise.

Moderate exercise ought not to be dispensed with, where the flavor of animal produce is any object; it is known to promote circulation, perspiration, and digestion, and by consequence to invigorate the appetite. Care must be taken, however, not to carry exercise to that point where it becomes a labor instead of a recreation. In some cases, as in feeding swine and poultry, fatness is hastened by promoting sleep and preventing motion, rather than encouraging it; but such animals cannot be considered healthy fed; in fact their fatness is most commonly the result of disease.

Tranquillity.

Tranquillity is an obvious requisite, for where the passions of brutes are called into action, by whatever means, their influence on their bodies is often as great as in the human species. Hence the use of castration, complete or partial separation, shading from too much light, protection from insects, dogs, and other annoying animals, and from the too frequent intrusion of man.

Cleanliness.

Cleanliness is favorable to health, by promoting perspiration and circulation. Animals in a wild state attend to this part of their economy themselves; but in proportion as they are cultivated, or brought under the control of man, this becomes out of their power; and to insure their subserviency to his wishes, man must supply by art this as well as other parts of culture. Combing and brushing stall-fed cattle and cows is known to contribute materially to health; though washing sheep with a view to cleaning the wool often has a contrary effect from the length of time the wool requires to dry.

* * * * *

Comfort.

Unquestionably an animal may be well fed, lodged, and cleaned, without being comfortable in every respect; and in brutes, as well as men, want of comfort operates on the digestive powers. If the surface of a stall in which an ox, or a horse stands, deviates much from a level, he will be continually uneasy; and he will be uneasy during night, if its surface is rough, or if a proper bed of litter is not prepared every evening for it to repose on. The form of racks and mangers is often less commedious than it might be. A hay rack which projects forward is bad; because the animal in drawing out the hay is teased with the hay seeds falling in its eyes or ears; and this form, it may be added, is apt to cause the breath of the animal to ascend through its food, which must after a time render it nauseous. For this reason hay should lie as short a time as possible in lofts, but when practicable be given direct from the rick.

Sheep—Different Breeds should be cultivated among us.

It seems to be a settled law of Nature that a difference in the quality or grade of wool should accompany a different form of body, &c. in the sheep. A robust constitution, and a large, well spread stately form, as a general rule, produces a longer and more coarse staple, while a more delicate constitution and more slender form produces a finer —more close and delicate staple. This rule holds good also we believe in animals which produce fur—the smaller and more delicately formed ones produce a corresponding fineness of fur, while the longer and stronger ones even in the same latitude produces a coarser kind.

Thus, the mole has an exceedingly soft, short, and fine coat, while the Buffalo, Caribour and Moose have a coarse and long one. The difference of fleece however seems to be a little stronger in sheep than in most animals—that is, a greater disproportion for slight differences of shape.

Those wool-growers who have been stimulated by the high prices of wool, for a series of years past, and have turned their attention to the production of a fine fleece, regardless of size or shape of carcass, have mostly found themselves at last surrounded by a weak and sickly flock. The question then has been, how can we restore the health and hardiness of our sheep? By crossing.

Crossing with what? All the flocks around me are similar. And it has been found necessary to mingle some alloy, or in other words, cross with some of the coarse wool breeds to keep up the health, and in many instances even the continuance of their fine wooled flocks.

Hence we see the necessity of keeping a few of the different breeds. At the present time, such has been the degree to which fine fleeces have been produced that wool of a coarser grade bears nearly the same price as the finest, and hence as those sheep of a somewhat coarser grade produce heavier fleeces than the extra fine, the over plus of wool thus produced will make up the small deficiency in price. For a cross with the Merino we do not at present know a finer or more compatible breed than the South Downs.

We must follow the laws which nature dictates and occasionally give our fine wooled flocks a mix of some more hardy and robust blood, or they will become weak and unprofitable.

ARTS AND SCIENCES.

——Science has sought, on weary wing,
On sea and shore, each mute and living thing.

Rise and Progress of Agriculture.

The antiquity of this art is undoubtedly beyond that of all others. From the earliest accounts of the eastern nations, we have reason to think, that agriculture had been understood by them in considerable perfection; seeing they were always supplied not only with the necessaries, but the greatest luxuries of life.

As soon as the descendants of Abraham were settled in Palestine, they became husbandmen, from the chiefs of the tribe of Judah to the lowest branch of the tribe of Benjamin. High birth or rank did not at that time make any distinction; for agriculture was considered as the most honorable of employments.

The Chaldeans, who inhabited the country where agriculture had its birth, carried that valuable art to a degree of perfection unknown in former times. They cultivated their lands with great assiduity, and seem to have found out some means of restoring fertility to an exhausted soil, having plentiful harvests in succession; on which account they were not obliged, as their predecessors had been, to change their situation, in order to maintain a sufficiency for themselves and their numerous flocks and herds.

The Egyptians, who, from the natural fertility of their country by the overflowing of the Nile, raised vast quantities of corn, ascribed the invention of the art of agriculture to Osris. They also regarded Isis, their second diety, as the discoverer of the use of wheat and barley, which before grew wild in the fields.

It is also related of the ancient Persians, that their kings laid aside their grandeur every month to eat with husbandmen. This is a striking instance of the estimation in which they held agriculture; for at that time other arts were practised among that people in great perfection, particularly those of weaving, needle-work, and embroidery. The precepts of the religion taught by the ancient magi, or priests, included the practice of agriculture.

The Phœnicians, better known in Scripture by the name of Philistines, were remarkable for their attention to, and skill in agriculture; but finding themselves too much disturbed and confined by the incursions and conquests of the Israelites, they spread themselves through the greater part of the Mediteranean Islands, and carried with them their knowledge of the art of cultivation.

The Athenians taught the use of corn to the rest of the Greeks. They also instructed them to cultivate the ground, and to prepare it for the reception of the seed. The Greeks soon perceived that bread was more wholesome, and its taste more delicate than that of acorns and the wild roots of the field. Hesiod was the first we know of among the Greeks who wrote on this interesting subject. He lived about 900 years before the Christain era.

The ancient Romans esteemed agriculture so honorable an employment, that the most distinguished senators at their leisure intervals applied themselves to the cultivation of the soil. Numa Pompilius, one of their kings, was much distinguished for his skill in agriculture; and such was the amiable simplicity of those times, that their greatest warriors and legislators were often called from the active labors of the field to the highest offices in the state. Regulus, the celebrated Roman General, when in Africa, requested of the senate to be recalled, lest his farm might suffer for want of proper cultivation in his absence; and the senate wrote to him for answer, that it should be taken care of at the public expense while he continued to lead the armies. Cato the censor, Varro, Virgil, Columella, and other distinguished Romans, wrote on the subject of agriculture.

In China, a day is still annually appointed when the Emperor goes in solemn procession to a field, where he shows his sense of

the inestimable benefits of agriculture by undertaking for a short time, the laborious occupation of directing the plough in person.

Previous to the establishment of the Romans, the cultivation of the soil was but little understood in Britain. By their assistance, however, it experienced considerable improvement, insomuch that the Britons were enabled annually to export large quantities of grain. Subsequent to this period, it has been continually advancing in its progress, and has now attained a high degree of perfection. Societies have of late years been formed for the purpose of encouraging this and other useful arts; and a plan has been proposed for introducing the study of agriculture into schools, and making it a necessary part of national education.

In the year 1576, a period of difficulty and distress, France began to pay particular attention to this important subject. Prize questions were annually proposed by the academies of Lyons, Bourdeaux, and by the society instituted for the improvement of agriculture in Brittany. About this time, it was also greatly encouraged in Russia, Prussia, Sweden, Denmark, Germany, and Italy; in the last mentioned country, a private gentleman, about 80 years ago, left his whole fortune to the establishment and support of an agricultural academy.

Whether we consider agriculture as a means of procuring as well the necessaries as luxuries of life; of providing a security against the aggregated calamities of scarcity, famine, and disease; or of engaging the mind in active and extensive pursuits of general knowledge, it is one of the most useful and important of all the arts which have employed the attention of mankind. Its theory is, in a great measure, dependent on several branches of science, such as natural history, chemestry, experimental philosophy, and mechanics, all of which may be successfully applied to its advancement; and without a competent knowledge of these, it cannot be properly understood. Its practical part, however, may be carried on, independently of scientific experiments. No person therefore need be deterred from attempting any improvements, because he is not conversant with the more abstract parts of physical knowledge.

The flourishing state of manufactures is greatly dependent on that of agriculture; because the price of those commodities obtained by labor, is not only closely connected with that of the necessaries of life, but some of the most considerable articles of manufactures are originally supplied by agricultural productions, such as wool, flax, hemp, rape-seed, tallow, &c.

The successful advancement of the rural art depends on two circumstances: the one, its improvement by discovery or invention; the other a mere extensive practice of such improvements, when fully demonstrated. The former is effected by the contrivance of more perfect machines and implements of husbandry, which facilitate the progress of labor; the introduction of new articles of profitable culture, and the most advantageous method of treating those which have already been cultivated, though in a defeetive manner. The latter, namely, the practice, relates not only to future improvements, but likewise to those which, though generally known, have been either wholly neglected, or adopted only in peculiar places.

Agricultural Axioms.

Benjamin F. Station, Esq. in a letter to the editor of the Farmers' Register, says: "I am pleased that in connection with others, you have succeeded in establishing some highly important truths which were formerly not known, or entirely discredited, (it is lamentable that many should still be so slow as not to embrace them,) but are now received among the more intelligent among the cultivators of the soil, as *agricultural axioms*, about which all doubt and discussion may cease; *axioms* that may be expressed in few words, and on the correctness of which any one who chooses, may immediately and safely proceed to act. A few of these are—

That deep ploughing never need be dreaded.

A small farm well conducted is a source of greater revenue, than a large one indifferently managed.

It would be a vast amount of saving to the whole community, if every private owner were required to keep his stock from committing depredations on his neighbors, instead of imposing this onerous burden upon them.

The profits of agriculture (other things being equal) are in proportion to the attention paid to manuring; that is, as is the extent of the latter, so will be that of the former.

The corn crop, with the stalk cut up from the ground entire, at a much earlier period than has usually been practised, is worth about double what it is when gathered in the old way.

Prepared food of some kinds, and for some animals, will go nearly, if not quite, twice as far as that which is given in a raw and natural state.

The raising of tobacco need not impoverish the land, but it is only to the undue and

disproportionate space that is allotted to this staple commodity that the mischief it is said to have produced, is attributable.

Mangel Wurtzel.

Mr. Wm. K. Townsend, in a letter to the editor of the New York Farmer, has the following remarks on this valuable root.

"I am every season more and more convinced of the value of this (the Mangel Wurtzel,) crop to farmers like myself, that winter a tolerably large stock. This is my fourth season of cultivating them, and I mean in future to increase the quantity three fold. I took off my crop last fall in season to seed down the field with rye and grass.—The crop of rye was excellent, and the grass is now equal to that in the same field, sowed after a crop of early potatoes. I do not believe they exhaust land more than any other root crop; if the land is well prepared, and the seed sown at the proper time, two good hoeings are sufficient. I have this season gathered the under leaves for my hogs, and they will eat them as fast as any thing that I can give them. I do not think the crop is injured by taking them off. As my early beets did not come to perfection, we used the mangel wurtzel, taking out the smallest, when two grew together, in their stead; and if well cooked and prepared for the table, we think them as good as beets. I usually raise them to feed out after my turnips are gone in the spring; my milch cows do well on them, as well as other cattle, and I want no better feed for my breeding cows and store pigs along early in the spring, before they get a good bite of grass."

The Papaw—Carica Papaya.

Though the papaw-tree is now found in the East as well as in the West, it is generally understood to be a native of America, and have been carried to the East about the time of the first intercourse between the two continents. The papaw rises with a hollow stem to the height of from eighteen to twenty feet, after which it has a head composed, not of branches, but of leaves and very long foot-stalks. The male and female flowers are on different trees: the female flowers are bell-shaped, large, generally yellow, and followed by a fleshy fruit, about the size of a small melon. The tree and even the fruit are full of an acrid milky juice; but the fruit is eaten with sugar and pepper, like melon; and when the half-grown fruit is properly pickled, it is but little inferior to the pickled mango of the East Indies. There are many forms in the fruit, and some varieties in the color of the flower of the papaw; and there is also a dwarf species; though as this has been observed chiefly in airy situations, it may be the common sort stunted for want of moisture.

Fig. 49.—The Papaw.

The American papaw, in our view, is the prince of wild fruit-bearing shrubs. The leaves are long, of a rich appearance, and green, considerably resembling the smaller leaves of tobacco. The stem is straight, white, and of unrivalled beauty. In fact, we have seen no cultivated shrub, so ornamental and graceful, as the papaw. The fruit closely resembles a cucumber, having, however a very smooth and regular appearance. When ripe it is of a rich yellow. There are generally from two to five in a cluster. A papaw shrub, hanging full of fruits, of a size and weight so disproportioned to the stem, and from under long and rich looking leaves of the same yellow with the ripened fruit and of an African luxuriance of growth, is to us one of the richest spectacles, that we have ever contemplated in the array of the woods.—The fruit contains from two to six seeds, like those of the tamarind except that they are double the size. The pulp of the fruit resembles that of an egg custard, in consistance and appearance. It has the same creamy feeling in the mouth, and unites the taste of eggs, cream, sugar and spice. It is a natural custard, too luscious for the relish of most people. The fruit is nutricious, and a great resource to savages. So many whimsical and unexpected tastes are compounded in it, that, it is said, a person of the most hypocondriac temperament, relaxes to a smile when he tastes papaw, for the first time.

Hawthorn Hedges.

Fences of hawthorn, interpersed with fruit trees, are very common in England. They are more durable, look better, and offer a greater security to cattle and crops than any other method of inclosure. There are many shrubs of which hedges may be made, but among them all there are none equal to the white and black thorns, that will suit the generality of soils, and are easily propagated. A correspondent of the Bath Agricultural Society, who had for thirty years cultivated about one hundred acres of land, gives the following particulars of his mode of rearing this fence:—

Some of my plants I raised in a nursery from the haws, and others I drew up in the woods, and wherever they could be found. I made my banks flat, and three feet wide at the top, with a sloping side next the ditches, which were dug two feet below the surface of the field, and one foot wide at the bottom. The turfs were regularly laid with the grass downward, on that side of the ditch on which the hedge was to be raised, and the best of the mould laid at top. My sets were straight, smooth, and even growing ones, and planted as soon as possible after taking up. I planted them at a foot distance; and about every forty feet I set young fruit or other trees, such as ash, oak, beach, elm, according as the soil suited them. I then laid in a second row of quicksets, on another bed of fresh earth, at the same distance, and covered them over with good mould. The planting thus ended, I finished the bank, and secured it properly from injuries by a dead hedge well wrought together, and fastened by stakes of oak trees on the top of the bank at three feet distance.

The time I planted it was the latter end of February, which time I prefer to October, and in general the plants succeed best at that time. In autumn I cleared it from weeds. The following spring I examined my hedges carefully, securing the stakes where they were loosened, and filling up any holes that were made. Wherever any of the quicksets had failed, or appeared dwindling, I replaced them with fresh ones from my nursery; and also such of the young trees as had been planted on the top of the bank, and cleared the whole from weeds.

In one field it happened that my sheep had eaten off many of the young shoots; but as I thought they would recover, I did not replace them; but I afterwards found it would have been best to have done so, for they never grow so as to overtake the rest, and this hedge was unequal and much inferior to the other. The principal care now necessary was, to keep the quick free from weeds, and well protected from cattle, till it was of an age fit for plashing, which, if it is healthy and vigorous, may be done in its seventh or eighth year. It will, however, be right to go over it once a year during that time with a knife, and cut off the redundant, or ill-shaped and staggling branches, keeping the face of it as smooth and even as possible; and also root up all entangling weeds, which, by confining it, would otherwise spoil its beauty, and hinder its growth.

The weeds most destructive to young hedges are, white and black bryony, bindweed, and the traveler's joy. White bryony has leaves like the vine, and its berries are red; the root is as big as a man's leg, and runs very deep. Black bryony will grow thirty feet long, and with its clasping tendrils will entangle and choke the young quick all the way. As its root is very large, it must be dug out deep to destroy it. Traveler's joy has woody stalks, with a rough bark; the leaves are small, and of a pale color, and it bears white cottony tufts in autumn; it is more destructive to young quick-hedges than any other, overshading it like an arbour. The root of this plant is not deep like the rest, but care must be taken to get it up entire, for the least piece left will send up fresh shoots next spring.

Dear Haunch of Mutton.—When the present Duke of Bedford was Lord Lieut. of Ireland, he was once, when dining with Lord Sligo, earnestly recommended to taste a fine haunch of Glynde mutton, to which his Grace, himself a breeder and admirer of South Downs, and well acquainted with Mr. Ellman, readily acceded; but no politeness to his noble host would move him to finish the slice, or say it was other than rank in flavor and terribly tough. On inquiry, the disappointed Marquis ascertained that his shepherd, who had been ordered to kill the best South Down Sheep, had, in accordance with the doctrines of political economy, which estimates every thing at its market price, actually slaughtered for the vice regal banque a ram, for which Lord Sligo had a few weeks before paid Mr. Ellman 200 guineas.—*Baxter's Library.*

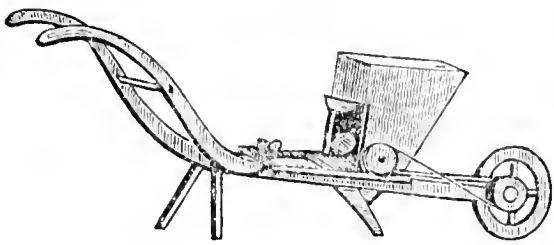
We occasionally hear of a simpering, double refined young lady boasting that she never labored, and could not for the life of her make a pudding, as though ignorance of these matters was a mark of gentility and a leaning towards European nobility. There can be no greater proof of silly arrogance than such remarks, and for the especial benefit of such, we would kindly inform them that Madame de Genlis supported the family of the Duc de Orleans, (and among them the present reigning Monarch of France,) in

London, by the sale of her drawings; one of the Duchesses of the same Court maintained herself and husband in Bath, by teaching a music school, and the Queen herself, kept her family by plaiting bonnets. These examples we hope will have their influence, where examples of our own good country-women would be spurned as vulgar, republican models.—*Mechanic and Farmer.*

The Drill-Barrow----Cultivator ---Turnep-Hoe.

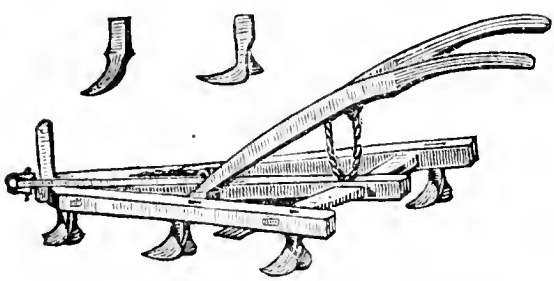
The implements used in the Turnep culture, which are figured below, are useful for various other purposes on the farm or in the garden. They are, (*fig.* 50.)

Fig. 50.



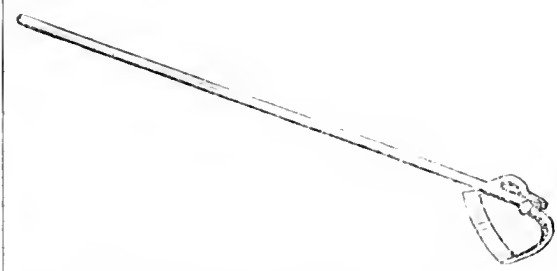
The Drill-Barrow, which is made in different forms, and is used in sowing various small seeds, as onions, radishes, lucern, beans, peas, &c. The machine is propelled like a wheel-barrow, and sows and covers the seed at the same operation. The cut represents the one we have in use. They are manufactured by Mr. Craig, of Galway, N. Y., and sold at eight dollars. A barrow somewhat differently modeled, has been invented in Lewis county, which has been highly commended for its value in planting corn. Price fifteen dollars.

Fig. 51.



The Cultivator, (*fig.* 51,) is the most useful implement we know of for dressing Indian corn, as well as ruta baga. By being passed frequently between the rows, the ground is kept free from weeds, and in a fine state of pulverization, while the manure and vegetable matter is left under cover, where it is most beneficial, and the roots of the plants preserved from injury. It should be passed twice at dressing, and if the soil is stiff or grassy, it may be passed oftener, or repeated at short intervals. The teeth are of various forms, according to the purposes for which they are used. Some of these are figured in the cut. It is most convenient to have sets of different kinds, and the cost is trifling, that they may be shifted at pleasure. Our late excellent neighbor, Joseph Bullock, used effectually to extricate the quack grass in his corn ground, by the frequent use of the cultivator, the teeth of which he had modeled for this purpose. They are manufactured by Mr. Craig, and, together with the drill-barrows spoken of, kept for sale by our enterprising friend, C. N. Bement, who is making some improvements on both these implements.* The cultivator is often denominated horse-hoe, scuffler, scarrifier, &c. It has sometimes a wheel attached forward to regulate the depth.

Fig. 52.



The Turnep Hoe, (*fig.* 52,) is a very simple, but useful implement, particularly in the garden, where it greatly facilitates the weeding process. We have them of various lengths, from four to ten inches. They should be of cast-steel, and may be made of an old file or rasp; the blade should be thin, and not more than one and a half or two inches broad. They may be drawn the arm's length without being raised, and there is little danger of cutting the plants among which they are used.

Cultivator.

I call that mind free which is not passively framed by outward circumstances, which is not the creature of accidental impulse, but which bends events to its own improvement, acts upon an inward spring, for an immutable principle which it has deliberately espoused.

I call that mind free which protects itself against the usurpations of society, which does not cower to human opinions, which feels accountable to a higher law than fashion, which respects itself too much to be a slave to the many or the few.—*Dr. Channing.*

A writer on swearing says that an oath from a woman's lips is unnatural and incredible, and he would as soon expect a bullet from a rose-bud.

Disdain not your inferior in the gifts of fortune, for he may be your superior in the gifts of the mind.

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* Of the improvements our readers will be duly advised. These implements may be obtained at the principal seed stores in Philadelphia.

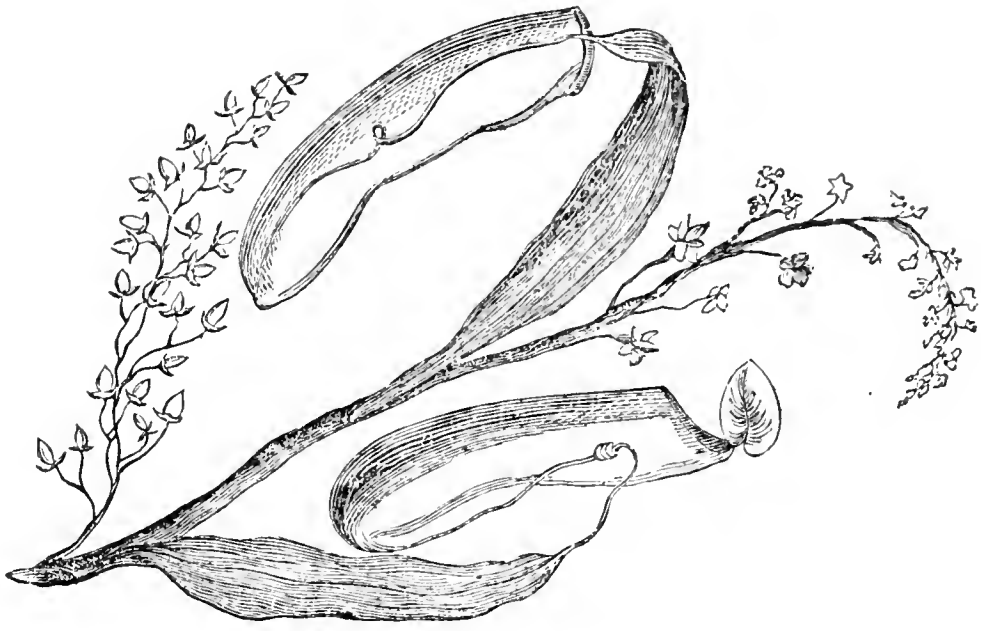

Fig. 53.—*The Pitcher Plant.*

The Pitcher-Plant.

Nepenthes distillatoria.

There is not, perhaps, among the numerous examples that occur of the provident economy of Nature, in the vegetable part of the creation, a more remarkable instance of contrivance adapted to circumstances, and of means suited to the end, than what is evidently displayed in a plant which is commonly met with in Ceylon, and other islands of the east, and which has obtained the appropriate name of the *Pitcher* plant.

Being the inhabitant of a tropical climate, and found on the most dry and stony situations, Nature has furnished it with the means of an ample supply of moisture, without which it would have withered and perished.

To the footstalk of each leaf, near the base, is attached a kind of bag, shaped like a pitcher, of the same consistance and color as the leaf in the early stage of its growth, but changing with age to a reddish purple. It is girt round with an oblique band or hoop, and covered with a lid neatly fitted, and movable on a kind of hinge or strong fibre, which, passing over the handle, connects the vessel with the leaf.

By the shrinking or contracting of this fibre the lid is drawn open whenever the weather is showery, or dews fall, which would appear to be just the contrary of what usually happens in nature, though the contraction probably is occasioned by the hot and dry atmosphere, and the expansion does not take place till the moisture has fallen, and saturated the pitcher. When this is the case the cover falls down, and it closes so firmly as to prevent any evaporation from taking place.

The water having gradually absorbed through the handle into the footstalk of the leaf, gives vigor to the leaf itself, and sustenance to the plant. As soon as the pitchers are exhausted, the lids again open, to admit whatever moisture may fall; and when the plant has produced its seed, and the dry season fairly sets in, it withers with all the covers of the pitchers standing open.—*Barrow's Cochin China.*

Machinery for Mowing and Reaping.

Farmers are generally slow in adopting or encouraging any machine which will facilitate their labor. They seem to forget that the implements of labor which have been handed down to them by their fathers, such as the plough, the cart and the harrow are machines. Tell them that a machine may be made for reaping or mowing and most of them will give a doubtful shake of the head. One reason of this is owing to some abortive attempts made by those who had not the means to perfect their work, or lived at an age when, or in a situation where, machinery could not be made with that accuracy and finish necessary for perfect movements.

We have long been firm in the faith that the time would come when most of the operations carried on in the growth of corn or grain, would be done by machinery, from the first turning over the sod, by that admirable machine, the plough, to the harvesting. We have no doubt that ploughing will be done successfully by steam, and that mowing and reaping will be done by the same Herculean power. For a long time our farmers were opposed to the thrashing ma-

chines—this opposition arose from imperfect machinery, but still this very opposition retarded the perfection of the very machine it opposed. So in reaping and mowing, some imperfect attempts have been made which were not perfectly successful; and hence the whole scheme has been condemned.

But why condemn it? Is it more improbable that this can be done than that cotton can be ginned by machinery—packed by machinery—picked by machinery—carded by machinery—spun by machinery, and woven by machinery? Of the two operations, supposing nothing of the kind had been done, we would rather undertake to accomplish the harvesting by machinery than the spinning, and yet the latter has far, very far outstripped the other. It seems, however, that the ingenious in many parts of the Union are at work at this business. The Editor of the Baltimore Farmer and Gardener some time since gave the following account of Hussey's Grain Cutter:

The Horse Mowing Machine.—We attended on Monday week last, by invitation, to witness the operation of the Horse Mowing Machine invented by Mr. Hussey, of Cincinnati, Ohio. The theatre selected for its operation was a field of oats, belonging to Dr. Hitch, situate in the northwestern part of our city, containing about six acres. The persons collected together to see this novel innovation upon old established customs were not numerous: with those, however, who did attend, the principle of curiosity was, as it was reasonable to expect it would be, actively alive; but it was soon destined to be arrested in its gratification; for after the enterprising *inventor* of the machine had twice made his way around the field, its owner stopped his further progress, urged to the adoption of his course, as we were informed, by the fear that a part of the company would injure his grain by following the implement, and from the circumstance of the stubble being cut too long. In common with those present, we regret that reasons sufficiently cogent existed in the opinion of the proprietor to produce the result we have mentioned, as the disappointment affected alike the inventor and those who at considerable trouble, under a scorching sun, had convened to witness the experiment. Contenting ourself with the remarks we have made with respect to the *cause* of the stopping of the work, we will make a passing observation or two in regard to the *work* itself. The machine was drawn by two horses, and mowed at a smart trot, cutting the grain as it went with considerable cleanliness, as much so, probably, as could have been done with cradles, with the exception, that the stubble, as we have before premised, was left too long, being about six inches in length; the inventor of the machine, however, assured us that he could have lowered the cutting knives to three inches. It may be but justice to observe that the field was rough and cloddy, and presented a very uneven surface to act upon, which may account in part for the height at which the knives were set. So far as our own opinion may be entitled to consideration, we believe the machine better adapted to level fields than broken ground, and we have no doubt at all that on the Eastern Shore of this state, in Eastern Virginia, and other portions of our country where grain is cultivated on *large even fields*, it would be found truly useful, and that it will be found an object with the wealthy proprietors of lands in those sections of country to procure one. It certainly cuts with great expedition, and we should suppose, from what we saw, that it would be able to mow twenty or twenty-five acres a day. Mr. Hussey assured us, that he had given great satisfaction to the members of the Agricultural Board of Talbot County, on the eastern shore of this state, before which body he had operated with his machine, and we sincerely trust this distinguished association may publish an account of his labors in that quarter, for from the intelligence and standing of its members their opinion will be held in high estimation in every quarter where correct information is duly appreciated.—*Maine Farmer.*

Sagacity of the Horse.—The Pennsylvania Sentinel relates the following anecdote of the sagacity, and, *humanity*, shall we call it? of the horse.

As the Germantown stage, drawn by four horses, was passing along Third street, above Willow, a small child endeavoured to cross the street in advance of the leaders, apparently without observing the dangerous proximity of the latter. One of the leading horses appeared to appreciate the situation of the infant, and made every effort to avoid coming in contact with it. He swerved from the direct line as far as he could, and endeavored to pass it, but being brought up by the rein, was forced against and prostrated the child. The instant the latter fell he stopped, as if to allow it to escape; but being driven forward by the hinder horses and the impetus of the vehicle, he reared himself on his hind legs, and with one bound cleared the body. In doing this, either from design or accident, he threw the child, with his hind foot, out of the track, so that when the heavy carrige passed on, it did not run over it, although it came within a few inches of it.—This may be instinct, but it looks to us marvellously like reason and feeling.

PRICES CURRENT.

ARTICLES.	Philadelphia, Dec. 14.	Baltimore. Dec. 12.	New York, Dec. 12.	Boston, Dec. 10.
Beans, white, per bush.	$1 87—2 00	1 75—	1 45—1 87½	1 75—2 0
Beef, mess, new, per bbl.	13 00–13 50	12 00–12 50	12 00–13 50	13 50–14 0
Bacon, western, per lb.	11 13	10— 11½	.....	.....
Butter, extra, per tub	18— 19	.....	.....	.....
Butter, fresh, per lb. (market,)	25— 37	25— 37½	25— 40	30— 37
Hams, Jersey, per lb.	— 15	.....	14— 16	.....
Hog's Lard, per lb.	.....	15— 16	16— 17	15— 15
Cheese, American, per lb.	10— 11	10— 11	8— 10	8— 1
Beeswax, yellow, per lb.	27— 28	30—	27— 28	28— 3
Beeswax, white,	37— 39	40—	38— 40	38— 4
Bristles, American,	60— 70	.....	25— 65	30— 7
Flax, American,	9— 10	.....	8½— 9½	9— 1
Flour, best, per bbl.	11 00—	10 50—	10 25–10 50	.....
GRAIN—Wheat, per bush. Penna.	2 25—2 35	.....	2 00—2 10	—2 12
do. Maryland,	1 90—2 00	1 30—2 05	1 50—1 75	.....
Rye, per bushel,	1 45—1 50	.....	1 20—1 25	.....
Corn, do.	83— 85	78— 80	1 00—1 05	98—1 00
Oats, do.	48— 55	44— 45	52— 62½	56— 6
Barley, do. Penn.	90— 96	.....	81— 82	.....
Peas do.	.....	1 12½—	1 00 1 06	.....
HAY, Timothy, per 100 lbs.	1 00—1 10	.....	1 10—1 50	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	.....
Hops, first sort, 1836, lb.	11— 12	.....	.....	.....
Plaster Paris, per ton,	4 75	3 00—3 25	—3 25	3 25—3 50
SEEDS—Cloverseed, per bushel,	6 00—7 00	7 50—	.....	.....
Flaxseed, rough, do.	1 84—1 86	1 50—	1 65—1 75	—1 50
Timothy,	2 25—2 75	3 00—3 50	2 25—2 50	2 75—3 25
Tallow, per lb.	9½— 10	— 8½	— 9¼	9— 9½
WOOL—Saxony, fleece, per lb.	68— 75	55— 68	75— 80	85—1 30
Merino,	60— 67½	48— 55	50— 68	65— 70
1-4 and common,	40— 44	36— 40	25— 40	50— 55

Remarks.

No important variation in the price of articles during the last fortnight—staple articles all firm at former prices. COTTON of a good quality is in demand; stock nearly exhausted; sales of Upland at 19 a 20 7-8 cents. A small quantity of Tennessee Cotton, received by way of Pennsylvania canals and rail-ways, sold at 17½ to 18 cents per lb. The FLOUR and MEAL market remains at our last quotations. Receipts light, and demand limited to home use, at $11 per barrel for good brands; Genesee, $11. Considerable sales of sour New-Orleans at $7 to $7,50.—Rye Flour is scarce, and sells at $7,50 per barrel. Corn Meal—sales of several hundred hhds at $19, and Brandywine $20 each. Further sales in bbls. at $4,56¼ each. Buckwheat Meal—sales in hf. bbls at $4,37½. GRAIN—WHEAT continues in demand; sales of good Ohio, via New-York canals, $2,40 per bushel; Pennsylvania, $2,25 to $2,35; southern, new crop, $2,20. *Rye*—Further sales of Odessa at $1,50 a $1,48. Some Southern, $1,25. *Corn* is very dull, and several cargoes of old and new Southern are afloat unsold. Sales of Pennsylvania from store at 95 a 93cts., flat yellow 88cts. afloat. A sale of superior white in store at 87cts. *Oats*—cargo sales of Southern at 49 a 48 1-2 cts. Beans—sales of 2 a 300 bushels of Southern white, at $1,80 a $2 per bushel. HEMP—No change in prices. PROVISIONS—Stock of Mess Pork very scanty. Killed Pork from wagons sells at $8,25 a $8,75 per 100 lbs. Butter and Lard are in limited demand at former prices. Cheese is in steady demand at 10 1-4 to 11 cents per lb. SEEDS—Sales of several lots Cloverseed at $6 to $7 per bushel for common to prime quality. Sales of Flaxseed at $1,84 a $1,95; one lot of 270 bushels from Albany at $1,86 per bushel. WOOL—The demand limited, and prices unchanged.

The CATTLE MARKET is well supplied, and at about former rates, as we learn that no essential variation has occurred in prices. All kinds of country produce in demand, and at prices amply remunerating the owners.

Subscribers are informed that we are engaged in reprinting the back numbers, and as fast as executed, the numbers necessary to complete their sets will be forwarded.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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THE FARMERS' CABINET.

Live Fences.

To the Editor of the Farmers' Cabinet.

In my former communications the process of managing the seed and plant previous to transplanting were given. This will treat of the process afterwards, until the plant has grown sufficiently large to cut or lay, which is as follows: The ground where the fence is intended to be made, is to be well cultivated with the plough and harrow the summer before receiving the plants; and if not already fertile should be well manured with a substance well adapted to the growth of plants—a compost of stable manure and lime, or a soil composed of decayed leaves from the woods, seems to answer this purpose.

A furrow is made in the ground where the fence is intended to be made, and the largest plants of a year old are selected from the Nursery (those of the same size to be planted together as far as can be done conveniently) and planted in the furrow, six inches asunder, in a single row, and cultivated during the summer similar to a row of corn, and kept clear of weeds, grass, &c., and the ground left for a foot on each side of the row about one inch higher than the adjoining land; the same precess is pursued each summer, both in cultivating the soil and adding another inch of earth, and if the plants do not grow so rapidily as desired, more manure may be added. This course is pursued until the plants are ready to cut or lay, (about one inch diameter at the ground is considered a good size;) the mode or plan of cutting or laying the plants to form the fence I will communicate hereafter.—Those which are too small to plant, may remain in the Nursery and be transplanted the second season and afterwards be managed as aforesaid. Cedar, Black Walnut, and most other trees injure the thorn if permitted to grow near it.

Chester County, Pa., Dec. 19, 1836.

Method of Converting Weeds and other Vegetable Matter into Manure.

Much has been said of late on the subject of converting leaves, and other vegetables into manure. That leaves and other vegetable substances can be rendered of immense value to the farmer by their conversion into manure, the experience of many has fully demonstrated. The following plan was recommended some years since by H. BROWNE, Esq., a celebrated Chemist, who stated in a paper presented to the "Society for the encouragement of Arts," &c. that he found from numerous trials, made for several years in

succession, by many of his friends as well as by himself, the very great utility of the composition, as well as its cheapness, with the capability of its being made in any situation and in any quantity. The mode of making it is as simple as it will be found productive. It is nothing more than green vegetable matter, decomposed by quick or fresh burnt lime. Upon a layer of vegetable matter, about a foot thick, a very thin layer of lime, beat small, is to be laid; and so on, vegetable matter, then lime, alternately. After they have been put together a few hours the decomposition will begin to take place—and, unless prevented by a few sods, or a fork full of the vegetables at hand, the mixture will break out into a blaze, which must at all events, be avoided. In about twenty-four hours the process will be complete, and you will have a quantity of ashes to lay on your land at any time you wish. Any, and all sorts of vegetables, and weeds of every description, *if used green*, will answer the purpose. They will doubly serve the farmer, as they will not only be got at a small expense, but will in process of time render his farm far more valuable by depriving it of all noisome weeds. Mr. Browne states that he made a calculation with clover, grown for the purpose, and that one acre, at a single cutting, when decomposed by the above process, yielded a sufficient quantity of ashes to manure four acres. He states that the vegetables should be used as soon after they are cut as possible, and the lime as fresh from the kiln as the distance will allow. It appears that on these two circumstances mainly depends the goodness of the composition. We think this plan is worthy of further experiments; and we should be happy to communicate to the public the result of any trials made for the purpose of testing its utility.

Culture of Hops.

The most suitable soil for hops is such as will bear good corn, and the land should be prepared in the same manner for raising hops, as for raising corn; old manure should always be used for hops, as new manure has too much heat for the roots. After preparing the ground by having it subdued in the same manner you would to raise good corn, furrow it in straight lines three and a half feet apart both ways, then at every other intersection of the furrows in every other furrow, place the hop roots in as small a compass as is convenient, putting about ten or twelve joints, or buds on the roots to a hill, then put on top of the roots thus placed, a stout shovel full of well rotted fine manure. Corn may be planted on top of the manure, and covered in the usual manner, but not potatoes. The hop hills will then be about seven feet apart each way, the intervening rows may be planted with potatoes or corn, the remainder of the first season they may be treated in the same manner as corn; after the corn is harvested put on to each hill of hops two shovels full of old manure, this will preserve them from winter killing, which would be the case if they were not covered with manure. The ensuing spring, as soon as the frost is out, and the ground sufficiently dry, plough the ground each way, turning the furrows towards the hop hills, but not plough so near as to injure the hop roots. Then set the poles two to each hill, and in a line both ways, so that the ground may be ploughed close to the hop hill.

When the vines are three or four feet long, go through your field and select two or three vines to a pole, and then put them up and wind them "*with* the sun" round the pole, and tie them with a woollen, cotton or tow yarn, to assist them to climb the pole. After they are tied up, plough and hoe them well,—in a few days hoe them a second time—and if the ground is ready hoe them a third time, and be particular to go through the field often, and see that the vines are kept well tied up, till after they are flowered and the hops set. The poles should be from twenty to twenty-five feet long, with the bark stripped or shaved off and all the knots trimmed smooth, so that the vines may be slipped off from the poles. After picking, the poles should then be put in piles and laid up from the ground so as not to rot, and be in order for the next season. The hop is generally ripe for picking the last of August or the first of September, and should then be picked free from stems and leaves, and should not lay in the bin but a short time, for they are liable to heat and spoil, but should as soon as practicable go through the operation of kiln-drying. The second season after the hop has borne, they are to be treated in the following manner:—The ground being free from frost, and sufficiently dry so as not to be muddy or clammy, should be ploughed both ways, leaving the hop-hills in small

checks; after doing this, hoe the hills down, leaving the roots all bare except the great ground root, then take a knife and cut off nearly all the roots and clear them out from the hill, leaving the grand root before named and enough others to throw up shoots sufficient for two poles, otherwise there will be more shoots than are wanted for the poles, and the nutriment will be absorbed by the superfluous vines. After clearing the hills of the superfluous roots, put to each hill about two shovels-full of old fine yard manure, and cover it well with mould or loam, as you would corn, and press it down with the hoe; proceed in this manner each year after the first. After having prepared the hill as just described, set the poles and proceed in the same manner as is described for the first bearing year.

Great care should be taken in curing the hops, that they may not be injured, and reduced in value, while going through this process. There are more hops injured in curing than in any other way. After putting on the kiln cloth, having it smooth and well fastened, spread on the hops about four or six inches thick, all over the kiln very even. Have the kiln well heated before the hops are put on to dry, or the dampness of the kiln will color the hops. They must not be stirred while in the sweat or the kiln, because it will color the hops dark and hurt the inspection. Great care should be taken not to apply so much heat as to scorch the hops. After they are fairly out of the sweat they may be turned and will dry more even and quicker. To know when the hop is sufficiently dry examine the core, and if dried enough the core will be without much moisture, and if taken off the kiln in a moist state they will must and sour. If the hop is dried too much the leaves will fall from the core, and be very much diminished in their value. Care should be taken to have the kiln of a proper temperature when the hops are put on, and before they are taken off, the kiln should be cooled down. After the hops are taken from the kiln, spread them under cover where they can have the air, not more than eighteen inches thick, and stir them once a day for a week or more, when they will be fit for bagging.

The hop kiln should be built in the following manner: commence it at the bottom two feet by three feet with stone or brick, let the walls expand each way so that in carrying it nine feet high (which is a proper height for the flooring) it will be about twelve feet square. Carry it up with brick or stone, about five feet, and the remaining four feet may be carried up with wood to the sills, and lathed and plastered, and the whole of the inside (except the flooring and a place at the bottom to put in the charcoal and fire) made perfectly tight. Have the frame on top the kiln of sufficient height that a man can stand up, and well covered. For the flooring—frame in joist, about twenty inches apart—then put strips of boards, two inches wide across the joist, nailing them two inches apart. On these put the kiln cloth, which must extend over the whole floor and be fastened smooth. A window must be left at one corner, level with the floor, to shove out the hops after they are dry. Many other particulars of minor importance will suggest themselves to the builder during the progress of the work which I have not mentioned.—*Mechanic and Farmer.*

Beet Sugar Meeting.

We publish the following article on the recommendation of a gentleman who has been active in directing the attention of the public to the cultivation of the Beet, and its fabrication into Sugar. The meeting was held in Northampton, Mass.; and the accounts appeared, originally, we presume, in one of the papers published at that place.

A Beet Sugar meeting was held at the Town Hall on Friday, 26th ult. Mr. Isnard, the French Vice Consul, residing at Boston, was present. He made a variety of interesting statements to the meeting, from which we gather the following facts. It is about twenty-five years since sugar was first made from the beet root in France. Mr. Isnard was the first who successfully tried the experiment, and who exhibited some specimens of sugar, accompanied by a statement of facts and calculations, relative to its manufacture, to the Emperor Napoleon. The emperor, in consequence, encouraged this branch of industry. At this time the beet was made to yield but 2 per cent. of sugar—that is 2 lbs. from 100 lbs. of beets. There are now manufactured, in that country, 70,000,000 of lbs. annually. At present, it costs the manufacturer from 4 to 5 cents per pound; but it is calculated that such improvements will be speedily made in the whole process of manufacture, that the expense will be reduced to 1 or 2 1-2 cts. per pound.

The land in the Connecticut valley is suitable to the growth of the beet; it is similar to that which produces the largest crops in France—a light, rich, yet deep soil. The product of an acre in France, is from 30 to 35,000 pounds. It was stated that 70,000 lbs. had been raised on an acre in this country. In France, from $3 20 to $3 50 per ton, are paid for beets. Mr. Isnard thinks that $5,00 per ton might be paid for them here,

and sugar made at profit. One hundred lbs. of beets will yield from 6 to 8 lbs. of sugar, from 1 to 2 lbs. of molasses, and from 20 to 25 lbs. of pomace. The pomace is excellent for fattening cattle, better even than the beet itself. The beet is too watery. It contains 75 or 80 per cent. of liquid, and 20 or 25 per cent. of solid, which latter remains as pomace. The pomace will keep two or three years, by being put in cellars, or in holes in the earth, and well covered up. In France they generally consume in one season what was made the season previous. The farmer carries his beets to the manufactory, and loads back with pomace.

Mr. Isnard stated that a steam engine of ten horse power, would rasp 3000 lbs. of beet per hour. The liquid is expressed by a hydraulic press, and evaporated by boilers directly over the fire, or heated by the waste steam from the engine employed in raising. The latter method of evaporating is the best. Mr. Isnard prefers steam to water power, as the waste steam can be used in evaporating, and the manufactory may be located at any convenient place, and not confined to a water privilege.

Facts were exhibited at the meeting, from a French pamphlet, stating that the cultivation of the beet improves the soil, and renders it more fruitful in the production of other crops. Rotation in crops is, therefore, recommended. In compairing the relative value of a crop of beets and a crop of wheat, it was stated that an acre will produce a sufficient quantity of beets, to manufacture *two pounds of sugar*, for every *pound* of wheat that can be grown upon the same ground!

Some calculations may be made, based upon the above statements, which will show the farmer at once, whether the sugar beet will be a profitable crop for him to raise. Upon this depends the success of the enterprise of manufacturing sugar. If broom corn, or any other crop will afford a greater income than the beet, then the farmer, of course will not cultivate the latter. But let us make a few calculations. Take the estimate of the average product per acre, in France, viz.: 15 to 18 tons. This, at $3 50 per ton,—which is undoubtedly a low estimate for this country —would give $52 50 or $63 00 as the income of an acre. But suppose the beets to be worth $5 00 per ton, it would be $75 00 or $90 00. If the crop be larger than stated in the estimate, of course the income would be proportionately increased. We think the crop would generally be larger than the average in France. Mr. Apthorn of this town raised a few sugar beets in his garden, and they yielded at the rate of *forty tons to the acre!*

Take another view of the case. The pomace is worth about 50 per cent. more the than the beets. A fattening ox will consume 60 lbs. of pomace per day. So says Mr. Isnard. Allowing 60 lbs. of pomace to be equal to one peck of corn, of course 240 would be worth as much as a bushel. Now suppose the farmer carries twenty tons of beets, the product of an a cure, to the manufactory; receives in return, 4 tons of pomace, the quantity remaining of 20 tons of beets, which is equal to 33 1-3 bushels of corn, for which he allows $24 00—being 50 per cent. more than he receives for the beets at $4 00 per ton—and the balance, $56 00 in cash. This gives 56 dollars in ready cash, and an equivalent 33 1-3 bushels of corn, as the income of an acre. The relative expense of cultivating the several crops is not here considered. Enough may be seen, however, to show that the cultivation of the beet will be a profitable crop. The expense of cultivation is not yet certainly known; but some are of opinion that it can be cultivated at as cheap a rate as the broom corn. Mr. Apthorp of this town, has contracted to cultivate it at the rate of $38 00 per acre. If this be a fair compensation, it will be seen that it leaves an enormous rent for the land.

Before the meeting adjourned, a committee was appointed to report what measures should be taken toward the formation of a Beet Sugar Company. They recommended, as a preliminary step, that the services of Mr. Isnard be secured to superintend the operations of the contemplated company, which accordingly was done. Mr. Isnard is to proceed immediately to France, to acquaint himself with late improvements made in the chrystalization of sugar. He is now perfectly familiar with the general details of manufacturing sugar, but there have been some improvements made in chrystalization, since he left the business. He, however, was intending to go to France to visit his friends, but will be in the employ of the committee during the winter. The committee above are to take the necessary steps towards forming a company, procuring an act of incorporation, &c. The operations of the company will probably be located in the centre of Northampton.

Every thing thus far has gone on most auspiciously; and we have every reason to believe that the project will go forward without delay. The securing of Mr. Isnard is one of the most favorable circumstances that could be imagined. In the first place, he is perfectly acquainted with the whole business pertaining to the manufacture of sugar, having been many years engaged in it. He was the first, as before stated, who extracted sugar from the beet root in France; and some of the first chrystalized he presented Napoleon. In the next place, he is a man of science,

having a full knowledge of chemistry, which is very important in the business. Furthermore, the public feel confidence in him, from his experience in the business, and they will have less hesitancy to invest their money in the stock of the company, than they would if its operations were to be in the hands of those who are only theoretically acquainted with the business. Mr. Isnard intends to bring with him from France two or three men acquainted with the practical details of the manufacturing process. The committee have secured Mr. Isnard for five years, and he is to own one tenth of the stock of the company.

Cutting Fodder----Grinding or crushing Provender.

But very few machines are used in this part of the country for cutting fodder for stock, though they have been used many years in some sections, and are found by exact experiments to make a great saving, far beyond the expense for machines and labor. In the 21st number of this volume of the Farmer, [see Farmer's Cabinet, No. 9,] we published an article on this subject, by which it appears that in cutting the fodder and using straw and hay mixed together, there was a saving of $391 in keeping twenty-five horses five months. It also appears by an article in this paper, as the opinion of one who had a fair opportunity of judging, that thirty per cent. was saved by cutting his fodder. We invite the particular attention of all who keep stock to these articles, and to this important subject. The following excellent remarks on the subject of economy in feed for stock, are from the editor of the Farmer and Gardener, Baltimore.

And while we recommend *economy*, we would respectfully suggest the propriety of *cutting* all long feed. The labor and expense of reducing hay, fodder and straw for general feeding, when compared with the great saving, should not be considered in any other than that of just *economy;* for, without question, fully one-third less will answer when so fed out. Let racks be made as they may, and let horses and cattle go to their eating with what appetite they may, it is an incontrovertible fact that at least one-third of the provender given them is thus wasted.

If we were called upon to express an opinion upon the subject, we would say—that neither oats nor corn should be given to horses, cattle or hogs without its being first reduced to something like a *flour-state;* for by such reduction one-third less in weight would answer, and to those who feed with *corn* we would observe, that the *cob* as well as the *kernel* should be passed through a *crusher*. By this process fully *one-half* would be saved, if the *mass* be submitted to the operation of steaming.

Two machines for cutting fodder may be seen in this city, at the stable of Mr. Waterhouse, in Chesnut street, (Portland.) One is Green's, in favor of which much has been said in Agricultural papers. The Committee on Farm Implements at Albany, N. Y., state that this machine will deliver two bushels cut hay per minute—feed itself and may be managed by a stout boy. The price of this machine is from $25 to $30. The patent right is secured, and the work is such that it cannot be made by common mechanics. The other machine used at this stable is very simple in its construction, and may be made by a blacksmith, who is good at making edge tools, and a joiner, or almost any farmer has ingenuity enough to make the wood work. We should suppose that this machine would cost about five dollars. This machine is preferred to the other, and is used for cutting all the hay consumed at the stable. Two hands, one to operate the machine, and the other to bring along the hay and put it in the machine, will cut enough in half an hour to feed thirty horses twenty-four hours.

Every person who keeps stock should have one of these, or some other machine for chopping fodder. Any person intending to make one, would better call and take a pattern of this if convenient; for the benefit of those who cannot do this, we give a description.

A box is made of boards, without ends or cover, four or five feet long, eight inches wide and ten inches deep. Let this be supported about twenty inches from the floor by four pieces of plank, about two and a half or three inches wide, set in the manner of legs, coming up to the top of the box; the inner part at the upper ends should be cut away, so that these legs may be spread about two feet wide at the bottom. The bottom of the box should rest on a piece nailed across the legs or put into the legs with a tenon which will keep the whole firm and steady. Let the box at the end where the knife is to operate, project one inch by the legs. Put a piece of iron one inch wide and one-fourth of an inch thick, upon the inside of that end of the box extending across the bottom, up the sides, and forming a bow six or eight inches above the side of the box. Cut into the boards and let this iron be put in, so that it may be even with them on the inside. That edge of this iron which comes to the end of the box, must be straight and square, as the knife plays against this. Have a piece of wood about two and a half feet long, two inches wide, and two-thirds of an inch thick, made fast to the outer part of one leg with a pin, that the other end may rise and fall. Fasten a piece of iron about one inch wide and one-third of an inch thick, to the

opposite leg, close to the floor, and close up to the box, so that one end of the piece of wood above named, may rise and fall between this iron and the leg. Have a knife made with a blade about two feet long, similar to the blade of a drawing knife or *shave*, only about twice as stout; let the lower end extend two or three inches beyond the blade, and with a screw, to the piece of wood in such a manner that it cannot turn, so as to strike against the iron at the end of the box. The upper end of the knife should extend about eight or nine inches above the blade and then turn and have a wooden handle on it, similar to that of a drawing knife, only larger, and the end next to a person should stand out about two inches. The hay is laid in this box, and with the left hand, the operator pushes it under the bow of iron and with the right hand he uses the knife, which is brought down close against the iron at the end of the box, and as it is brought down, it is carried end-wise by the lower end being extended by the piece of wood as it is falling; this draws the knife across the hay, straw stalks, or whatever is to be cut, and by pushing the fodder along more or less, it may be cut fine or coarse. The piece of wood where the knife goes on it, should be a little thicker, so that the knife may be brought out far enough to come against both parts of the iron on the box at once. Let the whole work be regular and new, and the knife good, and the work will be easily performed. That part of the knife which plays against the box should be fair and straight, like the under part of a drawing knife, and taper to an edge, with a bevel on the other side.—*Yankee Farmer.*

From the Maine Recorder.

Manure.

It has been rightly said, that "the manure-heap is the farmer's gold mine," therefore he should constantly endeavor to increase it. —This important article is not sufficiently attended to by farmers, in general, although it is the principal source of their wealth; without it, after all their care and labor, they can have but miserable crops.

The barn-yard is the principal reservoir on which the farmer can depend for his manure, therefore he should construct it so as to retain its contents. It should neither be level, nor sloping outwards, but all parts should descend toward the centre, so as to prevent all rich liquid matters from finding their way out, and wasting their fertilizing properties on ground that does not require them.

If nature has not formed such a place it should be done by art. In order to increase the quantity of manure, the farmer should annually deposit in his yard all the coarse grass, brakes, weeds, pumpkin vines and potatoe tops which can be conveniently collected.

Brakes are particularly useful, on account of their being so full of salts; they should be cut when green and laid in the yard to putrify and mix with the dung.

Leaves are also recommended; they may be gathered in large quantities at a proper season, and deposited in some convenient place, and used as a litter for cattle and hogs, during the winter; leaves mixed with dung in this way, make the best manure for potatoes. Still farther to augment the mass, swamp earth may be added to advantage. These materials will absorb the liquid of the yard.

Cattle should be confined to the yard, continually during the foddering season; the practice of allowing cattle to go to a distance to water, is attended with a great loss of manure, besides innumerable accidents, to which they are exposed by going without a driver, as they commonly do.

Every yard should be supplied with water from an acqueduct or well; the former is preferable, as the water is brought from a distance and consequently is not impregnated with the excrements of the cattle.

Economy of Fodder.

BY REV. H. COLMAN.

Let us compare the value of hay with other crops for the feeding of stock. An acre of hay yields one ton and a half of vegetable food; an acre of carrots or Swedish turneps will yield from ten to twenty tons, say fifteen tons, which is by no means an exaggerated estimate. Crops at the rate of twenty-five tons of carrots and twenty-two of Swedish turneps to the acre, have been raised among us, and much larger crops than these are upon record.

By an experiment, it has been ascertained that three working horses fifteen and a half hands high consumed at the rate of two hundred and twenty-four pounds of hay per week, or five tons one thousand five hundred and forty-eight pounds of hay per year, besides twelve gallons of oats each per week, or seventy-eight bushels by the year. An unworked horse consumed at the rate of four and one quarter tons of hay by the year. The produce therefore of nearly six acres of land in this mode of feeding, is necessary to support a working horse by the year; but half an acre of carrots at 600 bushels to the acre with the addition of chopped straw, will, while the season for their use lasts, do it as well if not better. These things do not ad-

mit of doubt; they have been subjects of accurate trial.

It is believed, that the value of a bushel of Indian corn in straw and meal, will keep a healthy horse in good condition for work a week. An acre of Indian corn, which yields sixty bushels, will be ample for the support of a horse through the year. Now it is for the farmer to consider, whether it be better to maintain his horse upon the produce of half an acre of carrots, which can be cultivated at an expense not greatly exceeding the expense of half an acre of potatoes; or upon half an acre of ruta baga, which can be raised as a second crop at less expense than potatoes; or upon the grain produce of an acre of Indian corn; or, on the other hand, upon the produce of six acres in hay and grain, for six acres will hardly do more than to yield nearly six tons of hay and seventy or eighty bushels of oats. The same economy might be as successfully introduced into the feeding of our neat cattle. I have known a yoke of oxen engaged in the labor of a farm, to be kept three months in winter, in good working condition, upon one bushel of Indian meal and about twenty-five cents worth of straw per week; and my own team has never been in better condition both for appearance and labor, than when fed wholly upon a liberal supply of ruta baga and the coarsest fodder. But it has been ascertained by accurate measurement, that an unworked ox put up on good old hay, consumed at the rate of 33 lbs. per day, or 231 lbs. per week, which is upwards of six tons per year of 2,000 lbs. per ton. There must then be a great saving between feeding in the way referred to, or upon English hay; and English hay alone, in any quantity without grain or vegetables, is not sufficient for any hard working animal.

Interesting to Silk Raisers.

The subscriber last spring planted a small field with the Morus multicaulis, or new Chinese mulberry, raised from cuttings of one bud each, say about three inches long, and observing that the trees had grown much larger than he expected, and had also thrown out many side branches, and that the growth was, in every particular, so much larger than was anticipated, he thought a plain statement of facts relative to them, and their culture, might prove encouraging to silk growers, and acceptable to the subscribers of the Farmer and Gardener. He invited his friend E. P. Roberts to ride over to the nursery, to see and assist in weighing some of said trees, which he did on the first inst., and in his presence three trees were taken up and weighed, the weight of which was 6 3-8 pounds, the average height above ground was 6 1-4 feet. On measuring a square rood, where those trees stood, the subscriber counted 84 trees, all five feet high and upward. On separating the leaves from the above three trees, the produce was 2 1-2 lbs. for every three trees, as a portion of them were of a smaller size than those weighed, it will give to each square rood 63 lbs., or per acre 10,080 pounds of leaves the first season from cuttings—and a large portion of these leaves were produced in time for raising the second crop of worms. The land on which this crop of trees was raised, is a mellow loam on a clay bottom, from which, in 1835, it was estimated that I cut two tons of hay to the acre, and was manured last spring with about 22 horse cart loads of barn yard manure to the acre. Planted in rows 4 feet apart, and 9 inches in the row.

ROBERT SINCLAIR.

Remarks by the Editor of the Farmer and Gardener.

We were delighted at the luxuriant growth of the *Morus multicaul's* plants mentioned in the communication of friend Sinclair, as well as with their very great yield of foliage. It has satisfied us that much of the objection which has heretofore rested in the minds of those who would reap ere they have sown, against the mulberry culture, may be obviated if the *Morus multicaulis* be selected for the orchard. All the calculations in our manual are based upon the supposition that the mulberry trees should be four years old before they are *picked*,—and in all candor we must confess that we are still of the opinion, that they ought to grow that long before they are deprived of their foliage; for we conceive that defoliation at an earlier period would tend to shorten the life of the plant. But those who are desirous of reaping all themselves, and leaving nothing for posterity, may, if they please, reap the fruits of their labor in the mulberry culture, even from the first year upwards,—and now let us see what the product of an acre of ground planted in Morus multicaulis trees one year old, equal in quality with those of friend Sinclair's, would yield.

He fixes the quantity of leaves at 10,080 lbs. and as 1,000 lbs. will feed 20,000 silk worms during their working season, so will 10,080 lbs. feed 201,600 worms, and as 3,000 worms will make a pound of silk, so will the aggregate number make 67 1-5 lbs. of silk, which at $4 per pound will bring $283 40—the expense of attending an acre in the silk culture, according to our computation, $150 20; this being taken from the *gross* amount leaves $129 20 as the profits

on an acre the first year; and we fain would ask,—what can be put in an acre that will yield so handsome a profit?

The estimated expense of attending an acre in the mulberry and silk culture, as assumed by us, we have always considered large, and think so still; but we purposely made it so, in order that we might, in its *excess*, cover all possible contingencies. From some little experience of the last year, we sincerely believe that the expense of gathering leaves and feeding the worms might be lessened 33 1-3 per cent. by judicious management, and we are certain that in proportion to the extent of an establishment would the expense be reduced.

Brief Hints for Commencing Winter.

Cattle and domestic animals should commence the winter in good condition.

Do not undertake to winter more cattle than you have abundant means of providing for.

Let every farmer aim to have next spring, instead of thin, bony, slab-sided, shaggy cattle, fine, smooth, round and healthy ones, and to this end let him spare no pains; and,

First, let the cattle be *well fed.*

Secondly, let them be fed *regularly.*

Thirdly, let them be properly sheltered from the pelting storm.

Proper food and regularity of feeding will save the flesh on the animal's back, and shelter will save the fodder.

All domestic animals in considerable numbers should be divided into parcels and separated from the other in order that the weaker may not suffer from the domination of the stronger, nor the diseased from the vigorous.

Farmers who have raised root crops, (and all good farmers have doubtless done so,) should cut them up and mix them with drier food, as meal, chopped hay, straw or cornstalks, and feed them to cattle and sheep.

Cow-houses and cattle stables should be kept very clean and well littered. To allow animals to lie down in the filth which is sometimes suffered to collect in stables, is perfectly insufferable. By using plenty of straw or litter, the consequent increase in the quantity of manure, will much more than repay the supposed waste in straw.

All stables should be properly ventilated.

Mixing food is generally better than feeding cattle on one substance alone.

Cattle will generally eat straw with as much readiness as hay if it is salted copiously, which may be done by sprinkling brine over it.

A great saving is made by cutting not only straw and cornstalks, but hay also.

Sheep, as well as all other domestic animals, should have a constant supply of good water during winter. They should also be properly sheltered from the storm, for a great point in the secret of keeping them in good condition, is to keep them *comfortable.*—*Genesee Farmer.*

New Bee Hive.

The New York Evening Post, states that an inhabitant of Connecticut, Mr. Juda, has invented a contrivance, by means of which bees are made to build their cells and deposit their honey in the chamber of a dwelling house appropriated to the purpose, in neat little drawers from which it may be taken fresh by the owner, without killing them. A Connecticut paper describes it as follows.

"The hive has the appearance of, and is in part, a mahogany bureau or sideboard, with drawers above and a closet below, with glass doors. This case or bereau is designed to be placed in a chamber of the house, or any other suitable building, and connected with the open air or outside of the house by a tube passing through the wall. The bees work and deposit their honey in drawers. When these or any of them are full, or if it is desired to obtain honey, one or more of them may be taken out, the bees allowed to escape into the other part of the hive, and the honey taken away."

The glass doors allow the working of the bees to be observed—and it is added that the spaciousness, cleanliness, and the even temperature of the habitations provided for them in this manner, render them the more industrious.

Agriculture.

The pursuit of agriculture, in all its branches, offers to a liberal mind, opportunities for research and experiments, which is denied in almost every other department of science. The perfection to which all other professions and sciences have arrived, leave nothing to the follower of them at the present day, but study and toil, in acquiring a knowledge of the discoveries and inventions of others. By some accidental circumstance, like that which revealed to Newton's mind the eternal law of gravitations, some new discovery in astronomy may yet be made; but the devotee of science who starts with the determination of laboring until he discovers some new principle by which the

heavenly bodies are governed, there is little to be anticipated for the reward of his enthusiastic toil, but disappointment and sorrow at least; while the same labor and investigation bestowed on subjects connected with the culture of the soil, would probably have revealed some fact, unknown before, or at least might have gone far to arrange and classify the discordant facts with which the annals of agriculture abound. While the rules that govern the planetary system have been recorded with the most scientific exactness, so that every star, and every star's motion is known and recorded; the laws that rule the productive powers of the soil, and a knowledge of which seems the first and most natural tendency of the human mind, have been but dimly and obscurely traced. —Upon what does the claim of agriculture to be considered an exact science rest? The answer is, upon a thousand contradictory facts and opinions handed down from the earliest period of history, and augmented till the present day, so that they now form a heterogeneous mass, which requires and invites the study and attention of scientific minds to separate truth from error. Let the laws that govern the soil and its powers be observed—let every fact received as a canon, be subjected to the test of philosophy and exact experiment, and at least be classified and arranged, and then we may boast of having brought agriculture to the rank of a science.

It is a fact to be lamented, that there does not exist among the tillers of the soil, a more inquisitive spirit concerning the nature and habits of the objects they have most to do with, and upon the perfection of which depends their hopes of gain. There is very little of that spirit alive. What does it concern the farmer, whether a root is indigenous or exotic; whether a plant is at home in clay or in sand? as long as it has happened to come up where he has happened to drop the seed.

"A primrose by the river's brim,
A yellow primrose is to him,
And nothing more."

But before any very great change can take place in the present state of agriculture, several radical obstacles must be removed. The apathy of agriculturists must be overcome; the dignity of the pursuit must be made known; and last, and most of all, the great and fundamental cause of national wealth, must receive encouragement from national legislation. This is the true policy of the government, and if the real productive power of the soil was known, I hesitate not to say, that millions might be yearly added to our coffers, by a liberal and prudent course of government patronage to the cause of agriculture. Make it an object of toil, and the wilderness everywhere will blossom like the rose.

These are a few general considerations, and if considered acceptable, are willingly given.—*Cultivator.*

Hessian Fly.

The annexed article relative to the habits and progress of this destructive insect, is from the pen of a gentleman in this vicinity who carefully and minutely watched it through all its stages during the past year. We have reason to think it is a faithful narration of its history through all its stages and changes. He adverts to a probable remedy to destroy the insect before doing mischief to the young wheat, but that is in some degree conjectural. The individual who can introduce a certain and effectual remedy against the ravages of the fly, will indeed be a blessing to his species and a benefactor to his country. The subject is deserving great consideration, and should awaken a spirit of inquiry among our agricultural friends at this season of leisure.

The fly itself is a small insect with long bluish wings, and may be seen hovering about over a wheat field in a warm day in the fall, after the wheat is up and has got into stooling—it then deposites its eggs from one to five or six, on the lower leaf where it joins the stalk. The eggs, when first laid, are about the size of the point of a pin, and white; they grow until they become the size and shape of flax-seed, when they change their color to brown, and appear in shape and color of a flax-seed. While in the white state they appear to extract nourishment from the stalk of wheat, from their wounding it, the eggs continue the flax-seed state in the stalk at the junction of the lower leaf, until the next spring. In the spring, after the wheat begins to grow, no eggs can be found in the live wheat, but on examining, there will be found dead stools of wheat, and on taking these up you will find the egg at the root of the stool where it was deposited, appearing like a flax-seed. When the weather becomes warm in the spring these eggs hatch, and the little creature crawls up out of the ground, and begins to lay eggs on the surviving wheat close to the stock on the lower leaf, where the egg remains, going through its changes until fall, when it comes out a fly again, and then commences on the new sown wheat.

The fly will lay its eggs on Rye, but the rye stalk grows strong and fast, and bursts open the husk leaf where the egg is laid

and the egg falls out and perishes. It will lay its eggs in Oats and Timothy, but not to do much injury. This fly is a very different insect from the fly that has lately made its appearance in New England and New York State, or the Maryland fly—in both these last cases the fly lays its egg in the grain while in a milk state, and the worm eats the milk and meal out of the grain, but in no case has the grain been eaten by the Hessian fly or found in it—but all these flies may depredate in the same field in their own way. What is the remedy? It cannot be in applying any thing to seed before sowing, as the fly lives on the root or near it, instead of the ear or grain. Even good tillage has failed this last season as well as late sowing—Will not lime do it if properly applied, as a very small portion of lime is a quick and certain death for many insects? A pint of quick lime mixed with 100 bushels of wheat will destroy every weavel in it, and if blown from a fan into a barn it will destroy or drive them out.

Lime is a certain and quick death to fleas, &c. and it is said that by sowing over the grain it will destroy the egg in the grain. Suppose a farmer when he found the fly was in his wheat depositing its eggs should sow half a bushel of lime while warm after slacking upon an acre, in a still morning while the dew is on—the lime being light and fine will spread and settle down on the leaves of the wheat, and reach the egg while in the soft and white state and most likely destroy it. Where the stubble is full of the egg, will be burried so deep that it will perish. In the fall one or two frosts will destroy most of the fly, and late sowing has in some cases.—*Bucks County Intelligencer.*

The Turnep Fly.

A method of preventing the ravages of the turnep fly has been adopted at Hampstead. The practice is founded upon the fact that the fly emits its eggs in the autumn, and that they are not hatched till the next spring, when the warmth and the fruitful state of the soil by repeated ploughings and harrowings, admit of the generating effects of the sun's rays. It is at this period the turnep is generally sown; the plant therefore springs up about the time the fly is hatched, and a supply of food being thereby afforded, it is not surprising that the fly should multiply and thrive. If instead of sowing immediately, the soil is brought into as fine a state as possible, and the sowing delayed for ten days, although the fly would be hatched, it would die for want of its natural food. The existence of a fly in the field may be ascertained by placing cabbage leaves at night, and examining them in the morning.

Parsneps—a Field Crop.

The labor and mode of cultivating the parsnep are about the same as those of the carrot. The parsnep produces a larger crop, its average product being rated at 21 tons the acre and that of the carrot at 12 tons. The parsnep also contains a far greater proportion of saccharine matter than does the carrot, is grateful to the palate of farm stock, and is greatly conducive to their fattening. It possesses another advantage over the carrot, in its hardiness—it may be left in the ground till spring and not be injured by the frost. In the island of Jersey it forms a regular part of the field system. The roots are fed in a raw state to the hogs and horned cattle; the flesh of the former they are said to render delicately white, and the benefit derived from the latter is in the opinion of many growers nearly equal to that obtained from oil cake in point of the weight of flesh, and so superior in flavor, that in the island it always commands the highest price. Cows fed upon them during the winter months are said to produce butter of a color and flavor equal to that of the most luxuriant grasses. In Jersey 25 pounds are given daily to the cows, with hay, and the cream is more abundant than from an equal quantity of milk and the cows differently fed—seven quarts producing as much as 17 ounces of butter.

Patent Butter.

A Russian nobleman of high rank, and in the possession of a large landed estate, has received from the Emperor, letters patent, as a reward for discovering a new method of making butter, which may be of importance to dairy women in this country. The process consists in boiling, or rather simmering the milk, for the space of fifteen minutes, in its sweet state, taking care not to burn it, and then churning it in the usual manner. It is said no difficulty ever occurs in making butter immediately, and of a quality far superior to that made from milk which has undergone vinous fermentation. Butter made in this manner, is also said to preserve its flavor and sweetness much longer than that made in the ordinary manner. The milk likewise, being left sweet, is considered of nearly the same value as before churning and far more healthy, on account of it having the animalculæ, or whatever else it may have contained, destroyed. The ease with which the experiment may be made should induce all to give it a fair trial.—*Silk Culturest.*

Plaster of Paris.

The following brief history of the origin and process of the application of Plaster of Paris, as a manure, may be important to the agricultural interest:—

"The first discovery of the utility of Gypsum or Plaster of Paris, for agricultural purposes, was made by a laborer engaged in pounding plaster near Hilburn, in Germany. He noticed the extra growth of grass along the route which he at different times traveled across a meadow; supposing it to be occasioned by the fine plaster dropping from his clothes, he was induced to try an experiment to determine the point; it succeeded beyond his expectation; and others tested its usefulness, until all became satisfied of its nutritious qualities, and thus the use of the plaster in Germany became general, as a manure, where it could be obtained.

"In the year 1768, Jacob Barge, of Philadelphia, having learned the use of plaster in Germany, obtained some from a manufacturer of Burr stones, and scattered it upon a field of clover, which proved perfectly satisfactory; in consequence of which Messrs. Hocker, Lancaster, Clifford, and David Deshler, all respectable farmers near Philadelphia, used the plaster in various ways, and for different plants, and were all equally well satisfied of its utility. The call for and application of the article increased, and hence the commencement of a regular trade upon the seaboard in Nova Scotia to all the Southern Ports, which has been regular and permanent.

"The directions for the application of plaster, are so various and multiplied, that it is believed that no general rule can ever be adopted, for it has been found that on some ground one bushel to the acre is better than six bushels; two bushels to the acre, however, appears to be the quantity required for the largest portions of land in New Jersey. No one should be discouraged if no perceptible benefit should result from a trial the first year; for it has been found that the more show it is in its effects the more certain it is to be advantageous in two, three and even four years after its application. For clover, grass, &c. it should be sown over the field just before or after the grass or clover begins to grow in the spring. It is used in the same manner upon wheat, barley, oats and buckwheat grounds.

Cotton Cultivator.—A South Carolian apper describes a newly invented agricultural machine, which when the cotton plant is yet young, ploughs on each side of the rows, and thins out the superfluous plants. Drawn by a horse, and managed by one man, it is said to perform the work of five or six men.

The Farmer's Winter Song.

There is a time, the wise man saith,
For all things to be done;
To plough, to sow, to reap—as roll
Successive seasons on.
For pleasure, too, in flowery spring,
In fragrant summer's vales,
In fruitful autumn's yellow fields,
In winter's evening tales.

And though the fields are bleak and drear,
The forest's verdure gone—
And all is withered, cold and sere,
In garden, field and lawn;
There's something left and much to cheer,
And charm the farmer's heart;
For wintry winds to harvest hope,
Great influence impart.

And while he views the drifting snow,
And treads the frozen earth—
He has at home his garners full,
And social blazing hearth!
And thus he sings whate'er pervade
The earth or sky at morn;
Of wintry winds or summer's suns,
The farmer's hope is born!

Rearing of Calves.

The best cow calves are to be selected from such cows as are most quiet, give the richest milk, are most hardy, and the best adapted in size to the comparative goodness of the farm.

There are various ways of rearing calves.—In England, as well as in this country, many prefer that calves should run with the cows from 3 to 6 months; others let calves suck twice a day—in such case the calves should take the first or thinnest part which is less liable to injure, by producing and souering; others give to the calf new milk to drink for four weeks, or a longer period; at the end of this time, skim milk is substituted with a mixture of farinaceous food. In addition hay or grass is given, as early as the calf can eat it.

The following mode of rearing calves has been practiced by the writer with great success. The young animals so raised have usually gained a growth a year in advance. The calf is allowed to suck its mother about two days, as the first milk is well fitted to cleanse the calf, and secure a full flow of milk from the cow. On the third day the mother's milk is given to the calf to drink, and continued freely for two or three weeks, till the calf begins to fill out, when the following food is substituted. A gill of flax-

seed, for each calf, is boiled in water in the evening, and half the quantity given next morning and evening to the calves, adding to each mess from a pint to a quart of scalded oat meal, according to the size and condition of the calf, and about two quarts of skim milk. In five or six weeks water may be substituted, provided the calves can have plenty of green food by mowing or feeding. The mess should be stirred up while the calves are drinking. The parings of the Swedish turnep or Mangel Wurtzel are given in the fall, and great care is taken the two first winters to give the best hay and a liberal supply of roots, Swedish turneps, Mangel Wurtzel, carrots, or potatoes, or oil cake—and in summer the best grass in pasture. After this the young stock will keep in good condition without extra keeping.

By early attention to young stock, their growth and condition fits them for an early profitable sale, or for the market at an extra price.

The writer has killed two heifers of four years old each, that weighed when killed near nine hundred each.

A bull calf of superior shape, and intended to be shipped to Jamaica, was allowed on an average nine quarts per day of new milk for fifty days and then treated as before stated. At one year and eleven days it weighed eleven hundred and thirty-six pounds. It is important that the young animals should be kept clean, well carded, and regularly watered with pure water.

Meaning of Horse Power as applied to Steam Engines.

In compliance with the request of C. C. in the Ellsworth Radical, who enquires of us respecting the meaning of the term Horse Power as applied to Steam Engines, we would answer—that the term at best is rather an indefinite one, and that Engineers themselves are not agreed what is the actual amount of a Horse Power. Were all horses equally strong it would do very well as a measure of power, but as this is far from being the case, and as the same horse cannot, at all times, owing to different causes, such as variation in health, spirits or flesh, pull the same number of pounds with the same ease it cannot be an exact measure of strength. We will however endeavor to state in a plain way what is meant by horse power when speaking of Steam Engines. Suppose you have a body—a rock for instance that weighs *thirty-three thousand pounds*. You tye a rope to it and then pass it over a pully and attach a horse to it. If he is a stout fellow he will draw it up at the rate of a foot high in a minute. Unharness your horse and attach your steam engine. I this will pull it up at the rate of a foot high in a minute it is a one horse power engine If it will haul up twice that amount, or sixty-six thousand pounds, a foot high in a minute it is a two horse power engine. If it will pull up three times as much it is a three horse power, and so on. Thirty-three thousand pounds is the amount used by American Engineers as a Horse Power. Bolton & Watt assumed *thirty-two thousand* pounds drawn up a foot high in a minute as a horse power Desaguliers assumed 27,500 lbs. as a horse power, and Smeaton set it 22,916 lbs.—Others again, calculate a horse to draw 200 lbs. at the rate of 2 1-2 miles an hour—or 220 feet per minute—but 200 lbs. at 220 feet per minute if multiplied together will make the draft equal to 44,000 lbs.—or 44,000 lbs a foot high per minute.

Thus you see the exact amount of a Horse Power is not settled upon. It ranges from 22,000 lbs. to 44,000 lbs. The rate of draft at a foot high per minute, you will perceive is very slow. It is evident, however, that at a quicker rate, the same power could not move so much. A Horse can draw much more at a slow pace than at a quicker one Hence the quicker the draft, or speed, the less must be the load.

Thus the same power required to raise 32,000 lbs. one foot high in a minute, could raise but 3,200 lbs. ten feet high in a minute and but 320 lbs. one hundred feet high in a minute.

Spontaneous Combustion.—The Hampden (Mass.) Whig, relates that a quantity of hay which had been put into a barn, in the town of Otis, about the beginning of August spontaneously took fire and consumed by a slow combustion, which probably went on for months. Mr. Root, the owner of the barn had observed, from day to day, that his mow—where he had placed a quantity of green hay well sprinkled with salt, was gradually sinking in the centre. Last week he climbed it and threw off a little hay from the top when the following scene occurred.

"On a sudden a stream of flame, smoke and cinders burst upon him, that well nea suffocated him, at the same time his fee gave way and he found himself ingulphed to his shoulders in smoke and embers, from which situation he fortunately very soon extricated himself, rather singed, and gave the alarm of fire; his neighbors by timely exertion extinguished the fire and saved his barn."

Are not the great happiest when most free from the *incumbrances* of greatness? Is there then any happiness in *greatness?*

War upon Locusts.—According to letters from Aleppo, the country in that neighbourhood had been ravaged by locusts which descended in clouds upon the earth and consumed its vegetation. Ibrahim Pacha called out the whole population to do battle against these armies of insects, and went himself at the head of 25,000 men to the place most infested. The people were marshalled in seventy-two divisions, one of which in thirty-two days collected a heap of locusts large enough to load twenty horses.

Fertility of Michigan.—A letter in a western paper gives some instances of the fertility of Michigan. A settler in the autumn of 1834, spent 10 days work in clearing the underbrush from 20 acres of oak opening, and 20 days in ploughing and harrowing in 20 bushels of wheat. The next summer he harvested 600 bushels from the field by measurement. Last autumn, another sowed 4 acres of timbered land, a different soil, and this summer harvested from it 208 bushels or wheat. These however are extraordinary crops.

The Husbandman.

There is one prevailing error among this class of society which ought to be eradicated and destroyed—it is more fatal to the business of agriculture than the growth of Canada thistles, or the destruction of May frosts—we mean the neglected education of the farmer's children. It is frequently remarked that education is of little use to the farmer; a very little science will do for him. Great knowledge is only beneficial in the professional man. Expressions of this sort are founded upon a false estimate of one of the most useful and elevated professions of life.

If the habitual business of the cultivator does not afford the mental powers a field for their most extended exercise, we know not where to look for such a field. The study of agriculture unites to the theory of science the very essential material of its practical parts. It makes the student experimentally and truly learned.

Nearly every thing that is useful in our pilgrimage through life is drawn from the earth. The main use of science is to explore the minutiæ of nature, to fathom its secret caverns, and to bring forth the hidden possessions of the earth into comprehensible identity.—Where then is the occupation that so richly furnishes a perpetual supply of mental food as that of agriculture. In the constant exercises and every day labor of the farmer the business of his science is progressing, if his intellect has been set right in the education of his youth. The theory is all essential, for this constitutes the implement by which he is to prosecute the study of nature to its practical utility.

A man cannot go forth upon the land with any good degree of promise in scientific experiment, without the light of *past* experience upon his path way, and this he can only obtain by a passage though the literary institutions of the country, where the results of the labors of the learned for ages are collected together and made accessible to the student. To attempt a prosecution of the sciences independent of the past experience, as we sometimes incline to consider ourselves, would be vain.—There is scarcely a valuable discovery of modern times but has borrowed something of its proportions or utility from the mind of antiquity.

That the farmer by a scientific cultivation of his land, can increase to a very great extent its productions, there does not exist a rational doubt. And that the time is coming when there will be actual necessity for this increase of production, there is every appearance. It is therefore not only wise and expedient to commence or rather carry on now, but it is a high duty which is owed already to posterity, in consideration of all the blessings which past ages have bequeathed to us.

Permit us, therefore, in our humble way, to impress upon the minds of the farmers the very great usefulness of education to their children. Give your sons and daughters not the less education because you design them for rural life and agricultural pursuit. If you are able, educate them—they will find abundant employment for all their science though their farms be located in the deep wilderness of the west; though they be cast amid barren rocks and sterile sand plains, science will aid them there.

Not a blade of grass nor spear of grain but will grow better under the cultivation of intellectual care. Not a flower but will show beauties to the eye of science, which the vulgar world knows not of.—Not a vine but rears finer and produces more where educated hands superintend its growth. In short, all nature is beautified, improved and bettered, where the cultivator is no stranger to its properties and the science of its developement.

Farmers, give your children education. It is the only earthly inheritance you can bequeath them that is *beyond the reach of accident*. All other human property is constantly changing and transitory.—Science is not transferable—not like the mutability of other good, negotiable; it is firm and unshaken by human vicissitude. It will be the enduring companion of your children through life—it will support them in all the afflictions of Providential chastisement, and pre-

pare them for an inheritance in that undiscovered country beyond the land of death.—*Troy Whig.*

ANTI-CATTLE CHOKER.—Our worthy friend Pain Wingate, has left in our office an instrument with the above title. It is what is *vulgarly* called a tarred rope, and we should call it a very useful and efficient instrument. There should be one in every neighborhood, for it is a fact that cattle are liable to get choaked, the world over, and being choaked ought to be relieved by the aid of man. But why is a tarred rope better for this purpose than a *cordwood stick?* For various reasons. It is sufficiently stiff to effect the business, nine times in ten, and at the same time has that kind of elasticity which will accommodate itself to a position or passage not entirely straight.

In order to make one, take a piece of tarred rope, say an inch in diameter, and six feet long. Untwist it three or four inches at the end and leave a tuft of it loose in order to make a kind of ball or swablike end—then wind around it a piece of canvass or cloth in order to make the surface smooth, and over this roll or wind some spun yarn tightly and smoothly.—In cold weather this rope should be warmed a little before using, and in warm weather it is well to wet it When about to use it the tuft at the end should be turned back, and this will make a soft but sufficiently solid bulb to fill the gullet when it is pushed down.—*Me. Far.*

PREMIUM BUTTER AND CHEESE.—At a public sale in Boston, on account of the Mass. Society for promoting Agriculture, 37 tubs of butter were sold at prices ranging from 56 to 30 cents a pound. It was made by Mr. Wm. Bachop, of Barnet, Vt. and obtained the first premium of $100. 11 tubs offered by Mr. Chamberlain, of Westboro', and which had obtained the second premium of $50, brought from 53 to 27 cents.

MAXIMS FOR FARMERS.—1. The farmer ought to rise early, to see that others do so, and that both his example is followed and his orders obeyed. 2. The whole farm should be regularly inspected, and not only every field examined, but every beast seen, at least once a day. 3. In a considerable farm, it is of the utmost consequence to have hands especially appropriated for each of the most important departments of labor, for there is often a great loss of time where persons are frequently changing their employment, and the work is not executed so well. 4. Every means should be thought of to diminish labor, or to increase its power; for instance, by proper arrangement five hands may do as much labor as six persons, according to the usual mode of employing them. 5. A farmer ought not to engage in a work, whether of ordinary practice, or internal improvement, except after the most careful inquiries; but when begun, he ought to proceed in it with much attention and perseverance, until he has given it a fair trial. 6. It is a main object in management not to attempt too much, and never to begin a work without a probability of being able to finish it in due season. 7. Every farmer should have a book for inserting all these useful hints which are so frequently occurring in conversation, in books, and gathered in the course of his reading, or in a practical management of his farm.

POULTRY.—The celebrated agriculturist Arthur Young, says, 'the poultry house should contain an apartment for the general stock to roost in, another for setting, a third for fattening, and a fourth for food. If the scale is larger, there should be a fifth for plucking and keeping feathers. If a woman is kept purposely to attend them, she should have her cottage contiguous, that the smoke of her chimney may play upon the roosting and setting rooms; poultry never thriving so well as in warmth and smoke; an observation as old as Columella, and strongly confirmed by the quantity bred in the smoky cabins of Ireland."

EXPERIMENTS.—There is no way of making improvements in farming, but by experiments. If the farmer is informed of, or has conceived a different and better method of culture, or management in any branch of his farming, he is to test the goodness of that method by experiments; and, if these prove successful, he may congratulate himself, or having performed an act which is serviceable to his country and honorable to himself.—*Farmer's Assis.*

NEW HERB FOR CATTLE.—We find in a French paper an account of a new plant, the name of which is not given, lately introduced in England, as a forage for cattle. It was discovered growing on the shores of Hudson's Bay. This northern plant possesses the peculiarity of sending out new sprouts as soon as it is cut, thus keeping up a supply for the whole season. It bears the most rigorous winters, it affords a most nutricious food for cattle, and flourishes best in cold and damp grounds. The English farmers look upon it as an important acquisition.

PRUNING GOOSEBERRIES.—A very suitable season for performing this operation is in winter, and it may be done whenever mild or open weather will permit. Gooseberries, in order to produce good fruit, should be kept thin of branches; all the irregular and crooked ones, and old worn out bearers, should be cut out, leaving the most thrifty and straightest shoots, which would be at nearly equal distance asunder. As the admission of air and light is essential to the perfection of the fruit, it will generally be necessary to prune off all superabundant shoots of last year's growth, and the lateral shoots on the larger branches, always cutting closely, so as to leave no stumps. A good terminal shoot should always be left to each branch except it be unusually long, when it should be removed and a good lateral one left in its place.—*Yankee Farmer.*

Winter Butter,

If milch cows were fed with roots, butter might be made during winter. Some dairy women, however, complain that it is almost impossible to churn their cream into butter in cold weather. Mr. Van Emburg [See N. E. Farmer, vol. ii. p. 124, 125] directs to keep the milk till it begins to *change*, and then to churn it. He advises to mix the night's milk with that of the next morning, and "in summer this change generally takes place about ten o'clock; in cold weather it requires to be kept longer for the purpose, say spring and autumn, the milk of the first mess may be kept till the day following, and then requires the *addition of warm water to the milk* to bring it to the right temperature for churning." Others advise in cold weather to pour as much *boiling water into the cream* as will bring it to about the temperature of milk just from the cow. It is said that cream managed in that way will require but very little churning, and is attended with no disadvantage except that the butter will be white a day or two.

It is said in Hunter's Georgical Essays that good butter may be made from cows fed on turneps as follows.

"Let the vessels which receive the milk be kept constantly clean, and well scalded with boiling water. When the milk is brought from the dairy, with every eight quarts mix one quart of boiling water, and then put it up to stand for cream." This it is asserted will destroy the taste of the turnep, and perhaps may facilitate the process of churning.

Dr. Deane's N. England Farmer states that "a strong rancid flavor will be given to the butter if we churn so near the fire as to heart the wood in the winter season. In churning for butter always have an orifice sufficient for the air to have access to the cream. Butter is produced by the union of oxygen with the cream, and more butter will be produced, and of a finer flavor, if the churn is sufficiently open.

It is recommended by some writers to shorten the operation of churning by mixing a little distilled vinegar with the cream in the churn. A table-spoonful or two to a gallon of cream is advised, and the acid may be carried off by washing the butter in two or three changes of water.

In Scotland dairy women give their butter a fine yellow color by grating some ornage carrots, straining the juice and mixing it with the cream previous to churning. Butter thus made acquires not only a beautiful yellow color, but a flavor which adds greatly to its value. The quantity of carrot juice to be used must be ascertained by experiment and the judgment of the manufacturer.

Another Method. Moderate winter weather is unfavorable to butter making; the cream being so long in rising that the butter acquires a bitter taste. The method pursued in my family is, to warm the bason into which the milk is strained, and then immediately set it where it will freeze moderately hard as soon as possible. The act of congelation causes all the cream to rise; which is, in a tin basin, often near three fourths of an inch thick. With one of Spain's churns, (sold by H. Huxley and Co. New York,) butter is generally obtained in ten to twenty-five minutes. By feeding the cows partly on turneps, the butter is as yellow, and possesses a flavor no ways inferior to that made in summer.—*N. E. Farmer.*

Beet Sugar in Ohio.

In Dayton, Ohio, the manufacture of beet sugar has been tried on a very minute scale. A Mr. Clark made two pounds and a half of good brown sugar from twenty-nine pounds and a half of the mangel wurtzel. He describes the process thus:

"I bruised the roots with the head of an axe, and poured upon the pulp scalding water, and put the whole into a coarse bag, and wrung out by hand all that I could obtain. I then put it over the fire in a brass kettle, adding milk to raise the scum—after which I added a little blood, while the syrup was warm, which caused the sediment to settle at the bottom of the kettle, when the whole stood an hour. I poured off the syrup as carefully as I could—placed it over the fire again gave it a slow heat, and testing it as they do syrup of mapel, molasses, began to stir with a wooden spatula off from the fire, till it was grained off very handsome, and was much admired by those who saw it."

PRICES CURRENT.

ARTICLES.	Philadelphia, Dec. 29.	Baltimore. Dec. 26.	New York, Dec. 26.	Boston, Dec. 24.
Beans, white, per bush	$1 80—2 00	1 37—1 50	2 20—2 50	1 75—2 20
Beef, mess, new, per bbl	13 00–13 50	12 00–12 50	12 00–13 50	14 25–14 50
Bacon, western, per lb	11 13	10— 11½	13 00–14 00	.....
Butter, extra, per tub	18— 19	.....	....	22— 23
Butter, fresh, per lb. (market,)	25— 37	25— 37½	25— 40	30— 37½
Hams, per lb	— 15	.....	13— 14	14— 15
Hog's Lard, per lb	.....	15— 16	16— 17	16— 17
Cheese, American, per lb	10— 11	10— 11	8— 10	9— 12
Beeswax, yellow, per lb	27— 28	28—	27— 28	28— 30
Beeswax, white,	37— 39	40—	38— 40	38— 40
Bristles, American,	40— 65	.....	25— 65	30— 75
Flax, American,	9— 10	.....	8½— 9½	9— 12
Flour, best, per bbl	11 00—	10 25–10 50	10 25–10 50	—10 62
GRAIN—Wheat, per bush. Penna	2 10—2 40	.....	2 00—2 10	—2 12½
do. Maryland,	2 00—2 25	1 30—2 05	1 50—1 75	.....
Rye, per bushel,	1 45—1 50	... .	1 20—1 25	1 40—1 45
Corn, do	83— 85	78— 80	1 00—1 05	1 10—1 12
Oats, do	48— 55	44— 45	52— 62½	45— 66
Barley, do. Penn	90—1 00	.....	81— 82	.....
Peas do	.....	1 12½—	1 00 1 06	.....
HAY, Timothy, per 100 lbs	1 00—1 10	.....	1 10—1 50	—1 42
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	.....
Hops, first sort, 1836, lb	11— 12	.....	.....	— 10
Plaster Paris, per ton,	5 00—5 25	3 00—3 25	—3 25	3 00—3 12
SEEDS—Cloverseed, per bushel,	6 00—7 00	7 50—	.....	.....
Flaxseed, rough, do	1 84—1 86	1 50—1 75	1 65—1 75	—1 50
Timothy,	2 25—2 75	3 00—3 50	2 25—2 50	3 00—3 12
Tallow, per lb	9½— 10	— 8½	— 9¼	9— 10
WOOL—Saxony, fleece, per lb	68— 75	55— 68	75— 80	70— 75
Merino,	60— 67½	48— 55	50— 68	65— 70
1-4 and common,	40— 44	36— 40	25— 40	45— 50

Remarks.

The *Flour* and *Grain* market remains without any essential change. Foreign wheat has declined; sales of Ohio at $2,40 to $2,41 per bushel. *Rye* is scarce and in demand. Barley also scarce, sale of 900 bushels at $1,10, *Corn* and *Oats* remain fair, at the prices quoted in our last. The receipts and demand for *flour* and *meal* have been quite limited. Good brands, Pennsylvania and Genesee, $11. *Linseed Oil* is quoted at 92 cents per gallon. PROVISIONS—In *Beef* and *Pork* no change. *Butter* and *Lard* meet with ready sales at fair prices. Country killed Pork is coming in freely and sells readily at $8,25 to $8,75 per 100 lbs. WOOL.—The demand continues quite fair for the supply of manufacturers, and price steady. The sales reached 130,000 lbs. the last fortnight, mostly domestic, at prices within our quoted range; 14,000 lbs. of it full blood, at 62 a 63 cts. A considerable lot of tub washed at 50 cents per lb.—The market is now bare of low grades of American Wool.

BALTIMORE, DEC. 26.—*Flour*, no change in Howard street, sales at $10,50; choice brands $10,75 per barrel. City Mills—sales at $10 for stand and quality. Rye Flour—last sale $8. Corn Meal—we quote at $21 in hhds. and $4,62½ in bbls. Oats scarce, we quote 49 a 51 cents. Clover Seed is in good demand and scarce; we quote $7 to $8 per bushel. *Flaxseed* $1,50 to $1;62½, receipts light. Sales of *Maryland Wheat*, not strictly prime at $2. *Rye* at $1,20 to $1,25. *Corn*, white and yellow, at 80 cents, and the market nearly bare.

NEW YORK, DEC. 24.—*Flour* remains very heavy and with but few sales. The Corn Exchange somewhat benefitted by the news of an important advance in England. Foreign Wheat is held for higher prices. *Northern Rye* has been sold at $1,40 per bushel.

PHILADELPHIA CATTLE MARKET.—The supply for the week ending, Dec. 23, was quite small, consisting of only 156 Beeves, 90 Cows with Calves, 210 Hogs, and 1121 Sheep. Beef Cattle were in limited demand, and part of the supply remained unsold. Prices ranged from $6 to $8,50, and a few beasts of very superior quality brought $9,—average price $7,50 to $8 per hundred. Cows with Calves sold at $30 to $38. Hogs were in fair request at $8 a $8,75 per hundred. Sheep met with a moderate demand according to quality and condition, at $2,25 to $4 each; at the latter price for superior animals.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, January 16, 1837.** **No. 13.**

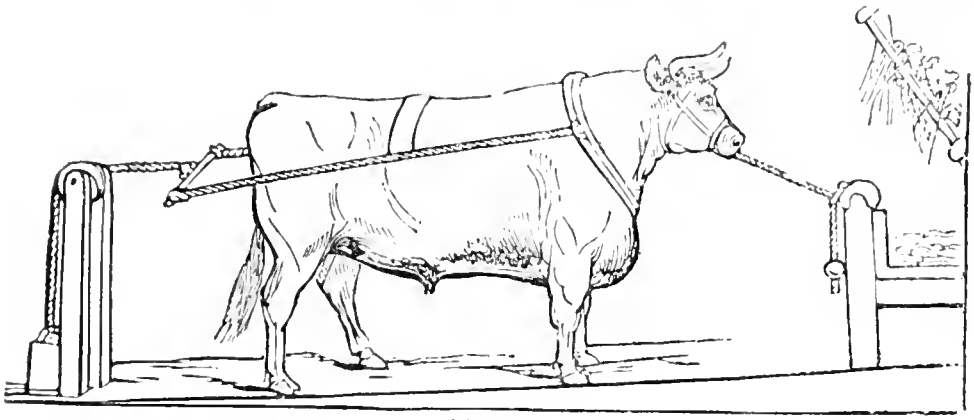


Fig. 54.

THE FARMERS' CABINET.

Oxen.

The author of a series of valuable Essays on Agricultural and Rural affairs, published a few years since in North Carolina, says, that next to the recommendation of the most approved modes of culture, the best and cheapest means of effecting it, deserve our attention, and lastly frugality in the consumption of our produce. The introduction of a more general use of oxen as substitutes for horses in the cultivation of the earth, and the other operations of husbandry, have high claims upon the attention of our farmers, as being attended with many advantages. But there is in this country a strong prejudice against this generous animal, which is the first thing to be got over—when that is removed, the credit of the ox will soon follow.

It is a fact, which cannot be disproved, that oxen in some sort of work, are equal to horses; in these cases, they certainly ought to be preferred, because they are kept at considerably less expense, and less casualities attend them. Although oxen cannot well be used to the entire exclusion of horses, yet there is undoubtedly, a great deal of work that they would do as well, particularly in carting and all heavy work. In most instances they are nearly equal to horses, and in their support they are infinitely cheaper. Since fall and winter ploughing for the succeeding year's corn crop, are coming into general use, the value of oxen will be more highly appreciated; as at this cool season of the year they may be usefully employed at the plough in fallowing up the land, or engaged in hauling in the corn crop, while the horses are at this work. The late President Madison, in one of his annual addresses before the Agricultural Society of Albermarle, has some new and valuable remarks on oxen, which claim the particular attention of every husbandman.

"I cannot but consider it as an error in our husbandry, that oxen are too little used in the place of horses. Every fair comparison of the expense of the two animals, favors a preference of the ox. But the circumstance particularly recommending him, is, that he can be supported when at work, by grass and hay; while the horse requires grain and much of it; and the grain generally given him, Indian corn, the crop which requires most labor, and greatly exhausts the land. From the best estimate I have been enabled to form, more than one half of the corn crop

is consumed by horses; including the ungrown ones; and not less than one half by other than pleasure horses. By getting free from this consumption, one half the labor, and of the wear of the land, would be saved, or rather more than one half; for on most farms one half of the corn crop grows on not more than two fifths, and sometimes a smaller proportion, of the cultivated fields; and the more fertile fields would of course be retained for cultivation. Every one can figure to himself, the ease and conveniency of a revolution which would so much reduce the extent of his corn fields; and substitute for the labor bestowed on them, the more easy task of providing pasturage and hay. But will not the ox himself when at work require grain food as well as the horse? Certainly much less, if any. Judging from my own observation, I should say, that a plenty of good grass, or good hay, will suffice without grain, where the labor is neither constant nor severe. But I feel entire confidence in saying, that a double set of oxen alternately at work, and therefore half the time at rest, might be kept in good plight without other food than a plenty of good grass, or good hay.

"And as this double set would double the supply of beef, tallow and leather, a set-off is found in that consideration for a double consumption of that kind of food. The objections generally made to the ox are, 1. That he is less tractable than the horse. 2. That he does not bear heat as well. 3. That he does not answer for the single plough used in our corn fields. 4. That he is slower in his movements. 5. That he is less fit for carrying the produce of the farm to market.

"The first objection is certainly founded in mistake. Of the two animals, the ox is the more docile. In all countries where the ox is the ordinary draught animal, his docility is proverbial. His intractability, where it exists has arisen from an occasional use of him only with long and irregular intervals; during which the habit of discipline being broken, a new one it to be formed. The 2nd objection has as little foundation. The constitution of the ox accommodates itself, as readily as that of the horse to different climates. Not only in ancient Greece and Italy, but throughout Asia, as presented to us in ancient history, the ox and the plough are associated. At this day, in the warm parts of India and China, the ox, not the horse, is in the draught service. In every part of India, the ox always appears, even in the train of her armies. And in the hottest parts or the West Indies, the ox is employed in hauling weighty produce to the sea ports. The mistake here, as in the former case, has arisen, from the effect of an occasional employment only, with no other than gree food. The fermentation of this in the an mal, heated by the weather, and fretted b the discipline, will readily account for hi sinking under his exertions; when gree food even, much less dry, with a sober habi of labor, would have no such tendency. Th third objection also is not a solid one. Th ox can, by a proper harness, be used singl as well as the horse, between the rows Indian corn; and equally so used for othe purposes. Experience may safely be ap pealed to on this point. In the 4th place, is alleged that he is slow in his movements This is true, but in a less degree, than i often taken for granted. Oxen that are we chosen for their form, are not worked afte the age of about 8 years, (the age at whic they are best fitted for beef,) are not worke too many together, and are suitably matche may be kept to nearly as quick a step as th horse. May I not say a step quicker tha that of many of the horses we see at worl who, on account of their age, or the leannes occasioned by the costliness of the food the require, lose this advantage, where the might have once had it? The last objectio has most weight. The ox is not as we adapted as the horse to the road service, e pecially for long trips. In common road which are often soft, and sometimes suc denly become so, the form of his foot, an the shortness of his leg, are disadvantages and on roads frozen, or turnpiked, the rough ness of the surface in the former case, and i hardness in both cases, are inconvenient t his cloven hoof. But where the distance t market is not great, where the varying stat of the roads and the weather can be con sulted; and where the road service is in les proportion to the farm-service, the objectio is almost deprived of its weight. In case where it most applies, its weight is dimi ished by the consideration, that a muc greater proportion of service on the far may be done by oxen, than is now com monly done; and that the expense of shoein them, is little different from that of keepin horses shod."

Oxen are very extensively used in som parts of Great Britain—the farmers of tha country having found a great advantage re sulting from their employment. A syste has been adopted on many of the large farms by which a certain number are turned ove to the grazier or the butcher every year, an their places supplied by an equal number a suitable age. In many portions of our ow country the prejudices existing against th employment of oxen for farm service

gradually, but surely giving way. The farmer who consults his own interest, should, if he has not already done so, make a fair and *judicious* trial, in order to ascertain and satisfy himself as to the advantages resulting from the employment of the ox. If he start right we have no fears of the result. Nothing but an unjust prejudice has prevented the general employment of oxen.

Training of Steers.

The following article on the manner of keeping steers we commend to the attention of farmers, as being worthy their careful consideration. We extract it from the Farmers' Series of the Library of Useful Knowledge.

The training of steers, for work, is very rarely committed to any other than the breeder; the animal is found to be more docile, and to thrive better in its own home than in any other, and its sale, for the purpose of labour, is less an object of speculation than that of the horse. The calves are dropped in the ordinary season, and either weaned immediately or allowed to suck, according to the system of grazing pursued on the farm, nor does it appear to materially affect their future thrift or health; but for weaning, they should fall about December, and if kept warm in the pens until gradually released from housing, they will be equally forward with calves dropped in the early part of spring which run with the cow; though the March calf is reckoned the best. They are fed about the orchard, or in a spare paddock, until late in the spring or summer, and then turned to grass until the approach of November, when they are taken into the yards and fed on such food as can be best spared; but it must be remarked, that on the quality of this will greatly depend their growth and condition, for although a half-fed animal may grow large, he will assuredly become gaunt and awkward, ill set in his limbs, and defective in his shape; he will also come later to the yoke, and, consequently, a portion of his labor will be lost. Though hay may be only given in very moderate quantity to yearlings, yet they should have an allowance of meal and bran, with plenty of roots as well as straw, and although confined to the shelter of the yards and open sheds at night, they should be allowed the run of the pasture in day-time, whenever the weather permits. They are then again turned out as soon as there is a bite of grass in the spring, and the same course followed—with the exception of the meal—until rising three years old, when they may be gently used, just to accustom them to the yoke or collar, and are regularly put to work in the spring of the following year. When broken very young, they become more docile and tractable than when kept to a greater age; they are also thought to apply their strength with more effect to the draught, and, if properly taught, their common natural pace may be certainly much improved. To accustom them to a quick step, they should, however, be at first driven with a very light weight, and should not be heavily laden until they have attained their full growth.

The patience of the ox is proverbial, but, though more quiet than the horse, he is yet of various temper, less tractable, and sometimes very indocile; his strength too, though of the same breed, is often very unequal, and therefore considerable attention is requisite to match them. The training, though generally considered an object of great difficulty by those not accustomed to their use, is, in truth, one of the very simplest nature. The great point is to govern him by mildness, and by gentle usage to accustom him gradually to his work, without apparent compulsion or severity; for, if irritated, an impression may be made upon his temper which no after treatment will efface; but with kindness he is easily familiarized and rendered docile. A young steer should be accustomed from the earliest age to be driven about and led; he should be also occasionally handled when about the yards, and when taken up for the purpose of breaking, he should be placed under the hands of a careful steady man of particularly good temper, who should commence by feeding and caressing him. In this process also, a good deal of care and management is requisite, for young stock will not always eat of the food that is presented to them: in some cases, indeed, hardly any thing but sheer hunger will induce them, and if stinted, they will suffer in their health; but if the steer cannot be coaxed by other means, the better mode will be to turn him for a few days among older stock already accustomed to other food, from which he will soon learn to consume it. He then should be tied up in the ox-house, and used by degrees to either the yoke and bow, or to a bridle and collar, until gradually accustomed to the gear, when he should be harnessed to a tame old ox, which is made to accompany him gently, without forcing him to his work, and if he offers resistance, he must be patted, encouraged by the voice, and fed; if very obstinate, he should suffer hunger, and only be fed after work: he will thus be taught to obey his master, but it should rather be by firmness than by violence. After patiently

pursuing this course for a few days, his objection to work with the other oxen will be overcome; his labor, however, must be very gentle; he should neither be fatigued nor over-heated, for if hurried in hot weather he may be exposed to the flux.

Cleanliness, though not so essential to oxen as to horses, should be also attended to; his feet and legs should be well washed, and his coat be wisped over after he has worked; and this kind of care, though too commonly neglected, will tend to keep him in spirit and condition. He should then form one of a pair, which should be yoked together; or, if there be a pair of well broken-in oxen upon the farm, the most advisable plan is to yoke the young ones behind them; and as the spring is the usual time of doing this, they may be attached to a molding-sledge, or bush-harrow, upon grass-land, and thus be made in a slight degree useful even in the breaking. After two or three trials in this way, they may be put to harrowing fallow-ground; but for the first few weeks it is generally found advantageous to let them follow older oxen. When thus broken-in at two years old, they give very little trouble, and become gradually accustomed to every kind of work. It is, however, to be understood, that oxen are unfitted for much labor until they have reached their third year; therefore, until they are thoroughly trained, they should only be employed at short intervals; but it is from that period, until they are six years old, that they are most active and useful in the draught. By this time, too, they will have fully attained their growth, and their value, instead of increasing, would be lessened, as they fatten more readily before seven years of age than they do after it, and make finer beef. It is generally observed that, although aged oxen have the advantage in strength, yet the younger ones are decidedly preferable for all light work, which requires more speed.

On farms where oxen have not been already employed, the young steers may be very readily broken-in to work by having an old steady horse put before them. We cannot, however, but advert to a common practice, which, though prevalent chiefly among small farmers, is yet by no means unusual on many larger concerns—of pairing horses or mules together at the same work with oxen, which, of all the preposterous customs ever sanctioned by ignorance, seems the most absurd. A sluggish ox is thus sometimes coupled with an active horse: at first the latter exhausts his strength, but at length, finding his advantage in moderating his pace, he adopts the slow step of the former, and, having once acquired the habit, it soon becomes fixed, and he suffers great injury in his value. A single horse is in that manner often added, either as a wheeler or a leader, to a pair of oxen, from an idea that such a mode of draught is more handy than when oxen are employed alone, but it is a custom which no plea can really excuse.

Oxen, though usually worked in pairs, are yet often used in double couples, and driven by a boy, whose chant, which is continued with unabated ardour throughout the day, the ploughman throwing in at intervals his hoaser notes, is in many parts of the country thought to have a very peculiar charm in cheering them on to their labor. Nor is the lad's time thus wholly thrown away, for he must himself learn to drive and hold, and the expense forms but a trifling additional charge upon a team.

There is also another, and a very simple mode adopted by many foreign farmers to induce obstinate steers to take kindly to their work, without either loss of time in attendance or unnecessary force, and merely by acting upon their appetite. According to this plan the animal is harnessed, and fastened by the collar to a cord or chain, which runs in a ring, to which a weight is appended at the manger, which he can approach or retire from at pleasure. Another weight is then hung to his traces by the center of the splinter-bar, and rests upon the ground, passing through a pully upon which it moves. The weight to which the steer is thus attached may be about a cwt. or more, and he is then placed at the full length of his chain from the manger, which is filled with provender, and he cannot approach to eat without drawing the weight after him. In this manner he soon accustoms himself to move the load, and in the course of a fortnight he will probably be tamed without further trouble, of which the preceding cut (Fig. 54, at the head of this number) will afford a clear idea.

For the Farmers' Cabinet.

The Observer---No. 1.

I have observed a remarkable propensity in most men, to set up what they call facts, on evidence altogether insufficient to sustain them. From these presumed facts, they too often draw hasty and premature conclusions by incorrect reasoning. I have also observed a strong inclination to indulge in theoretical speculations. An abundance of theories are thus formed, having no better foundations, than the suppositions facts on which they are erected. Those facts and conclusions, and those theories, constitute the greater

part of what is supposed to be known, in relation to many subjects of practical interest to the community.

These propensities, when improperly indulged, are extremely injurious to the extension of useful knowledge—and can only be remedied, and the errors to which they have led, corrected, by instituting a more careful observance of facts, and adopting a more rigid and certain mode of reasoning upon them.

The study of the exact mathematical sciences, is admirably suited to the promotion of this object. They allow of no suppositions—no conjectures—every thing which does not admit of satisfactory proof is rejected. If such studies could form a part of the education of every child, they would insensibly lead into habits of cautious and rational investigation, well calculated to ascertain truth, and expose error. Unfortunately this cannot be done under the existing circumstances of society.

Another serious obstacle to the advancement of knowledge, is, the dissensions which exist between *practical operators*, and *theoretical speculators*.—This is not as it should be. In every rational inquiry, theory and practice should go hand in hand. As co-laborators, they should mutually assist, instruct and encourage one another; and not, as enemies, try to heap obstacles in each other's way.—*Experience* alone can furnish *facts*—but *theory* must arrange them in the proper *order*, form them into a *system*, and establish upon them those general *conclusions* which constitute *science*.

There are few subjects, to which the foregoing general remarks will more properly apply—few, on which we have greater need for well ascertained facts, and more satisfactory theories, than that of the diseases of our domestic animals. And why is it so? Because they have been, too generally, subjected to the management of persons who have never been taught to observe and analyze phenomena—to investigate facts—and to draw conclusions from them, with sufficient care. They have adopted the erroneous opinions of their forefathers, and handed them down to their successors, with a veneration due to well-authenticated truths; without ever submitting them to that necessary ordeal, which a knowledge of the healthy and diseased conditions of the animal organs would justify and require. It is, indeed, indispensable to a correct understanding of disease, that we shall first acquire a knowledge of what constitutes health. We cannot understand, in what manner the animal functions are disturbed, without possessing a previous knowledge of their healthy state. The most careful and minute inspection of diseased parts, can yield but little information to one who has not acquired a previous acquaintance with their natural appearances, and healthy structure. Without such an acquaintance, the natural condition may very easily be mistaken for a diseased one—and the appearances sought for, may, as easily, be overlooked. The nature of disease can only be inferred, from a careful comparison of the deranged state of the functions and structure of the diseased animal organs, with their natural healthy condition. If my views are correct, it will follow, that the knowledge we possess of brute diseases, is vague and uncertain—that it contains many erroneous dogmas, and much useless lumber, which ought to be expunged—and that the whole requires a close revision and correction.—To effect this expurgation of "stabularian ignorance and empirical confidence"—it will often be necessary to commence at the beginning of the chapter. To study, first, the anatomical structure and healthy functions of the animal organs. Then by a cautious observance of the signs of disease, and a careful inspection of the organs, after death, we shall be able to ascertain the nature of the malady. Having determined the nature of the disease—and not until then—we may hope to arrive at safe, and successful principles, to guide us in the treatment. We can no more expect success from ignorance and quackery in the treatment of a brute animal than a man.

These observations are not intended to introduce me to the "Cabinet" as a regular

essayist on brute diseases, but to point out the proper course for those who may wish to pursue the subject. With a view to promote inquiry, I propose to make some remarks on the anatomical structure, physiological uses, and pathological states of the horns of domestic cattle. This may lead into occasional digressions respecting the horns of some other animals, and will necessarily involve the consideration of other organs connected with them.

Anatomical Structure of the Horns of Animals.

Horn—in a general sense, denotes a callous protuberance growing from the heads of certain kinds of animals. *Horn*—in its strict signification, means, a peculiar fibrous substance, which forms the exterior covering of the horns of the ox, sheep, goat, &c.

The horns of animals differ in many remarkable particulars, some of which, it may be proper to notice. They may be divided into four several sorts.

I. Such as consist entirely of a solid mass of horny, fibrous matter. Horns of this description are found in the Rhinoceros.—Instead of occupying the usual position on the *os frontis*, they are placed on the ridge of the nasal bones, below the eyes. Sometimes there is only one, as in the R. unicornis, or one horned rhinoceros—sometimes two, as in the R. bicornis, or two horned rhinoceros. In the latter case, they are both placed in a vertical line on the ridge of the nose.

II. Such as are composed of an outside horny shell and an interior cavernous bone. These horns are found in the ox, sheep, goat, and some kindred genera. At a very early period, a small bony tubercle may be felt, easily moveable, under the skin; which gradually enlarges, and protrudes, the skin covering its extremity. This skin, at length, becomes callous, loses its vitality, dries, and falls off—leaving the bone covered with a casing of horn. During the development of the horn, its bone becomes anchylosed, or united with the os frontis, and a communication formed from the inside of the horn, into the cells of the skull. The core is nourished by the *periosteum*, or skin which covers it, and lines the skull. The skull, or true horn, continues to grow from the root, in the same manner as hair, hoofs, nails, &c. The great peculiarity of this sort of horns is the hollow, or cavernous structure of the bony interior. In order to elucidate the subject, of which I propose to treat, it will be necessary to examine this structure more minutely.

If a horn be sawed across, in its middle, or larger portion, so as to exhibit a transverse section, it will present the following succession of parts, viz.

1. The outside shell or horny covering. This is composed of an assemblage of delicate hair-like fibres, which run from the root to the apex of the horn, and are agglutinated together, so as to form a compact mass.—These fibres appear to grow out, *collectively*, from a vascular pulpy root, in the same manner that hairs do *individually*. The hoofs and claws of animals, and the nails of the fingers, are produced in the same manner.

2. Immediately within the skull, we observe the *periosteum*, surrounding the bony pith. This is a tough membrane, amply supplied with blood vessels for the nourishment of the bone. A similar structure accompanies bone in almost every instance, and is designed for the same purpose—to nourish it.

3. We now come to the core, pith, or bone of the horn. When the shell and periosteum are removed from the pith, it presents an exterior form, very similar to that of the entire horn, only shorter, and less pointed. Its structure is soft, and spongy, but it presents no appearance of being hollow. When sawed through, in the manner I have mentioned, it, however, appears as a thin, bony shell, containing a very large cavity. The interior is rendered extremely irregular by variations in the thickness of the bone, and still more, by numerous ridges and partitions of bone, which run lengthwise of the cavity. The sides are found to vary from less than one-eighth, to more than half an inch, in different parts of the same horn. Although the cavity seems to be divided into smaller cells, yet they are all found to have a free communication with each other. These plates, or partitions, of bone, add greatly to

Fig. 56.

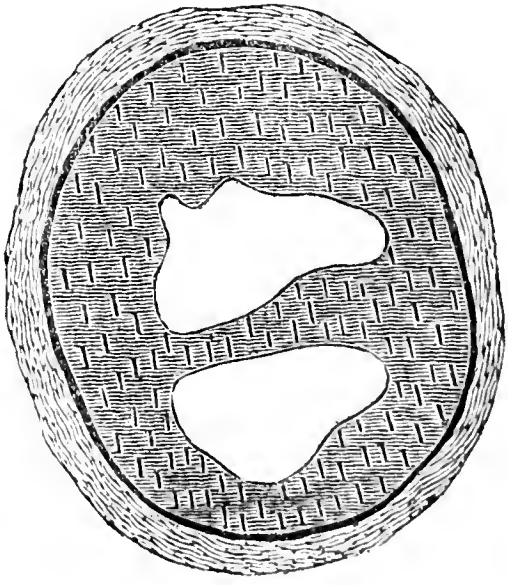


Fig. 55.

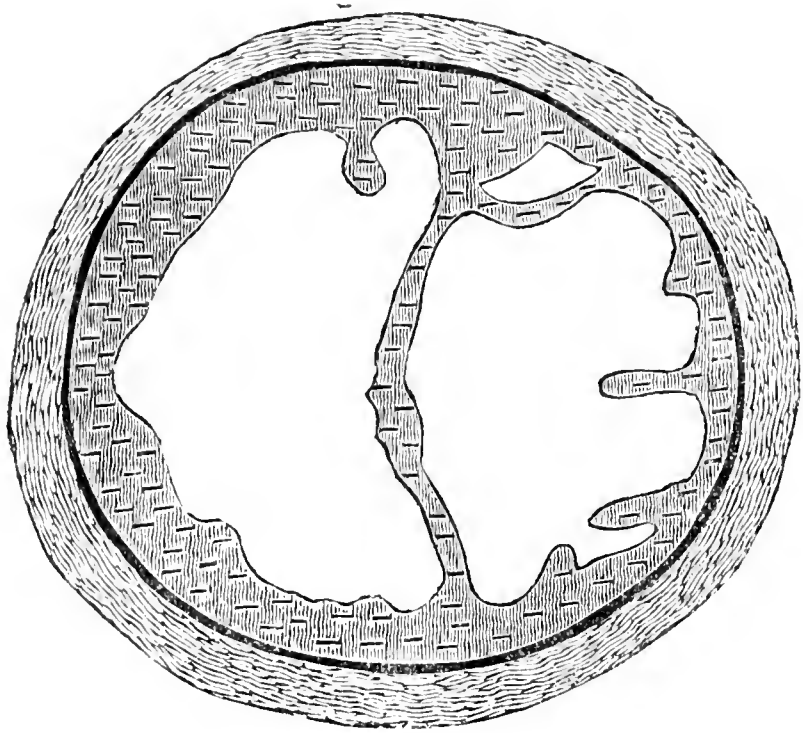
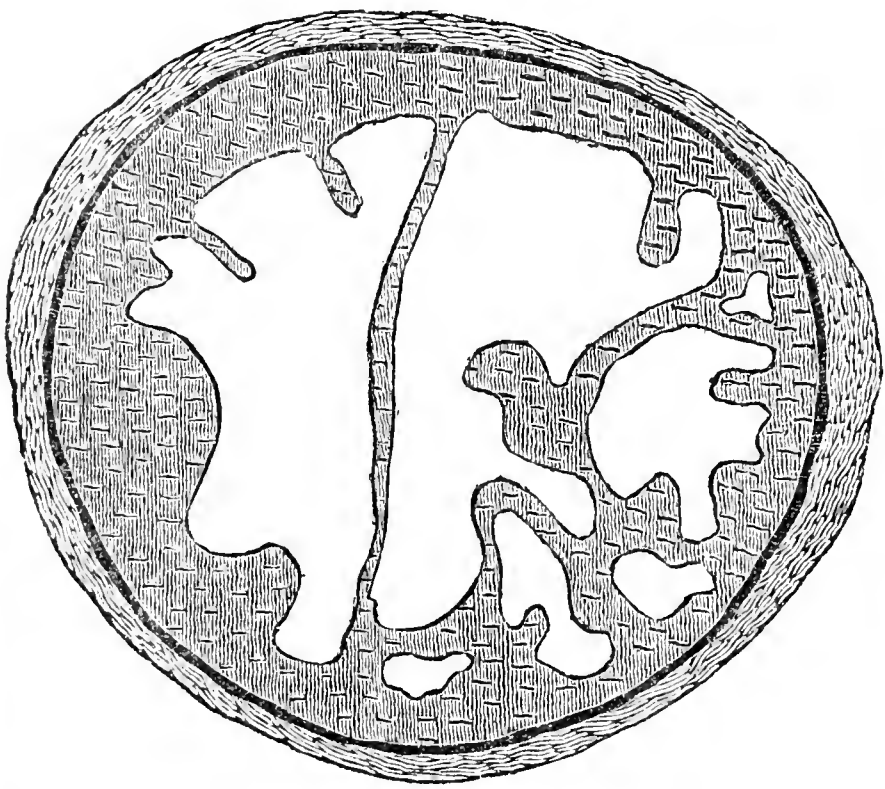


Fig. 57.



[Te figures represent sections of three healthy horns about of the same age, and taken near ıe root. In the horn from which fig. 56 was taken, the cavity did not reach more than one-tlrd the length of the horn. The darker circle represents the periosteum.]

the strength of the horn, and, at the same time, enlarges the interior surface, and gives greater expansion to the part next to be noticed.

4. The *interna. periosteum*, or *sero-mucous membrane*, which lines every part of the cavity of the bone. Rising over the partitions and dipping into the intervening cells, it presents a surface many times greater than would line a simple cavity of the same size.

By carrying the examination to the root of the horn, the cavity is found to extend in that direction, and to communicate with other cavities formed in the bones of the skull and face. These cavities occupy the ridge between the horns, pass down on the right and left of the brain, and finally communicate with the nose at its upper part. Like those of the horns, the cavities of the skull are rendered extremely irregular, by projecting bony plates, and are lined by a continuation of the same sero-mucous membrane. This structure can be effectually brought into view by sawing off the outside plate of the face of the skull.

Having traced the cells of the horn and skull to their communication with the nose, I will now commence at the nostril, and examine the nasal structure—constituting the organs of smell. If the head of an ox be sawed through longitudinally, from the nose to the middle of the forehead, so as just to escape the *septum* or division between the nostrils, the cavities of the nose, on one side, will be brought into view. Within the nose, on the outer side, is a projecting body composed of a thin plate of bone, curiously rolled upon itself, and, in the fresh subject, covered with the delicate membrane which lines every part of the nasal cavity. This part is called the *inferior turbinated bone.* The manner in which it is rolled up is admirably adapted to present a large surface in little space. A little higher, we meet with another projecting bony plate, which is even more curiously rolled up than the former one. It is called the *superior turbinated bone.* When united with its fellows of the opposite side it constitutes the *ethmoid bone.* Between the turbinated bones there is a large aperture, into a still larger cavity of the upper jaw, called the *maxillary sinus.* At the upper and exterior edge of the ethmoid bone, is the opening into the cavities of the skull bones, already described. By tracing these cavities, it therefore appears, that the internal opening of the nose extends into the upper bones of the skull, and from thence into the horns. This fact I wish to impress strongly on the minds of my readers. *The hollow in the horn is a part of the cavity of the nose, and lined by a continuation of the same membrane,*

The ethmoid bone, occupying a central position in the upper part of the nose, next the brain, has a broad plate, which forms a portion of the floor of the brain-pan. It is pierced with a great number of small holes, like a sieve, and thence called the *cribriform plate*, or a sieve-like portion of the ethmoid. Through the openings in the plate, pass the branches of the *olfactory nerve*, or proper nerve of the sense of smell.

The whole of this vast and irregular cavity, extending from the nostril to near the extremity of the horn, may, collectively, be considered the organ of smell. It is lined throughout by the same sero-mucous membrane—and the same economy is observed, viz. an increase of its secreting surface. But there is reason to believe that all the parts of this structure do not perform similar functions. The olfactory nerve, after its passage through the cribriform plate, appears to be distributed, chiefly, on the two turbinated bones, and the parts in their vicinity. It is not believed that they extend into the upper cavities of the head and horns. Particles of odoriferous substances separate and float in the air, which, when inhaled into the nose, come in contact with the sentient extremities of the olfactory nerves, and thus produce the sensation of smell. The position of the turbinated bones, standing in bold relief in the passage of the inhaled air, and presenting so large a surface, seems admirably adapted to receive the impression of any odorous matter which it may contain.

But the perfection of the sense of smell depends upon a particular state of lubricity of the organs. In a natural state, their surfaces are constantly bedewed with a sero-mucous secretion of their own vessels. If the surfaces become too dry, the odorous particles will not adhere sufficiently to make the proper impression. If they are too moist, the odorous matter will be washed away too soon. If the secretion is too thick and adhesive, the surfaces will be covered so thickly as to prevent the contact altogether. It is probable that the upper cavities assist in preserving this healthy state of the nasal passages by their secretions. This conclusion is strengthened, by considering that there does not appear to be any means whereby the animal can introduce the air into the upper passages, and remove it at pleasure.

III. Such as consist of a bony stem, or pedicle, surmounted with a convex knob, and covered with the common skin. On the knob are a number of short, stiff, horny bristles. They belong to the cameleopard.

IV. Such as are composed of solid, naked bone. They are found in the deer family. A remarkable peculiarity of this sort of horns

is, that they are shed, and re-produced annually.

Horns generally serve as weapons of offence and defence.

In my next, I shall consider the pathological, or diseased states, of the horns of cattle.

New-Garden, 12th mo. 31st 1836.

Live Fences.

To the Editor of the Farmers' Cabinet.

I have heretofore stated the manner of treating the plant until it arrives at about one inch diameter at the ground. *This* will treat of the process afterwards, which is as follows, viz.:—Each alternate (or every other) one is cut at or near the ground, about half off, or sufficiently to allow them to be leaned or bent in a line over the row at an angle of about forty-five degrees from a horizontal line. The uncut plants are then bent at right angles to the row, each alternate one in opposite directions, sufficiently to allow the cut plants to pass between them and be adjusted at an angle of forty-five degrees as aforesaid; the uncut plants are then permitted to press against the cut ones and keep them in their proper places. The whole are allowed to grow till the uncut plants are about two inches diameter at the ground; they are then cut off about six feet from the ground, and the other parts trimmed or clipped, sloping from the top downards on each side at an angle of about forty-five degrees from a vertical line; and trimmed each year afterwards. Near the termination of each annual growth is a good time to trim them. A very convenient instrument for trimming the hedge, is one made in the form of a broad sword, with a handle suitably formed for the operator to use both hands at the same time. If the fence made in this form should not be sufficiently strong to guard against all kinds of stock, the plants at the last cutting, instead of being cut entirely off, six feet high as aforesaid, may be cut about half off and bent downwards toward the ground, each alternate one on opposite sides; or every third one may be laid nearly or quite horizontally, and in a line with the direction of the hedge, and the other two-thirds bent downwards as aforesaid, each alternate one on opposite sides of the hedge. The parts thus bent can be secured in their proper places by interlocking some of the branches with the parts beneath, (or the vertical parts,) and a proper form given to the hedge by trimming, either at the time these parts are thus laid on, or at the termination of the annual growth, as may be most convenient.

If the proper form can be given to the hedge, without cutting off any part of the plant, previous to laying the same, none should be lost, because the first growth is superior to the second. The principal objects required in these fences are closeness at the bottom, to guard against small stock; height and strength at top, to guard against large animals, and a form, &c., likely to prevent premature decay.

If I should discover any form or mode of treatment superior to the foregoing, or any plant which seems to answer the purpose better than this, perhaps I may be able to make a communication to you on the subject.

The plants should be guarded by dead fences until the live fence is completed.

Chester County, Pa. Dec. 26th, 1836. P

Fertilizing the Soil.

The golden rule in agriculture is to apply such manures and tillage as will make heavy land lighter, and light land heavier, cold land hotter and hot land colder. He only is a farmer who knows and follows this rule.

Lands are seldom so rich but it may be a matter of gain to increase the fertility; and few tracts are so poor but that with proper tillage and manuring, they may be made the residence of plenty.

Manures are composed of all these substances which either directly or indirectly, supply plants with their requisite food, by means of which they are enabled to expand and come to maturity.

In the first place, the different earths will serve to manure each other. Thus, clay is a fertilizer of a light sandy soil, and sand is equally a fertilizer of clay. Where clay is applied to a sandy soil, it should be carted on in the fall, and spread evenly over the ground, that the frost may pulverize it before it is mixed with the soil in the spring.

The better these earths are mixed in the respective soils, the more sensible and immediate will be their effect; but their princi-

pal excellence is that they are calculated permanently to improve the soils to which they are applied.—Stiff loams are also in the same way assisted by sand, and sand again by these; but neither in so great a degree as in the former case. Generally it may be observed that all light, dry soils are improved by being mixed with heavy earths, and *vice versa*.

Sand and fine gravel will greatly fertilize the soil of bog meadows and this earth again is very good manure for all upland soils. It is peculiarly excellent for Indian corn when applied to the hills, and is very good for flax, hemp, and most other summer crops. Like gypsum, it is friendly to the growth of white clover. When applied to upland grasses it should be laid on as a top dressing. Every kind of black mud from ponds and swamps, answers a somewhat similar purpose; though if the mud be stiff and clayey, it should only be applied to a light dry soil.

The different sorts of marl found in bog-swamp are also excellent manures for all upland soils. These earths are usully found at the depth of from one to three feet from the surface, and are either of a white, gray or brownish color. The former is the most efficacious, and the latter the least so, their strength being in proportion to the quantity of carbonate of lime they contain. It is best to mix these earths with the mass of black earth or bog dirt, that forms the upper stratum, in order to reduce their strength, and when thus mixed, a load of even the weakest kind is more efficacious than two of common barn dung.

Their operation as manures is similar to that of the Nova Scotia gypsum, have little or no effect when first applied to wheat and rye; but by its afterwards covering the ground with a thick growth of white clover, it is then rendered fit for producing largely of these crops. The same may be observed of the bog dirt.—Like this, these marls are peculiarly excellent for Indian corn, and all summer grain, and a less quantity is sufficient. They may be used as top-dressing or otherwise.

Ashes as a manure are found to be more efficacious in some parts of the country than in others, generally most so when applied to lands near the ocean. In some parts where the soil is extremely light, and the bottom sand, the farmer can afford to pay twelve and a half cents a bushel, while in other parts, they are suffered to lie untouched about the potasharies.

Ashes generally answer the most valuable purpose when applied to Indian corn, particularly where the soil is not suitable to this plant. Where the soil is wet, cold, loamy or clayey, the plants are apt to get stunned with the cold rains which usually fall after planting; and then the ashes serve to supply the natural deficiencies of the soil, till it becomes fertilized by the sun.—But where the soil is natural to the growth of this plant, and there is no danger of its being stunned at its outset, perhaps it may be better to apply the ashes later, so that the plants may derive the greatest assistance from this manure, while the ears are setting and forming.

Ashes should generally be used for top-dressing; their salts lose nothing by exposure to the air, and soon find their way into the soil.

Soot is much more efficacious than ashes; besides salts, it contains oil.—The soot of coal is esteemed equally as good as that of wood.—It is used for top dressings, and requires about 40 bushels for an acre. When applied to winter grain it should be sown in the spring; and the same may be observed of ashes. Coal soot is particularly very good for meadow lands which have become sour and mossy. This manure, can however, only be had in considerable quantities in large towns.

Of salts, which serve as manures, the principal are the common sea salt, urine, stale of cattle, sea water, salt petre and alkaline salts. To the latter, the virtue of ashes, as a manure, is principally owing. Soapsuds is in part valuable on account of its alkaline salts, and perhaps the neutralized oil it contains adds much to its value. It is usual to throw this manure away; but this is a needless waste. It may be taken in the watering pot and strewed over the garden, where it will be of great service as a manure and in expelling insects.

Size of Farms.

We know not when or where the following article on the size of farms was first published. We commend it to the attention of our readers, as affording some useful hints on a subject of interest.

An obstacle in the way of good husbandry in the west is the size of the farms. Very generally they are too large. The cheapness of land offers an inducement to the farmer to procure a large tract. And the fashion being set, he who has not three, four, five or six hundred acres of land, is not considered a farmer on a respectable scale. This thing, I have no doubt, operates detrimentally to the general interests of agriculture, and to the individual disadvantage of proprietors. If a man possesses the means of purchasing a farm of five hundred, or even five thousand acres, and then, of suitably improving, stocking, and cultivating it, it might operate well enough as regards himself. But it too generally happens that the farmer settling among us purchases land to the full extent of his

means. Then, if unimproved, his improvements must progress very slowly, and will be at least imperfect, if not very inferior. His grounds partially cleared, his enclosures insecure, his barns and stables (if perchance he have any at all) mere temporary sheds, and his own dwelling, a poor, contracted, uncomfortable cabin; and all this for the sake of having a large farm. But the mischief ends not here; it is perhaps still more injuriously manifest in the cultivation. A large farm requires large fields and crops. Accordingly, you see a field set apart for corn, of the contents of one hundred acres. But the deficiency of means will not admit of thoroughly breaking with the plough, perhaps not at all, and the poor substitute of furrowing out, as some call it, is resorted to. The after culture of the crop is in keeping with the commencement, and nature would not be true to herself if she did not give such a harvest as such culture deserves. What there is, lies neglected in the field, or unhoused at some other point, until unruly animals, allured by bad fences, claim a large *tithe* of the product, or till the storms of winter destroy a large portion of the summer's labor. Now suppose this whole business put upon a smaller scale, and graduated by the means of the proprietor: suppose the quantity of ground tilled twenty, instead of one hundred acres. This well broke, and ploughed and hoed, and weeded in after culture, timely gathered and well secured, the profit would have been probably a hundred per cent. better.

Besides all this, it is only where farming is carried on on a smaller scale, generally, that you witness that universal neatness and taste and finish which throw around the whole scene a sort of rural enchantment, which attracts and impresses every beholder. And the thing is most easily accounted for. The whole is under the farmer's own eye, and within his own means, and wrought chiefly if not exclusively by his own hands and those of his healthy sons. He seeks not to be proprietor of an agricultural *empire*, in extent, but to create an agricultural paradise of concentrated attractions and beauties.

It is to the small farms in every country that you are to look generally for the best models, the finest taste, the most pleasure, and the largest profits upon the investment.

I am confident that fifty acres, cultivated in the very best style of modern improvements, would yield more profit than many of your five hundred acre farms now yield.

It is an excellent rule, never to take in hand more ground than you can cultivate in the best manner; for be assured, that if you calculate to make up the defects of culture by increasing the quantity of ground thus defectively cultivated, you will find yourself greatly in error.

From the Cultivator.

Systematic Farming---Under-Draining---Ruta Baga.

"The short time I have been engaged in agricultural pursuits, and the little practical knowledge I have obtained, will necessarily render any communication from me at this time, comparatively of little interest—yet such as I can give, is at your service. My farm contains 400 acres of upland, and consists of several varieties of soil, but mostly a deep gravelly loam, upon a very tenacious clayey sub-soil. I came in possession of this farm, and first turned my attention to agriculture, in the spring of 1835. None of the land had been half tilled, and some of it had been cropped so long without being manured, that nature had rebelled against the thankless task-master, and refused to produce any thing worth the husbandman's notice. I commenced a thorough and uniform system of improvement, by ditching, seeding, and manuring,—dispensing my favors with an unsparing hand, and without other regard to the expense, than noting the amount in my journal. The consequence has been, I have brought lands that did not produce enough to pay the expense of cultivation, to a state of beauty and fertility, and obtained a rich reward for my labor. And what is worthy the attention of those farmers, who say they cannot afford the expense of improving their lands, is this fact, that the increased product of a single year has more than paid the whole cost. As a specimen, I will give an account of a lot of fourteen acres, which had been mowed successively for near thirty years and the year before it came into my possession, cut but six tons. One third of the field was too wet to grow any thing but swamp grass, and its improvement was mainly brought about by the under-draining.

My account with this lot for the years 1835-6, stands thus.

Dr.	*Lot No. 3—14 acres.*	*Cr*
1835, April 20—100 rods under-drain *a* 4s.	$50 00	1835, July 20—30 tons prett good hay *a* $10, $300 0
6 days drawing stone *a* 16s.	12 00	
300 loads manure *a* 3s.	112 50	
½ ton plaster *a* $8,	4 00	
Grass seed,	10 00	
July 20—Getting in hay,	31 50	
Interest on land,	49 00	
To balance,	31 00	
	$300 00	Profit, 31 0
1836, March 17—50 loads manure *a* 3s.	18 75	1836, Aug. 2—35 tons superior hay *a* $12, 420 0
Grass seed,	2 50	
Aug. 2—Getting hay,	37 50	
Interest on land,	49 00	
To balance,	313 25	$451 0
	$451 00	Profit, 313 2

Contrast this with the product of 1834.

Labor getting hay, say	$20 00
Interest on land,	49 00
	$69 00
Credit by six tons inferior hay, say $8,	48 00
Actual loss,	$21 00

The same result has followed all my efforts to improve my fields, and I am fully persuaded, that no amount of labor or money, can be expended in the cultivation of the soil, that will not return four fold to the granary, or the store house. Yet these facts are lost upon the mass of farmers, already too wise to learn—who are contented with obtaining from their lands, one third the quantity they are capable of producing—apparently contented too, to deprive themselves of the comforts, luxuries, and rural embellishments, that make a home pleasant, and life a blessing; and continue to jog on in the path their fathers trod, turning neither to the right hand nor the left, though the bright goddess, plenty, with happiness and honor in her train, invites them at every step.

I would recommend under-draining to the serious attention of every farmer. Without it, the richest portion of my farm would be unproductive, and I have observed many fine fields, not only lying useless, but disfigured by cat-tails, rank weeds, &c., which a few dollars expended in judicious draining, would make the most profitable and ornamental part of the farm. In making drains, I have dug a ditch three and a half feet deep and two feet wide, and filled half full, with round stones, taking care to leave a number of places for the water to pass, or else placing large stones upon each side and laying a flat stone across, leaving but one passage for the water, and fill up with earth. Both kinds appear to answer well, but I prefer the first, as by dividing the water into several streams, there is less fear of undermining.

My crop of ruta bagas has not been so large as some I have seen noticed in the agricultural papers, yet it has been extremely profitable, and as food for stock, has far exceeded my expectations. I have made no positive experiments in feeding, to ascertain its relative value, but I have no doubt from what I have observed, that it is worth half as much as corn for fattening, and for milch cows and sheep, I know of no article of food that will compare with it. By the aid of the drill barrow and cultivator, the cost of raising, per acre, is certainly not so much as corn, while the produce is about twenty times as much. I sowed the present year two and a half acres, the 20th June. The ground was laid in gentle ridges two feet apart, and the plants, when thinned out, stood ten inches from each other in the rows. I think one foot by two and a half would have been better. At harvesting I measured off 12 square rods, and found the product to be one hundred bushels, which would give 1,333⅓ bushels per acre. My average crop, however, fell considerably short of this, owing to early drought and the insects; yet this shows what may be raised, under favorable circumstances.

I cannot close this communication without urging upon every man who tills an acre of ground, the importance of taking an agricultural journal. It has been of incalculable benefit to me, and much of my success in farming is to be attributed to the knowledge I have obtained from the pages of the Cultivator. Yours, with respect,

L. CHANDLER BALL.

Hoosick Falls, Renselaer county.

Farmer's Work.

This is a fine month for business, brother farmers;—though the earth is bound in frost, there is much to do. An early start these short days is essential to success in business. Long evenings will afford much leisure for social chat—visits, reading, reflection, and so on and so forth, which should not interfere with affairs of the first importance. Perhaps an old croney, Jack Frost, may trouble you with his salutations these cold mornings, and take you by the ears as he gives you a cordial grasp of the hand. None are exempt from his officious visits and intrusions; as a modern poet justly observes—

"He pinches the prince at the nose;
He's never a servant to fear;
He seizes his heel and his toes,
And gives him a nip at the ear."

RANDALL.

But a little stir and activity will keep him at a respectful distance. He that prepares for the surly blast and goes forward enjoys life, while the lounger that is dosing over a lean fire, burning his shins and freezing his back, smoking his pipe and quaffing cider, works much more hard, in laboring to kill time, than do the industrious in pursuing their occupations with pleasure and success. Besides the latter have great advantage as to health—the busy will not *wear out* half so soon as the lazy will *rust out*. See to your wood pile. Is it in a growing state or in a decline! If the latter be the case consider whether it will bear the waste for a year or more. Every farmer should provide as early as possible in the winter a sufficient quantity

of fuel for one year's consumption. Wood may be procured with one half the labor that will be necessary after deep snows; and one day well employed now will save one or more in the busy season of summer.

Wood that is cut in the spring, when the sap has ascended, is worth much less for present use, or for seasoned wood, than that which is felled in winter when the sap is down. If used green it requires more heat to dissipate the extra moisture before it will burn; and it is likely to become partially decayed in seasoning, unless more pains are taken to split it fine, expose it to the sun or shelter it from rains.

See that your wheels, carts, harrows, ploughs and other implements, are housed, if they have been carelessly neglected until now. It is of great importance that these things should be secured, as they often suffer more from exposure than from use—they frequently decay before they are half worn. A penny saved is two pence clear, says Franklin. A farmer sometimes spends several days in making a good hay cart, which might be housed most of the time, and would last many years; and it would be much lighter than one made of green timber. But it is left where it was last used, exposed not only to the weather but to the cattle, which destroy it in the course of the winter. A day or more must be spent in summer to repair this loss, for he that has not sufficient foresight to take care of his implements will never make or repair them till they are needed. This is but a specimen of the trouble and expense that fall to the lot of the careless and improvident for the want of good management. Many such trifles amount to something of consequence in the course of a year. No wonder that such work hard, are always in a hurry, and yet find that their work drives them, and that time keeps so far ahead that they labor in vain to overtake him.—*Yankee Farmer.*

From the Virginia Farmer's Register.

On the proper management of Posts with reference to their durability.

Perhaps there is no subject connected with agriculture, on which a greater diversity of opinion prevails than the question, whether with reference to their durability, posts should be put in the ground green or seasoned? When I first settled, I took considerable pains to inform myself on this point, by consultation with those whose experience should constitute them proper fountains of information. The diversity to which I have alluded, impaired greatly the acquisition of decisive results. Mr. Thomas Thweatt, of Dinwiddie, (a gentleman of great judgment and observation on all agricultural subjects,) related to me a circumstance which contributed much towards the attainment of my object. He stated, (if my memory be correct,) that in the erection of his garden—a number of posts as he supposed, were prepared and suffered to remain until they were thoroughly seasoned. Its completion, however, required one in addition, which was taken from an adjacent tree, and immediately put in the ground. Seventeen years had elapsed, and every post had rotted down except that one, which remained sound. In the progress of my investigation another instance was related in which an entire side of a garden exhibiting the same results. My own limited experience furnishes an incident worthy of being mentioned. My garden enclosure was erected of posts while green. Several pieces remained exposed until they were completely seasoned. Out of these a horserack was constructed, which was entirely rotted down, while every post in the garden remains firm. From these facts I deduce the belief, that a post planted when green will last longer than one previously seasoned; and for the reason, that the operation of seasoning produces cracks in the timber, which admitting the moisture from the ground, cause its decay. I recollect to have read the account of an experiment, proving that the inversion of posts, from the direction in which they grew, operated beneficially. Two gate posts were hewn from the same tree—one was planted in the manner in which it grew, the other inverted. The former rotted while the latter was sound. It was accounted for in this way—that nature has formed valves for the ascension of the sap which allowed the moisture from the ground to penetrate through the same channel; but that the inversion of these valves, interposed a barrier to its admission. This theory corroborates the idea previously expressed, that the moisture of the ground, alternately penetrating within the timber and in drouths measurably receding, causes its decay.—Whether the posts should be cut while the sap is up or down, I am unable to determine. A writer in some of the numbers of the American Farmer, states that oak timber should be cut while the sap is up, because it is glutinous and forms a cement, or substance which acts as a preservative.

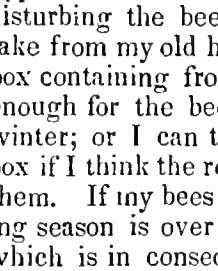
I have ventured to express these hasty and imperfect reflections, with the hope that, although they may not impart any useful information, they may elicit some from others.—These are controverted subjects, in which every person who erects a gate or encloses a garden is deeply interested—and their further discussion will be valuable, at least to

S.

Management of Bees.

The Kennebec (Maine) Agricultural Society at their meeting last autumn, awarded their premium on Bees to Col. John Gilmore, who furnished the society with the following statement: "Having entered my name for premium on honey and a hive of bees, I will inform you how I have managed them for a few years past. I keep them in boxes—my boxes are 13 inches square on the outside, and from six to seven inches high, with thin slats across the top about an inch wide, with just space enough to let the bees pass between them.—For a young swarm I fasten two boxes together with a board on the top, put in the swarm, and when I set them on the bench, put under as many more as I think they will fill—a large early swarm will fill four or more. I had some this season that filled three in about a fortnight and then swarmed and the young swarms have filled four boxes. After my old hives have swarmed once I usually put under one or more boxes. I prefer this course to letting them swarm again, for second swarms are generally worthless. When the weather becomes cool, if the hive is well filled with honey the bees will all leave the upper box—it can then be taken off without disturbing the bees in the hive. I usually take from my old hives and early swarms one box containing from 50 to 54 lbs. and leave enough for the bees to live on through the winter; or I can take a part and return the box if I think the remainder is insufficient for them. If my bees grow lazy after the swarming season is over and hang out on the hive, which is in consequence of the hive being full, I add more boxes. I had a few small swarms which I have taken up otherwise. I have not destroyed any bees. I have taken up on my own farm this season 289 lbs. of good honey in the comb; and I now own, including those that I have taken up, twenty-six hives."

China Hogs---Improved Breed.



Mr. C. N. Bement, of Albany, says, in a communication published in the same paper, "Having had frequent applications, by letter, for a description of my *improved* breed of China Hogs, I know of no better method of conveying a correct idea, unless by personal inspection, than by a likeness, which I have procured, and accompanies this.

The drawing was taken from a young sow, nine months old, when in high condition.

This superior breed of swine, as I have observed in a former communication, was first introduced here by the late Christopher Dunn, Esq.—Some ten or twelve years since, when passing through Princeton or New-Brunswick, N. J., in the stage, his sagacious eye was attracted by a beautiful sow with her litter of pigs, running in the street. Delighted with their appearance, he was determined to possess some of them if possible. He accordingly applied to the driver of the stage to procure a pair of them for him. As an inducement, and to insure success, he offered him the liberal price of twenty dollars, for a male and female, although only eight weeks old, on their delivery to a certain house in New-York. They were of course procured and delivered, and from these two have sprung my "*Improved China Hogs.*"

Their color is various, some white, black and white spotted, and others blue and white. They are longer in body than the pure China breed. Upright or mouse-eared—small head and legs—broad on the back, round bodied, and hams well let down—skin thin—flesh delicate and fine flavored.

They are easy keepers, and of course small consumers, quiet and peaceable in disposition, seldom roaming or committing depredations. Keep in good condition on grass only.

They are not remarkable for size, seldom attaining more than two hundred to two hundred and fifty pounds, although instances have occurred where they have been made to reach three hundred! Therefore they cannot, in their pure state, be called the "farmer's hog," but their great value is in crossing with the common hog of the country. A very good hog may be obtained by a cross with your *land shads*,—your long legged, long nosed, big-boned, thin backed, slab-sided, hungry, ravenous, roaming, tormentors, that will run squeaking about the yard with an ear of corn in their mouths."

Agriculture

Has been aptly styled the master sinew of every great state; the perennial foundation of wealth. Rural laborsare equally conducive to health of body and mind. The mechanic operations hold only a secondary rank: the culture of the fields constitute the most natural and innocent employment of man. Agriculture clothes our land with grass for cattle and with the herb for man. She fills our houses with plenty, our hearts with gladness, and puts into our hands the staff of life. The ancient Republics afford us several instances of generals and statesmen, having exchanged their boisterous employments in war and poli-

tics, for the more peaceful arts of the field and the cultivation of the ground; thus adding to the culture of philosophy that of rural economy and rendering themselves doubly serviceable to their country.

For the Farmer's Cabinet.

Thoughts,

Suggested by the Rev. T. Flint's remarks on 'Farming'*

Sons of America! who love the soil where ye were born!
Methinks the *fields* should be your theme, at evening and at morn:
And you, the favor'd ones of Heaven! who call the lands your *own*;
Whose riches are the yearly gifts, which from the earth have grown—
Oh! let *improvement* mark your steps, go *fertilize* the soil,
Where nature's promise is, to bless the efforts of your toil.

The nation's honor, power, and wealth, all flow from one wide source,
From *agriculture*, as the *fount*, each takes its winding course:
Commerce and manufactures own this mainspring moves their wheels;
And all that lives, and moves, the worth of man's *first* charge reveals.

To agriculture's valued power! delighted we would bow;
And ever shall our echo'd song, respond to "speed the plough!"
We love to paint the husbandman, stripp'd to his blest employ,
For though "in sweat of face" he toils, 'tis with a smile of joy:
We deem *him* highest of the race, America can boast;
And here, in honor, do we pledge, to him our noblest toast:—

Hence may his "corn and wine increase," till "milk and honey" flow
Throughout his land, where harvests ripe, in all their richness glow;
God crown the labor of his hands, with "plenty and with peace!"
Till daily toils of husbandman, with *all* of earth shall cease.

CLEMENTINA.

Plainfield, N. J., December, 1836.

The Bath Society papers contain the following account of the method adopted at various periods of weaning and rearing calves, as practised by thrifty farmers.

"Mr. Whitley of Wallington did, between the first of December 1776, and April, 1777, wean and rear on his farm ten cows and thirteen bull calves, by the method follow ing: At three days old they were taken fro the cows, put into a shed and fed with fl (skimmed milk) allowing three quarts each calf morning and evening. When month old, they were fed with a like qua tity of milk and water, morning and evenin with hay to feed on in the day time; and noon they were fed with oats and br equally mixed, allowing half a peck to o dozen calves. At two months old they we fed only in the morning with milk and wat they had hay to feed on in the day time, a at evening instead of noon, had the sa quantity of bran and oats with water to drin They were fed in this manner until the mi dle of April, when they were turned out grass all day; and taken into a shed in t evening; and fed with hay until there we plenty of grass and the weather gr warm. Such of the calves as were wean in March were continued to be fed with mi and water every morning until midsumm All the said calves are in good health a condition; and the Society allowed t premium offered on that head the precedi year.

* See Farmers' Cabinet, No. 2, page 27.

Agriculture is an art—Man is the artist, the soil his laboratory,—manure his r material,—animal strength and machin his power,—air, heat and moisture his agen —and grains, roots, fruits and forage, l produet.

Agriculture is a science—which teaches t artist the best mode of improving and fitti up his laboratory,—instructs him in t properties and economical use of his r material,—learns him how best to apply l power, and to profit by his agents,—and thereby enables him greatly to abridge l labor and multiply his products.

The art teaches the hands *to do*—the s ence *what* to do, and *how* to do. Art is sail which propels the ship,—science compass which directs her course. With the sail, the ship will not "go ahead without the compass, her course will erratic, and the profits of the voyage doubtf With sail and compass, her progress will "onward," her course direct, and her voya prosperous.

Don't be frightened if misfortune sta into your humble habitation. She sometin takes the liberty of walking into the presen chamber of Kings.

To all parts of the world, the export British hardware and cutlery is £1833,0 of this amount £978,491 come to the Uni States.

PRICES CURRENT.

ARTICLES.	Philadelphia, Jan. 14.	Baltimore. Jan. 13.	New York, Jan. 13.	Boston, Jan. 9.
Beans, white, per bush.	$1 80—2 00	1 37—1 50	2 20—2 50	1 75—2 25
Beef, mess, new, per bbl.	13 00–13 50	12 00–12 50	12 00–13 50	14 25–14 75
Bacon, western, per lb.	11 13	10— 11½	.....	.....
Butter, extra, per tub	18— 19	.....	....	22— 23
Butter, fresh, per lb. (market,)	25— 37	25— 37½	25— 40	30— 37½
Hams, per lb.	13— 14	.....	13½- 14	14— 15
Hog's Lard, per lb.	.....	15— 16	13½- 16	16— 17
Cheese, American, per lb.	10— 11	10— 11	8¼- 10	9— 12
Beeswax, yellow, per lb.	27— 28	28—	27— 28	26— 30
Beeswax, white,	37— 39	40—	38— 40	38— 40
Bristles, American,	40— 65	.....	25— 65	30— 75
Flax, American,	9— 10	.....	8½— 9½	.....
Flour, best, per bbl.	11 00—	10 25—	12–12 25	10—11 25
GRAIN—Wheat, per bush. Penna.	2 10—2 40	.....	.....	—2 12½
do. Maryland,	2 05—2 25	1 40—2 15	... .	.....
Rye, per bushel,	1 45—1 50	... .	1 15—1 20	1 40—1 50
Corn, do.	73— 75	— 90	1 00—1 05	1 10—1 12
Oats, do.	53— 55	52— 53	67— 68	65— 66
Barley, do. Penn.	81— 85	.....	.....	90—1 00
Peas do.	.....	1 12½—	1 00 1 06	.....
HAY, Timothy, per 100 lbs.	1 00—1 10	.....	.....	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	.....
Hops, first sort, 1836, lb.	10— 11	.....	.....	— 10
Plaster Paris, per ton,	5 00—5 25	3 00—3 25	4—	3 00—3 12
SEEDS—Cloverseed, per bushel,	6 25—7 50	8—8 25	.....	.....
Flaxseed, rough, do.	1 84—1 86	1 62—1 75	1 65—1 75	—1 50
Timothy,	2 25—2 75	3 00—3 50	2 25—2 50	3 00—3 12
Tallow, per lb.	9½— 10	— 8½	— 9½	9— 10
WOOL—Saxony, fleece, per lb.	68— 75	.....	75— 80	70— 75
Merino,	60— 67½	48— 55	50— 68	65— 70
1-4 and common,	40— 44	36— 40	25— 40	45— 50

Remarks.

All supplies by water are now cut off. Holders of Flour are firm at eleven dollars per barrel for best brands of *Wheat*. All kinds of Flour and Meal command fair prices, and meet with ready sales. The same remark will apply to country produce of all descriptions. Country killed *Pork* is selling at from 8 to 10 cents, according to quality and quantity. *Butter*, of good quality (in kegs) 16 to 18 cents; sales of good lump Butter, in heavy quantities, at 21 to 22 cents. *Lard*, 14 to 15 cents; Jersey Lard a fraction higher. Sales of between 7000 and 8000 lbs. of *yellow Beeswax*, since our last, at 26 to 27½ cents. *Wool* firm at former prices.

Back Numbers.

Nos. 1, 2, 3 and 4, of the Farmers' Cabinet, have been reprinted, and Nos. 5, 6, 7 and 8 are in a course of publication. As fast as these numbers are reprinted, they will be forwarded to those subscribers who have not been previously supplied.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY

Vol. I. Philadelphia, February 1, 1837. No. 14

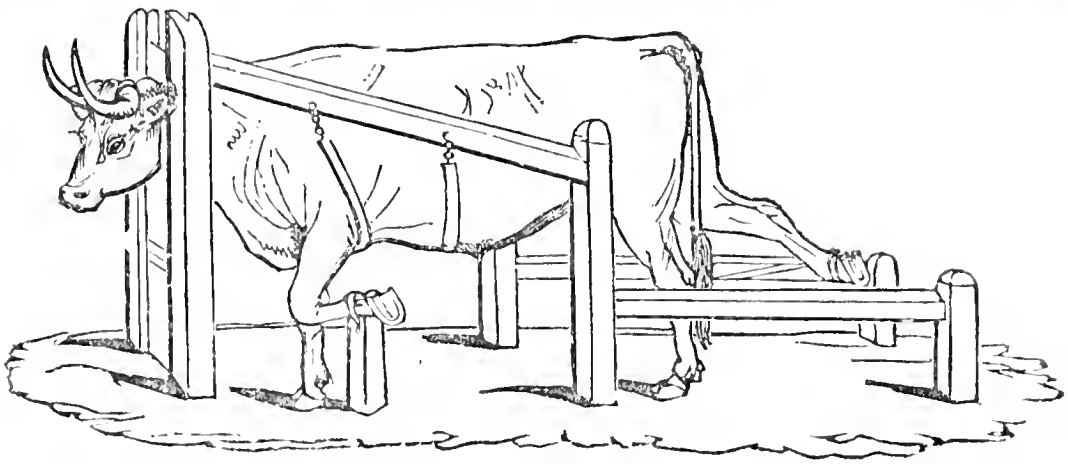


Fig. 59.

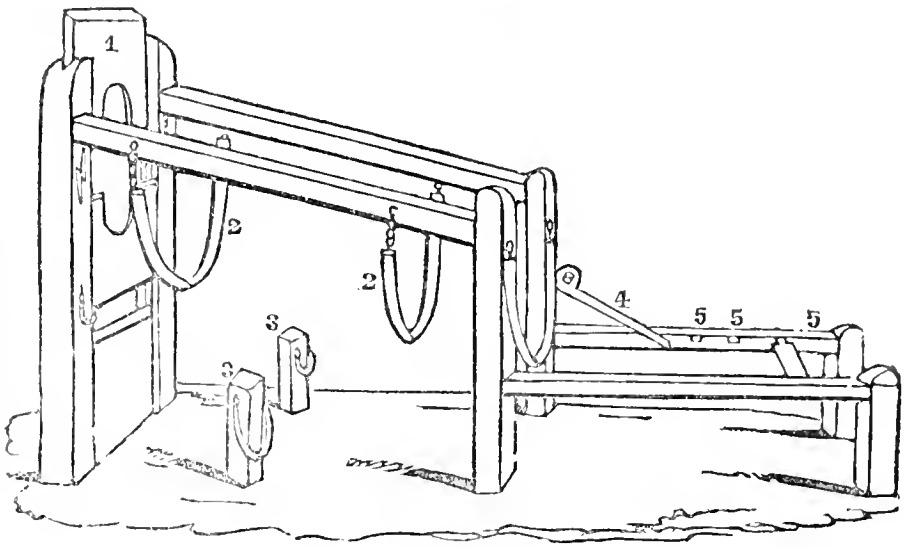


Fig. 60.

Useful Machines for Shoeing Oxen.

A serious objection to the use of oxen for road-work, arises from the difficulty of shoeing them. The solidity and round form of the horse's hoof resists, without inconvenience, a force which would divide the claws of an ox asunder; great care ought therefore to be employed in the operation, and yet it is usually performed in a manner the most slovenly and imperfect. The best mode is to make the shoes very thin and broad, covering great part of the foot, and rather turning up at the toe between the hooves; they shou be then fastened on with broad flat-head nails, covering with their heads great pa of the shoe. This, if carefully done, offers much security as the formation of the ho and its brittleness and thinness will allow but few smiths, though otherwise perha good farriers, perform the operation well, a it is attended besides with considerable aw wardness from the unsteadiness of the an mals, which seldom submit quietly. Th

are consequently in general cast; in the common mode of doing which they are thrown upon their sides, or rather nearly on their backs, and one end of a forked stick being thrust into the hobbles which confine the legs, the other end is firmly fixed to the ground. The hoof is thus held up while the shoe is put on; but it is attended with frequent accident, and its obvious inconvenience may be avoided by the adoption of either of the following simple machines, which are used in some places as brakes, and completely answer the purpose.

Fig. 60.—1. Top piece of sliding plank to confine the head.

2 2. Broad strong straps of leather, fastened by links of iron to prevent the ox from lying down on his belly, which they are apt to do if not prevented; and the hinder strap to prevent his drawing back to the injury of his head and neck.

3 3. Two stumps strongly fixed in the ground to tie the fore legs to.

4. An iron that lifts up and down to confine the roller, to which the legs are tied for the purpose of shoeing.

5 5 5 are holes, with others corresponding not seen in the plate, to be shifted according to the length of the ox.

The whole—as will be seen by the foregoing sketch—is so simple, that a carpenter, with these directions, can construct it at a very trifling expense.

Another brake, recommended by Bakewell, Figs. 61 and 62, consists of four upright posts, A, and two strong bars, B, to which the ox is confined with broad straps passed under his belly and fastened over his back. His fore feet are thus successively stretched out upon the projecting crooked beams, C, which are bevelled out to receive them, thus—

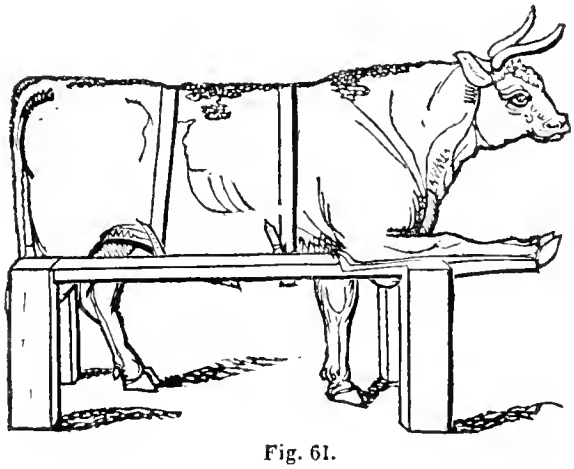


Fig. 61.

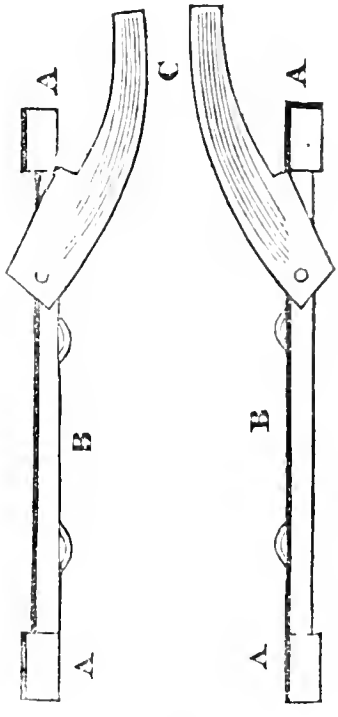


Fig. 62.

The hind legs, when shod, which is not usual, unless when the oxen are used for road-work, are securely held out by a wooden lever, the end of which is hollowed out. The claws of the ox cannot, however, support a strong shoe of the usual form and weight, and the iron used in the operation is not of sufficient strength or goodness of workmanship to prevent its frequently giving way. In districts where oxen are used in draught, no farrier should be unprovided with a brake of some kind, but that is too frequently neglected; the difficulties opposed to shoeing them are therefore the more necessary to surmount, and we cannot but think that these might be materially corrected, if young steers, o calves, intended for the yoke, were, when i the yards, to have their hooves taken up and beaten with a hammer, preparatory to the more regular operation when they come into work.

In addition to these machines, a method i pursued in shoeing them, which, besides it extreme simplicity, admits of being used fo any animal in case of accident, and merely consists in slinging them up in a sack, whic prevents their offering any resistance. I consists of a long lever, fixed in a strong up

right post, and having a transverse bar, to which the sack is attached by cords, after being passed under the animal's belly.

Farmers' Series.

For the Farmers' Cabinet.

The Observer---No. 2.

Having promised a few observations on the healthy condition and relations of the horns of cattle—including the cavities of the nose; I propose, in the present number, a brief inquiry into the diseases to which they are incident. My views are, in part, drawn from analogy, and a knowledge of the diseases of the nasal structure in man—and, in part, from actual observations on diseased animals. My object is, to excite others to the inquiry, more than to instruct them by my own knowledge of the subject. The conditions to which I shall, at present, call the attention of the reader are—

1. Inflammation of the nasal cavities and horns.
2. Putrid—corrupted—or rotten horn.
3. Hollow Horn—or horn distemper.

1. INFLAMMATION OF THE MUCOUS MEMBRANE LINING THE CAVITIES OF THE NOSE AND HORNS.

Inflammation of the mucous membrane of the nose, is a very frequent occurrence in the human subject, under the familiar name of "cold," and may occur in any other animal possessing a similar structure. At first the secretion of the nasal surfaces is *checked*—they become *dry* and *hot*—and an *irritation* is felt which produces *sneezing*. This dryness is soon relieved by a *watery secretion*, in great abundance, which is replaced, after a time, by a more consistent *mucous discharge*. The intensity—the extent—and the duration of the inflammation, may vary, in any assignable degree. It may continue only for a few hours, or last for weeks, months, or years. It may affect a part of the nose, or the whole of it, and even extend to the frontal sinuses, and the horns of such animals as possess them. It may relieve itself by an effusion of *serum*—a more labored secretion of thick adhesive *mucous*—or even matter resembling pus. Or, in a still more aggravated form, it may produce *ulceration* of the surfaces. From similarity, of structure, the lining of the throat, windpipe and air passages of the lungs, are, generally, more or less affected in the same way. Indeed this forms the most important part of the disease.

There is a contingent occurrence, which sometimes takes place in catarrhal affections, and which ought not to escape notice. When the passage from the frontal sinus to the nose is small, a little swelling of the mucous membrane, will completely shut it up. Th increased secretion within the upper cavity is thus prevented from escaping, and accumu lates in it. Severe pain in the forehead with a febrile excitement of the whole system takes place. As the inflammation subsides the nasal passage opens spontaneously, an relief is afforded. The narrowness of th nasal passage, renders this more common i man, than perhaps any of the brute animals It may however occur in both.

2. CORRUPTED HORN—PUTRID HORN—ROTTEN HORN.

When inflammation of the cavities of the c frontis, and horns, terminates in *suppuration* the matter will be discharged from the nose—or if the passage is obstructed, will accumu late in the cavities. If the horn should b bored, in this state, the matter will flow through it—constituting what may be called *corrupted horn.*

If the inflammation assumes a more violen form, and extends to the bones, producin bony ulceration, or *caries*, the discharge wi be darker colored, and highly offensive, con stituting *putrid horn.*

When either of these conditions is accom panied with an obstruction of the nasal pas sage, the matter shut up in the upper cavitie will become more putrid, and offensive, i proportion to the length of confinement—s as to acquire an intolerable fetor, when liber ated—this is *rotten horn.*

It is very doubtful, whether *boring* ca ever be useful, in this condition of the horns,—excepting, in such cases as have the nose ob structed. Such obstruction can rarely b known to exist. Where it is either *known or strongly indicated;* as, when a discharg from the nose suddenly stops, without a abatement of other symptoms—I would ven ure to bore. But would advise, always, t wait for strong necessity, as the remedy, very often, *produces* the very evil it was intended to cure. It frequently happens, that a pur ulent, or even putrid discharge, takes place from the horn, or nose, several days afte boring—and this is considered evidence o corrupted, or putrid horn. But I would ask were the horns corrupted, in those cases, a the time of boring!—I would certainly an swer—No. The evidence—the only ev idence, would have been, a discharge of *cor ruption* immediately after boring; but tha discharge did not take place, till some day after—not till time was allowed, for inflam mation to be produced by the violence o boring, and the too free admission of air int the cavities. It is reasonable to conclude then, that the corruption of the horn was the *effect of*—and *produced by*—injudicious bor ing. Some experienced farmers and grazier

are so well convinced of this, that they have entirely abandoned the practice of boring, and now very rarely see corrupted horn.

Another way in which boring may produce a putrid condition of the horn, and lead to erroneous conclusions, is—that a quantity of blood may collect in the cavities of the horn, and head, after boring—which, either from the closure of the passages, or the position of the head itself, may not readily escape. This blood will first coagulate, and afterwards putrify, and dissolve, so as to be carried off, with the secretions, in a putrid and offensive state, while the parts themselves are free from disease. I have seen some of the cells of the frontal bone completely full of blood, from this cause, after death.

3. Hollow horn—horn distemper.

The question very naturally presents itself, at the threshold of this inquiry—*which is hollow horn?* I answer, *it is the healthy state of the horn.* I have already shown, that the horns of cattle are alwaysh ollow. But, say the advocates of hollow horn—the pith wastes away and leaves the horn dry, and empty. Now I am well aware, that it is rank heresy, to deny the existence of a thing, which almost every body *knows* to exist—a thing which almost every body has frequently seen. But I demand, what are the proofs of the existence of hollow horn? What are the signs by which it is known to exist? Why, say the advocates—it is proved to exist by boring—sometimes the horn is full, and moist, and bleeds freely—at other times it is quite empty, and dry, and does not bleed a drop. In the latter case, the gimblet pops right through to the other side of the horn. I object, that these appearances are deceptive. I have shown that the horn is *always hollow*—therefore it can *never be full.* During life, the blood must circulate through the horn—therefore, it can *never be dry.* The pith (as I shall show) never wastes away—therefore, the horn can *never be empty.* An explanation of the cause of error, will be found in the structure of the horn. I have shown, that the thickness of the bony core is very irregular, and as a consequence there are more, and larger vessels, in the thicker portions of bone. Hence if the gimblet enters a very thin part of the bone, it will pop right through—and, probably, without much bleeding. The horn will, of course, be *empty and dry.* On the contrary, if the instrument enters a thick portion of bone, it will, probably, encounter large vessels, and bleed fully. In that case, the horn will be *full and moist.* This reason is sustained by facts. A few days since, my neighbor had a cow affected with the usual symptoms of hollow horn, and was accordingly bored. The horns were found *entirely empty and dry.* Three days later they were bored, nearer the head, with the same result, only, the gimblet was a *little bloody.* The existence of hollow horn was fully proved, by the indubitable evidence of boring, and the animal doctored for it, during a week, when she died. On a careful, and minute examination, I found the horns in a perfectly natural and healthy condition—except slight inflammation from the operations of the gimblet. The cells of the os frontis contained a quantity of coagulated blood, from the wound of the horn, which had been prevented escaping by the position of the head. When the pith was removed from the shell, and sawed open, the cause of the mistake was easily discovered. On the side where it had been bored, the bone was less than one eighth of an inch thick—while nearly on the opposite side, it was five eighths—and the larger vessels were observed to pass on that side also.

Under the head, "Horn Distemper," in the Domestic Encyclopedia, Dr. Willick remarks, that "it gradually *wastes the internal substance of the horn*, commonly called the pith, which is the spongy part of the bone, and *the cells of which are filled with oily matter.* Thus, at length, the horn *becomes hollow.*" Refering to a paper, by Dr. Tafts, in the first volume of the memoirs of the American Academy, he says, "it appears that this spongy bone is *sometimes partially, and sometimes entirely, consumed.*"

There is something wrong in this Horn distemper. Dr. Willick, certainly did not know, that the horns of cattle are *always hollow*—and that the cavity communicates with the skull and nose. He certainly never saw the interior of a recent horn, or he would not have asserted, that its cavities are *filled with oily matter.* He has evidently drawn the *inference* that it is so, from what he knew of other bones. The long bones of the thigh, for example contain cavities, which *are filled with oily matter.* The assertion, that *the pith gradually wastes*—that it is *sometimes partially*, and *sometimes entirely, consumed*, rests upon no better foundation, and is altogether gratuitous. Such a *wasting of the pith*, does not take place. I challenge those who think otherwise, to produce the horn so consumed. It would be assuming too much, to hazard this denial, on my own limited observation, but I am sustained by a host of evidence.

Few cattle die, who do not labor under some degree of the reputed hollow horn, either, as primary, or accompanying disease. A vast number of the hides of such cattle, are annually sold to the tanners, throughout our country. The shell is separated from the pith of the horns, affording an excellent school for

observation. Now let me ask—what tanner ever found a horn, from which the pith was either *partially or entirely consumed*, in the manner described? I have inquired of several, and they all say, *they never saw or heard of such an occurrence.* Until the existence of hollow horn, as a disease, shall be substantiated by better proofs, I shall continue to doubt, and to deny, its existence. Some may say, that the inflammation of the frontal sinuses, which I have described, is the disease termed hollow horn. It cannot be so—because it is very mild, or if severe but seldom occurs—unless brought on by boring *after the animal becomes sick*—and, even then, is not accompanied by the constitutional symptoms of Hollow horn.

What are the symptoms usually attributed to hollow horn? The authors already quoted, enumerate "dullness in the countenance—a sluggish motion—want of appetite—a desire to lie down—and, if attended with an inflammation of the brain, a giddiness, and frequent tossing of the head—stiffness, as in rheumatism, affects the limbs—the milk often fails in cows—the udder is hard—and there is, in most cases, a sudden wasting of the flesh." This is, perhaps, a pretty good enumeration of symptoms, supposed to be caused by the horn distemper. But, I would ask—what would a person infer from these symptoms, who had never heard of that disease? Would he bore a hole in the horns to look for the cause of them there? I think not. He would rather look for some inflammatory disease of the internal organs, producing a febrile state of the system. The animal, to which I have alluded, presented most, or all, of the above symptoms. Tossing the head was a prominent sign, yet there was no inflammation of the brain, or spinal marrow. The real cause of death was, *intense inflammation of the liver, lungs and many-plus*, or third stomach. Either of these organs, presented lessons, sufficient to account for the death of the animal. The symptoms would lead me to look for what the dissection brought to view—an inflammatory state of the viscera—and renders it worth while, to extend observations, so as to ascertain, whether it may not always be the real cause of the symptoms.

I hope that others will pursue the inquiry, and make known the results.

The only remedy proposed by Drs. Willick and Tafts, is, to bore the horns "two or three inches above the head"—and, if found hollow and dry, "it will be adviseable to bore lower, as *near to the head as the hollowness may probably extend.*" My previous remarks will necessarily overturn the *hypothesis*, on which this recommendation rests—and with it the whole *boring system.* The opening, they say should be carefully kept open, as it is liable to be filled up by a th fluid which gradually oozes out, and obstruc the passages. Now what does this fluid oo out of?—the injured edges of the periosteu Why does this fluid ooze out of the peri teum—because it has been injured. And w does it obstruct the passage?—because natu is making an effort to repair the injury, a to close up the cavity of the horn, which h been rudely, and uselessly, torn open a exposed.

The practical conclusions to which I mo especially wish to call the attention of t readers are,—

The *inflamed horn*, arising from colds, a other causes, may terminate in corrupted, putrid horn. But that it is much more fr quently produced by boring.

That boring is seldom required, excep where the nasal passage is obstructed—a can hardly be justifiable in any other case.

That *hollow horn*, (or a disease attend with wasting of the bony pith of the horn has no existence in nature.

That when the reputed signs of hollo horn occurs, we ought to expect an inflam matory state of some of the internal organs and direct our remedies accordingly.

New Garden, 1st mo. 14th, 1837.

The advantages of Good Tillag

BY AGRICOLA.

There are certain fundamental principl of good tillage, with which every part of r ral practice is more or less connected. The are the same in all climates, and in all situ tions, and these I consider to be as follows:

First, That the soil should be laid dry, c free of all superfluous moisture.

Secondly, That it should be kept clean, c free of all noxious weeds.

Thirdly, That it should be kept rich—tha is to say all the manure that can be made c collected, should be so applied as to keep th soil in a state capable of producing goo crops.

Without laying land dry, neither the ad vantages of good ploughing, nor the benefi arising from manure can be fully obtained; either of the other principles are neglected similar defects will necessarily ensue; bu when they are well acted upon, when th land is kept dry, clean and in good heart, an a proper system of rotation of crops is pur sued, the husbandman may expect a suitabl reward for his labor. In a system of good til lage, every part of a farm should be in a cul tivated or productive state. All swamps an marshes should be cleaned up and drained also all other wet and low places, and con verted either into tillage or grass. Withou draining such land, the greatest quantity o

the best manure will prove ineffectual; the stagnant waters will corrupt the natural nourishment, so essentially necessary to produce sweet herbage; but when the cause is removed, the effects will cease. Those luxuriant, noxious weeds, or coarse grass, being deprived of their nourishment by draining, of course die, and sweet wholesome herbage naturally succeeds without manure. An important principle of practical husbandry, is cleanly farming. A good farmer must suffer nothing to grow, but his crop. He must therefore use ceaseless endeavors to exterminate weeds and pests.

However small may be the attention to this salutary maxim, it is the foundation of all profitable operations in husbandry—the test of character in the agriculturist—and should be the pride and boast of all respectable husbandmen.

One being asked—"what was the best manure?" replied—"animal sweat"—meaning good tillage, industry, and intelligent and repeated culture. All these are hostile to weeds and pests; and certain modes of destroying them.

In the cultivation of the earth, such a rotation of crops should be adopted as is best calculated to enrich the soil with abundant manure, to preserve it best from weeds, to prevent it from washing and keep it in good heart. A good rotation of crops has been found, in all well cultivated countries, to improve the soil, instead of impoverishing it.* In every such rotation red clover is an essential article. The rapid improvements in agriculture, which have taken place in our country, particularly in Pennsylvania, for the last fifty years, may, in part, be justly ascribed to red clover, aided by the almost magical fertilizing power of plaster of Paris and lime, by which more wealth has been introduced than would have resulted from the discovery of a gold mine. But ours is not the only country which has been benefited by this system. "In England, besides the systematic attention bestowed on manures, the soul and life of agriculture, they have derived equal advantages from a steady rotation of crops, the system of trench ploughing, &c. To this course—and more frequent and deeper ploughings, also the fortunate introduction of red clover from Flanders about 100 years ago, England owes its pre-eminent standing as an agricultural nation."

All spots within the inclosure of a farm which are too barren or steep for the cultivation of any kind of grain crop, should be laid down into profitable grass land so soon as that can be properly accomplished. A skilful and intelligent farmer, in pursuing a system of good tillage, should suffer no part of his farm to lie waste, but should make it produce something towards the support of animal life, and thus attain the character which every farmer should aspire to, that of bringing the entire surface of his farm into the best considered use by prudent and appropriate cultivation.

But our misfortune is, we have too much land—the consequences, generally speaking, are wretched husbandry and half crops; many of our farmers push a good soil till it is impoverished, and cultivate in an imperfect manner extensive tracts, a small proportion of which, if properly managed, would yield them more and better produce.

It is high time that we should cease to employ labor in killing land, and that we should turn our attention towards its improvement, by cultivating less at a time. By cultivating less land we shall be enabled to do more justice to it, and to render our labor more effectual, and consequently more profitable. We shall till it better, manure it better, keep it in better heart, and what is lastly not to be disregarded, make more abundant crops.—When a smaller quantity of land is cultivated at a time, the farmer will be enabled to apply to it, what should be applied to all cultivated soils, faithful tillage, and faithful manuring. All the operations of agriculture may be comprehended in these two simple and efficacious principles.

These principles, since they have been pursued, have produced a new æra in the cultivation of the soil, which may be called the æra of systematic agriculture. Man, taking the earth in its exhausted state, or from nature's hand, bare of manure, has so managed and disposed it artificially, that it has yielded him first a subsistence, and then an overplus to grow wealthy upon.

How far art may go in this species of improvement, is yet unknown, as the altimatum of fertility has never yet been reached. As far as experiments have been made, we find the earth liberally affording its produce, in proportion as faithful tillage and faithful manuring have been bestowed upon it; and as the ingenuity and invention of man may increase to an unknown and inconceivable degree, so may the improvements and arrangements of husbandry keep pace therewith, until the most fruitful spot that now exists, may produce a tenfold quantity, and the land which now supports an hundred men, give equal enjoyment to a thousand. Recollect, for instance, what agriculture has done for some parts of our country within the last fifty years. Lands which were then in a state of sterility and inhabited by a thin population, are now, by the well applied skill and industry of man, in a high state of fertility and im-

*See Nos. 4 and 5 of the Farmers' Cabinet.

provement, and affording subsistence, wealth and happiness to a numerous and thick settled population.

Thoughts proper for a Farmer, by one who has made Farming his employment for a long time.

First—Remember never to purchase an article of dress for yourself or family not then specially needed, if your imports are more than your exports, and this continue yearly, or just as sure as you live you must become poor and wear a poor man's hat. Never let any distilled liquors be used in your family or by your laborers in health. Never place a vegetable in any part of your farm not suited for it—much is lost by not attending to this. Never fail to procure all the manure you can reasonably. Keep swine, and thereby you will procure the best. Ever bear in mind that he who farms it without attending to manuring his farm is about an uphill concern—so if he keeps a number of half starved animals about him, he ought to consider how he would feel kept starved, and remember that a merciful man is merciful to his beast. Enquire what your farm is adapted for, whether for raising stock or grain—if the latter use your team, plough and cultivator much. Never keep a little lillypution breed of animals, but do all you can to improve your stock. Keep the most of that kind which gives you the most profit with the least labor and expense—in this and every thing use your pencil or pen and ink. Do not go on headlong. Never follow in the course of a poor farmer, even if it be your father. Never for a moment harbor the idea that you know enough about your business—enquire—*take an agricultural paper*—read—examine, and reflect.

Never buy so much as to become so far embarrassed as to be obliged to sell your property below the market price, which as a general rule you have no moral right to.

And your poor neighbors, as is your duty, never forget them in a scarce season, or the widow and fatherless in severe weather—you will never in the end be the poorer for it, to say nothing of the pleasure you enjoy in alms giving. Remember that you cannot be too truthable and honest to obtain property, even in this life, were there no hereafter. A *rogue* may, like a hawk or a fox, once in a while get a good prize, but like them, will generally die poor. Call to mind every spring that a penny's worth of sauce will save a shillings worth of meat, and that change in your food is agreeable to you and so it is to your animals, therefore mix plenty of roots for them. A place for all your tools, when not in use put them in their place under cover. Be at home as much as any way consistent with you other avocations. See that your fences ar always in repair—that your barns and stable are warm, double boarded. The less air yo admit to your hay the better it will sav Your cows will do better kept warm in wi ter, and all agree that all creatures that labo at that season should be preserved from th cold. I am aware that these are familia hints, and that most of them have been oft urged, but we farmers need to be often r minded of what will redound to our interes At the polls we should make ourselves know as the bone and sinews of the Nation wi mechanics. *Maine Farmer.*

Management of Manure.

The manure heap is the farmer's gold min and on this he must place his chief reliance A difference of opinion, as well as diversi of practice, prevails relative to the state condition of the manure previous to its applic tion to the soil, that is, whether it is mo useful to apply it in its raw state, witho subjecting it to the process of fermentatio or whether it will produce a greater effect previous decomposition—by being thorough rotted. In some parts of our state, th manure made in winter is considered as un for the soil, till the subsequent autumn, an among us it is a common practice to deposi the manure in large heaps on the field whe it is to be used, with the intention that shall go through a partial fermentation. have frequently adopted this practice, imitation of those whom I consider amon our most judicious farmers. But experienc observation, reflection, convince me, that e ery degree of fermentation in manure desig ed for ploughed land, is absolute waste. True, the decomposition must take pla before it can be taken up as food for t plants, but then this process may be carri on in the soil, while the seeds are vegetati and putting forth their roots and blades, wi equal advantages, and by their gradual deca fresh food will be furnished to the plants, they advance in their growth, and when th takes place beneath the ground, there is great saving of the strenght and nutritio power of the manure. Whoever has stood the leeward of a dung heap, when in a sta of fermentation, and witnessed the evapor tion, and perceived the strong effluvia e caping from the heap, must have been im pressed with the fact that no small portion its strength and virtue is passing off into th air. That which thus escapes, is the mo subtile and nutritive part, the most enrichin to the soil—it is that which imparts the mo life, activity and vigor to vegetation. No this ammonia may be wholly retained with

the soil. By ploughing in the manure before the fermentation takes place, there will be comparatively but a trifling evaporation. The fermentation and putrefaction will ensue, but the small and subtile particles which escape from the dung heap, are now retained in the soil and become incorporated with it. Economy requires that the plough should be put in motion as soon as is practicable, after the manure is carried into the field. Even the moisture in the manure when it is carried out, is in itself some of the richest part of the load, and the longer it is suffered to lie in the sun, before it is ploughed in, the greater the diminution of its strength and value.—*Lathrop's Address.*

A Picture of Vegetation.

To form a comprehension of the work of nature, we must observe it in those countries where the ground, abandoned to its natural productions, has not yet been turned up by the hand of man. Wherever this has established its power, it has subjected to his empire all that might contribute to his well-being, or embellish his abode; the animals have become slaves; rich harvests and vast meadows have replaced the wilderness of nature; ancient forests have fallen under the axe, and the ground, despoiled of its original productions, no longer presents to the eye of the observer uncultivated nature, but a vast garden, created by human industry. The tree of the mountains has descended into the plains, and the exotic plant, more useful or more agreeable, has chased from its native soil the plant which is noxious, or of no utility to man. It is, therefore, only at a distance from great societies, in foreign countries, in lands untouched by man, that vegetation can be studied in its natural state, understood in its modification, developement, and progress.

There still, however, exist countries in Europe, which the power of man has not entirely subjected; but it is only among the proud rocks, and the summits of the Alps, that they are to be looked for. There mountains piled on mountains, rising above the clouds, form so many gardens, each furnished with a vegetation of its own, the character of which changes at each degree of elevation. There, in proportion as we rise, we find succeeding each other the temperatures of various climates, from that of the tropics to that of the poles, as well as several of the vegetables peculiar to each of these climates.

At the foot of these mountains, and in the lower vallies, vegetate the plants of the plains, and a part of those of the southern countries of Europe. Forests of oak occupy the first platform; they rise, but not without losing a proportional degree of their strength and beauty, to a height of about eight hundred toises,* the extreme limit of their habitation. The beech shows itself equally, but the oak has ceased to grow more than a hundred fathoms beneath the highest limit of this plant. In the zone which succeeds, these trees, more exposed to the impetuosity of the winds, would present too much scope for their action, in the large cyme [literally a sprout] and broad leaves which they possess. The pine, the yew, the fir, furnished with a finely divided foliage, raise securely towards the regions of perpetual snow their robust and branchless trunks. The action of the winds no longer meeting the same resistance, is divided, and loses its force among their short and slender leaves. These trees do not, however, attain a greater elevation than a thousand toises; above this, woods of *cratægus* and birch, and tufts of hazel and willow, among which the rhododendrons [dwarf rose-bay] flourish, brave the cold and the tempests, to the height of 1,200 toises. Beyond this appear, but with a much lower stature, a multitude of beautiful and elegant shrubs, creeping willows, &c.

Farther on, to the region of snow, scarcely any more woody vegetables are found, if we except some dwarf birches, some stunted willows, scarcely a few inches long. A short, beautiful, and tufted sward springs every summer from beneath the snowny mountains, and is covered with a multitude of pretty little flowers with rosaceous petals, naked pedunculs, and vivacious roots; this is the peculiar place of the numerous saxifrages, elegant primulæ, gentians, *ranunculi*, and a profusion of other diminutive plants. The frightful nakedness of the poles reigns upon the summits of these mountains, loaded with perpetual ice; if there still remain some traces of vegetation, they only exist in a few lichens, which here, as elsewhere, endeavor, but in vain, to lay the foundations of vegetation.

Thus the traveler, having arrived at these mountains, at the region of ice, has experienced, in the course of a few hours, the different degrees of temperature which reign in each climate from the tropics to the poles; he may have observed a portion of the plants which grow from about the 45th degree of latitude to the 70th, that is to say, along a meridian of 800 leagues, a phenomenon which exists in all high mountains, of both the old and the new continent, with some modifications peculiar to the localities.

The observations made by M. Humboldt, in the equinoctial regions and on the highest mountains of our globe, furnish us with a proof of this. The same order occurs there in the gradation of species, but only above

* A toise is about six and a third English feet.

the height of 500 toises. The species, to be sure, are not the same as in Europe, but they have the same character of aspect, size, and consistence. The burning zone which occupies the lower space from the level of the sea to this height, enjoying a temperature unknown to Europe, is inhabited by vegetables peculiar to this climate; this is the country of palms, bananas, amomums, tree ferns, &c. It is only, therefore, at the height of 500 toises, that, on the mountains of the torrid zone, the climate commences which corresponds to the base of the Alps, proceeding from the level of the sea, and it can only be here that the zone of plants corresponding to those of Europe can commence.

Such is the spectacle of vegetation, always varied, and incessantly renewed, that presents itself to the view of man; a spectacle rich in its composition, admirable in its contrasts, sublime in its harmony, and which, to produce it, has only required of nature to submit the forms to the influence of different temperatures—of temperatures, I repeat, and not of climates. It is a very essential effect to remark, that the production of vegetable species is much more dependent on the action of heat and cold, of dryness or humidity, than on the difference of climates; we may meet, and in fact do pretty frequently meet, the same species in very different latitudes, in which, however, from local circumstances, the same degree of temperature prevails. It is thus that we find on the high mountains of the south of Europe, plants of Sweden, Norway, and even those of Lapland and Spitzbergen. Tournefort made the same observation in Asia Minor, on Mount Ararat. At the foot of the mountain are found the plants of Armenia; in proportion as we rise, those of Italy and the south of France, then those of Sweden, and towards the summit the plants of Lapland. It is by means equally simple, that nature has removed from the surface of the globe that monotonous uniformity which the plants would produce, were they every where the same; but, subjected to the influence of the atmosphere, what varied forms do they present to our admiration.

A temperature constantly humid and warm, such as that of the equinoctial countries, maintained by the rays of a burning sun, and the emanations of a soil watered by the vicinity of large rivers and lakes, gives to vegetation that vigor which astonishes in those magnificent vegetables peculiar to those climates. Another form of plants is seen in those countries which are exposed to the alternations of cold and warm seasons; it is more equal upon the sea-coasts, where the temperature is less variable; but the plants assume a different aspect on high mountains, where dry and cold winds frequently blow; they vary little in the fresh waters, or in those of the sea; being there placed in a medium less subject to the inclemencies of the atmosphere. The intensity and duration of the light, the long and humid nights, occasion as many different modifications in the vegetable forms. Nature has also fixed the station of plants, that the dwarf and creeping willows never descend from the summit of their mountains to associate with the osier willows, on the banks of our brooks; and the primulæ which decorate the green swards of the Alps, cannot mingle with those of our meadows.

Weevils.

Accident has discovered to a French farmer a simple mode of destroying weevils in corn-warehouses. Happening to lay in the corner of a granary, in which there was a large quantity of corn, some sheep-skins with the fleece on, he was not a little surprised to find them, a few days after, covered with dead weevils. He repeated the experiment several times, and always with the same success. At last he ordered his corn to be stirred up, and not a single weevil remained in it. It appears, therefore, although the cause has not yet been ascertained, that greasy wool, when in the neighborhood of weevils, attracts and destroys them.

We give the above as we find it, in a scientific journal—we know not what credit to attach to it, but a trial will injure no one.

Brief Hints for Winter.

During winter, cattle are very apt to suffer from a want of water, as running streams are generally frozen, and they are mostly fed on dry fodder.

Cattle will drink several times a day, if the water is good and of easy access; proper provision should therefore be made for them.

Farmers will save a great deal of hay especially in wet and muddy weather, if instead of spreading it upon the ground for them to be trodden under foot, suitable racks are provided, so that none of it may be wasted.

As milk is very valuable in winter, great care should be taken that cows are now milked very clean. But as the operation is apt to be tedious at this season in consequence of the slowness with which it is given down, it is best, after having obtained what milk can be done easily at one milking, to pass round all the cows at the conclusion, and give them a second milking, being careful to drain them to the last drop.

Cows should not be dried up of their milk too soon before their time of having a calf—

this care is especially requisite in case of young cows which are milked for the first season; for when these are dried up too soon it is apt to cause a permanent shortening of their time of giving milk for each successive season. If they are the first season dried early in the fall, it is difficult to obtain much milk after that period in any year afterwards.

With careful milking, particularly the first year, and good keeping, cows may be made to give milk for almost any period required. even but a very short time before having a calf.

Farmers have differed with regard to the proper time of drying up cows; but this rule we believe to be nearly correct—if they are well fed and in good condition the milking may be continued until nearly the time of having calf; but if they are *not* in good condition, they should be dried a month or two before that period, in order to allow them to recover their health and strength.

Hogs and Hogpens.

A good sty is of the utmost importance in fatting hogs. Nor is it less important for keeping them in winter; as the more comfortably they are kept the less nourishment they require. The sty should be proportioned in size to the number of swine it is to contain. One of sixteen feet by twelve is probably sufficient for eight fatting swine. It should be divided into two apartments; that in the rear, which should be about six feet wide, should be close and warm for the hogs to lie in. Here they should have a constant supply of dry litter, when the weather is cool; for it is an essential point to keep them comfortable. The front part of the sty which would then be about ten feet wide, should have the floor descending on one side for the filth to run off; and on this side should be an opening. The trough should be on the upper side, covered with one or more lids; and upright pieces should be set before it, at such distances apart as that one hog only could put his head between any two of them, in order that while feeding, the weaker animals should be protected against the stronger. The whole should be covered with a roof; for it is essential that they be protected from storms, while they are in the outer or feeding apartment.—According to the foregoing, if sixteen hogs are to be kept or fatted in the sty, it should be thirty-two feet long and twelve wide, and in that case there might be a sleeping apartment at each end. These apartments should again be subdivided, that, for the quiet of the animals, particularly in fatting, too many may not be forced to lie together. It would probably be best also to divide the feeding apartment; for too many hogs kept together are not apt to enjoy that peace and quiet which is necessary to their fatting well.—Posts should also be set up in the sty for the hogs to rub themselves. If thirty-two hogs are to be kept or fatted, then, perhaps the better way is, to have two styes, of the dimensions last described, placed together, with a roof over the whole, and a passage between them for the purpose of carrying food to the trough. If a part of the roof extended considerably beyond the sty, it would afford a convenient cover for forming a heap of compost from the dung of the swine.

Grass Seeds, to be Sown.

Grass seeds are often defective in quality; are seldom sown in sufficient quantities, and they are very rarely put in with proper care. Accurate husbandry is more essential for the proper laying down and management of grass lands, than any other branch of the agricultural art. Fine tilth, careful sowing, ample supplies of manure, are especially requisite in a country exposed to extreme cold and excessive drouth. Autumnal sowing has generally been found most successful; but the practice of sowing clover upon wheat and rye crops, must necessarily be continued in the spring. A light harrow, with wooden tines, should, in all seasons, be used for covering grass seeds. In the spring, the wheat and rye crops are benefitted, by its application: their roots, which are often diseased from being thrown out by the frost of the winter, are brought into contact with fresh earth. The grass seeds are covered by the aid of the harrow: a very light roller, after, by slightly compressing the earth, secures to the tender germs nutrition, at the moment when it is most required, and fills up the interstices immediately about the roots of the plants, upon the products of which, the farmer's hopes principally depend.—[*John Hare Powell.*]

Importance of Manures.

Every individual who can make pretensions to a knowledge of farming, is aware of the importance of manures.

These in the opinion of the writer, should be used for summer crops exclusively, except plaster—and the farmer should manure as much as he can thoroughly, at least ten wagon loads to the acre, and when properly done it will answer for ten years—on some soils longer. Long manure is most valuable, when ploughed in. Ridiculous prejudices exist among some farmers, against the use of plaster. They erroneously suppose it will injure their land, in time, by exhausting it. In the river counties it has been freely used for half

a century, and lands which before its introduction were worth $15 an acre, are now selling for sixty to one hundred dollars. It is of great value as a manure, and can be advantageously applied to meadows, (if not wet,) pasture land, to corn and potatoes, and even to wheat, especially in dry seasons.

Late sown wheat should always be plastered in the spring and some farmers think in the fall.

Wood ashes are also an excellent manure for most kinds of land, especially when mixed with plaster—principally after a top dressing, for corn and potatoes, and even for peas.

But the easiest and cheapest way to manure good arable lands, is by clover and plaster.—In fact, the farmer should raise no other grass, for pasture, and upland stocked down for meadow should consistof this grass, mixed with wheat, which is termed timothy grass—and every farmer should raise his own grass seed.

It should be thickly sown in the herl, and the whole of the land sown with wheat should be seeded with clover. This system of husbandry not only greatly enriches the land, but keeps out weeds and other grasses less valuable and more difficult to subdue. In a word leaves land at all times in a proper state for the the reception of a crop of grain.

The large or mammoth clover is the most valuable species for this purpose, and if thickly sown, will make good hay.

Some farmers raise two or more wheat crops in succession on the same land. This is a bad practice. The second crop is always uncertain, and it generally leaves the land covered with chess and cockle.

The good farmer will always endeavor to have a regular rotation of crops—first corn, peas, or beans; then wheat, and then grass,—and never two wheat crops in succession—or oats, or rye, after wheat; or in other words, his green crop will precede and follow his white one.

The green crops in succession are also injurious to land, as corn after corn.

Corn should always be raised on sward land, and it should be highly manured. Peas will also grow well on clover sward, ploughed in the fall, and also beans and potatoes.

I think I before remarked that corn should never be topped—it injures the grain and the produce is less by eight or ten bushels to the acre.

But, sir, I find I am scribling at a great rate, and must close my remarks for the present. A FARMER.

P. S. I am a great enemy to oats, and greater to flax; they are both great exhausters; and wheat should not follow either.—Some of our farmers cultivate flax for the seed. It will prove to them the dearest crop they ever raised. The good farmer will not raise to sell oats or flax. They may afford a quick return, but, on wheat land, will in the end prove to him a dear crop. A heavy crop of corn is far less injurious than either, and the wheat crop after will be better, provided the land was well manured in the spring.

Hints to Farmers.

There are two particular items, to which I would call the attention of our farmers, viz. to do every thing at a proper time and in a proper manner. Never to put off any thing till to-morrow that may be done to-day, is an excellent maxim, and should be observed by every farmer: while he holds in everlasting contempt that saying of the Spaniards, do nothing to-day that can be put off till to-morrow. Very much of a farmer's success will depend on a due regard to the observing of time. If his land is in good order to sow his seed he should never wait for the morrow that the moon may change. I heard a respectable farmer "*down east*" ask another if he paid attention to the moon's phases, when he sowed his peas; he replied that he did not even let the moon know when he sowed them! You may smile at the old gentleman's remark, and I may say to such as do regard the moon when they sow their seed that I am astonished at their folly! But to return; a man can do much more work in season by a little regard to order. Generally speaking, every part of a farmer's work should be as distinctly separated as the ends of his fingers, though this rule will not hold good in every case. A farmer was asked how he got along so well with his work? he replied that he did but one thing at a time. Solomon said (and surely he ought to know) to every thing there as a season, and a time to every purpose under heaven, a time to plant and a time to pluck. But perhaps enough of that. Then let every thing be done in a proper manner. It would be well for every farmer to remember what I many times heard an excellent farmer say, "if a thing is worth doing at all it is worth doing well." This applies to every person whether farmer or mechanic. But to the farmer more especially. If his land is worth ploughing at all, it is worth doing well. It is too often that the farmer reasons thus: "If I expend ever so much labor and money upon this piece of land, it will yield but little, therefore I will not take much pains with it." He might as well say of the best piece of land he has if I sow or plant this, and the corn or wheat should do well, it might be destroyed by mildew or some other means, therefore I will let it lie. This is in nothing more necessary than in making fence or building

houses. For instance notice the fastening of gates or driving stakes. One stitch in time or manner will save nine. By doing one thing well another thing may be preserved, and much property saved. But one more hint; after a farmer has committed his seed to the earth, it is his duty to pray to the Giver of every good and perfect gift, that he may have an abundant harvest. Have the prayers of every man been answered to the restraining or giving rain to water the earth? Who is it that gives us fruitful seasons, filling our hearts with gladness?

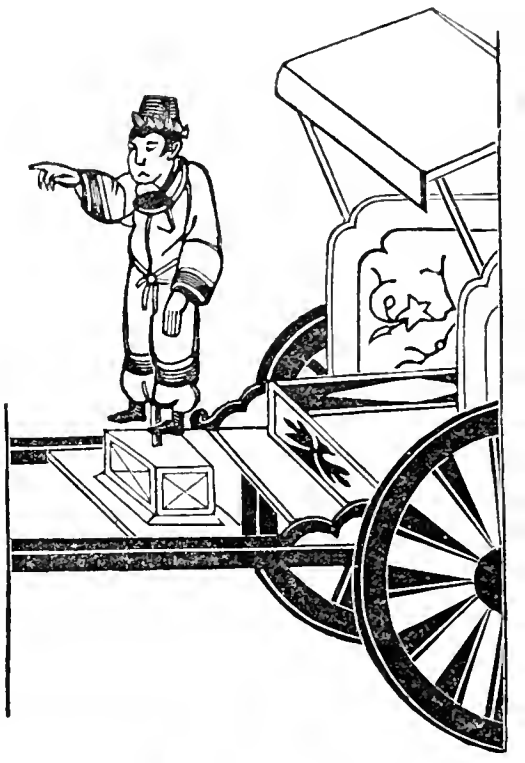
Poughkeepsie Telegraph.

Invention of the Mariner's Compass.

The invention of this precious instrument has hitherto been awarded to Favio Gioia, a Neapolitan, in 1302, or 1303. But this statement has rested on no satisfactory evidence; and, when it was discovered that the Chinese and Arabian authors had spoken of the magnet's polarity before the fourteenth century, it began to be suspected that the Neapolitan was merely the introducer of the compass into Europe. To settle the question, in January, 1834, Baron Humboldt wrote to M. Klaproth to ascertain the epochs,—1st. When the Chinese discovered the polarity of the magnet; and 2d. When they began to apply it to the purposes of navigation. M. Klaproth has replied in a work, published in Paris towards the close of the year, in which the most remarkable proof of the Chinese claims to this invention, is in the history of the magnetic chariots, whose origin is lost in the obscurity of the mythological ages. The accompanying representation of one of these chariots is taken from the 33d volume of *Japanese Encyclopædia.*

The figure in front of the chariot was made of some light material; it was fixed upon a pivot, and its finger invariably pointed to the south, which, as we have already said, was the *kibleh*, or sacred point of the Chinese, to which they always turn when performing their devotions. It is intimated rather obscurely, that these magnetic chariots were first invented for a religious purpose, namely, to enable the devout to discover their *kibleh* when the sun and stars were obscured by clouds—a purpose to which the compass is frequently applied in the present day by Mohammedan nations; but there are very full descriptions of the use made of these chariots in directing the march of armies, and guiding ambassadors M. Klaproth has collected, from Chinese authorities, many curious anecdotes of the use made of these chariots; under the Tsin dynasty they formed a part of every royal procession. In the *Tsin-tchi*, or history of that dynasty, we find —"The wooden figure placed on the magnetic car resembled a genius wearing a dress made of feathers; whatever was the position of the car, the hand of the genius always pointed to the south. When the emperor went in state, one of these cars headed the procession, and served to indicate the cardinal points."

Fig. 63.



[Magnetic Chariot.]

In the history of the second Tchoa dynasty which lasted from A. D. 319 to A. D. 351 we read,—"The Chang-Fang (president of the board of works) ordered Kiai Fei, who was distinguished by his great skill in constructing every kind of instrument, to build a number of magnetic chariots, which were sent as presents to the principal grandees of the empire." There are several accounts of the manner in which the magnetic figures were constructed; as our readers have probably anticipated, a magnetized bar passed through the arm of the figure; and the only variety of ingenuity displayed by the architects was in balancing the figure upon its pivot. The antiquity of these magnetic chariots is established incontrovertibly; the step from them to the compass is so very easy, that we may safely assert that the one must have led immediately to the other.

Arcana of Science.

Mr. Westbrook, of Muskingum Co. Ohio, has found that the Chinese Mulberry grows with the greatest luxuriance in that soil.

Wintering Sheep.

In few kinds of business carried on by the farmer, is care more necessary, or skill and attention better rewarded, than in the raising and keeping of sheep. The finer wooled varieties of this animal—those from which the greatest profit is derived—are precisely the ones which suffer the most from neglect; and, by the inattention of the owner, often subject him to serious losses, which might by proper precautions, be entirely avoided.

Sheep suffer the most from maltreatment in the early part of winter; any injury arising from neglect then, being, from the very constitution of the animal, very difficult to remedy afterwards. There is a point in the descending scale, to which, if a sheep is once allowed to fall, it usually renders all efforts to raise them unavailing.

One great cause of the losses sustained in keeping sheep through our winters, is the allowing them to "shirk" for themselves too long in the fall of the year. Scattered over the fields long after the frosts have destroyed every thing that is green, and perhaps after the earth is covered with snow, they gather a precarious subsistence, and are rapidly losing the flesh and the strength which, with proper treatment, would enable them to combat the rigors of winter, and what is termed the faintness of spring, successfully. Better to collect sheep into their yards as early as the first of December, and commence their regular feeding, than to wait until January before it is done, under the idea that by so doing, fodder is saved. There may be indeed a partial saving of fodder, but far too frequently such saving of fodder is the death of the sheep.

Another thing that occasions great injury to our flocks, is the keeping too many together. Observation must have convinced every farmer that a small flock of sheep, will, with the same feeding, do much better than large ones; that from forty to sixty is as many as can be advantageously kept together; yet it is nothing uncommon for men who call themselves good farmers, to keep from one hundred and fifty to three hundred in a flock.

Another great defect in the common treatment of sheep, arises from there not being proper attention paid to the respective health and strength of the animals, when flocks are divided into sections. These things should be looked to with great care, as to put a few weak and sickly sheep with a flock of strong hearty ones, is not only to ensure the loss of the former, but frequently to endanger the safety of the latter by the spread of disease. In such cases the weak ones, which require the best of the food given to the flock, are obliged to be content with the refuse of the whole, or such as has been rejected or trampled on by the strong; and the result is as might be expected from such an unskilful mode of proceeding.

Every man who keeps sheep should have one department of his flock devoted to his weak or sickly sheep, and no sooner does he discover one coming under either of these classes, than it should be immediately taken and placed where it can receive more attention and better food than is required by those that remain strong. Sheep, when thus put into the hospital, at this division may be termed, should be fed with fine hay; roots cut fine and salted; oats in the sheaf, or an occasional handful of dry corn; and if every few days a quantity of pine or hemlock tops be given them, the effect will be good, furnishing a green, and for any sheep, a healthy change of food.

Those who wish to have their wool in fine order, and in such a state as to command the highest prices in the market, will pay particular attention, not only to their sheep having an adequate supply of food, but to the manner in which it is fed to them. Manufacturers dislike to have the wool they use filled with grass and other seeds, and from the additional labor such wool requires, usually compel the grower to submit to a deduction of some cents per pound. When hay is thrown from a sack, or a cow-house where sheep are present, unless some care is used, this result usually follows, as the sheep are certain to collect under the falling hay, and their wool receives and retains most of the seeds scattered at such times. So too when fed from the common elevated rack, their wool will be injured by the retention of seeds dropped on their necks and backs in drawing out the hay.

To avoid this evil and loss, racks should be used the sides of which are perpendicular and which are so low that the sheep in getting his food need not fill his eyes and wool with dust and seed. Several plans for very good racks have been presented in former volumes of the Farmer; and no one can fail of constructing good ones, if he only avoids the errors of making them overhanging, and setting them too high. [See Farmers' Cabinet, No. 7, page 107.] No animal whatever should be fed with hay without racks, though there are few in which the benefit is so decided and apparent, as in feeding sheep.—Where a number of sheep are kept together and the hay for them is scattered over the ground in the usual manner, the whole flock will dog the heels of the feeder, and by the time he has been the rounds, the hay is so dirtied and trampled upon, that a large part of it is refused by the sheep and lost.

Some farmers maintain that drink or shelter is unnecessary, or that they are on the whole disadvantageous for sheep. This must be a mistake, for on such matters the decisions of instinct may much more safely be relied upon, than the mere opinion of any observer; and it is well known that sheep will always use drink, or will seek a shelter if one can be had, during high winds or severe storms. It is contrary to the order of nature that any animal should suffer injury from being kept comfortable. If the place of shelter is too small or ill ventilated, sheep are injured by being crowded into such confined limits; but it is the height of absurdity to suppose that the health of a sheep, and consequently the quality of the wool, will not be better, where care and comfort are attended to, than where both are neglected.—*Genesee Farmer.*

For the Farmers' Cabinet.

Green Vegetable Manure.

An article in the Farmers' Cabinet of January the 1st, states that green vegetable substances may be "rendered of immense value to the farmer by their conversion into manure."

The process is effected by mixing quick lime with weeds or green rubbish of any kind, which immediately heats and decomposes the whole mass. The ashes and lime are then spread upon the land, and is represented to have an immediate and powerful effect upon its produce.

I have no doubt of this fact, in a limited sense; the effect of ashes upon the produce of land is well known to farmers generally; but the economy of reducing green vegetable matter into ashes, for the purpose of manure, is not so evident. The quantity of manure is so reduced by the operation of burning, that we have generally considered it a waste to consume vegetable matter for the purpose of obtaining ashes; and statements which are expected to change this opinion ought to be very minute and particular in detail. The article referred to states that the clover mowed from an acre of land would, when burned, manure four acres; but we are not told how it would manure it, we know nothing of the amount of manure, nor the produce of the land; if we knew the number of bushels of ashes, or the produce of the four acres compared with that of the previous season, we could form some opinion as to the advantage of the operation. Experience has so far told us that a great degree of heat destroys the quantity of vegetable manure, and that no residum left after the operation of fire is equal to the same materials reduced to a soluble state by putrefaction. Horse manure thrown into a dry place will heat and waste its substance so as to be comparatively useless; but if spread under sheds where cattle feed, they will tramp upon it and keep it moist enough to encourage gradual decomposition without injury by overheating. The clearing up of fences and other neglected places, from all kinds of green rubbish, and depositing it in the hog pens, with occasionally a load of dirt spread over the whole, increases the quantity of the best kind of manure, and would, I presume, be more profitable than to convert the materials into ashes. Plaster of Paris spread upon corn stalks and the long litter of the barn-yard, in order to hasten the decomposition, has every appearance of producing the desired effect, but lime, from its caustic qualities, is supposed to be injurious to composts of every description.

A Subscriber.

Wilmington, 1st mo. 10th, 1837.

[In the article referred to we simply gave the facts as they were related to us, with the hope that some of our readers would make the experiment, and communicate the result. "A Subscriber" will please accept our thanks for his attention, with an assurance that future communications will be duly acknowledged.]

Farming.

This is certainly the most healthy and pleasant employment we can pursue. The great variety of exercise in the open air which it affords, give a healthy turn to the functions, and adds much to the vigor and strength of the body to which we are in a great degree indebted for all the enjoyment of life. If wealth be the object of our pursuit, this is the surest way of accumulating it. The riches of the farmer gradually but permanently increase. Look at them who for the last ten years have done nothing but attend to the business of their farms, and have been industrious and prudent. Have they not increased in property? Are not their buildings and fences in better condition? Have not their flocks and herds increased? Have they not either purchased more land or have money to let? There is certainly no *more* than one to ten of the persons who for the last thirty years have done nothing but farming, but that has a competence and is comfortably situated in life; while on the other hand ten to one of those, who for the same period have been engaged in speculation and trade, have been or now are *Bankrupts*.

If honor be the point to which your course is directed, engage in agricultural pursuits; for what will be a greater elevation than to be connected among that class of citizens which are universally acknowledged to be as a body, the most respectable in our country

No condition which a man can acquire to himself is above that in which the virtuous will acknowledge him to be an honest man and a good farmer.

If the cultivation of the intellect and intellectual enjoyment be the object, the pursuits of agriculture afford an ample field to display the taste and gratify the wishes. The pleasure of pursuing this occupation when compared with that of others, suffers nothing by the comparison. Man is said to be a microcosm or miniature world, and I will add, naturally in a rude and unsubdued state. His natural dispositions and propensities answer to the forest before the ingenious hand of the cultivator has been displayed in subjugating it to use. The reflecting mind can form a striking analogy between his own internal condition and the employment in which he is engaged, from the hardy and rugged business of felling trees and clearing up the forest, even to the most delicate employment of cultivating the flower garden.

This may be rendered more plain by drawing a few among the innumerable comparisons which may justly be adduced. The felling of trees and clearing up the ground, answers to the first work of subduing the natural mind by putting off the rude and unseemly manners, of which by nature we are possessed, and which are refined by instruction and improvement almost from infancy. The planting of fruit, and other useful trees, answer to the adoption and cultivation of those more refined manners and habits of usefulness which in after life will produce us a rich yield of the fruit of agreeable associations and pleasant intercourse with the world. Ploughing and working the ground, corresponds to improving the mind by education. Planting and raising crops which support the body, corresponds to the study of the sciences which strengthen and prepare the mind for the reception of truths of a higher order which will elevate it towards that Source of perfection which is light and life itself. Hoeing up and destroying the weeds which grow up among our crops, and will, if unsubdued, choke and destroy them, corresponds to the suppressing those bad tempers to sensual passions which are continually springing up in our minds and if unchecked will destroy every thing good that has been there implanted. Building fence to secure our fields from the intrusion of bad and mischievous animals, which would destroy the products of our labor, corresponds to storing the mind with Divine truths, which are the only protection against the invasion of Infidel principles, which, if once they get in, will destroy every principle of truth in the understanding. To follow up these comparisons to every portion of agricultural employment, and trace them through their minute bearing, affords a great deal of pleasure to one possessed of a mind which delights in such reflections. Thus while the hands are at work in the field, the mind can be employed in the great field of Nature, "and look through Nature up to Nature's God."

Maine Farmer.

More Economies.

How to save oil and candles.—Use sunlight two hours in the morning, and dispense with candles and lamps two hours after 9, P. M. The morning sun-light is much cheaper and better than evening lamp light.

How to save expense in clothing.—Purchase that which is at once decent, and the most durable; and wear your garment despite the frequent changes of fashion, till it becomes too defaced to appear decent; then turn it and wear it henceforth as long as it protects the body. A blue coat is as warm after fashion requires a green one, as it ever was. A red shawl in fashion to-day, is as comfortable as a black one which fashion requires to-morrow. A few years hence your fame will not depend upon the style, color or quality of the broadcloth you wear in 1837.

How to save time.—Have a place for every thing, and when you have done using it, return it to its place. This will save much time in hunting after articles which are thrown carelessly aside and lie you know not where.

How to save expenses in traveling.—Cultivate the bump of inhabitiveness; and if you want to go a mile or two, walk rather than hire an establishment at the livery stable. This will be for the health of your body, as well as a security of your purse from languishment.

How to save in little matters.—Procure a book and keep an exact account of all your expenditures. At the expiration of three months, review the account and see how much you have expended in four penny and nine penny items which you could have done without as well as not. Then see to it that each ensuing quarter shall be minus just those things. In many cases the aggregate would be found more considerable than you would be aware of, unless you kept such an account.

How to save your property, if your house should be consumed by fire.—Get insured. No one is entitled to much charity after he suffers loss, if he neglects so easy a method of securing himself.

PRICES CURRENT.

ARTICLES.	Philadelphia, Jan. 28.	Baltimore. Jan. 27.	New York, Jan. 27.	Boston, Jan. 18.
Beans, white, per bush.	$1 80—2 00	1 37—1 50	2 20—2 50	1 75—2 2
Beef, mess, new, per bbl.	14 00–14 50	14 00–14 50	12 00–13 50	14 25–14 5
Bacon, western, per lb.	11 13	10— 11½	.....	.....
Butter, extra, per tub	18— 19	.....	.....	22— 2
Butter, fresh, per lb. (market,)	25— 37	25— 37½	25— 40	30— 37
Hams, per lb.	13— 14	.....	13½- 14	14— 1
Hog's Lard, per lb.	.....	15— 16	16— 16	16— 1
Cheese, American, per lb.	10— 11	10— 11	8¼- 10	9— 1
Beeswax, yellow, per lb.	26— 27	28—	27— 28	26— 2
Beeswax, white,	37— 39	40—	38— 40	38— 4
Bristles, American,	40— 65	.....	25— 65	30— 7
Flax, American,	9— 10	.....	8½— 9½	.....
Flour, best, per bbl.	11 00–11 25	10 25—	11 62–11 87	13—13 2
GRAIN—Wheat, per bush. Penna.	2 10—2 42	.....	.....	—2 12
do. Maryland,	2 05—2 25	2 20—2 15	.....	.....
Rye, per bushel,	.....	.....	1 15—1 20	.....
Corn, do.	80— 94	— 91	1 00—1 25	1 12—1 1
Oats, do.	53— 55	60— 65	70— 75	65— 6
Barley, do. Penn.	83— 90	.....	.....	90—1 0
Peas do.	.....	1 12½—	1 00 1 06	.....
HAY, Timothy, per 100 lbs.	1 00—1 10	.....	.....	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	.....
Hops, first sort, 1836, lb.	10— 11	.....	.....	9— 1
Plaster Paris, per ton,	5 00—5 25	3 00—3 25	4—	3 00—3 1
SEEDS—Cloverseed, per bushel,	6 50—7 50	8 25—8 50	.....	.....
Flaxseed, rough, do.	1 85—1 87	1 62—1 75	1 65—1 75	—1 5
Timothy,	2 25—2 75	3 00—3 50	2 25—2 50	3 00—3 1
Tallow, per lb.	— 11	— 8½	— 9½	9— 1
WOOL—Saxony, fleece, per lb.	68— 75	55— 68	75— 80	70— 7
Merino,	60— 67½	48— 55	50— 68	65— 7
1-4 and common,	40— 44	36— 40	25— 40	45— 5

Remarks.

Flour of the best brands has advanced a fraction. *Wheat* varies, according to quality, from $2,10 to $2,42 per bushel. *Rye* is in demand, as the market is entirely bare. Pennsylvania *Barley*, quoted above at 83¼ cents per pushel, was an inferior article. In *Butter* and *Lard*, sales rather limited, but no variation in price. Receipts of *Clover* and *Flaxseed* have been small; prices fully sustained. Good *Tallow* is in demand at eleven cents per lb. In NEW-YORK, the *Flour* and *Grain* market remains inactive. It is difficult for holders to realize former rates, except for very small parcels. *Rye Flour* is said to be extremely scarce. Prices in the *Cattle Market* have declined.

To New Subscribers---Back Numbers

Nos. 1, 2, 3 and 4, of the Farmers' Cabinet, have been reprinted, and Nos. 5, 6, 7 and 8 are in a course of publication. As fast as these numbers are reprinted, they will be forwarded to those subscribers who have not been previously supplied. No. 8 is in hands, and will be forwarded in the course of the ensuing week.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, February 15, 1837.** **No. 15.**

The Importance of Agriculture.

BY AGRICOLA.

The want of a due estimation of the pursuits of Agriculture, is, in many countries, a grand impediment to its progress. Where the cultivation of the soil is regarded with contempt, or as beneath the attention of men of standing and education, it will be entrusted to the management of persons of narrow capitals and still narrower minds. Such prejudices operate in various places. In almost every part of the United States they are fortunately rapidly dissipating, and agricultural pursuits are viewed, as they should be, as the basis of our strength and prosperity, and therefore, worthy the attention of the wise and good.—Many of our best citizens, who were distinguished in the field and in the cabinet, are now to be found on their farms, devoting their time and attention to the occupations of husbandry, as the surest means of gaining an honorable subsistence and of doing good to their country, by thus encouraging and patronizing this first of arts.

An absurd idea, however, yet too generally prevails, that young men, and many of those who have fine landed estates, must of necessity study and pursue some public profession, the pursuits of agriculture being too low and mean to engage their talents and attention.

Agriculture, when skilfully pursued, is calculated to call into action every noble and improved faculty of the mind, and is capable of being aided by the most interesting branches of the sciences; and in the late improvements which it has undergone, it has been shown that some of its most important principles are derived from, and may be illustrated by chemical doctrines. The objection, therefore, that young men would have no employment for their talents and learning, were they to engage in the pursuits of agriculture, is entirely groundless.

I consider the insensibility to the magnitude of the subject, to be the greatest obstacle in the way of advancement, which agriculture has to encounter.—The first preparatory step towards its improvement, is to satisfy the minds, not only of farmers, but of the community at large, that it is an object of primary importance; and not attainable in perfection, by mere farmers. If this be not accomplished, efforts to introduce any thing like system, or principle, will be arduous indeed.

A *farmer* should be considered, by *himself*, as well as by all other members of the community, as one placed in a situation to perform the most beneficial services to the public, by exercising a calling in which all other citizens are peculiarly interested. He may be, personally, no better or worse than others; but the art in which he is engaged, is the most essential, of all others, to the general welfare; an art which should be encouraged and supported by all manner of citizens. Agriculture having been not only the first of *Arts*, in priority of time, but the first in the estimation of the wisest and greatest men in every age, should ever be deemed the first object, both of public and private attention. Power, especially that delegated by the people, should extend its arm, and open its hand, for its aid and protection. Wealth should unlock its coffers for its encouragement; science and every mental acquirement should be liberally bestowed, when instruction is required, as it always has been, by the tillers of the earth; whose occupation in a great degree, secludes them from opportunities of gaining scientific knowledge, and a capacity for philosophic research. Commerce should yield to the support of Agriculture, a share

of those profits whereof it is the source; and Manufactures should bestow a willing tribute to the art, on which their subsistence depends. Those who devote themselves to the learned professions, should render to it, both homage and contribution. Their usefulness, or gains, would be small indeed, among shepherds and hunters—and those were for the most part, the employments of man, before agriculture widely diffused its blessings, and mainly contributed, not only to the civilization, but to the happiness, wealth, subsistence and safety of our race. Those who minister at the *Altars*, and are our instructors and examples, in our most exalted concerns, are also bound to animate, instruct, and encourage the cultivators of the soil. Many of them, in other countries, have been highly meritorious, both in precept and example, on this subject. And they peculiarly know, that the exercise of this art, is venerable for its antiquity;—was enjoined by a dispensation of Providence, and established by an ordinance of Heaven.

Those who have a permanent residence in our towns and cities, should be more convinced, than they have hitherto been, of the obligations they owe to agriculture. Their daily subsistence, and their necessary comforts and even luxuries, depend, either directly or consequentially, on this first of arts.—The better the style of husbandry, the more benefits they derive from it. It is no reasonable excuse for withholding their assistance, or encouragement, that they are not agriculturists. They possess, and should bestow, the means of promulgating encouragement and information to those who are engaged in the labors of the field.

On us, whose happy lot is cast in a free country, the extension and encouragement of agricultural improvement, is most impressively incumbent. Montesquieu has, with truth, observed, that "countries are not cultivated in proportion to their fertility, but to their liberty."

The Athenians, among the first of the Greeks who acquired a free government, and the polish of civilization, and science, were famed for their knowledge in agriculture. Xenophon, one of their distinguished citizens and celebrated historians, has many years ago remarked, that "Agriculture is the nursing mother of the arts. For, where it succeeds prosperously, there the arts thrive; but where the earth necessarily lies uncultivated, there the other arts are extinct."

In the early periods of the Roman Republic, when liberty was a substantial blessing, and not an empty sound, the highest praise that could be given to any citizen, was to say of him, "that he well cultivated his spot of ground." And the leading propensities of her greatest men, were to cast off their robes of state—lay aside their truncheons, and en signs of power—to "cultivate their spots o ground."

Let it not be understood, that the encour agement and improvement required for ag riculture, is intended for the mere persona emolument of the farmer. Those who tak an incorrect or improper view of the subject allege, that "farmers are doing well enough —and want no improvement." Every on acquainted with political economy, know well, how extensively it adds to the genera advantage of the community, when the sam portion of labor is made to produce an in creased number and quantity of supplie And eminently distinct from all other employ ments is that of the husbandman, whic brings into existence, by a kind of creatio additions to the public stock, drawn from th earth. Whereas most, if not all other occu pations, are employed on materials pre-ex isting. *Farmers* are truly called, by th best writers on political economy, "the pr ductive class," whilst all others are justl styled, "the unproductive classes" of th community.

It is not necessary to cite opinions, o proofs, from great authorities, to show tha whilst able and intelligent farmers enlarg the mass of property and wealth in the soc ety in which they live,—they also increas the public security and happiness.

It will be seen at once by every one wh passes through a country productively an neatly cultivated—that quietude, conten ment, morals, and exemplary submission t law and good government, are strikingl conspicuous. But in a district inhabite by a negligent, and *ignorant* population, th picture is disgustingly, and even dangerously reversed. So that it behoves every goo citizen, for his own security, as well as fro motives of patriotism and moral obligation, assist in furnishing the means of warning th negligent, stimulating the indolent, and e lightening the ignorant husbandman.

Manure.

There is nothing of greater impor ance to the Agriculturist, than a co rect knowledge of those substance best adapted for producing an increas of crop. These are denominated *ma nures*, and consist of vegetable or an mal matters. We are indebted to S H. Davy, in his Lectures on Agricu ture, for the best explanation of th manner in which they accelerate veg tation. As this valuable work is on in the hands of a few, we have thoug

it would be of advantage to the farming interest, to lay before them the following brief analysis of its contents.

The great object in the application of manure, should be to make it afford as much soluble matter as possible to the root of the plants; and that in a slow and gradual manner, so that it may be entirely consumed in forming the sap or organized parts of the plant. Mucilaginous, gelatinous, saccharine, oily and extractive fluids, and solution of carbonic acid in water, are substances that in their unchanged states contain almost all the principles necessary for the plants; but there are few cases in which they can be applied as manures in their pure forms; and vegetable manures, in general, contain a great excess of fibrous and insoluble matter, which must undergo chemical changes before they can become the food of plants. Whenever manures consist principally of matter soluble in water, their fermentation or putrefaction should be prevented as much as possible; and the only cases in which these processes can be useful, are when the manure consists principally of vegetable or animal fibre. The circumstances necessary for the putrefaction of animal substances are similar to those required for the fermentation of vegetable substances; a temperature above the freezing point, the presence of water, and the presence of oxygen, at least in the first stage of the process. To prevent manures from decomposing, they should be preserved dry, defended from the contact of air, and kept as cool as possible. All *green succulent plants* contain saccharine or mucilaginous matter, with woody fibre, and readily ferment. They cannot, therefore, if intended for manure, be used too soon after their death. When *green crops* are to be employed for enriching a soil, they should be ploughed in, if it be possible when in flower, or at the time the flower is beginning to appear, for it is at this period that they contain the largest quantity of easy soluble matter, and that their leaves are most active in forming nutritive matter. Green crops, pond weeds, the parings of hedges or ditches, or any kind of fresh vegetable matter, requires no preparation to fit them for manure. The decomposition slowly proceeds beneath the soil; the soluble matters are gradually dissolved, and the slight fermentation that goes on, checked by the want of a free communication of air, tends to render the woody fibre soluble without occasioning the rapid dissipation of elastic matter.

When old pastures are broken up and made arable, not only has the soil been enriched by the death and slow decay of the plants which have left soluble matters in the soil; but the leaves and roots of the grasses living at the time and occupying so large a part of the surface, afford saccharine, mucilaginous, and extractive matters, which become immediately the food of the crop, and the gradual decomposition give a supply for successive years. *Rape cake*, which is used with great success as a manure, contains a large quantity of mucilage, some albuminous matter, and a small quantity of oil. This manure should be used recent, and kept as dry as possible before it is applied. It forms an excellent dressing for turnep crops, and is most economically applied, being thrown into the soil at the same time with the seed. *Malt dust* consists chiefly of the infant radicle separated from the grain. We have not a correct analysis of this manure; but there is great reason to suppose it must contain saccharine matter; and this will account for its powerful effects. Like rape cake it should be used as dry as possible, and its fermentation prevented. *Linseed cake* is too valuable as a food for cattle to be much employed as a manure. *The water* in which *flax* and *hemp* are steeped for the purpose of obtaining the pure vegetable fibre, has considerable fertilizing powers. It appears to contain a substance analogous to albumen, and likewise much vegetable extractive matter. It purifies very readily. A certain degree of fermentation is absolutely necessary to obtain the flax and hemp in a proper state; the water to which they have been exposed should therefore be used as a manure as soon as the vegetable fibre is removed from it. *Sea weeds*, consisting of different fuci, algæ, and confervæ, are much used as a manure on the sea coast of Britain and Ireland. By digesting the common fucus, which is the sea weed usually most abundant on the coast, in boiling water, it yielded about one-eighth of a gelatinous substance, which had characters similar to mucilage. This manure is transient in its effects, and does not last for more than a single crop, which is easily accounted for from the large quantity of water, or the elements of water it contains. It decays without producing heat when exposed to the atmosphere, and seems as it were to melt down and dissolve away.

Dry straw of wheat, oats, barley, beans and peas, and spoiled hay, or any other similar kind of dry vegetable matter is, in all cases, useful manure. In general, such substances are made to ferment before they are employed, though it may be doubted whether the practice should be indiscriminately adopted. There can be no doubt that the straw of different crops immediately ploughed into the ground affords nourishment to plants, but there is an objection to this method of using straw, from the difficulty of burying long straw, and from its rendering the husbandry foul. When the straw is made to ferment

it becomes a more manageable manure; but there is likewise on the whole a great loss of nutritive matter. More manure is perhaps supplied for a single crop; but the land is less improved than it would be, supposing the whole of the vegetable matter could be finely divided and mixed with the soil. Mere woody fibre seems to be the only vegetable matter that requires fermentation to render it nutritive to plants. Wood ashes imperfectly formed, that is, wood ashes containing much charcoal, are said to have been used with success as a manure. A part of their effects may be owing to the slow and gradual consumption of the charcoal, which seems capable, under other circumstances, than those of actual combustion, of absorbing oxygen so as to become carbonic acid.

Manures from animal substances, in general, require no chemical preparation to fit them for the soil. The great object of the farmer is to blend them with the earthy constituents in a proper state of division, and to prevent their too rapid decomposition. Fish forms a powerful manure in whatever state it is applied; but it cannot be ploughed in too fresh, though the quantity should be limited. It is easy to explain the operation of fish as a manure. The skin is principally gelatine; which, from its slight state of cohesion, is readily soluble in water: fat or oil is always found in fishes, either under the skin or in some of the viscera; and their fibrous matter contains all the essential elements of vegetable substances.

Bones are much used as a manure in the neighbourhood of London. After being broken and boiled for grease, they are sold to the farmer. The more divided they are, the more powerful are their effects. The expense of grinding them in a mill would probably be repaid by the increase of their fertilizing powers; and in the state of powder they might be used in the drill husbandry, and delivered with the seed in the same manner as rape cake. Bone dust, and bone shaving, the refuse of the turning manufacture, may be advantageously employed in the same way. Horn is a still more powerful manure than bone, as it contains a larger quantity of decomposable animal matter. Hair, woollen rags, and feathers are all analogous in composition, and principally consist of a substance similar to albumen, united to gelatine. The refuse of the different manufactures of skin and leather form very useful manures; such as the shavings of the currier, furriers' clippings, and the offals of the tan yard, and of the glue maker. The gelatine contained in every kind of skin, is in a state fitted for its gradual solution or decomposition; and when buried in the soil, it lasts for a considerable time, and constantly affords a supply of nutritive matter to the plants in its neighbourhood. Blood contains certain quantities of all the principles found in other animal substances, and is consequently a very good manure. During the putrefaction of urine, the greatest part of the soluble animal matter that it contains is destroyed; it should consequently be used as fresh as possible; but if not mixed with solid matter, it should be diluted with water, as when pure it contains too large a quantity of animal matter to form a proper fluid nourishment for absorption by the roots of plants. Putrid urine abounds in ammoniacal salts; and though less active than fresh urine, is a very powerful manure.

Amongst excrementious solid substances used as manures, one of the most powerful is the *dung* of *birds* that feed on *animal food*, particularly the dung of sea birds. *Night soil*, it is well known, is a very powerful manure, and very liable to decompose. It differs in its composition; but always abounds in substances composed of carbon, hydrogen, azote, and oxygen. A part of it is always soluble in water: and in whatever state it is used, whether recent or fermented, it supplies abundance of food to plants. The disagreeable smell of night soil may be destroyed by mixing it with quick-lime; and if exposed to the atmosphere in thin layers, strewed over with quick-lime in fine weather, it speedily dries, is easily pulverized, and in this state may be used in the same manner as rape cake, and delivered into the furrow with the seed. The Chinese, who have more practical knowledge of the use and application of manures than any other people existing, mix their night soil with one-third of its weight of a fat marl, make it into cakes, and dry it by exposure to the sun. These cakes, we are informed by the French missionaries, have no disagreeable smell, and form a common article of commerce of the empire. The earth by its absorbent powers probably prevents, to a certain extent, the action of moisture upon the dung, and likewise defends it from the effects of air.

After night soil, *pigeon's dung* comes next in order as to fertilizing power. The dung of *domestic fowls* approaches very nearly in its nature to pigeons' dung, and is very liable to ferment. If the pure dung of cattle is to be used as manure, like the other species of dung which have been mentioned there seems no reason why it should be made to ferment, except in the soil, or if suffered to ferment, it should be only in a very slight degree. The grass in the neighborhood of recently voided dung, is always coarse and dark green; some persons have attributed this to a noxious quality in unfermented dung; but it seems to be rather the result of an excess of food furnished to the plants.

A slight incipient fermentation is undoubtedly of use in the dunghill; for by means of it, a disposition is brought on in the woody fibre to decay and dissolve, when it is carried to the land, or ploughed into the soil; and woody fibre is always in great excess in the refuse of the farm. Too great a degree of fermentation is, however, very prejudicial to the composite manure in the dunghill; it is better that there should be no fermentation at all before the manure is used, than it should be carried too far. Independent of the general theoretical views unfavorable to this practice, founded upon the nature and composition of vegetable substances, there are many arguments and facts which shew that it is prejudicial to the interests of the farmer. During the violent fermentation which is necessary for reducing farm yard manure to the state in which it is called *short muck*, not only a large quantity of fluid, but likewise of gaseous matter is lost; so much so, that the dung is reduced one half, or two-thirds in weight; and the principal elastic matter disengaged, is carbonic acid with some ammonia; and both these, if retained by the moisture in the soil, as has been stated before, are capable of becoming an useful nourishment to plants. A great objection against slightly fermented dung is, that weeds spring up more luxuriantly where it is applied. If there are seeds carried out in the dung, they certainly will germinate; but it is seldom that this can be the case to any extent; and if the land is not cleansed of weeds, any kind of manure, fermented or unfermented, will occasion their rapid growth. If slightly fermented farm yard dung is used as a top dressing for pastures, the long straws and unfermented vegetable matter remaining on the surface, should be removed as soon as the grass begins to rise vigorously, by raking, and carried back to the dung-hill; in this case no manure will be lost, and the husbandry will be at once clean and economical.

In cases when farm yard dung cannot be immediately applied to crops, the destructive fermentation of it should be prevented as much as possible. The surface should be defended from the oxygen of the atmosphere; a compact marl, or a tenacious clay, offers the best protection against the air; and before the dung is covered over, or, as it were, sealed up, it should be dried as much as possible. If the dung is found at any time to heat strongly, it should be turned over, and cooled by exposure to the air. When dung is to be preserved for any time, the situation in which it is kept is of importance. It should, if possible, be defended from the sun. To preserve it under sheds would be of great use; or to make the site of a dunghill on the north side of a wall. The floor on which the dung is heaped, should, if possible, be paved with flat stones; and there should be a little inclination from each side towards the centre, in which there should be drains connected with a small well, furnished with a pump, by which any fluid matter may be collected for the use of the land. It too often happens that a dense mucilaginous and extractive fluid is suffered to drain away from the dunghill, so as to be entirely lost to the farm.

Street and road dung, and the sweepings of houses may be all regarded as composite manures; the constitution of them is necessarily various, as they are derived from a number of different substances. These manures are usually applied in a proper manner, without being fermented. Soot, is a very powerful manure, and is well fitted to be used in the dry state, thrown into the ground with the seed, and requires no preparation.

The doctrine of the proper application of manures from organized substances, offers an illustration of an important part of the economy of nature, and of the happy order in which it is arranged. The death and decay of animal substances tend to resolve organized forms into chemical constituents; and the pernicious effluvia disengaged in the process, seems to point out the propriety of burying them in the soil, where they are fitted to become the food of vegetables. The fermentation and putrifaction of organized substances in the free atmosphere are noxious processes; beneath the surface of the ground they are salutary operations. In this case the food of plants is prepared where it can be used; and that which would offend the senses and injure the health, if exposed, is converted by gradual processes into forms of beauty and of usefulness; the fœtid gas is rendered a constituent of the aroma of the flower, and what might be poison, becomes nourishment to animals and to man.

Winter Food for Sheep.

Every farmer is aware, that one of the chief difficulties in the raising and management of sheep consists in preserving them through winter, without diseases or loss. Hence every fact or hint in relation to their winter management becomes of the first importance. It is indispensably necessary that sheep should be kept in good condition in order to prevent disease: and it is a secondary point, yet one to which much attention should

be paid, to make use of the cheapest kinds of food.

With regard to the quantity and nature of food, it should be such as to keep them in a strong healthy state, and rather full of flesh, yet not partaking too much of *fatness*. This good condition, even if maintained at considerably greater immediate cost, will be found by far the most profitable in the end; for independently of the constant danger of loss by death, when sheep are ill kept, they shear much less wool, and the future progeny is much weaker, in consequence of such imperfect management.

One of the most necessary requisites to be observed is constant and regular feeding. Sudden changes, from scanty to plentiful food, are highly detrimental, as is also the reverse. Perhaps the only exception to this remark, is the case of ewes rearing lambs, which require better feeding than in ordinary times.

The *quality* of the food is a thing of much consequence, and the *quantity* must be adapted to the quality. It is satisfactorily ascertained, that hay alone, is not adapted to keeping sheep in the best condition. Still less is it if they are not allowed a constant supply of water. But the intermixture of roots, and particularly mangel wurtzel, is found to produce an excellent effect. A very successful manager of sheep, whenever he feeds any kind of roots, or grain, to them, first gives them a foddering of straw in order to fill them, as he does not consider the roots digest so well on an empty stomach. In order to be able to proportion the different kinds of roots, grain, &c. according to their nutritive qualities, it is necessary to know in what proportions those qualities exist in them respectively. The following table exhibits the results of the experiments of the distinguished agriculturist De Raumer, on the effects produced by an equal quantity of several substances in increasing the flesh, tallow, and wool of sheep.

	Increased the weight of the living animal.	Produced wool.	Produced tallow.
	lbs.	lbs.	lbs.
1000 lbs. potatoes, raw, with salt,	46½	6½	12½
do. do. without salt,	44	6½	11½
do. mangel wurtzel, raw,	38½	5¼	6½
do. wheat, - -	155	14	59½
do. oats, - -	146	10	42½
do. barley, - -	136	11½	60
do. peas, - -	134	14½	41.
do. rye, with salt, -	133	14	35
do. do. without salt,	90	12½	43
do. meal, wet, -	129	13½	17½
do. buckwheat, -	120	10	33
do. good hay, -	58	7½	13
1000 lbs. hay with straw, without other fodder, -	31	15½	6½

These results agree nearly with those of De Dombale, and with those of a number of other agriculturists.

It has also been ascertained by the experiments of some eminent agriculturists, that

1 lb. of oil cake is as nutritious as two pounds of hay.

200 lbs. of good sound straw of peas and vetches are equal to one hundred pounds of hay.

300 lbs. of barley and oat straw are equal to a hundred pounds of hay.

400 lbs. of wheat straw are equal to a hundred pounds of hay.

It will be perceived by the above table that *wheat* produces the greatest increase in the flesh of the living animal, though but little greater than *oats*; that *peas*, *wheat*, *rye*, and *hay mixed with straw*, produces the greatest increase of wool; and that *barley* and *wheat* causes the greatest increase, of tallow. That as an average, grain generally gives about three times the increase in the flesh, that roots and hay do, when in equal weight; that grain produces about twice as much wool as is caused by an equal weight of roots, and several times the amount of tallow, that is produced either by roots or hay. But as a equal weight of mangel wurtzel may be raised at the expense of less than one tenth of what is required for the production of most kinds of grain, the vastly superior economy of its use as food for sheep for every thing except fattening, will be at once perceived.

De Raumer found, that sheep ate with avidity eight pounds per head of mangel wurtzel a day, intermixed with straw; during which time they drank one quart of water and remained in good and healthy condition.

That of raw sliced potatoes, they ate with good appetite at the rate of seven pounds per day, also with straw, and drank three pints of water in twenty-four hours. Also remained healthy.

That they ate two pounds of peas per head daily, drank from two to three quarts of water and remained fine and healthy. It was necessary to soak the peas to prevent injury to their teeth.

That wheat produced nearly the same results as peas.

That they do not eat rye readily, and it appears not well adapted for their food.

That of oats and barley, they ate about two and a half pounds per head daily, with avidity, did extremely well on it, and drank about three quarts of water in twenty-four hours.

The buckwheat produced excellent effect upon them, which they eat with avidity.

And that of good hay they ate four and

half pounds daily, and drank from two and a half to three quarts of water.

As a large number of fine-wooled sheep have been introduced into the country within a few years, it is absolutely necessary, in order to render them most profitable, that they be well sheltered during winter. In those countries in Europe which are most famous for the growth of fine wool, strict attention is given to this subject, and sheep are not only sheltered in the night, but whenever the weather demands it during the day. It is said that on this depends in a great degree the fineness and quality of the wool. Sheds, at least, should always be provided for the most hardy breeds of sheep; much more so then, ought they be for the more tender, fine-wooled varieties. Henry D. Grove, of Hoosick, Rensselaer county, New York, who has been uncommonly successful in raising and wintering fine-wooled sheep, says that shelter against the inclemency of the weather, "is almost as necessary to the health and good condition of sheep, as food itself, and for this reason stables for that purpose are of great benefit. Not only do sheep do much better, but it is also a saving of fodder and manure. The latter is as important as the former; for manure, properly applied, is money to the farmer; and it is well known that sheep manure is of the best kind. These stables ought to be so constructed, as to admit of a great quantity of hay being put over head; and for this reason I would recommend a side hill facing the south, and a dry spot around it, for their location. Each full grown sheep requires six square feet including racks. These ought to be constructed as to have a manger attached to each, for the purpose of feeding grain and roots, and to catch the hay the sheep draw through the racks. The stables ought to be eight feet high at least, nine feet is preferable, and sufficiently ventilated. It is also necessary to have windows for the purpose of light. The difference between wool grown in a dark and light stable, is really surprising. In a dark one wool does not get the brightness it has in a light one. Of this fact I have witnessed the most surprising proof. Over head the stable ought to be tight, that no fodder, chaff, &c. may fall into the wool, which reduces its value. The stables ought to be litered with straw from time to time, to keep the wool clean and add to the comfort and health of the animals."

We conclude these observations with the remarks, relative to the importance of water and succulent food to sheep during winter, of J. Barney, Esq. of Philadelphia, whose experience and skill on this subject are well known. To a gentleman who visited him, he showed from fifty ewes, upwards of sixty lambs, all lively and brisk, with a loss of perhaps three or four. The gentleman observed to him that he had his shed covered with dead lambs, and asked wherein the secret of breeding lay. He answered, "you stuff your sheep with dry food?" "Yes, as much good clover and hay as they will eat," was the reply "You give them no water, but suffer them to go out in time of snow and eat it as they are disposed to do?"—"Yes." "Then there lies the secret. Your sheep fill themselves with hay; they get no water; and they have not a supply of gastric juice to promote the digestion of the hay in the stomach; they cannot raise it to chew the cud; they lose their appetite; are thrown into a fever; and cannot bring forth their young; or they bring forth a feeble, starved lamb that falls off and dies on the first exposure to the cold and rain. On the contrary I take care to provide my sheep with good clear water in summer and winter. I feed them regularly with hay through the winter and give them ruta baga and mangel wurtzel every day. The ewes produce me *one hundred and twenty per cent. in lambs.* You cannot get along without ruta baga and mangel wurtzel."—*Gen. Farmer.*

From the Farmers' Register.

Comparative value of Apples to feed stock, and for sale, and their products, cider and brandy.

During the two last summers and falls, my duties called me into the apple regions of the north. The following facts were obtained in reference to the subject af apple cider and brandy.

1. Cider drinkers are peculiarly subject to rheumatism, to inflamed eyelids, head-ach, bleeding at the nose, to sores, and ulcers, difficult and tedious to cure, to affections of the stomach and bowels, and to premature trembling of the hand and head.

2. Cider drunkards are the most brutish and cruel of the unhappy tribe of inebriates.

3. An old orchard and a distillery are almost invariably indices of widows, orphans, proverty and drunkenness.

4. There is a great loss of money in making either cider or brandy. Good eating apples are worth on an average twenty-five cents a bushel. Eight bushels of apples make a barrel of cider, and twelve barrels of cider make one barrel of brandy. Brandy at fifty cents per gallon would give about fifteen cents per bushel for the apples. The loss is ten cents per bushel. This on an orchard of one hundred trees, in ten years, would be over one thousand dollars. No allowance is made for capital and labor connected with distilling. Take these into consideration, and the loss is much greater.

5. It costs no more to raise good apples,

suitable for market, than to raise apples only suitable for distilling. Very often apples are worth one dollar per bushel, and then the loss is immense by turning them into brandy. I am told that in Mobile apples sell now for ten dollars a barrel!

6. Engrafting and budding will change the character of an orchard, and more than compensate for the time and amount lost in producing the change, in ten years.

7. Apples make most excellent food for horses. Several physicians of extensive practice, in Connecticut and Massachusetts, feed their horses on apples and hay. I have never seen fatter horses, more sleek and spirited. The hair is much more lively, and requires less grooming than that of horses fed on grain. Mr. Norton, of Farmington, Connecticut, has about the finest pair of horses I have seen. They are fed mainly on apples and hay. They travel very fast, and seem to have both wind and bottom. It is proper, however, to remark, that not as much grain is given to horses at the north as is customary at the south. One thing is worth noticing—horses fed on apples, do not eat as much hay as when they are fed on grain. Very sour raw apples injure the teeth of horses; but when boiled they do not. The rule of feeding is to commence with a small quantity, and gradually increase to a bushel a day for one horse.

8. Apples are most excellent food for beeves. The fattest beef I have seen was made so on sweet apples.

9. Nothing will fatten mutton quicker than apples. It is necessary, or best, to cut up the apples when fed to sheep.

10. Hogs care nothing for corn if they can get apples; if sweet, the apples may be given without boiling; if sour, they must be boiled. Mixed with corn meal the flesh is firmer.

11. Apples increase the quantity and quality of milk. At first there was a prejudice against giving apples to milch cows, because it was thought they diminished or dried up the milk. It is true, that a gorge of apples, or any other green food, will cause a fever and dry up the milk; but given in proper quantities, the effect is quite different.

12. Cattle and hogs are purchased and fattened on apples, and sold at a fine profit, when to fatten them on corn would ensure a loss.

13. Sweet apples and good eating apples are to be preferred as food for horses, sheep and cows, also for hogs, although some recommend a mixture of sour and sweet for hogs.

If these remarks shall induce any one to test their correctness, by making a fair experiment, the object of my writing them will be fully answered.

THOMAS P. HUNT.

Culture of Silk.

The culture and manufacture of silk, will, we think, be prosecuted with considerable zeal in Pennsylvania. In view of the manufacture of the article, a large meeting was held lately in Philadelphia, and the establishment of a company was resolved on. The commissioners to receive subscriptions are some of the most eminent and wealthy persons of the city. They are authorized, when 1000 shares are subscribed, to purchase at once the machinery and establishment of Messrs. Upton & Jackson. The preamble to the report contains much valuable matter. In reference to the advantages and facility of the culture in this country, it says:

"The mulberry tree flourishes best in cultivated fields; and one of the most approved methods of obtaining the leaves for the food of the silk worm, is from mulberry hedges which may be made, and securely used for the divisions of a farm into fields, instead of the usual fences, much more costly, and always exposed to injury and decay.

"The periods of the year in which the silk worm is fed, and when only the attention of the farmer and his family is required for their care and management, are those in which the usual labors of a farm are, for a great portion of those periods, not very great; and a large amount of the attention and industry which are required by silk worms when feeding and making the cocoon, are most properly furnished by females, and by children from twelve to sixteen years of age. In the winter season, the family fireside of the farmer now comparatively without employment, may be engaged in reeling the silk from the cocoons, a most agreeable and profitable occupation for that part of the year."

A large amount of free labor will be brought into employ, and the domestic silk trade of the north will one day rival that of cotton, rice and tobacco at the south.

In Pennsylvania, there are already many hundreds of acres planted with the mulberry. These plantations will be increased when it shall be known that a certain market exists for the cocoons, and for reeled silk, at a fair price. Small lots of cocoons are offered daily and the committee entertain the belief that in 1837 one-fourth of the supply for a manufactory of a moderate extent, can be obtained from American cocoons. In three or four years, a manufactory with machinery and buildings, requiring a capital of $100,000 may be supplied with American Silk.

Three hundred and ten good cocoons make one pound, and eight pounds of cocoons will give one pound of reeled silk. At that rate the reeling being done at the manufactory the cost of the silk will be about $3 per pound. When cocoons are produced in abun-

dance, the committee are disposed to believe that at twelve cents per pound, the raising of them will be as profitable as growing cotton at fifteen cents per pound.

Raw Silk.—At the first going off our manufactories must depend chiefly on foreign raw silk.

The present prices of foreign raw silk, are, Bengal, $4.25 to $6 per pound; China, $5.50 to $6; Italian, $6.60 to $7 per pound.

The amount of manufactured silks imported into the United States, in the year ending on the 30th of Sept. 1835, was $17,497,000.

Machinery.—Silk is manufactured in France principally by adult labor, but the introduction of machinery in the manufacture of silk, which is the ratio of ninety per cent. in the hundred, reduces the cost of manufacture from fifty to eighty per cent. England, by the use of machinery, has become the successful rival of France, in many articles of silk manufacture. Let the ingenuity of America be applied to silk machinery, as it has been to the machinery for making cotton and woollen goods, and its articles will be the same. The higher cost of adult labor in the United States, will thus be rendered comparatively unimportant.

The expenses of machinery are not heavy, as silk machinery is always light in its construction, and requires no great power to keep it in motion. A six horse power steam engine will move the machinery to manufacture two hundred pounds of raw silk per week; and a building of 30 feet in width, by 225 feet in length, three stories high, will be sufficient for all the purposes of manufacturing, dying and packing that quantity of silk within its walls.

Plain Silks.—The estimate is made with confidence, that an establishment for the manufacture of silk into plain and ordinary articles, will cost no more than about one-eighth of a cotton factory, to turn out the same number of dollars worth of work; and with equal if net greater profit.

While it is claimed, that all articles made from silk can be manufactured here, it is not considered desirable at present to undertake the making of any but plain staple goods; such as floss and sewing silks, twist and stuff for gentlemen's wear, vestings, plain ribands, and gray silks for printing pocket handkerchiefs.

Floss and sewing silk made from Bengal silk would cost—

Raw material, say -	$5.25
Dying, manufacturing and waste,	1.50
Pound of 14 oz. - -	$6.75

These articles are now worth—

Sewing silk, - - -	$10 to 11
Floss, - - - -	11 to 12

Made from American cocoons, they would cost $4 per pound. It is estimated that grey plain silks, and white pongees, can be made as good as imported from Canton, by hand-looms, of Bengal silk, to a profit at the present prices of the article in the market. When made by power looms, and with American silk, they will yield a profit of not less than thirty per cent.

Sewing Silk.—The amount of Sewing Silk used in the United States, is immense. To manufacture enough of this article to supply the demand, almost any amount of capital could be employed, with little cost of machinery. It has been ascertained that in the town of Hartford, Connecticut, the sales of sewing silk amount in one year to $35,000.

From J. Merrill's Address before the Union Ag. Society.

Benefits of Agricultural Societies.

The first great question in farming is this:—How shall we obtain the greatest returns for capital and labor? This secret can be completely unfolded only by repeated trials. But trials in one country will not always show the truth in another. This is the true secret of the Philosopher's stone; but we must take notice that the process is very different. Very good gold may be found in one country by a way, which in another will only uncover slate stones. It is for this reason that we cannot fully profit by the experience of European agriculturists; or even of those of our own country a little to the north or to the south of us. The question then arises, how far can we profit by their experience? How many of their practices dare we imitate? How many of their unsuccessful experiments may be useful here; and with what variations in the details? If one man must try all these experiments, he will probably not live to know and profit by the results of one half of them. The benefit of his actual improvements will be confined to his immediate neighborhood. Here is one very important point, in which societies like ours are useful. One has tried one thing, and another has tried another thing, till at last they are all tried.—The success or failure, the profit or loss,—together with a detail of the proceedings,—becomes known by our meetings, or by our publications. In all other things, union produces strength. Why should it fail here?—There is no reason to suppose it will fail here. It does not. The universal experience of all countries proves that Agricultural Societies have raised the standard of farming; and let me be excused for saying, have expanded and liberalized, and in every way improved the minds of the farmer. Consider, also, that agriculture is THE greater interest of the country; that whatever importance may be

attached to other pursuits, AGRICULTURE SUPPORTS ALL AND PAYS ALL. How important then that its modes of operation be the best. Let it further be borne, in mind, that a society may promote many improvements, at a trifling expense to the members, which would be beyond the means of an individual. But how can the usefulness of our society be increased? I answer, in the first place by obtaining more members—by giving our managers the command of greater funds, and enabling them, by offering more and larger premiums, to excite a greater emulation among us. Premiums are in an especial manner necessary. A man may not be able to do a thing the first time without loss, which ever after he and all others may do with a profit. Our government, by its Patent laws, has provided for the remuneration of the labors of ingenious men, by the exclusive use of their inventions. We ask them to communicate their discoveries to the public, and take from us such a reward for their labors as we can afford to give them. But some may say, we have the best land and the best mode of farming now; the rest may copy after us. Indeed!—I should be sorry to shake any man's good opinion of himself too rudely; but I would just say to such, if such there be, that the best cultivated acre in Buffalo Valley, would in Holland be thought slovenly and unprofitable farming. I freely admit that there are good farmers in Buffalo Valley; but the one half of what was a plantation fifteen years ago, yields more profit now than the whole did then. The time is approaching when the half of this division of a plantation will be a farm. It must then be better cultivated than it is now. It is a mistake to think that any part of our country is cultivated in the best possible manner.

BOOK FARMING.

But will any one say this book farming is all nonsense? It answers no good purpose?—How is a true thing the worse for being printed? and how much easier it is to detect a printed lie, than one than goes from mouth to mouth, with INSTANT variations. You have the facts put down so that they cannot be altered. And if it depends upon one man telling his neighbor, and he another, the fourth man's story bears scarcely any resemblance to the first. It might, indeed, come back to the first man as a piece of great news. Carpenters, mill-wrights, and workers in metals, all study their books. Cloth dressers, dyers and distillers have their books. A farmer will hunt up an old newspaper to find somebody's new way of curing hams; but if he is asked to read in a book a way of increasing his crops, his answer is, pshaw!—don't I know all about it?

EXHAUSTED LAND.

I would submit, whether, as a general practice, we do not farm too much land, and whether the excess is not the greater the poorer the land is. I repeat, that the returns for labor and capital, the profit, is what we all seek. Is it not true, that much land is farmed without profit, and much more without the profit it ought to bring? In talking about profit, every body understands that the investment ought to be preserved safe. If a man gets the interest on his money for awhile, and loses the principal, he does not talk of profit. Should a man get ten per cent. a year for ten years, and then get no more, principal or interest, would he talk of profit? So I think no farmer, whatever his apparent income may be, ought to talk of profit, while he suffers his land to become worse. This ought not to be called farming. It is robbery of those who come after us. There is an old story of a man who had a goose that would lay golden eggs. She did not lay them fast enough to supply his wishes, and he killed the goose. He got one egg and the supply ceased. It is so with those improvident farmers, who push their land too hard. This principle is therefore at the bottom of all good farming, to wit, we must on no account, suffer our land to grow worse. If this principle is steadily adhered to, it will grow better. It is almost impossible so to adjust our labor as that our land shall not grow better or worse. What we take off must bear a proportion to what we put on the land. Does any one doubt the truth of all this? Is it sufficiently considered in our country? On the contrary, is there not a very large proportion of farms in our district which become annually more and more exhausted? Does this deserve to be called by the name of farming? Is this the course we should expect the owners of land to pursue? On the contrary, is it not the very course that squatters, those who sit down to skin other people's land, would be expected to pursue? Is it not true, that every man, who takes the strength out of land in a few crops, really does kill the goose that lays the golden eggs? Can any thing be more improvident? While a country is new, this may not be so much thought of; but our country is no longer new, and this principle presses itself upon our attention as one of first rate importance. But why do men practice on the contrary principle? Partly from imitating bad examples, and partly from a habit of making most of to-day, and letting to-morrow take care of itself. It is one of the benefits we expect to derive from our society, that its members will set better examples, and make all ashamed to follow such old and injurious practices.

RECIPROCAL INTEREST OF THE FARMER AND MECHANIC.

There are many things which a farmer ought to raise, in order to prevent his land from growing worse, which will not bear to be carried to a foriegn market. The whole attention of the farmer is turned to such things as he can sell. It is, therefore, the interest of the farmers that there should be a great many people around them who are not farmers, and who will buy and consume those things for which there is no foreign demand. The home market, besides taking many things the foreigner does not want, is also more steady than any foreign market. It is then very important to have the consumers among us; and it is for this reason we ask mechanics and manufacturers to join us and show what they can do. Farmers already can buy from their neighbors, and pay in truck, many articles for which formerly they must have sent to cities, and to foreign countries. Many here recollect when a man was not thought to be genteely dressed without an imported hat on his head, and then it was said the imported hat was the cheaper according to its quality. Perhaps it might then have been so in money, (though not now,) but we should consider how many hats were paid for with potatoes and cabbages. Never one. The principle then is plain. The land will never be cultivated in the best manner till it shall be the interest of the farmer to raise all those things which help to keep his land from growing worse. The farmer can never be encouraged to do this so long as his products must seek a distant market, for many of these articles will not bear the expense of transportation. It is said that the improved farming of England was encouraged by the introduction of the culture of turneps from the continent more than by any other one thing.—The manufacturers bought the wool and the meat of the animals that were fed on the turneps. This is one of the hundred ways in which this thing works in a circle. The greater the variety of employments, the cheaper each sells his products, and yet the more profit each enjoys.

NEWSPAPERS.

But the number of experiments would not need to be so numerous, if our farmers read agricultural newspapers and other publications on the subject more generally; or what would be better, if they would require our own newspapers to give more of that information, and less of violent party politics. Our printers would do it if it was known to be more pleasing to the taste of our farmers.—Where is the man who in cool blood would not rather have his children read papers that give valuable practical information, than those libellous personal denunciations which every election is so sure to produce? It is, in fact, worth while to consider, whether the times do not require temperance in newspapers as well as in some other inflammable and inflammatory articles. On this, as on other subjects, the united opinion and action of our agricultural societies might do much.

CONCLUSION.

In conclusion, I have only to say to you, gentlemen of the society, persevere. Our cause is a good one, and while it promises many benefits, it does not threaten one evil to our country. Let every one try to improve. In the moral world, nobody is so great a villain that he does not think somebody worse. So in agriculture—no farmer is so slovenly and improvident that he cannot point out others, in his opinion at least, worse than he. This is not the kind of comparison we ought to draw. He that would go high, must look higher. Let every one see wherein his neighbor excels him, and try to overtake him; and not rest contented when he has found a lazier man than himself in the neighborhood. Let us never forget, that after all our strivings, there is One that giveth the rain and the sunshine—the seed time and the harvest; and that we are bound to ask him and to thank him for all his blessings.

Garden Seeds.

As success in gardening depends much on good seeds, a few hints on raising, gathering and preserving them may be of importance to the young and inexperienced gardener. Plants intended for seed should be carefully cultivated during their whole existence, and especially while their seeds are ripening.—They should also be located in such a manner, as that those of the same species cannot intermix and produce deteriorated varieties. To prevent mixing, they must be set at considerable distances apart, as even Indian corn has been known to mix at the distance of three hundred yards. It is utterly impossible to preserve varieties of cucumbers, melons, squashes, pumpkins, &c. in their purity, if they are permitted to flower and ripen their seeds in the same garden—the seeds of two varieties of the same species of plants, should not therefore, be attempted to be raised in the same garden at the same time. It is this disposition to mix and degenerate that renders it difficult for seedsmen to raise a complete assortment of seeds on their own grounds, unless they are very extensive.

The most luxuriant and perfect plants, and such as arrive at maturity the earliest in the season should be selected for seed. They should be permitted to remain in the garden

until the seed is perfectly ripe; and should then be gathered and cleaned in clear weather. If any moisture remains, they should be exposed to the rays of the sun until they are perfectly dry, and then be put up in bags or boxes and secured from the depredations of rats, mice and insects, and the action of severe cold. As a general rule, new seeds is to be preferred to old, on account of its germinating quicker and producing a more vigorous growth; but good seeds, gathered and preserved in the foregoing manner, will retain their vitality as follows:—

	YEARS.		YEARS.
Asparagus,	4	Marjoram,	4
Balm,	2	Melon,	8 or 10
Basil,	2 or 3	Mustard,	3 or 4
Beans,	1 or 2	Nasturtium,	2 or 3
Beets,	8 or 10	Onion,	3
Borage,	2	Parsley,	5 or 6
Cabbage,	6 or 8	Parsnip,	1
Carrot,	1 or 2	Pea,	2 or 3
Celery,	6 or 8	Pumpkin,	8 or 10
Corn,	2 or 3	Pepper,	5 or 6
Cress,	2	Raddish,	6 or 8
Cucumber,	8 or 10	Rue,	3
Caraway.	4	Ruta Baga,	4
Fennel,	5	Salsafy,	2
Garlic,	3	Savory,	3 or 4
Leek,	3 or 4	Spinage,	3 or 4
Lettuce,	3 or 4	Squash,	8 or 10
Mangel Wurtzel,	8 or 10	Turnep,	3 or 4

Some gardeners prefer old seeds of cucumbers, melons, squashes, &c. &c. to new, on account of their running less to vines and producing larger crops of fruit; but on this point we cannot speak experimentally. The vitality of seeds is easily tested, and they ought never to be sown, in any considerable quantity, without it. When divested of their covering, such as will germinate will sink in luke-warm water, while such as have lost their vitality will float on the surface.

Retiring from Business.—It is very common to hear persons who are engaged in active concerns of life, express a desire to become speedily rich, so that they may retire from business. This appears to be almost universally the object of the business of man's toil. But we venture to say that in no respect were people ever more generally deluded than in this. They expect to find nothing but happiness upon leaving what they have been accustomed to regard as the harassing cares of business—they actually find nothing but misery. In nine cases out of ten the man who has retired from business and laid aside his, active habits, finds cause daily to regret the step he has taken, and to wish himself back again. Happiness is not to be found in idleness, but in a faithful discharge of the active duties of life. Man was not intended as an idle being, and it was a wise ordinance that by the sweat of his brow he should eat bread. The necessity of activity and labor imposed upon the human race tends to the promotion of virtue and of substantial enjoyment. It is a true remark of Miss Sedgwick that 'one cannot be very unhappy while there is enough to do.'

Good Advice to a Farmer.—"Many years ago," said a quaker friend who told us the following anecdote, "many years ago, a brother of the celebrated Benjamin West, who had been a cooper in this city, a man of sterling sense and integrity, purchased a farm some miles out of the city which had been suffered to be overrun with briars and bushes. He was for a short time considered by his neighbor farmers as very far from being as wise as Solomon or even as themselves, but in a few years, his was the best and most productive farm within fifty miles around him; his fame as a farmer spread far and wide. One day a man came to him who was desirous of improving his farm, and asked him how he should do it. Go home, said Mr. West, and make five or ten acres as rich as thee wants, and come to me and I will tell thee what to do next. But, said the farmer, I have not manure enough to do that. Very well, then, go and prepare thee three acres, two acres, or one acre in the same way, but what thee undertakes, do well. The farmer, said our friend, perfectly comprehended the advice, and what is unusual, practised upon and benefited by it, leaving at his death, one of the best farms in the country." Go and do likewise.—*Phila. Herald.*

Buckwheat Straw.—A correspondent, who signs himself "a young farmer," asks us whether any use can be made of his Buckwheat straw!

Our reply is, that it is better for milch cows than the best timothy hay—that his cows will eat it with equal avidity—that if it has not been exposed too long to the vicissitudes of the weather it will prove equally nutritious to them—that so far as the secretion of milk is concerned it is infinitely preferable to any hay or fodder within our knowledge, and that when cut and boiled, or steamed, it makes a most acceptable slop for the cows. We will say further, that the "old plan" of throwing this wholesome and nutritious provender upon the dung heap, or the barn yard, to be trampled under foot, should be abandoned, and that henceforth it should be permitted to assume its proper rank among the choicest hay for neat cattle.—*Farmer and Gardener.*

Cultivator, or Horse-Hoe.

In the eighth number of the Farmers' Cabinet, we gave a brief account of the Cultivator, an implement now coming into general use, and recommended in the highest terms by all persons who have adopted it in their practice. In the article referred to, which we copied from the Cultivator, it was stated that a Mr. Bement, an intelligent farmer at Albany, was engaged in making some additional improvements, by which the manufacture of these implements would be simplified, and rendered more generally useful in the culture of roots. From the same source we copy the following statement.

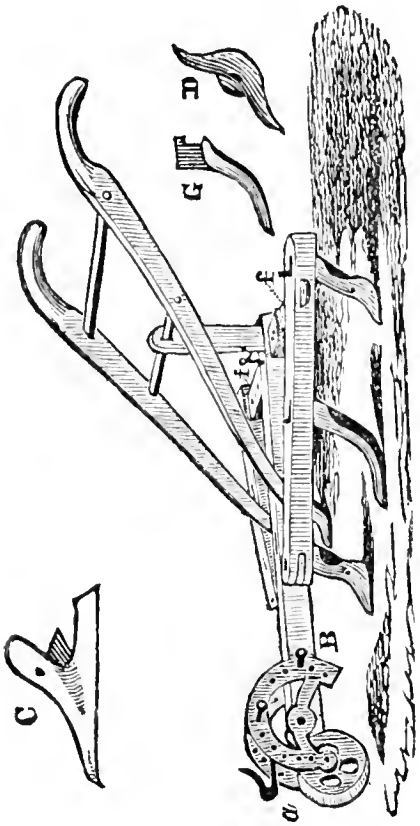


Fig. 64.

Above is a figure or drawing of *Bement's Cultivator, or Horse Hoe.* It has been much improved of late in manufacture as well as by the addition of new fashioned points or shares, which render it a very useful implement on the farm, and will be found particularly useful in the beet culture, which is now very justly engaging the attention of some of our enterprising agriculturists. With the aid of the Horse Hoe and Drill Barrow, the cultivation of the beet may be made as easy as that of corn or potatoes.

The Horse Hoe is useful for stirring the soil in the intervals between rowed crops, especially corn, potatoes, turneps, beets and beans.

Respecting the construction of Horse Hoes, it may be observed, that soils of different textures will require shares of different forms, according to the hardness or tenacity. The number of hoes in hard soils require to be dimmished; in a hard clay soil, one of the triangular hoes in the centre, (C,) and four of the coulters in the wings, will often be all that can be made to enter the soil.

In using this implement, the operator should always consider whether he will prodnce more benefit by merely cutting over or rooting up the weeds, or by stirring the soil; because the hoe suited for the one purpose is by no means well adapted for the others. In the former case, flat or triangular shares are to be used; in the latter, coulters are much more efficient, as they will enter the soil and stir it to considerable depth, thus greatly benefiting the plants by admitting air, heat, dews and rain, and by rendering it more permeable by the roots.

It should be introduced between the rows or drills as soon as the plants appear above ground, and the operation should be repeated at intervals till the crop is thouroughly cleaned.

The clevis on the point of the beam is so constructed, that the draught may be regulated so as to keep the wheel firm on the ground, thereby steadying the machine, and the depth is regulated by the wheel, and may be varied from two to six inches. The triangular hoes (C,) cut the bottom of the space between the drills completely, and should circumstances require, the hoes may be replaced by the coulters, which will open and pulverize the soil as well as rake out the weeds. The wings expand so that it may be regulated to any required width from sixteen to thirty inches.

When the earth is required to be taken from the plants, as is the case with ruta baga when quite small, the half shares (D,) are to be used, turning the mould boards to the centre, and the double ones substituted when the earth is to be replaced.

The coulters (G,) are useful for scarifying old meadows that have become turf-bound. The double mould board shares are also useful for covering peas and oats instead of the plough or harrow.

They are for sale at the Agricultural Warehouse of Wm. Thorburn, 317 North Market-street, Albany. Price $15, including three triangular, three double mould board, three half mould board shares and five coulters, and carefully packed in a box for transportation.

The following is the first part of a communication, received, we think, from Lawrenceville, N. J. The latter part was so damaged after it came into our hands as to

render it unintelligible. If we remember right, however, the substance of it is contained in the part we now publish. Having lost the name of the writer we are unable to comply with his request. We hope, however, to hear from him again.

Beet Root *versus* Malt.

"It is to vegetable productions that commerce owes its support; they form our ships' cordage and sails; and it is for vegetable varieties principally that we cross the seas, and explore every clime from the equator to the poles."—PHILLIPS.

To the Editor of the Cabinet:

SIR—It is probable the following communication will find an appropriate place in your interesting columns, and if it awakens among the farmers, to whom it is principally addressed, a sense of the importance of private brewing, the object of the writer will be attained.

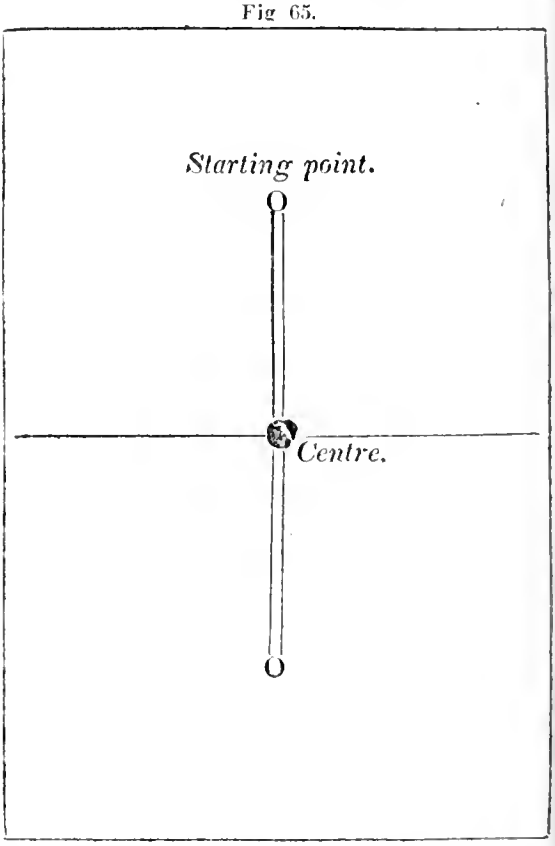
The practicability of brewing ale from the Beet Root, I first noticed some years ago, in the Mechanics' Magazine, a British periodical, consequently lay no claim to originality in thus bringing the important subject before the public. The inestimable advantages attending the cultivation of this prolific root for various purposes are such, that no one unacquainted with its nutritive qualities can duly appreciate. The time will arrive, however, when the Beet Root will triumph in spite of prejudice, and of a general ignorance in the proper mode of culture, management and preservation.

That ale can be made from the beet root, numbers within the sphere of my former acquaintance bear ample testimony, and ale too of a wholesome and delightful quality, and at the moderate price of six cents per gallon. My first brewing consisted of one hundred and fifty pounds of the roots, which had been well selected, washed and cut into thin slices. They were then boiled, with no more than a sufficiency of water to cover them, an hour and a half. The whole contents of the boiler were then put into a wash-tub with a false bottom, and the wort allowed to drain off, pressing the pulp in the wash-tub as much as possible, the last drop having a tenfold proportion of sweetness to the first. There will now be about fifteen gallons of wort of uncommon sweetness, to which must be added immediately, half a pound of the best hops, and reboiled an hour and a half. The result will be ten or eleven gallons of strong liquor, which must be strained through a seive in the usual way, reserving a good handfull of the spent hops to be added to the ale when put into the cask, and after the fermentation has ceased. When the liquor has cooled down to 65 or 70 degrees of Farenheit (and the sooner it is cooled the better) add half a pound of good fresh yeast, and proceed afterwards as with malt liquors. The addition of a shilling loaf sliced and toasted brown, and put into the barrel previous to making up, is of great service. This gives mucilage in a considerable degree, and which is perceivable in malt liquors only, producing that agreeable fulness to the palate.

Every article that enlarges the catalogue of human food augments the comforts of existence. How many families in the possession of gardens, often abounding in weeds, who with less trouble than is necessary to clear them away, might have an abundance of this salutary vegetable for the purpose of domestic brewing? Domestic brewing, whether it proceed from malt or from the beet root, I care little, I wish to see established in the United States, as practiced in Great Britain.

Plan of John Welch, of Swedesborough, Gloster Co. N. J.

Fig 65.



Plan of ploughing so as to prevent deep ditches, also to prevent the earth being packed by the team.

This plan has been tried and found to possess the advantage of preventing the ground at the ends being packed by the feet of the team: also to prevent deep ditches. The plan is to exactly reverse the usual order of ploughing—to commence at the centre and plough out.

Important to Farmers.

At a late meeting of the Hartford County Temperance Society, the following highly interesting facts were stated in the Report. The value of apples is just beginning to be known. The knowledge of their value is one of the excellent discoveries of the Temperance Reformation, and when it shall have been fully circulated and adopted by the farmers of our country, the orchard will be regarded as one of the most profitable as well as convenient appendages of the farm.—*Franklin Mercury.*

We copy from the Review and Telegraph.

Joel Clark, Esq. of East Granby, in 1835, for the first time, instituted an experiment for testing the value of apples as food for horses, and for fattening swine and beeves. At this time he was altogether incredulous upon the subject. The result was conclusive proof to his own mind of their being decidedly beneficial. The present year he has pursued the same experiment with precisely the same results. Last year he slaughtered two hogs which weighed a little over 400 lbs. each.—This year he has slaughtered the same number, a smaller sized animal, one weighing 348, the other 328. They were fed in both cases exclusively on raw apples, sour and sweet promiscuously, until a short period before being butchered, and the pork is of the first quality. In August last he discontinued the milking of a cow which he had designed for fattening and turned her into the summer pasture with his young stock. On the first of October he removed her to rowen feed and commenced the feeding with apples. The most she would have commanded in market at this time, was thirteen to fourteen dollars. He kept her two weeks, giving her night and morning as many apples as she would eat, which was just about a bushel a day. The thrift was such as to excite the particular notice of himself and hired man, and equal to that of any animal on any kind of food. At the expiration of the seven weeks, he sold her, and to be still better able to know the results of his experiment, he rode four miles to see her slaughtered. A better beef is seldom found than this proved to be. He received $28,30 for her, that is, $14,30 gain for seven weeks, or allowing $2,30 for the pasturing, about two shillings a week, he received $12,00 for the fifty bushels of apples or at the rate of twenty-four cents per bushel. Now these fifty bushels of apples converted into cider, would yield six barrels. These in 1835, delivered at the distillery, would have commanded from forty-two to fifty cents per barrel, say $3,00 for the whole. In 1836, the same delivered at the distillery would command from seventy-five to eighty cents, say however, $6 for the whole.—According to the last computation then, there is a gain of $6 in favor of feeding apples. He fed at the same time and in the same manner, a two year old heifer, and with results most favorable rather than less. Though not the largest of his herd, she weighed on being slaughtered 573 lbs. What farmer who understands at all the article of profit and loss in the use of the products of his farm, and consults his pecuniary interests simply, will be surprised to know that this gentleman has already commenced operation for constructing a cellar under his barn for the purpose of preserving his apples for feeding his stock during winter.

His orchards have produced 150 barrels of cider and even more in a year which he has sold to the distiller for fifty cents per barrel, because he knew of no more profitable manner of disposing of it. Now the quantity of apples necessary to make 150 barrels of cider upon the above estimate would yield according to the results of his experiment in feeding this year $300, making a difference of $225, no trifle, surely, in the products of one man's orchard, or if you value the cider at one dollar per barrel, the difference is $150, a tax which no prudent farmer ought to pay for the purpose of enriching the distiller of cider brandy. But then to what can the farmer feed out all the products of his orchard? He will not wish surely to make so much beef and pork as to consume the whole amount. Let him feed them to his horses and cows and young stock. By all the writers on the subject of raising stock, it is contended that farmers greatly mistake their interests by stinting their young cattle, or confining them to such fodder during the winter as will barely sustain life. Let the young stock be treated to a moderate quantity of apples every day and kept in good heart and thrift, and the farmer will in the end realize his profit. In view of these facts, good economy does not urge the expediency of prostrating apple trees that are thrifty and productive of good fruit. Some trees there are which are literally cumberers of the ground. Let such be removed. But let all others be protected, and when circumstances will permit, let their fruit be improved by engrafting.

Glass Ware.—It probably is not generally known, that glass ware may be tempered so as not to be liable to crack when filled with hot water, by merely boiling it in water, which should be cold when the glass is put into it, and then leaving it to cool gradually in the water. If the ware is to be exposed to a greater heat than that of boiling water, it should be tempered in oil.

PRICES CURRENT.

ARTICLES.	Philadelphia, Feb. 10.	Baltimore. Feb. 9.	New York, Feb. 9.	Boston, Feb. 1.
Beans, white, per bush.	$1 80—2 00	1 75—	2 20—2 50	1 75—2 25
Beef, mess, new, per bbl.	14 00–14 50	14 00–14 50	13 50–14 00	14 50–15 25
Bacon, western, per lb.	11 13	10— 11½	.....	.....
Butter, extra, per tub	18— 19	.....	.....	22— 23
Butter, fresh, per lb. (market,)	25— 31	25— 37½	25— 37	30— 37½
Hams, per lb.	13— 14	.....	13½— 14	14— 15
Hog's Lard, per lb.	— 15	16— 17	.....	16— 17
Cheese, American, per lb.	10— 11	10— 11	8¼— 10	9— 13
Beeswax, yellow, per lb.	26— 27	28—	27— 28	28— 30
Beeswax, white,	37— 39	40—	38— 40	38— 40
Bristles, American,	40— 65	.....	25— 65	30— 75
Flax, American,	9— 10	.....	8½— 9½	—9 12
Flour, best, per bbl.	11 00–11 25	12 00–13 00	11 62–11 87	12 75–13 00
Grain—Wheat, per bush. Penna.	2 10—2 42	.....	.....	—2 12½
do. Maryland,	2 05—2 25	—2 30	.....	.....
Rye, per bushel,	.....	1 35—1 40	—1 40	1 50—1 55
Corn, do.	80— 94	98—1 00	1 00—1 25	1 12—1 15
Oats, do.	53— 55	62— 65	70— 75	65— 70
Barley, do. Penn.	90—1 10	.....	1 06—1 09	90—1 00
Peas do.	.....	1 12½—	1 00 1 06	.....
Hay, Timothy, per 100 lbs.	1 10—1 25	.....	.....	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	.....
Hops, first sort, 1836, lb.	10— 11	— 16	.....	9— 10
Plaster Paris, per ton,	5 00—5 25	4 75—	4 00—	3 00—3 12
Seeds—Cloverseed, per bushel,	6 50—7 50	8 25—8 50	.....	.....
Flaxseed, rough, do.	1 85—1 87	1 62—1 75	1 65—1 75	—1 50
Timothy,	2 25—2 75	3 00—3 50	2 25—2 50	3 00—3 12
Tallow, per lb.	— 11	— 8½	— 9½	9— 10
Wool—Saxony, fleece, per lb.	68— 75	50— 60	75— 80	85—1 30
Merino,	60— 67½	45— 50	50— 68	65— 70
1-4 and common,	40— 44	35— 38	25— 40	50— 55

Prices of Marketing.

Beef,	-	9	to	14 cents—lb.	Pheasants,	-	75	to 1 00 per pair.
Pork,	-	8	to	10	Partridges,	-	20	to 25 each.
Veal,	-	7	to	12½	Butter,	-	25	to 31—lb.
Venison,	-	18	to	20	Eggs,	-	31	to 37—doz.
Mutton,	-	6	to	9	Potatoes,	-	70	to 80—bnshel.
Dried Beef,	-	12½	to	15	Apples,	-	37½	to 50 do.
Turkeys,	-	87½	to	1 50 each.	Dried Apples,	-	87½	to 1 00 do.
Chickens,	-	50	to	1 00 pair.	Dried Peaches,		2 00	to 2 25 do.
Geese,	- -	75	to	1 12½ each.	Cider,	- -		2 75 per barrel.
Ducks,	- -	75	to	1 25 per pair.				

To New Subscribers---Back Numbers.

Nos. 1, 2, 3, 4 and 8, of the Farmers' Cabinet, have been reprinted, and Nos. 5, 6, and 7 are in a course of publication. As fast as these numbers are reprinted, they will be forwarded to those subscribers who have not been previously supplied.

The communication from "*A Subscriber*" will appear in our next. It was not received in season for the present number.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, March 1, 1837.** **No. 16.**

For the Farmers' Cabinet.

Hollow Horn.

Under the head of "Observer, No 2," in the Farmers' Cabinet, of February 1st, we find a very interesting article upon the diseases of Horned Cattle. Observer labors very ingeniously to show that "the hollow horn (or a disease attended with a wasting of the bony pith of the horn) has no existence in nature."

The author says he is aware that it is "rank heresy to deny the existence of a thing which almost every body *knows* to exist"—and without any joke upon the matter, I am inclined to the same opinion; but Observer need not fear that I will persecute him; I will neither judge him hastily nor with an uncharitable spirit; for I well know how easy it is to be deceived, and how long we sometimes hug up old errors and love them better than new truths, all of which have been imposed upon us by early education, and afterwards confirmed by prejudice and pride of opinion.

I have seen so many difficulties rise up in the path of knowledge; I have seen that time was short, that opportunities of improvement were rare, and that mankind were so often the victims of long cherished delusions, that I have learned to look upon innovations, if not with a degree of deference, at least with a charitable spirit. But, notwithstanding this kindly feeling towards heresies of every character, I am not disposed to change my opinion with less evidence than what was required by Thomas of old; and, therefore, I am not ready to believe that "hollow horn has no existence in nature," without seeing, feeling, and knowing that the fact is so.

We understand the hollow horn, according to Dr. Willich,* to be a disease, which "gradually wastes the internal substance of the horn, commonly called the pith." In opposition to this opinion, Observer says, "such a wasting of the pith does not take place. I challenge those who think otherwise to produce the horn." As I think otherwise I shall offer my reasons, and leave them with the public to decide whether they prove the fact otherwise, or not.

Observer challenges those who oppose him to "produce the horn." I ask him to look at the horn he has described under the head of "Corrupted Horn, Putrid Horn, Rotten Horn. He says, "If the inflammation assumes a more violent form, and extends to the bones, producing bony ulcerations, or caries, the discharge will be darker colored, and highly offensive, constituting putrid horn." Here is an admission of all that is necessary. If inflammation produces "bony ulceration, or caries, the discharge" will of course be the substance which constitutes the inside of the horn. If the "bony substance or pith" becomes rotten, (which is the definition of caries,) and is discharged, the pith is then out of the horn, and not in it, and consequently the horn is hollow in the sense in which we understand the question.

Observer, it is true, concludes that this disorder is the effect of injudicious boring, but he afterwards admits that it is sometimes produced by natural causes. He says "the inflamed horn, arising from colds and other causes, may terminate in corrupted or putrid horn; but that it is much more frequently produced by boring." Now, to say a thing is more frequently produced in a certain way,

* Dr. Willich, I presume, is the name.—Published in the Cabinet, Dr. Willick.—Yes.

is admitting that the same thing is sometimes produced in another way.

Therefore, it seems to follow from Observer's own showing, that, "Corrupted horn, putrid horn, rotten horn," and consequently, "hollow horn," is frequently produced by injudicious boring; but is sometimes the effect of natural causes. If future observations were even to prove that the putrid horn or hollow horn was altogether the result of boring, it would not undervalue the illustrations given of this disease by Dr. Willich and Dr. Tofts; it would only show that the disease was entailed upon us by blindly following the injudicious practice of our forefathers, to which we might probably trace most of the causes of disease in our domestic animals.

In the article quoted by Observer, Dr. Tofts does not appear to give any opinion upon the origin of this disease, whether he considered it the effect of bad management, or of natural causes. Thomas Cooper says, "the hollow horn is produced by the want of food, and the want of shelter in the winter season." It is proper here to remark that Observer has not given us one of the important symptoms of this disease by Dr. Tofts. The Dr. says "the horn is deprived of its natural heat," but Observer says "the authors quoted enumerate," "dulness in the countenance, a sluggish motion, want of appetite, a desire to lie down—and if attended with an inflammation of the brain, a giddiness, and frequent tossing of the head; stiffness, as in rheumatism, affects the limbs; the milk often fails in cows; the udder is hard, and there is in most cases a sudden wasting of the flesh." Observer, after this enumeration of symptoms from Dr. Tofts, remarks, "I would ask, what would a person infer from these symptoms, who had never heard of that disease? Would he bore a hole in the horns to look for the cause of them there? I think not." Now, suppose Observer had given the symptom of cold horn as mentioned by Dr. Tofts, would his remark in relation to boring the horn have the same point? I think not. Whatever the cause may be, it is a well known fact that cattle have a disease that deprives "the horn of its natural heat;" this we have called hollow horn, and is it unreasonable to suppose that this is the seat of the disease, and that the horn may become hollow in the manner before described?

Observer may have overlooked the symptom of cold horn as mentioned by Dr. Tofts, and not at all be acquainted with the fact, for he says, that "during life the blood must circulate through the horn, and therefore it never can be dry," and while the warm blood is constantly passing through it, we would suppose never could be cold; which is not the fact. But this paragraph I presume will not be understood in that positive sense in wh it is employed, for it cannot be supposed t author knows that death will in all cases the immediate result of suspended circulat of blood in the horn.

Upon the whole I am well pleased w the investigation of Observer, and hope t he will continue his researches into a s ject so vitally important to our agricultu interests; and although his remarks seem indicate more speculation than knowledge facts, his whole article is fraught with the sp of research and bold investigation, which w if honestly pursued elicit truth. I am i situation to see thousands of horns extrac from the hides of cattle annually; five cent. of which I would say are said to from cattle dying of the hollow horn; I sh therefore examine this subject in future m practically, and transmit the result of my vestigation to the Cabinet.

A SUBSCRIBER.

Wilmington, 2 Mo. 7th, 1837.

Extract of a Letter to the Editor.

Lime.

"The valley of the Swatura is a gc lime region, and the farmers are maki good use of it;—they are using it somewl different from the Jersey farmers. Th method, as far as my observation has tended, is to mix lime with barn and otl vegetable manure, and thus make a compc and not spread on to the ground until lime is slacked, and the vegetable mat rotten. The method adopted by John La sin, Esq., an intelligent practical farmer n Hummelstown, is to take his lime from t kiln and drop it on the ground in its unslack state, and as soon as the action of t weather shall have slacked the lime, a while the weather is yet warm, he sprea it over the ground and ploughs it in in t fall, and leaves it to the action of the fro of the winter. This method has never fail of producing a good crop; and this gent man's farm, compared with the farms of thc who have pursued different methods in t use of lime, is strong evidence in favor his method of using it, and it is a gr saving of labor and expense."

For the Farmers' Cabinet.

Oxen.

Carlisle, Pa., Feb. 11, 1837.

MR. EDITOR—I observed with pleasure a few of the late numbers of the Cabin several judicious and well timed observatio on oxen. In your paper of the 15th Januar you gave the opinion of the late and vener ted MADISON in favor of the employme of oxen, generally. A prejudice, as illiber

as it is unjust, has existed against the ox from my earliest boyhood—but I rejoice that it is giving way, and I think I hazard nothing in saying that in the course of a few years they will be regarded by the intelligent farmer as at least equal to the horse, for the general work of the farm. WILLIAM ASHFORD, of Chester county, in a letter addressed to John Vaughn, Esq., published in the first volume of the Memoirs of the Philadelphia Agricultural Society, says—"Another thing in which I was wrong in not taking your advice, viz. not keeping oxen instead of horses. This spring all my horses became sick, and I was forced to buy a pair of oxen. I supposed that I should be tired of them, but on the contrary I am tired of horses, as I find that with my two oxen I can do more work than I could with four horses, and with half the expense. I have worked horses forty years, and if I had used oxen in their place they would have put five hundred pounds in my pocket." The following letter from the Hon. LEVI LINCOLN, of Massachusetts, is extracted from the same source, the Memoirs of the Agricultural Society. I hope it may find a place in your pages. He says, "You inquire the mode of breaking, feeding, and working our oxen. The best broken oxen are those which are early trained and accustomed to the yoke with occasional light work. They are often broken as early as at one and two years of age, with gentle and patient usage. At this period they are more docile and tractable, and it is thought become more powerful by being sooner accustomed to each other, and in the application of their strength to the draft. I believe they may be taught to travel in almost any gait; certain it is, the rate at which oxen differently broken, will walk with their load, would seem incredible to a person ignorant of the difference in the mode of their training. To accustom them to a quick pace, they should at first be driven in the yoke while young, without any, or a very light weight, and never heavily loaded, until they have arrived at full strength and maturity. A great fault with many people is too much indifference to *construction of the yoke*. Almost any shapeless piece of wood, with holes for the insertion of the bows, is made to answer; but to the ease of the draft, the adaptation of the yoke or bow to the neck of the bullock, and the position of the staple and ring in the yoke, are altogether material. For common use, and particularly for ploughing, I have found yokes were generally too short. Cattle of the largest size require a yoke from four and a half to five feet in length. In short yokes they are apt to *haul*, as it is termed, that is draw *from* each other, and to such a degree in some instances, as to cross their fore legs, and destroy their power and greatly impede their progress. I once owned a pair of cattle made totally useless by this habit, and afterwards entirely corrected by the application of a yoke of eighteen inches more length. A short yoke is necessary only in snow paths, where cattle would otherwise *crowd* against each other, the opposite of *hauling*, but of the same mischievous effect. The value of a yoke of oxen, or a pair of horses, for use in all the business of a farm admits of no comparison. So decided is the preference for the former, that I do not believe a single farmer can be found in this extensive agricultural county who performs his labor by horses without oxen, while there are *hundreds*, I had almost said *thousands*, who make no other use of horses in husbandry than to furrow for planting, and plough among their corn for hoeing.

Next to merino sheep, I consider the introduction of the short horns, *in the blood of Denton*, as the richest acquisition to the country which agriculture has received. For the dairy and the stall I speak with the utmost confidence of their pre-eminence. From my three years old heifers I have calves of the most promising appearance, and greatly excelling any I have before seen. One of the heifers gives from sixteen to twenty quarts of the richest milk, by the day, since calving; the other a little less, from the circumstance of having been in milk continually for more than a year, but her milk is in no degree inferior in quality. The last season she gave eleven quarts at a milking with grass only, and this not unfrequently. They keep as easily as the native stock, and are as hardy.

The estimate of the relative expenses of keeping a pair of horses and of oxen, is in the proportion of three for the former to two for the latter, and to this is to be added the value of the ox for beef when his strength fails for labor. If your farmers should once be induced to substitute the *ox* for the *horse* in their ordinary business, it could not fail most essentially to advance their interests."

Agricultural Implements.

No. 1.

To the Editor of the Farmers' Cabinet:

SIR—As the object of your paper is to record such theories and facts as will tend to make agriculture a science, I am induced to send you a few remarks, which, if you think worth the room they will occupy, and the trouble of publishing, you may give them a place when most convenient.

The Plough.

The object desired in a plough is to have it of such a form as to cut and turn the furrow slice in the most perfect manner with

the least possible force of team. This, I think, can be accomplished by making the face or acting side of the mould board of such a form, that the parts of the furrow which are raised shall pass from the lowest to the highest points in cycloidal curves. As these are curves by which a body will *descend* from one point to another, not in a vertical line, in the least space of time, it seems to follow as a necessary consequence that they will offer less resistance to a body *ascending* than any other form.

What the length of those curve lines should be for a given height is another consideration; perhaps they should be such as a ball would roll from the highest to the lowest points in the same space of time that the velocity of the team or moving power would cause the parts of the furrow which are raised to pass from the lowest to the highest points. The above remarks are strictly applicable to those ploughs where the relative position of the mould board and beam are stationary.

In the Hill side plough, where the mould board changes its relative position with the beam ninety degrees, so as to turn the furrow either to the right or left, each half of the share and mould board on opposite sides of a curve line from the point of the share to the tail or posterior part of the mould board, should be made as near as possible by this rule.

Chester County, Pa., Feb. 18, 1837.

For the Farmers' Cabinet.

Crib-Houses.

Some few years ago, my crib-house was so infested with rats, I thought it almost impossible to secure it from their attack. However, I had a preconcerted plan which I intended to put in operation as soon as I could make things convenient for my proceedings. In the summer of 1831, I selected a quantity of timber, and had it sawed, that it might season by the ensuing fall. Having divested the house of its original fixtures, I then commenced my new plan. Instead of making the floor of inch boards, (as we usually do,) I layed it with two inch plank. On the east side and ends, I weather boarded with cedar siding. On the west, which has a shed, I took of two inch slats, placing them on half an inch apart, and likewise inside. While cribbing my corn, I kept the doors open day and night, that the air might circulate through freely. The next spring, when thrashing the corn, I found to my benefit, that the rats had not touched it. Weather-boarding cribs on the outside is an essential benefit to every farmer. Year after year, the corn was damaged much in the east crib, and I could not account for it until I made all tight. Now, instead of my cribs being part filled with snow, they are secure. Farmers that build crib-houses should never slat them on the outside, for it is a disadvantage in two respects. In the first place it lets in rain and snow, wets your corn, stains it till it is not fit for market. In the second place, storms driving in, rot the house more or less every year.

A FARMER.

From the Baltimore Farmer and Gardener.

Work for March.

ON THE FARM.

Now the farmer must begin to bestir himself in preparation for the labors of the opening season. His implements of husbandry must all, without further delay, be examined, and those which need it be put in order; it is no time when you have *use* for a thing to be obliged to send it for repairs; the agriculturist should always be in advance of his business.

Clover.—This month the farmer will recollect is the general time for sowing the seed of this great improver of the soil. The practice among most farmers, is to sow it upon the snow, if there be any, as they thus give more uniform appearance to the field, the which, if no other advantage were to be gained by it, would of itself be of sufficient importance to render it an object worthy of every consideration; but another and most desirable point is gained; by regular sowing you keep out pernicious weeds. A fault we consider is often committed in being too sparing of the seed: many persons sow but six to eight quarts to the acre; this, if no other grass be grown in the field is entirely too small a quantity; less than twelve quarts should never be sown on an acre, and even that under particular circumstances might be increased from two to four quarts without injury, if not with decided advantage. The idea that the earth cannot support it if "too thick," is absurd; but where shall we fix the standard, to sow beyond which, is "too thick?"—the *term* is entirely too indefinite and means really nothing which can be applied successfully to the purposes of husbandry. There is little soil, indeed, that will not, if left alone, cover its surface with some species of vegetation or other; and there is no land that will grow clover at all but will support a full crop. But suppose we sow the seed sparingly and leave unoccupied spaces, do you presume that they will remain *bald?* If you do, you are egregiously mistaken. The earth is no idler, and whenever it possesses the principle of vitality it will exert it to the utmost of strength. Then if these unseeded places are to be filled with weeds, we would ask, would it not be infinitely preferable to have them employed in

growing healthful stalks of clover than to remain nurseries for the generation of all that is foul and useless in vegetation? Cover the entire ground with the grass intended to be grown for pasture or hay, and you keep out those intruders which, if left to their own will, will ultimately destroy your fields for either one purpose or the other.

The manure, as soon as the season will admit of it, must be hauled out and dropped in place; and your Clover fields should receive a top dressing of plaster of paris, and if you have the articles within convenient reach, they would derive great advantage from an additional top dressing of lime or marl.

Plant out your young trees and cuttings of all kinds as soon as the frost is out of the earth.

Recollect that this is the month your *cows* and *ewes* will be giving birth to their young, and that they therefore require additional attention and care. Give both, extra quantities of good nourishing food, and be careful as they approach the crisis of their labor, to keep them where they will not be disturbed by other animals. And as the season has approached when your demand upon the labor of your horses, mules and oxen, is greatly increased, recollect that if you desire them to do you good service, you should feed them well; no man ever yet lost any thing by feeding his beasts of burden with a generous hand, and that humanity, one of the best attributes of our species, would teach us to be kind to those whom Providence in his wisdom, has placed under our control.

IN THE KITCHEN GARDEN.

Rhubarb.—This delicious and healthful plant should be in the garden of every one, and yet such is the difficulty of getting folks out of the old beaten track, that it is by no means generally cultivated. It makes as good a tart as the goosberry, is much easier prepared, and is one of the best preventives of the affections of the bowels to which children are subjected that is known. A gentleman of our acquaintance assured us some months since that a daughter of his had been cured of a long standing intestinal disease by the use of this vegetable alone.

The following is the mode of culture:—Select a piece of rich sandy loam, manure it well, trench it two or three spades deep, then level the top with a rake, lay it off in squares of four feet, at the intersections of which sow your seed in drills about eight inches apart; keep them weeded and watered during the summer. These will be fit to plant out the next spring, and should be protected through the winter. If the weather should prove severe during the spring that the seed is planted, the plants should b covered by a board so placed as to protec them from the frost, while it would adm light and air freely.

Oats.

MR. FESSENDEN.—There is a differenc of opinion among farmers as to the prope time for sowing oats. While some conten that it is best to sow as soon as the frost i out sufficiently for the land to be worke others insist on a different course, and choos not to sow until the ground has become quit dry and warm. It may be a fact that lat sowed oats in some and perhaps in most in stances, produce a greater quantity of stra than those early sown, and it may be an probably is true in as many instances, tha the grain is proportionably lighter, so tha if weight of grain is the prime object, tha course of procedure as it respects sowing, i best, which is most likely to produce the de sired result.

There seems to have been a general failur in the crop of oats through this part of th country the past season, there being but fev instances, where they are so heavy by on third as they have been in other years, whe no calamity has befallen them.

Notwithstanding the general failure, had as good a crop of oats the past season as in any former year, having over one hun dred bushels, from little more than two acres of ground, weighing thirty-three lbs. pe bushel. Such being the fact, it is a question with myself and others, what should be the cause of my obtaining a better crop than any other farmers in the neighborhood. That which to me appears as the probable and only cause, is early sowing. Although my ground was in no better condition than land in general, I sowed my oats several days earlier than other farmers in the vicinity.

There were several fields contiguous to mine, where the soil and cultivation were not essentially different, but which were sowed a few days later, which in every instance failed to produce a middling crop. I have always been in the habit of sowing my oats as soon as possible after the ground had become settled, believing it to be the better way, and observation and experience the past season, have only strengthened my belief, that such a course is a correct one.

A FARMER.

Remarks by the Editor.—Deane's N. E. Farmer states that "Oats cannot be sowed too early in the spring after the ground is thawed and become dry enough for sowing. The English farmers sow them sometimes in February." Loudon says, "The season of sowing oats is from the last week in February to the end of April. About the middle

of March is preferred by the best farmers." We believe, as a general rule, neither oats nor any other sort of spring grain can be sowed too early after the ground can be put in order to receive the seed in the spring. Early sown spring wheat as well as oats is much less liable to blast than such as is put into the ground late in the season.

Culture of Peach Trees.

BY THOMAS COULTER, ESQ.

Of Bedford county, Pennsylvania.

The death of young peach trees is principally owing to planting, transplanting and pruning of the same stock, which occasions it to be open and tender, with a rough bark; in consequence of which insects lodge and breed in it, and birds search after them, whereby wounds are made, the gum exudes, and in a few years the tree is useless. To prevent this, transplant your trees as young as possible, if in the kernal it will be best, as there will be no check of growth. Plant them sixteen feet apart. Plough and harrow them, but avoid tearing them up by the roots.

In the month of March or April, in the third year of transplanting, cut them off by the ground, plough and harrow among them as before, but with great care, to avoid wounding or tearing them. Suffer all the sprouts or scions to grow, even if they should amount to half a dozen or more; they become bearing trees almost instantaneously, on account of the strength of the root. Allow no animals but hogs to enter your orchard, for fear of their wounding the shoots; as a substance drains away through the least wound, which is essential to the health of the tree and the good quality of the fruit.

If the old stock is cut away the third year after transplanting, no more shoots will come to maturity than the old stump can support and nourish, the remainder will die before they produce fruit, and may be cut away.—Take care and not wound any other stock; the sprouts when loaded with fruit, will bend and rest on the ground in every direction for many years; all of them being rooted as if they had been planted, their stocks remaining tough and their bark smooth, for twenty years and upwards. If any of the sprouts from the old stump should happen to split off and die, cut them away; they will be supplied from the ground by others, so that you may have trees from the stump for one hundred years as I believe. I have now, trees from one to thirty-six years old, all from the same stump.

Young trees, formed in this manner, will bear fruit the second year, but this fruit will not ripen so early as the fruit on the older trees from the same stump. Three years after the trees are cut off, the shoots will be sufficiently large and bushy to shade the ground so as to prevent the growth of grass that might injure the trees; therefore ploughing will be useless and may be injurious by wounding them.

It is also unnecessary to manure peach trees, as the fruit of manured trees is always smaller and inferior to that of trees that are not manured. By manuring you make the peach trees larger and apparently more flourishing, but their fruit will be of a bad kind, looking as green as the leaves, even when ripe, and later than that of the trees which have not been manured. Peach trees never require a rich soil; the poorer the soil the better the fruit; a middling soil produces the most bountiful. The highest ground is the best for peach trees, and the north side of hills is the most desirable, as it retards vegetation, and prevents the destructive effects of frosts which occur in the month of April, in Pennsylvania. Convinced, by long experience, of the truth of these observations, the author wishes they may be published for public benefit, and has been informed that Col. Luther Martin, and another gentleman in the lower part of Maryland, have adopted a similar plan with great advantage.

Preparing Green Sward.

The following is part of a letter from Horace Wilder, of North Dixmont, to the editor of the Maine Farmer. The success of the practice encouraging.

"In the spring of 1834, I prepared seventy rods of ground in the following manner:—The ground had been well laid down and mowed seven years. About twenty loads of manure, mostly from the barn windows, were carried and spread on the grass. On the 22d of May, the ground was ploughed about six inches deep, and turned over flat; it was then rolled with a heavy roller till it had the appearance of an onion bed. Five loads of a mixture of hay manure, chip manure, and leached ashes, were then spread evenly over the surface and harrowed lengthwise of the furrows. It was planted with corn, potatoes, ruta baga and white beans, and produced as follows:—Corn, twelve bushels; potatoes, forty bushels; turneps, fifty bushels; beans, one bushel. I have not stirred the ground since the crop was taken off—choosing that the manure should remain covered till the next spring, when I intended to apply a dressing of fresh manure, and plough it and plant it with corn. I considered the above method of preparing green sward for planting, as far preferable to the usual practice

of breaking up in the fall, and cross-ploughing in the spring. Ground that is broken up in the fall does not get rotted by the next spring—it is then harrowed and cross-ploughed and harrowed again; by this time the sods are entirely all upon the top and exposed to the hot drying sun, where they are tumbled about by the horse plough and the hoe through the whole summer, and afford no nourishment to the crop; but by letting the land lie till you are ready to plant, the grass gets a good start, and that and the manure being turned under together, and closely compacted by the roller, is preserved from the action of the sun and rains, ferments quickly, and affords a bountiful supply of food for the crop."

Hedges.

We commend the following letter to the attention of cultivators of the Mulberry. The method of cultivating in hedges, we think the best that has been attempted, and have little doubt of its ultimately being universally adopted. The mulberry is cultivated in this manner in the form of fence and field hedges. On the borders of fields hedges may be set out for the double purpose of fence and foliage, and the interior of fields is often covered with hedges, at suitable distances from each other to admit the passage of a hand cart or one horse wagon, for the purpose of gathering the foliage and transporting it to the cocoonery. The method of propagation is much the same in both cases, and is done by transplanting the plants from the nursery, or sowing the seed where it is intended to make a hedge.

To make a hedge by transplanting from a nursery, take plants one or two years old and set them at the distance of eighteen inches apart, or, if it be intended to make a thick set hedge, at the distance of one foot. Cut off the tops at four or six inches from the ground, leaving two buds opposite each other, and removing the rest. This causes the stock to have two vigorous branches the first year. The next spring cut one of these two branches on the same side, at twelve inches from the ground, in such manner that each plant may have a long and short one, but horizontally on the same side also one after another, all the branches, and fasten them with cords or withes, so that they may form a line parallel with the earth, and leave the entire branches untouched. At the commencement of the third year, the plants will have branches to form a hedge.

The height, form, &c. of a hedge may be regulated according to the taste or convenience of the cultivator, by cutting off the branches, when covered with leaves, and feeding the silk worm. Some cultivators are permitting standard trees to grow up out of their hedges at the distance of ten or twelve feet from each other. This is doubtless an improvement, as by cutting away the hedge, an orchard of standing trees would be left, should it ever be found desirable so to do. Rails might also be inserted in the standards, and a good fence easily made. To make a hedge from the seed it is only necessary to sow the seed and then treat the plants in the same manner as if transplanted from the nursery.

Silk Culturist.

From the Schenectada Reflector.

Seasonable Suggestions.

Before the farming operations of the season have commenced, we are desirous of drawing the intention of our readers to some objects of improvement in their farming operations. We know the distrust which farmers entertain to new practices in husbandry, and are fully apprised, that what we are about to offer forms already a part of the practice of many who will peruse our remarks. Yet if we should be instrumental in inducing a few, by our suggestions, to improve the condition of their farms, and to render their labor more productive, our object will be effected, and we shall be satisfactorily compensated for our trouble. All we ask is, that our recommendations may have a fair trial, sufficient merely to enable the experimentor to judge of their utility, and on a scale that shall involve neither great labor nor expense. And we shall offer nothing which we have not ourselves tested, and believe beneficial. We will begin with

MANURES: which are the basis of all fertility in the soil, precisely in the same way that forage, grain and roots, are the basis of fatness in our farm stock. All animal and vegetable manures have once been plants, and are capable, by a natural process, of being converted into plants again. They should therefore be husbanded with care, and applied with economy. Every crop taken from a field diminishes its fertility, by lessening the vegetable food in the soil. Unless, therefore, something in the form of manure is returned to the field, an annual deterioration will take place until an absolute barrenness ensues. This fact needs no other illustration than is afforded by every bad managed farm. The object of the husbandman should be, to increase the fertility of his farm; because upon this, materially depends the profits of his labor. To do this, we advise that cattle-yards be made dishing, so as to collect the urine and liquids in the centre, and that these be kept well littered with straw, stalks, and the refuse vegetables of the farm, to take up and preserve these liquids, which are a valua-

ble part of the manures; that these yards be thoroughly cleaned in the spring, and their contents, together with the manure from the stable and pig pen, applied to hoed crops, as corn, potatoes, beans, &c. before fermentation has progressed far; that it be spread broadcast, ploughed in as fresh as possible, and the ground rolled or harrowed before planting. Thus *all* the manure will be saved, the hoed crop greatly benefitted by it, the weeds destroyed, and as much fertility left in the soil for the grain crop which is to follow as the same manure would have afforded had it lain in the yard till after midsummer, and been then applied. But if manure has rotted, it may be applied to the turnep or small grain crop. In these cases it should not be buried deep, and may with advantage, at least on dry soils, be harrowed in with the seeds, where it serves frequently a beneficial purpose in protecting the young grain from the severity of winter.

Clover, will grow on pretty much all soils that have been laid dry by good drains. It is the basis of good farming, on all lands susceptible of alternate husbandry. Its benefits are threefold; it breaks, pulverizes and meliorates the soil by its tap roots, and it furnishes a cheap food for plants as well as animals. A good clover lay is worth to a crop, by the food which it affords, as much as five tons of manure to the acre. To ensure a good lay, at least ten pounds of seed should be sown to the acre, and the ground well rolled. Its value, as food for plants, depends more upon the quantity of the roots than the luxuriance of the stems, though the abundance of the latter will depend in a great measure upon the number of the former. To obtain the full value of this plant, we must cultivate it as a food for our crops as well as our cattle, and in this case we should use it as such the first or second year before it has run out. There is economy in always sowing clover with small grains, though it is to be ploughed in the same or next season. Ten pounds of seed cost upon an average one dollar; the labor of sowing is comparatively nothing. Its value to the next crop cannot be less than four times that sum, to say nothing of the food it may afford, or its mechanical melioration of the soil. We cannot avoid again urging a trial of the method of making clover hay *in cocks*, as we have heretofore recommended, notwithstanding the rebuke we have had upon this, from our esteemed friend and correspondent, Mr. Perkins. We have followed the practice twelve or fifteen years, and hence speak from experience and with confidence, of its manifest advantages over the common method of spreading from the swath. Put it into small cocks, with a fork, from the swath as soon as it is freed from external moisture, or well wilted, and then leave it to cure. An hour or two exposure to the sun, previous to its being carted from the field, is all the further care it will require. This mode saves labor, prevents injury from rain, and secures the hay in the best possible condition.

INDIAN CORN.

There is no crop which habit has rendered more indispensable, to the wants of our families and our farms, as this. The late John Taylor, of Virginia, termed it our "meat, meal, and manure." Holding this high rank in our farm economy, it is a subject of moment to adopt the best mode of culture. As many districts are shy in producing wheat, and as this crop is seriously threatened by the new (to us) wheat insect, it becomes more a matter of solicitude to render our corn crops productive. But as this grain demands more labor in its culture than other grain crops, so it is more important on the score of profit that it should be well managed; for if thirty bushels an acre be considered only a remuneration for the labor bestowed on the crop, all that the product falls short of this must be a loss; and all that it exceeds, a net gain to the cultivator. The first consideration in regard to the corn crop, is to give it a dry mellow soil; the second that this soil be rich, fat, or fertile; and the third, that the seed be timely put in, and the crop well taken care of. Neither wet grounds nor stiff clays, nor poor grounds, will repay by their product the labor required on a crop of corn. He who has no other lands but these should not attempt to raise it as a field crop. He had better bestow his labor upon other objects, and buy his corn. We think the best preparation for corn is a clover lay, well covered with long manure from the barn yard, well ploughed, and well harrowed. It is better to give sixty loads of dung to three acres than ten, upon the ordinary lands of our neighborhood. The difference in product will not make up for the difference in labor. Corn can hardly be dunged too high. What we have to recommend that is not common in the culture of the crop, is, that double the usual quantity of seed be applied; the number of plants to be reduced at the weeding, in order to ensure three or four stalks in each hill; that the roots be not broken, nor the manure thrown to the surface, by the plough, but that the harrow and cultivator be substituted for it, which will sufficiently mellow the surface and destroy weeds; and that the hills be but slightly earthed. By ploughing and hilling, we conceive the manure is wasted, the crop more exposed to injury from drought, and the labor increased.

If the fodder which the stalks and shucks

afford is an object to the farmer, as they certainly will be when their advantages are appreciated, the securing these in good condition is a matter of importance. To effect this, as well as to secure the crop from the effects of early autumnal frosts, we recommend the practice we have long and satisfactorily followed, of cutting the crop as soon as the corn is glazed, or the surface of the kernels has become hard, and of immediately setting it up in stocks to ripen and cure. This we have always been enabled to do early in September, and once in the last week in August. The quality of the grain is not impaired, nor the quantity, in our opinion, diminished by this mode of arrangement; while the fodder is greatly increased, and its quality much improved.

From the Genessee Farmer.

Sowing Clover Seed.

Extract of a letter from a subscriber at Cayuga: "As the time for sowing clover seed is approaching, some note in your paper of practical farmers on that subject may be of some service, and save some trouble of complaining of the loss or failure of their expected crop of clover. For several years past I have practised sowing my seed the last of March or first of April, when we have frosty nights and thawing days. The mornings then are generally still—the surface of the ground is raised by the spears of ice formed during the night—and if the seed is cast on the ground such mornings, it finds its way through the crevices occasioned by the ice beneath the surface of the earth sufficiently deep to protect the young plant from the drouths of April or May, by which our clover crops is frequently destroyed, if the seed is sown when the surface of the earth is compact. Since I have practiced in this way, I have not failed in a single instance of having a full crop of clover."

Attention Husbandmen.

This is the season of the year when every good husbandman should be looking to his sheep and lambs—cows and calves—oxen and horses—barns and stables—fences and farming utensils. The sheep should be protected from March's chilling and pitiless storms; furnished with a proper rack for hay; with water, salt, and beans or corn at proper seasons; the milk cows and working oxen should be fed often, and with but little at a time; seasonably watered, carded, and fed, now and then, (in addition to hay,) the latter with corn or grain, and the former with cabbages, carrots, or other vegetables. They should also have salt, or an opportunity to visit the sea shore and obtain sea weed, which would supersede the necessity of salt. Carding and rubbing are all important to horned cattle and horses at this season of the year; give them these attentions, and they will be in better order with *two-thirds* of the hay, &c. that would otherwise be required.

A Clover Box.

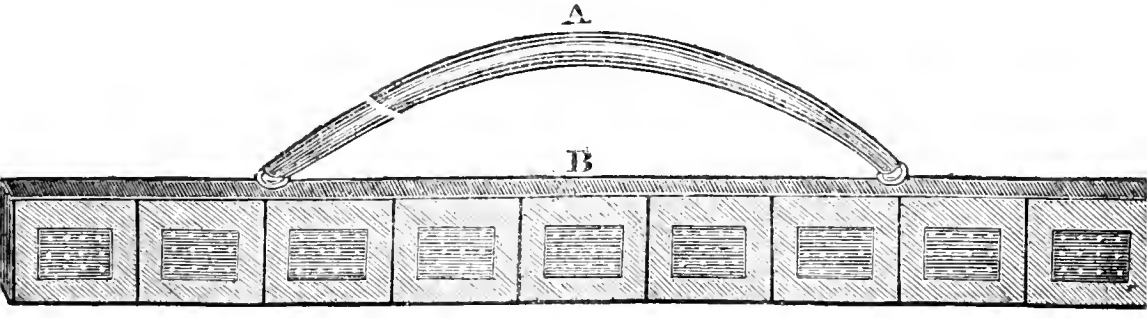


Fig. 30. A.—Leather Strap. B.—Clover Box.

A gentleman who is much attached to agriculture, on a recent visit to the Eastern Shore of Maryland, saw there a box, which is in general use for sowing clover seed; by which great economy is produced, and the seed is placed on the ground with entire certainty and equality.

Fifteen acres were sown with one bushel of seed, and the clover was well set, and the plants in sufficient numbers—not a part of the field was passed over without its having been well seeded.

The Box is exceedingly simple in its construction, and could be made at a very small expense. A drawing of it is given above.

It is ten feet, or eight feet in length, and about four inches in breadth, divided into partitions of six inches long. In the bottom of each partition is an opening of about three inches square, in which is inserted a piece of tin, or parchment, or stiff paper, perforated with a number of holes of a sufficient size for the clover seed to pass through. In each partition the seed is placed. To the box is fixed a strap, which is passed over the shoulders of the sower, and carrying the box

before him, he walks over the field, agitating the box by his hand if it requires more movement than it receives from his walk. In this manner the seed is equally scattered over all the ground.

If thought necessary, a peice of wood may be hooked on the bottom of the box, to prevent the seed dropping out before the sowing commences. The box may be made of light cedar, and not weigh more than six or eight pounds without the seed.

[At the request of many of our subscribers who commenced taking the Cabinet the first of the present year, we republish the foregoing illustration and description of a Clover Box, from the 8th number of the present volume. We have heard it highly recommended by gentlemen of intelligence who have tried it, and found it to answer all their expectations. One of the first farmers in a neighboring state assures us that he would not be without this Clover Box for twenty times its cost.]

Culture of Silk---Fabrication of Beet Sugar.

We have on file several interesting articles on the culture of Silk, in its various branches, and the fabrication of Sugar from the Beet Root. We defer them, however, until the next and succeeding numbers of the Cabinet in order to lay before our readers the following report submitted to the Legislature of New Jersey, by a committee appointed by that body to inquire into the expediency of protecting and encouraging the culture of Silk and the manufacture of Beet Sugar in the state of New Jersey. Several of our subscribers, residing in New Jersey, have requested its publication in the Cabinet. We cheerfully comply with the request—and we commend the report to the attention of our readers in all sections of the Union, as containing matter of general interest.

The right and duty of the legislature to sustain and promote the agricultural interests of the community, except in the prohibited mode designated in the national compact, cannot be denied. The exercise of this unquestioned right, in fostering those arts, which contribute to the wealth, population and political importance of the community, is frequently necessary to support them in their infancy, and has always been deemed proper, just and politic. It will be universally conceded, that if the culture of silk and manufacture of beet sugar, can be successfully prosecuted in our state and country; they constitute interests, well justifying legislative protection and encouragement. The now eminently successful manufacture of silk and sugar in Europe, in comparison with the feeble efforts of those who were instrumental in their introduction, renders it sure and certain that these two articles will be two of the greatest agricultural interests in the state and nation. The commencement of the manufacture of silk at Constantinople, by means of the introduction of the eggs of the silk worm, in hollow canes of two missionary monks from China, in connexion with the comparatively limited knowledge of the modes of profitably using the productions of these interesting insects, and the feeble beginning of the manufacture of beet sugar in Prussia, lead irresistably to the conclusion, that the hopes of the enterprising and patriotic friends of these two branches of industry in our country, are not the fanciful creations of an excited imagination, but based on good and sufficient grounds. The establishment and profitable prosecution of the manufacture of silk and sugar in other countries, with climates similar to ours, added to the admitted enterprise and industry of our own fellow citizens, are, it is deemed, sufficient guaranties, with proper protection, to ensure with us a like successful result, and impart confidence in the sentiment entertained by so many valuable citizens that they will become two of the staple products of the northern and middle states. Let no individual question these fondly cherished anticipations, who reflects that fifty years ago the great southern staple was unknown among American productions. That it was then not known that cotton would grow in any part of our American soil. That in the year 1791 there were but two hundred thousand pounds of cotton exported, and that the export of this article now amounts to nearly four hundred millions of pounds annually. That "the first cotton supposed to be of American growth, brought to New-York for foreign export, it is said, came from Savannah in the year 1792, and consisted of only two bags." That then its production was limited to one state, while it has now become the staple of seven states, regulating by its price the value of most other productions of our whole country, and supplying, in addition to our own great and increasing demand, two thirds of all that is used in foreign climes. Let no enterprising citizen hesitate in arriving at a favorable belief on these important subjects, and carrying his faith into practice, who remembers that as late as the year 1803, the production of sugar from the cane had only commenced in Louisiana, and that it has increased so rapidly, as to furnish sixty millions of pounds annually and will, it is confidently believed, in a short period, with the anticipated products of the sugar beet of the north, furnish not only a supply for the whole population of the nation, but constitute one of the valuable staple exports of the United States. These things demonstrate, that native ingenuity, enterprise, industry, and perseverance, are not surpassed in any other country

and all that is wanting in our own state, to enable our citizens to produce the most beautiful fabrics of silk, and the finest qualities of sugar from the beet, is proper information, instruction and encouragement.

The committee, although averse to entering into any details in relation to these subjects, cannot feel that they have performed their whole duty, without embodying herein some of the particular facts necessary to satisfy the legislature and their constituents, that the protection by the committee deemed proper and necessary, would not be useless, but calculated to advance the real interests of the people of the state. They conceive it proper in this connexion, to observe that this report is nothing but a compilation from the various periodical and other publications, which the liberality of some of our enlightened capitalists and enterprising countrymen have disseminated through the land.

The committee would further state, that in looking at the subjects entrusted to them, they have regarded with pleasure the interests of the farmer thereby so peculiarly and beneficially affected. While the legislature is properly extending its guardian care to the manufacturing and mercantile concerns of the state let it not withhold its protection from the agricultural interests, which constitute the foundation of the general prosperity.

SILK.

The cultivation of the mulberry lies at the foundation of the silk business, and although there are many varieties, yet the Italian and Chinese are conceded to be the better. The doubts which have been entertained, whether the latter can be acclimated, have been entirely removed, and experience has confirmed the important truth, that the Chinese mulberry can be cultivated to any extent, with safety in our country. The planting of the trees, the raising and feeding of the worms, the production of the cocoons, and the reeling of silk, are properly agricultural pursuits. The modes of cultivating the mulberry, managing the worms, and reeling the silk, are so clearly delineated in the various treatises and periodicals on the subject, which have been published, as to render any remarks in relation thereto unnecessasy. Those who feel an interest in the subject, can and will have access to these publications. The culture of silk is not entirely a new business in our country: for it has been, in various places, commenced and successfully carried on, and fully proved itself to be as healthful and as pleasing, as it is useful and profitable. What delightful anticipations may not be enjoyed in looking at the introduction of the silk business, in relation to the saving the great amount of money expended in the purchase of foreign silks, which now exceeds ten millions of dollars annually.

Beautiful specimens of silk, in the form of sewing silk, produced from worms raised and fed in New Jersey, have been exhibited to, and are now in the possession of the committee. Experiments here and elsewhere have clearly demonstrated, that there is no delusion in relation to the offer, which the silk business holds out to every class of our citizens, especially the industrious poor, and that it may be prosecuted with great advantage, without any danger of failure.

The idea generally entertained, that new enterprises are not to be undertaken without large capitals, is wholly inapplicable to this business. "No more capital is required than can be obtained by any person of common honesty and industry," and although, for the first two or three years very little profit can be reasonably anticipated, if commenced in a small way, yet the committee hesitate not to declare their belief, that any industrious citizen would in a few years in this business, not only realize a competency, but wealth and affluence. The truth of which may be clearly perceived by an examination of the accompanying documents, marked numbers one and two; prepared with great care by those who are well acquainted with the subject.

The cultivation of this beautiful article of luxury and comfort, need not materially interfere with the general productions of the agriculturist. The substitution of mulberry hedges, for the usually rude division fences of farms, would be equally economical, useful, and ornamental, and in this way alone furnish a considerable amount of food for worms. The particular management of the worms, is required at a season of the year when the usual labors of the farm are not the greatest, and may well be performed by females and by those too young and too old to engage in other more laborious pursuits. The reeling of the cocoons may be postponed as a suitable employment for the long evenings of winter, now comparatively without employment, add to the cheerfulness of the domestic circle, and constitute a profitable, as well as an agreeable occupation.

SUGAR.

The eminent success which has attended the manufacture of sugar from the beet in France, and the peculiar adaptation of some parts of the State of New-Jersey, to the cultivation of this vegetable, render this subject one of like deep interest to our fellow citizens. It is not to be expected or desired by the committee, that our farmers should turn their whole attention to the making of sugar; but, if it can be shown, that the manufacture of sugar, from the beet, can be profitably pursued among us, it will not be denied, that its protection and encouragement will serve to create a ready home market for a new agricultural production, at least as advantageous for the farmer as any other of the products of our lands. The committee would here remark, that the proper species of the sugar beet, is the white or Silesian and the rose colored, the seed of which, it is understood, can be obtained of

either the secretary or treasurer of "The Beet Sugar Society of Pennsylvania," at Philadelphia. They need not set forth particularly the various processes in the manufacture of sugar from this easily cultivated vegetable. The taking up and clearing the roots, rasping them, pressing the pulp, dessication, evaporation, clarification and concentration, are all laid down with such admirable fulness in the reports and proceedings of the said society, as to supersede any other allusion thereto. They can be procured by any individual who should desire them, it is presumed, of any of the association. The soil best suited to the growth of the beet, the mode of cultivation, the time of sowing the seed, the period and manner of gathering and protecting the crop, which come legitimately within the interests of the cultivator of the soil, are beginning to attract very general attention and will soon be well understood. More than enough is known in relation to this subject, to satisfy the most scrupulous, that this business in all its branches is highly profitable. The average yield of the beet, in well selected locations in our state, would be about forty thousand pounds per acre a year, which would be worth, if the manufacture thereof is carried on, after deducting the expenses of cultivation, about sixty dollars. These forty thousand pounds of beet will yield about three thousand pounds of sugar. The cost of the manufacture of sugar, will be about four cents the pound, leaving all above that sum, for which it can be sold, nett profit. The cost of machinery necessary to produce one hundred thousand pounds of sugar, annually, would not exceed five thousand dollars; and yet in the neighborhood of Arras, in France, *there is an individual, who chiefly by means of the ordinary domestic utensils, in a room fourteen feet square, absolutely made good sugar.* The experiments which have been made in this country, have satisfied the enteprising individuals, who have examined the subject, that a larger per cent. of good granulated sugar, from the beet, has been obtained in this country than in France; and that the Silesian beets which have been grown here, have been very large, and more productive than ordinary beets. This result cannot fail to be received with the highest gratification, when it is remembered, that the sugar manufactured from the beet in France last year, amounted to eighty millions of pounds—one third more than was procured from the cane during the same period, in our own country.

The committee have seen samples of beet sugar, not surpassed in beauty or richness. The refuse of the sugar house, the cakes, are given to cattle and sheep, and are esteemed excellent food. The molasses, when mixed with water and poured on chopped straw, is devoured voraciously by horses as well as cattle and sheep. This species of food, is not only good for fattening cattle for market, but very fine for the dairy.

The committee, however, forbear to extend remarks, and have only indulged in them f the universal gratification it is believed wo be afforded, to witness the profitable product and manufacture of silk and sugar introdu into the state. They feel that at no dist period, the silk and sugar of the north, equal the cotton and rice of the south; and t an exchange of these useful and ornamer articles, among the associated sisters of the c federacy, will constitute a very important bra of trade, and serve to equalize the prospe of the nation, and render more firm and sta the bond of our Union, so essential to preservation of national freedom.

The committee have been exclusively actua in the preparation of this compilation, by a de to awaken public interest to the considerat of the very interesting and important subj confided to them, and trust they have dischar their duty, as fully performed, as their va duties would permit, if they shall succeed drawing public attention to these two branc of industry; by which thousands of our fell citizens might acquire subsistence and wea and greatly promote the common weal.

They herewith submit two bills, provid protection and encouragement to those subje and in conclusion, would refer to similar ena ments in all the northern states, in relation silk, and to the success which has attended th legislative provisions, and to the thriving a flourishing manufactories of sugar abroad, a earnestly and respectfully say to their fell members and common constituents, *go thou a do likewise.*

All which is submitted, by order of committ

G. P. MOLLESON,
Cha r n

Cultivation of Spring Wheat

Extract of a letter from the Hon. JAMES M'CALL Rushford, Allegany Co, N. Y.

In answer to your inquiries with regard my experiments and experience in the cultu of Spring Wheat, I have the pleasure of sa ing they have both been very satisfacto Previous to 1833, I had not for fifteen ye sown any of that kind of wheat; when I w induced to sow two acres with three bush of seed. The product of these two acr was seventy bushels of wheat. In 1834 r winter wheat was very badly frozen out; went on and harrowed in Spring Wheat soon as the frost had left the ground. Twel acres of this wheat produced two hundr and seventy-six bushels, or twenty thr bushels per acre. Another piece of five acr produced one hundred and forty-nine and half bushels, or thirty bushels to the acr Another piece sown on wheat stubble, pr duced twenty-two bushels to the acre.

Last spring I sowed ten acres of whe stubble, which was ploughed once in N

vember, and the seed was harrowed in as early in the spring as the frost would permit; this will yield me twenty bushels per acre. I also sowed four acres from which corn had been taken the year previous, and which will give me thirty bushels to the acre. As a continuation of my former experiments of sowing Spring Wheat on winter killed wheat, I sowed one bushel on some spots where Winter Wheat had been killed out by snow drifts, one half at least was picked up by the pigeons, yet the remainder produced sixteen bushels, and had I have sown all that was killed out of the piece of nine acres, it would have added to my crop fifty bushels more.

I am so well satisfied with my experience on this subject, that I would in all cases where wheat is badly winter killed, whether in spots, or generally, recommend to sow the ground with Spring Wheat, and harrow it in as early as you are satisfied the old roots are dead. Harrowing lightly over wheat that is alive will not injure the roots at all, and the scattering Winter Wheat that grows up will produce no injurious effect. Between the two you are sure of a good crop; and besides you keep out of the land, grass, weeds, and other foul stuff, such as cockle, chess, &c., which every farmer knows will spread on the unoccupied soil to a thousand fold.

Genesee Farmer.

Clover and Rye Grass.

In the selection of clover and rye grass seeds, particular attention should be paid to their quality and cleanness; the purple color of the clover seed denotes that it has been ripe and well saved: and the seeds of weeds may be detected in it by narrow inspection, if there be any; but various noxious weeds are frequently mixed up with the seeds of the rye grass which it is difficult to discover or to separate from them. Between the seeds of the annual and perennial rye grass the difference is hardly discernable; and therefore, unless of his own growth, the cultivator must depend in a great measure on the character of the person from whom he purchases it.

The after culture of clover and rye grass consists chiefly of picking off any stones or other hard bodies which may appear on the surface in the spring succeeding that in which it was sown, and cutting out by the roots any thistles, docks, or other large grown weeds.

After this the surface should be rolled once, to smooth it for the scythe. This operation is best performed in the first dry weather in March. Some give a top dressing of soot, gypsum, common lime, peat, or wood ashes, at this time or earlier; gypsum has been particularly recommended as a top dressing for clovers, and the other herbage legumes, because as their ashes afford that substance in considerable quantities, it appears to be a necessary ingredient of their food. Dutch ashes have been strongly recommended as a top dressing for red clover, and they also contain gypsum; but where the soil is in good heart, and contains calcareous matter, any description of top dressing though it may be of advantage when it does not interfere with the general economy of the farm, cannot be considered as necessary.

The taking of the clover, or clover and rye grass crop, is either by cutting green for soiling, by making into hay, or by pasturing. It is observed in the "Code of Agriculture," that it is a most important point to ascertain in what cases cutting, or feeding, is most beneficial. If fed, the land has the advantage of the dung and urine of the pasturing stock; but the dung being dropt in irregular quantities and in the heat of summer, when it is devoured by insects, loses much of its utility. If the dung arises from the herbage, whether consumed in soiling, or as hay, were applied to the land in one body, and at the proper season, the operation would be more effectual. The smoother of a thick crop, continued for any time upon the ground, greatly tends to promote its fertility; and it has been pretty uniformly found, after repeated trials, upon soils of almost every description, that oats taken after clover that has been cut, either for soiling or hay, is superior to the crop taken after clover pastured by sheep.

Manufacture of Beet Sugar.

We copy the following from the Journal des Debats, a French publication of April 15, 1836, for the purpose of showing the simplicity of the process of manufacturing beet sugar, and the little expenditure which is necessary to prosecute the business on a small scale. "Four residents of the village of Wallers, department of the north, one a blacksmith and the others farmers, formed, some months since, an association for manufacturing beet root sugar, with a capital of 400 francs [$75,] in four equal shares of 50 franks a piece. They were able, every day, to make a loaf of sugar of medium quality, weighing from forty to fifty pounds. The following is their simple mode of manufacturing the sugar. They used curry combs to rasp the beet roots with, and linen bags for expressing the juice; the syrup thus obtained was boiled in the family iron pot, on the blacksmith's fire. By these simple means they were able to make a loaf every day." If with this rude apparatus these men were enabled to make forty or fifty pounds daily,

cannot every farmer with a trifling expense, furnish himself with machinery for making sugar for his own consumption!

Silk Advocate.

The following communication was read before the Horticultural Society at its last meeting, and ordered to be published in the Farmers' Cabinet.

To the Horticultural Society of Pennsylvania.

Blight in Pear Trees.

From a series of experiments I have been enabled to check the blight in my pear trees for a number of years, by finding the disease to originate from the root; which being of a very porous or spongy nature, absorbs moisture very rapidly, and if the wood of the pear grafted thereon, be also of a porous nature, a rapid growth is the consequence, which is the reason why such pear trees outstrip others of a more close, or compact wood. The latter I find do not blight to as great a degree as the former.

The pear tree requires a soil that is of an even, cool temperature of moisture; the sudden transition from dry to wet, and wet to dry, predisposes the tree to blight. Other cases occur when the tree has been in constant tillage, with a sudden transition of the sward, always terminating in blight in a more or less degree.

I have observed the blight attack them after being accustomed to stand in sward by a sudden cultivation by tillage,—that in all cases the pear tree does best by keeping the ground cool, and in an even temperature of moisture.

Many other fruit trees will bear all the sudden transitions from wet to dry, and dry to wet, with tillage, and without it; but not so with the pear,—the sap flowing through the porous pear roots rapidly in the spring, and then suddenly checked by drought, causes the blight,—and the sudden flow of the sap in summer, after having been checked, will generally cause a quick progress of the blight.

I would therefore recommend that the roots of the pear be kept in an even and cool temperature of moisture, from the 1st of May to the 15th September, by covering the ground with hay, stones, bricks, &c., three to four feet further out than the roots continue to extend,—so thick as to prevent the growth of the grass.

The black spots in the wood of the part diseased, originate from an overplus of sap, and are the effect, and not, as many suppose, the cause of the disease.

The pear tree ought never to be luxuriantly pruned, but moderately every year in July or August, in a dry time. My attention has been for a number of years employed in the cultivation of fruit trees, and I am induced to believe that we can be moving onward in other things besides internal improvements.

Any way that the rapid growth to a medium can be effected, and so restrained from spring to fall, will be conducive to the longevity of the pear tree.

I have seen the pear do well on quince, thorn, and apple. The blights not attacking them as when grafted on pear. The root of the pear is more spongy and absorbs the moisture more readily than the quince, thorn and apple, causing the difficulty of keeping the pear to the requisite medium on pear roots.

I have observed other fruit trees affected with blight; on examination, the wood of such were soft and very porous; when in a wet time, having had an overflow of sap, which caused a surfeit or blight. The more hard and compact the wood is, the less liability there is of blight. The sickel pear is of this description, and will not require that attention in guarding against the disease as some others.

When the roots of the pear are compact and less porous than ordinary, the hot ground with much rain has not that effect in blighting; which is the reason some trees have not been known to blight.

In a general conclusion on the subject, the ground should be kept cool through the summer, when an excess of rain will not or rather cannot cause or create the aforesaid disease.

I shall at some future day communicate some other remarks on the aforesaid subject, which I deem not essential at this time. But have thus early in the season thrown before you the foregoing, in order for the preservation of the fruit in question.

Very respectfully,

SAMUEL REEVE,

Proprietor of the Salem Nursery, N. J.

FAT CATTLE.—In the earlier period of the last century, the gross weight of the cattle sold at Smithfield did not, on an average, exceed 370 lbs. and that of sheep 28 lbs; whereas, at present, the average weight of oxen is estimated at about 800 lbs. and that of sheep at 80 lbs.

The new Silk Factory at Dedham, Mass. is commencing operations. When in full operation it will run 1600 spindles, and employ 100 females.

From the Plainfield Union.

The Farmer and Merchant Contrasted.

The Mind stupendous! which contrived the world,
And first its mighty plans to man unfurl'd!
Appointed *him*, the earth to till, and dress,
And bade the *earth*, his cheerful labors bless.—
'Twas Heaven's appointment! for we trace from *thence*
The Farmer's labor, and his recompense!
All other occupations, but depend
On *his*, for birth, for sustenance, and end:
Thus should we swell the husbandman's renown,
His is the triumph! *he* should wear the crown.

Th' industrious Farmer, through his God can *most*
Of happiness and independence boast:
'Tis his to plough, and plant, and sow, in hope;
Then reap the harvest, the abundant crop!
Labor suffuses o'er his cheek the glow of health,
That *treasure*, richer than the sluggard's wealth!
He hastes from toil, the frugal meal to greet;
And proves the sleep of industry "is *sweet*."—
If *blessed*, his pleasures are the quiet home,
Where fashion with its tumult doth not come;
His faithful partner, and his smiling boy!
Lighten each care, and sweeten his employ:
His stock the charge he loves, and trusty steed,
Well disciplined for toil or pleasures need;
These are his joys! and if the *heart* be right,
Thanks with each gift enjoyed, will still unite:
He blesses God, for rain and dew from heaven;
For fruitful seasons, and the harvest given.

Not so the *merchant!** his is all the strife,
The weariness, the bustle, and turmoil of life!
Mingled with buoyant spirits, fed by *hope*,
Which doth so oft the path to sorrow ope:
Solicitude is *his!* he would compete
With rival traders and their schemes defeat:
Here is the snare! and here alas! he strays
From rectitude, and honor's sacred ways!
He lives beyond his means, his treasures flow
T' eclipse his *neighbor*, in his pomp and show!
His business is extended, thus to meet
The calls with which *ambition* is replete:
His obligations swell, and soon fall due,
He borrows, pays, and hope lights up anew.
But now fresh trials from their fountains burst!
His debtors break, and credit *too* is crush'd:
Perplexed, his books are searched, but ah! he finds
Ten times his *capital* is "scattered to the winds!"
Poor man! he doth indeed *affect* a smile,
Though racked with *inward* agony the while
For still the *quickened* step, the *hasty* meal;
The secret workings of his mind reveal;
His "like the troubled sea that cannot rest,"
By conscience tortured, and by grief oppressed.—
Perchance he still tugs through, and fights his way,
While hope yet whispers of a *brighter day!*
He gains fresh strength, begins the year *anew;*
But ah! its *close* tells the *same* history too.
Years, succeed years, ambition still lives on,
Excitement bears him up, when *peace* has gone.—

May-be his fortune changes! and he gains
The summit of his wishes, and his pains:
Rich in *estate!* but robbed of joyous health,
He's but the *poor* man, *burdened with his wealth!*
For where the riches *true*, to man are given,
They lead to peace, to competence, and Heaven.

CLEMENTINA.

*The *city* merchant is here referred to.

The Grape of America.

"There are hundreds of acres of grape vines," says the New-York Morning Star, "near the Great Descent in Arkansas, loaded with the richest clusters of grapes of the same quality with those producing the valuable wines in Europe. These grapes (Vitis vinefera) are growing wild on the sands, and wasting their fragrance on the desert air." This, if true, is something new in Pomological History. Hitherto it has been supposed that this species was indigenous only to the old world; and although in the wilds of North America are found a number of distinct species of Vitis, not known in the old world, yet the *vinefera* was not to be found here till after it was introduced by Europeans. We should be glad to see this statement confirmed.

W. W. B.

Potatoes as Food for Sheep.

In conversation with a gentleman (who has traveled about a good deal) some weeks since about managing and raising stock, &c. he told me in traveling in the western part of this state, or in Ohio, some years since, he stopped at an old Friend's house to stay all night; and while there, he saw some one about the establishment chopping up potatoes, to about the size of partridge eggs. He inquired what the chopping mass was intended for; the Friend replied, "It is for my sheep: with chopped potatoes and a small quantity of hay I can keep a flock of sheep fatter and in better health than any other way I have ever tried or seen tried. The gentleman said he saw the flock of sheep before he left, and finer fatter looking sheep he never saw.—*Farmer's Register.*

PRICES CURRENT.

ARTICLES.	Philadelphia, Feb. 24.	Baltimore. Feb. 23.	New York, Feb. 23.	Boston, Feb. 22.
Beans, white, per bush.	$1 80—2 00	1 37—1 50	2 20—2 50	2 50—3 00
Beef, mess, new, per bbl.	14 00–14 50	14 50–15 00	13 50–14 00	15 50–15 3[illegible]
Bacon, western, per lb.	12 13	17— 18	.....	.....
Butter, extra, per tub.	17— 18	.....	.....	22— 2[illegible]
Butter, fresh, per lb. (market,)	25— 31	25— 37½	25— 37	30— 37½
Hams, per lb.	13— 14	.....	13½— 14	14— 1[illegible]
Hog's Lard, per lb.	14— 15	15— 16	15— 16	16— 1[illegible]
Cheese, American, per lb.	10— 11	10— 11	8½— 10	9— 1[illegible]
Beeswax, yellow, per lb.	26— 27	28—	27— 28	28— 3[illegible]
Beeswax, white,	37— 39	40—	38— 40	38— 4[illegible]
Bristles, American,	40— 65	.....	25— 65	30— 7[illegible]
Flax, American,	9— 10	.....	8½— 9½	—9 1[illegible]
Flour, best, per bbl.	10 50–11 00	12 00–13 00	11 62–11 87	12 37–12 5[illegible]
GRAIN—Wheat, per bush. Penna.	2 10—2 35	.....	.....	—2 12½
do. Maryland,	2 05—2 25	1 40—2 30	.....	.....
Rye, per bushel,	1 50—	1 20—1 25	—1 40	2 12—2 2[illegible]
Corn, do.	80— 94	— 95	1 04—1 10	1 12—1 1[illegible]
Oats, do.	50— 53	55— 56	50— 60	65— 7[illegible]
Barley, do. Penn.	83— 90	.....	1 06—1 09	90—1 0[illegible]
Peas do.	.....	1 12½—	1 00 1 06	.....
HAY, Timothy, per 100 lbs.	1 10—1 25	.....	.....	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	120 00–140	130 00–140	2 75—3 0[illegible]
Hops, first sort, 1836, lb.	10— 11	— 16	.....	9— 1[illegible]
Plaster Paris, per ton,	5 00—5 25	3 00—3 25	4 00—	.....
SEEDS—Cloverseed, per bushel,	7 25—8 00	8 25—8 50	.....	-14 1[illegible]
Flaxseed, rough, do.	1 85—1 90	—1 50	1 65—1 75	—1 5[illegible]
Timothy,	2 25—2 75	3 00—3 50	2 25—2 50	3 00—3 1[illegible]
Tallow, per lb.	— 11	— 8½	— 9½	9— 1[illegible]
WOOL—Saxony, fleece, per lb.	68— 75	55— 68	75— 80	85—1 3[illegible]
Merino,	60— 67½	48— 55	50— 68	65— 7[illegible]
1-4 and common,	40— 44	36— 40	25— 40	50— 5[illegible]

Remarks.

The *Flour* market still remains inactive; Factors demand $11 per barrel for superfine Flour, while sales have been made on Market street at $10,50 to $10,75. The wagon price has varied from $10,12½ to $10,50, and but few buyers have appeared at those prices. Rye Flour and Corn Meal continue as last noted, with sales. *Grain.*—The supplies by water have been limited. Sales of Ohio Wheat in lots, 1600 a 1800 bushels, at $2,25 to $2,28 per bushel. Market again bare of Rye. Sales of Penna. yellow Corn at 95 a 96 cts. Oats are steady at 52 a 53 cts. per bushel. *Seeds.*—Cloverseed is steady at $7 to $7,75 per bushel; one lot of very prime brought $8. Flaxseed—A sale of 600 bushels Maryland at $1,85. In New-York, Rough is offered at $11,50 per tierce. *Silk.*—A sale of 6000 lbs. raw Silk, for export, price not reported.

J. Van Court Printer 48 Market street.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, March 15, 1837.** **No. 17.**

The Observer.— No. 3.

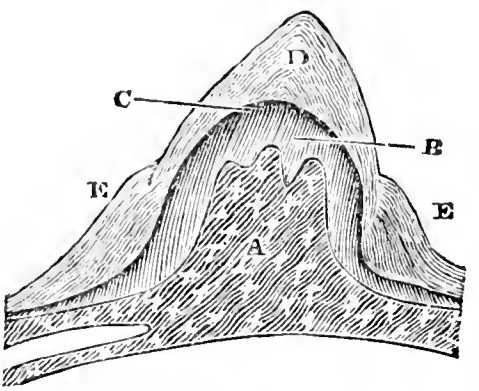
When my former essays were written, I did not expect again, to obtrude my horns into the Cabinet;—but further investigations, have led to results which I shall briefly notice. Not possessing either the leisure, or opportunity to make the needful examinations at the time, I drew the anatomical account of the horns, from authorities on which I thought I could rely. I supposed it to be sufficiently correct for my purpose, although I doubted the accuracy of some of the minute details. I find these to be more erroneous than I had expected.

It is stated in my first number, that "during the developement of the horn, its bone becomes anchylosed, or united with the os frontis." The bone of the horn *is never detached from*—but *grows out of* the os frontis. Having opportunely met with a pair of calf's horns, which had just protruded through the skin,—they were found quite *movable* on the frontal bone, as has been stated. On making a section of the entire horn, the source of error was discovered. In the centre, was a mammary protuberance of bone, *completely consolidated with the skull beneath.* On this protuberance, rested a thick layer of soft elastic cartilage or gristle,—then the periosteum,—and finally the shell of horn. The motion was between the shell and pith, and resulted from the elasticity of the cartilage. Neither the pith, nor the skull immediately beneath, presented any cavity. A little lower, on the forehead, the plates of the skull were separated, so as to form a small frontal sinus.

Fig. 66, represents this section—A the pith B the elastic coat—C the periosteum—D the shell—EE the skin rising upon the root of the horn—F the frontal sinus.

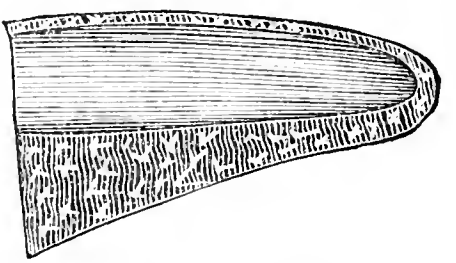
I have found the cavities of horns, even more irregular than I had anticipated, in my former number—especially, as relates to their

Fig. 66.



extent. At one time, I have found the hollow extending to the very tip of the core, leaving the bone on one side, as thin as coarse paper. A longitudinal section of the end of the pith is represented in Fig. 67. In other instances,

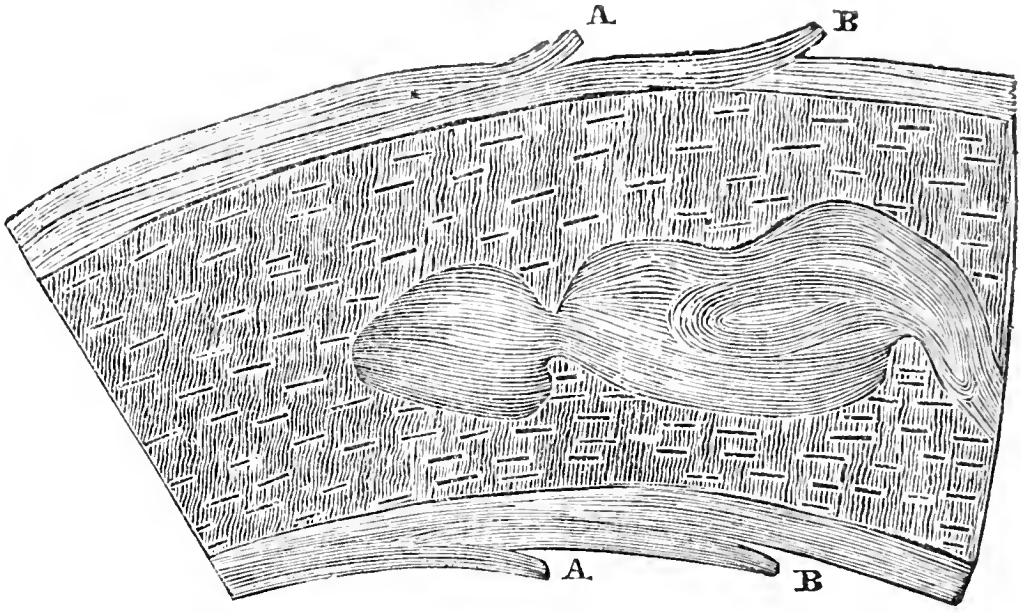
Fig. 67.



the cavity has been very small, and did not extend more than two or three inches into the root of the horn. In these cases, the middle and upper portions of the shell, are occupied by a large mass of bone. A section of such a horn is shown in Fig. 68.

It will mostly happen that horns of the latter description will be bored *above the cavity.* In *six* horns which had been bored, I found that in *two*, the instrument had only penetrated *through the shell*—in *two*, it had passed several inches *above the hollow;*—and in *two*, had penetrated it. Admitting the operation to have been necessary, in all the

Fig. 68.



cases,—it must have failed in *four* out of the *six*, from the manner in which it had been performed. This might seem to afford a hint to the advocates of the practice, to bore *nearer the head*. But one of my neighbors, a very extensive and experienced grazier and feeder, says, that he formerly bored *near the head*, but finding *corrupted horn frequently to follow the operation*, he has latterly bored *nearer the tip*, and he now *seldom sees corrupted horn*. This testimony strongly corroborates my opinion, that *putrid horn is generally caused by boring*, and shows that boring *above* the cavity is less dangerous than boring *into it*.

It has been stated in a former number, that the bone of the horn is nourished by the periosteum, and that the true horn, or shell grows from the root, and derives its nourishment from that source. This was admitted without further examination; 1. because bones generally possess a periosteum, and are nourished by it. 2. Because the reparation of the injury from boring, appeared to take place in the pith—the perforation in the shell never being filled up. This reasoning satisfied me until I was informed by a dealer in horns, that the pith of a bored horn, *would not come out of the shell*. If the injured pith was merely repaired by a deposit of new bone, I could not see how the separation would be prevented, and commenced an examination immediately. In every *bored horn* which I have examined, a portion of bone has been absorbed, around the opening in the shell, *forming a conical cavity in the pith*, corresponding to the extent of the injury. In those cases, where the instrument had passed *through to the opposite side* of the shell, a *smaller excavation*, has uniformly been found on *that side of the pith also*—the two cones meeting in the centre, so as to form an hour-glass shaped opening *through the bone*. This opening was filled with a similar shaped deposit of *bone* firmly united with the interior of the shell. Where two cones of horn existed, their points were always united. The larger cone, next the bore in the shell, was always hollow, to a greater or less extent where the instrument had penetrated the bone. In one instance where the whole horn had been transpierced, a hollow tube or cylinder of horn, passed quite through.

Fig. 69.

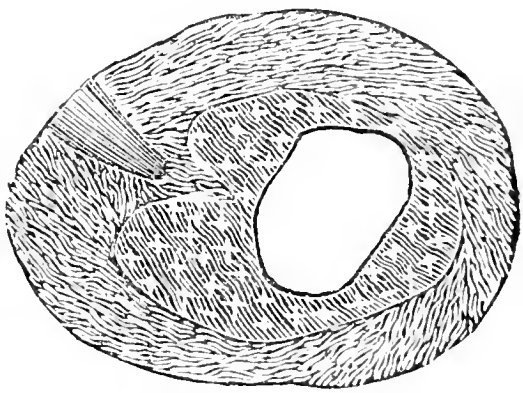


Fig. 69. A section where the instrument did not enter the cavity.

Figs. 70 and 71. Sections of the horn which had been bored above the cavity. They exhibit a remarkable uniformity in the progress of cure from similar injuries.

Fig. 72. A section where the horn had been transpierced.

In all the cases, the periosteum extended *between* the bone and new horn—and in *no case* did I find a well characterized deposit of new bone. I am, therefore, left to conclude, that the use of the periosteum is more connected with the shell than the pith, and

that its vessels *secrete horn and not bone*—the latter, being nourished by its own proper vessels. On a closer examination of the structure and growth of the shell, we shall find that the periosteum not only *secretes horn* to repair injuries, but that it *constantly secretes new layers of horny fibres over the whole interior surface of the shell.* In a transverse section of the horn, above the pith, we observe a number of concentric circles or layers—often varying in color, and sometimes, separating,—see Fig. 73. If a longitudinal section be made of the same part, it will be seen that the layers run into each other, like so many hollow cones,—see Fig. 74.

Fig. 70.

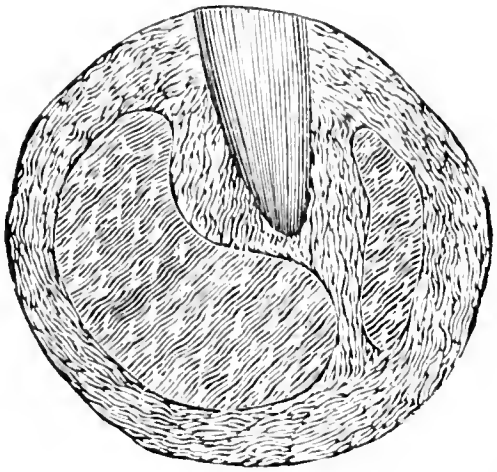


Fig. 71.

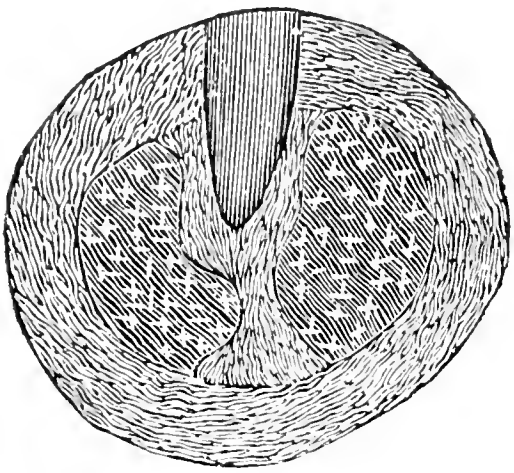


Fig. 72.

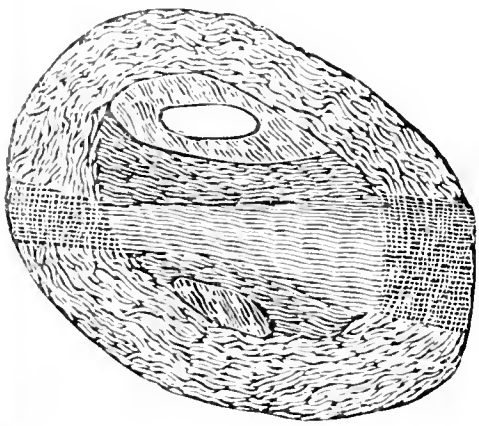


Fig. 73.

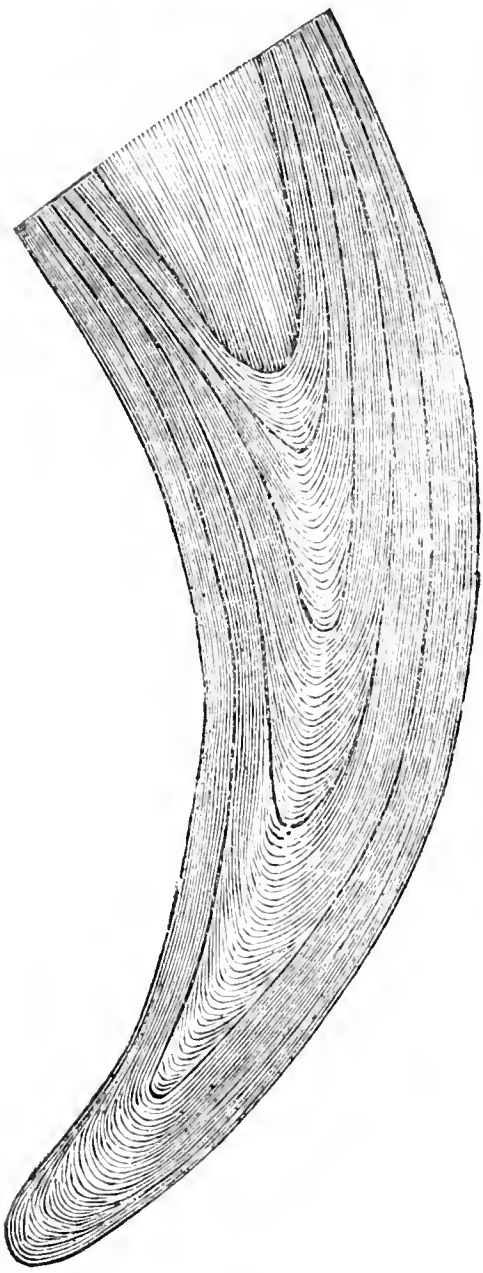


Fig. 74.

These layers are successively formed on the interior of the shell, extending from the root to the tip of the core. But while the layers are thus forming, *they also grow out from the root*, so as to push the external ones

forwards, and increase the length of the horn. As the external layers will not stretch, or become elongated, it is necessary, that as new ones form, the old ones should lose their hold in the skin, and be drawn out. Hence, the external layers are shorter than the horn. After a few of the first years, this detachment of the roots of the old horn *occurs at annual periods*, giving origin to the *annuli* or *wrinkles*, which denote the age of the animal.

A reference to Fig. 68, will show the manner in which the roots of the old layers become detached, and pushed out by the new ones, AA—BB represent the roots, or wrinkles of two annual layers.

In sheep, &c. the layers become detached at shorter intervals, and the annuli are increased in number, in the same proportion. Hence, the age of the animal cannot be inferred from them, unless it shall be found that a *certain number* are produced each year. This would be an interesting inquiry for those who are engaged in sheep culture.

New Garden, 2d mo. 22d, 1837.

[The above interesting paper was not received, until our last number (16) was in press.]

Murrain.

To the Editor of the Farmers' Cabinet.

Sir,—If the following remarks, relating to a disease which is considered by a large portion of the community as incurable, be viewed by you of sufficient importance to entitle them to a place in your paper, when convenient please publish them.

There are two processes recommended for the cure of the *Murrain* in cattle; one of them is to give the animal one pint of spirits of turpentine, and in twenty-four hours afterwards, a pint of olive oil or hog's lard; in forty-eight hours afterwards half a pint of turpentine, and in twenty-four hours after this, half a pint of olive oil or hog's lard.

The other is to give a pint of flaxseed oil, and in twelve hours afterwards two pounds of glauber salts, followed immediately by repeated doses of warm water, for ten or twelve hours.

Note. Perhaps all of these combined would be still better, (the quantity of each ingredient to be such as experience may dictate,) as acting more quickly on different parts of the system. It seems the symptoms of this disease are not generally discovered until within a short time previous to the death of the animal, which soon ensues, unless arrested by medical aid;—consequently such substances as tend to restore the system to a healthy state the most rapidly, combined with other substances, to prevent injury to the animal, seems proper. A.

Chester co. Pa., Feb. 23, 1837.

With the following communication we received the names of twenty subscribers, with the amount of the subscription in advance.

For the Farmers' Cabinet.

On Pruning Fruit Trees.

Mr. Editor,—Permit me through the medium of your excellent paper, to offer a few remarks on this subject. If any of my readers should doubt, let them try the experiment and thereby test its correctness. My time for pruning and method of doing it, are as follows: any time between the 25th of May and the 10th of June, is the season which I prefer, as the sap is in motion, and the wound will heal over in one half the time than any other season; the tree is also less liable to sucker. In amputating large limbs, I use a fine saw, paring the edge of the wound with a sharp knife, but for small limbs a hatchet, or pruning hook may be used, endeavoring by all means to amputate the limbs as near the body of the tree as possible. Where the saw is used it would be better to have the surface smoothed by some sharp instrument, in order to prevent the water from remaining on the wound long. These remarks are not intended to introduce me to the Cabinet as a regular essayist, but merely to bring out a more able writer on the subject.

Washington, Pa., Feb. 27, 1837.

Wheat Fly.

To the Editor of the Farmers' Cabinet.

Sir,—The following process is recommended to destroy the *Wheat Fly.* One bushel of *unslacked* lime, ground fine like Gypsum (Plaster of Paris) to the acre, and sowed in the spring just as the wheat begins to grow. A.

Chester co., Pa., Feb. 25, 1837.

Culture of Onions.

The town of Wethersfield has long been famous for the large quantities of onions which are annually raised and exported to the West Indies and the Southern States. It has been superstitiously supposed there is something in the soil of Wethersfield peculiarly adapted to the culture of onions; and this whim has no doubt discouraged many from attempting the cultivation of this valuable root, in other sections of the country, equally favorable to its growth. It is true the soil of Wethersfield is a rich gravelly and sandy loam, well adapted to horticultural purposes; but the success of its inhabitants in the culture of onions, is attributable in a much greater degree, to a particular virtue in the fingers of its females, than any peculiar properties in its soil.

The business of raising onions in Wethersfield, is reduced to a perfect system. The following is the method of cultivation. Early in the spring the land is manured by ploughing in fine manure from the stable or barn-yard, in the proportion of about ten loads to the acre. That of neat cattle is preferred, as that of horses is considered of too heating a nature. After the manure is ploughed in, the land is well harrowed and laid out into beds five feet wide. The beds are laid out by turning a furrow towards them each way. This raises the beds above the aisles and gives an opportunity for the water to run off should there be occasion for it. They are then raked with an iron-tooth, or common hay-rake, and the aisles suffered to remain as left by the plough. Thus prepared, the beds are ready to receive the seeds.

As early as the season will admit, the seed is sown in the following manner. A rake, with teeth a foot apart, is drawn crosswise of the beds for the purpose of making drills for the reception of the seed. The seed is then sowed in the drills, with the thumb and fingers, and covered with the hand. From ten to twelve pounds of seed is put upon an acre.—After the plants come up they are kept free of weeds, which generally require four weedings. A hoe of a suitable width to pass between the rows is used in weeding, which saves much labor. When ripe they are pulled and the tops cut off with a knife. A sufficient length of top is left to tie them to the straw in roping. They are then roped, or bunched in ropes or bunches of 3 1-2 pounds, as required by the law of the State. An ordinary crop is from 6000 to 8000 ropes to the acre. The quantity annually raised in the town, is estimated from 1,000,000 to 1,500,000 ropes, which are sold at an average price of $2 a hundred, amounting to from $20,000 to $30,000.

Most of the labor in raising onions in Wethersfield, is performed by females. The cultivation of an acre requires from fifty to sixty days labor of a female, whose wages, including board, is about forty-two cents a day. Though many of the young ladies of Wethersfield spend a portion of their time in onion gardens; yet in personal beauty, education and politeness, they are not excelled by females of far less industrious habits.—*Connecticut paper.*

Farmers' Work.

EWES AND LAMBS.—The New England farmer says: it is incumbent on every good husbandman and faithful shepherd, to feed his ewes plentifully for a few weeks before, and for a considerable time after they produce their lambs. Good farmers have told us that they have found it very beneficial to give to each of their ewes about one half a gill of Indian corn a day, for 5 or 6 weeks before they have yeaned, and while suckling, to give them good roots, or some other juicy food. The want of milk in the ewes, is the most general cause of death in the lambs. Keep the mothers well, and their offspring will thrive and be strong.

The *Farmer's Manual* says, "If you have stored more turneps than are sufficient for the use of the table, give them to any stock that will eat them, except your sheep; give to them potatoes, but not turneps at this season, for turneps will injure the lambs." Weak lambs should be treated in all respects as if they had been drowned, and you was endeavoring to restore them to life. Apply gentle and regular warmth; give them warm milk, frequently, in small quantities, (the milk of the sheep is best,) and if the ewe has milk sufficient for the support of the lamb, you may generally raise it, otherwise the lamb usually dies. It requires more care and labor to nurse one feeble lamb, when its dam yields too little milk for its support than it would for an hundred, if they were healthy and well kept.

If your sheep, whether store sheep or ewes with lamb, have good hay, about a quart of potatoes a day, to each, will, it is said, be very beneficial, and an ample allowance. But when the object is to fatten them, (says a writer in Rees' Cyclopedia,) about a gallon of potatoes a day, with a little hay will be the proper quantity; but this is dependent in part on the size of the animals, and in part on the quality and quantity of the hay, which is allowed them. Potatoes, besides their use as food for sheep, are said to be very serviceable to those animals as an article of diet, which usually supersedes the necessity of *medicine*. They have, when given raw, an opening or purgative quality, which is thought to be of use, and to answer a similar purpose with sheep, which is effected with swine by brimstone and antimony.

Care should be taken to place in the stable, small tubs or troughs of water for the sheep to drink in. They will do very well in summer without water, as they feed when the dew is on, but they need water in winter, especially if fed mostly on dry food. Deane's N. E. Farmer states that "when sheep have colds and discharge mucus from the nose, good feeding, together with pine boughs given occasionally, will cure them; or tar spread on a board over which a little fine salt is strewed, will induce the sheep to lick up tar, and this will cure a cold."

The *Yankee Farmer*, in giving directions for raising lambs, observes that "great care should be taken when lambs are born, for it is frequently the case that their fore teeth are

not cut, which makes it very difficult for them to hold the teat, so as to suck when young and weak, and it is common for lambs to get discouraged, though ever so rugged at first. To remedy this evil rub the thumb nail, or any hard substance, over the gums, sufficiently hard to cause the teeth to cut through, and the lambs will then be able to suck without any difficulty."

Clay has been recommended as useful for restoring and preserving health to sheep. A writer in the New York Farmer gives the following remarks on this subject:—"I am told on credible authority, that a gentleman, who was losing his sheep whithout apparent cause, had occasion to use some clay about his house in the winter, and his sickly flock ate it with avidity; he caused a load to be placed in their yard, much of which was devoured, and his sheep speedily recovered.

"As a cure, therefore, I would recommend clay to be placed in the sheep yard, which can, at worst do no harm, as the animals will not eat it, unless prompted by instinct."

Wheat.

Last spring we published some suggestions on the late sowing of spring wheat, as a means of saving it from the ravages of a little yellow worm which some incorrectly call the *weevil*. A number of our subscribers tried the experiment, and so far as we have heard, with entire success. A farmer in Orange county told us that he sowed one acre of spring wheat *ten days* later than the rest in the same field. The first sowed was seriously injured, the last not at all. Several, in other towns, made similar statements.

It has been observed, from the first appearance of this insect, that the earliest winter wheat was less injured by its attacks than any other. It is evident, therefore, that the time of laying eggs is short. It is probably, soon after the heads make their appearance. Before they are defended by the leaf which encloses them; and when they appear, most probably, the husk soon becomes so hard that the insect cannot pierce it to deposit her eggs upon the kernel. We have, then, only to ascertain the time, as exactly as we can, in which the injury is done, and have our winter wheat too forward, and spring wheat not forward enough, for the operations of the insect, and the damage is avoided. At present sow your winter wheat as *early* as you can, and sow your spring wheat as *late* as you can, and give it time to ripen.

Farmers, and all who find either pleasure or profit in any thing made from wheat would be greatly indebted to any etymologist who should make us better acquainted with the character and habits of this destructive insect.— *Vt. Chronicle.*

Castor Bean Plant.

PALMA CHRISTI.

Professor Ducatel, in his Geological survey of Maryland, in speaking of the agricultural resources of the lower counties on the Eastern Shore, says:

A popular belief, founded upon prejudice, is, that plaster will not act upon land contiguous to salt water. It is not so. Lands, whether near or remote from the sea, upon which *gypsum* did not seem to take kindly, have been found, *after being marled or limed*, to derive the usual benefits imparted by this valuable material. In some parts of Somerset, a small portion, it is true, as yet, the crop of sweet potatoes is the main one, and is found very profitable, as is evident by the thriving condition of the small farms on Big and Little Deele's Island; whilst intelligent farmers, in other parts of the county, have turned their attention advantageously to the cultivation of beans, peas, &c. But there is yet another growth that bids fair to become of great value to the agricultural interest of the Eastern Shore of Maryland, namely, the *palma christi*, or castor bean plant, sometimes known by the name of *mole plant*.

An attempt was made in the Report of last year, to excite the interest of the farmers of Queen Anne and Caroline counties, in behalf of this new crop. It is to be regretted that they have not extensively, if at all availed themselves of the suggestion—the bean having increased in value far beyond the most sanguine expectations.—There ought to be, therefore, no further delay to the introduction of this growth as one of the staple commodities of Maryland.—Without having been as yet able to ascertain the precise cause of the extraordinary demand for this article, within a few years, there is still reason to believe that the call for it will continue to be great; since, notwithstanding it extended cultivation in consequence of the high prices obtained in preceding years, it now commands a higher price than at any former period. It has been stated that the oil expressed from the beans is employed in large quantity in the manufactories of England for greasing the machinery by which these establishments are put into operation.

The culture of the palma christi presents no difficulties. It is said to thrive best in good corn lands. yielding, according to the quality of the soil, from twenty-five to forty bushels per acre. The land requires the same preparation as for corn; and the bean is planted like this grain,—in hills on which

two or three plants are suffered to grow; the subsequent tillage being also the same as that practised for corn. The most tedious part of the management of this crop is the gathering of fruit, which forms a cluster with a pyramidal termination; the lower portion being occupied by the male flowers that yield no seed, and the upper by the female flowers. In the female flowers, the ovary, which is roundish and three-sided, supports three linear reddish stigmas, forked at their apex. The fruit, properly speaking, is a round capsule, with three projecting sides, covered with rough spines, and divided into three cells, each containing one seed. The flowers appear in July, and the seed ripens throughout August and September. If suffered to do so on the plant, the capsule bursts with considerable force, projecting the seed at a distance, and scattering it about the field. To avoid this is the only extra attention required by this growth, and this is done by anticipating the maturity of the fruit. The directions are, to visit the plantation a little before the commencement of the ripening season, removing those clusters that approach to maturity, (which is known by a change of color, from grayish green to a light pea green,) and conveying them to the drying ground, where, by the effect of the sun's heat, they burst, and dislodge their seeds. The only preparation for the drying ground is to provide a small place, cleaned and levelled as for a thrashing floor, upon which the clusters are scattered. It would be advisable to locate this spot in the neighborhood of the barn, or near a shed, so as to facilitate the removal of the plants, in case of protracted wet weather, to some sheltered situation. Transient showers of rain do not, however, damage it, otherwise than by blackening the seed, whereby its sale might be injured, although it does not diminish its productiveness in oil. The occupation of gathering having once commenced, it should be so arranged as to visit each plant twice a week, morning and evening, until the whole crop has been secured. It may then be sent to a market, where, at the time of writing this Report, it commands three dollars a bushel; or, it may be made to yield its oil by the following process, as practised in Northampton county, Virginia.

The seeds are first to be thoroughly cleaned of dust, and of portions of the capsules that may have adhered to them. They are then introduced into shallow iron drawers, arranged on both sides of a furnace, where they are exposed to a gentle heat; the object of this first operation being to render the oil more easy of expression. From these drawers they are conveyed into a powerful screw-press, by the operation of which the oil is obtained. So far, however, the oil is impure: It must now, therefore, be transferred to clean iron boilers, previously supplied with water. As the boiling proceeds, the impurities that rise to the surface, are skimmed off, and the clear purified oil finally makes its appearance, floating on the water. It is now carefully removed, and a second time subjected to the boiling process, with a small quantity of water, until the latter liquid has been entirely dissipated. This is ascertained by taking out a small portion into a vial, and observing whether it preserves its transparency as it cools. Some care is required not to push the heat too far, as then the oil would acquire a brownish hue and a hot peppery taste, which would at all events unfit it for use as a medicine. One bushel of seeds yields about one gallon and three quarters of oil, at an expense of about twenty five cents a bushel, which is refunded by the sale of the *pumice*, found to be an excellent manure for corn crops. Acknowledgments are due to Mr. Smith, of Northampton county, Va., an intelligent and experienced planter of palma christi, and manufacturer of castor oil, in the vicinity of Eastville, for the information contained in the above paragraphs.

It is needless, after what has just been said, to expatiate upon the value of the plant. That the soil and climate of at least the lower portions of the Eastern Shore of Maryland are congenial to its growth, cannot be doubted. The praiseworthy example (crowned, it is believed, with entire success) has already been set to the inhabitants of Somerset, by one of the most intelligent farmers of the county—Col. Arnold E. Jones.

Chess—Bromus Secalinus.

Many of our agricultural papers have recently published articles on the subject of the conversion or degeneration of Wheat into Chess. We have been rather surprised to find that several have embraced the opinion that such change does really take place.

They rest the proof of their position upon the supposed facts, that chess has been found growing from a grain of wheat, and that clean wheat, sown on certain kinds of ground, has returned almost nothing but chess.

Many persons might be deceived by an instance of the first case, while a careful examination would show their error. We have heard of several supposed cases, of a stalk of chess growing from a grain of wheat, where a close examination by a skilful observer has detected the mistake.

As to the latter case, in the same way, we have seen wheat and rye turned into what are commonly called *wild turneps*. Improper seeds may exist in the soil previous to the sowing of pure grain, and these will most

assuredly come up and flourish as well as the good grain, and sometimes, being more hardy or earlier, may altogether overcome it.

It is a principle in nature, that genuine distinctions can by no process of art be changed, the one in the other, and wheat and chess belong to very distinctly different genera. It is not even likely that the pollen of the one, fertilizing the pistils of the other, has produced a mongrel or hybrid, for we do not hear of any intermediate plant, such as would be the result of a mixture.

Providence has wisely appointed, that what a man sows he shall reap, and does not suffer him to receive in return for the most useful of all grains, a useless and even deleterious seed.

We should not have noticed this matter, had we not seen in print several articles, evidently written by firm believers in vegetable transubstantiation. Desiring to correct a heresy so gross, we have entered our protest against it.

The serious effects said to be produced by a large quantity of chess ground up with wheat, as giddiness and delirium, render it an important object to get rid of this plant.—We suspect that sowing clean grain on clean ground will be found the very best method of accomplishing this object.—*New York Farmer.*

From the New England Farmer.

Flax—Food for Cattle.

Mr. Fessenden:—If the following remarks are worthy of a place in your valuable paper, you are at liberty to publish them. Some years since there was a great scarcity of hay. At that time I had on hand a large stock of cattle. Sometime in the month of February my stock of hay was about all gone, and where to obtain more, I could not tell. It could not be had short of 20 miles, and there at the price of thirty dollars per ton.

One day I went to the stable, and no sooner than I entered, every eye was upon me for aid. You may imagine what my feelings were, when I knew of no relief which I could bestow. I stood a while to reflect on what course to pursue, or what to do. At last I thought of some flax which had been lying on the beams of my stable for several years, which had not been rotted. I threw down a few bundles, and gave some of the flax to my cattle. They took hold of it with such eagerness, that I was obliged to take it from them to prevent their being choked with it. I then took a block of wood and a broad axe, and chopped it up short. I then gave a very little to my cattle, and continued so to do, until it was all gone.

From what I then discovered of the virtue and oily substance that the flax contained, I am of opinion that what I could take up between my two hands and fingers, after being chopped, and given to a cow each day through the winter, would carry her through the foddering season. My opinion is that the bulk of one ton of hay in flax, will be of more value to a stock of cattle than four tons of hay. I am also of opinion that oil can be obtained from flax. As I have an oil mill, I intend to try the experiment the ensuing season. I would recommend to farmers to sow more seed the coming spring than usual; for flax and the seed are of more value than people are aware of.

Stephen Perley.

Meredith, Feb. 20, 1837.

By the Editor.—The use of unrotted flax as food for cattle is new to us, and we have never, before we received Mr. Perley's communication, heard or read of its being applied to that purpose. We are of opinion that Mr. P. has made a valuable discovery, and are much indebted to him for its communication.

Chinese Mulberry or Morus Multicaulis Seed.—We caution our friends not to buy seeds purporting to be the Chinese, or Morus Multicaulis, expecting to raise their kind from them. The Morus Multicaulis cannot be produced from seed, as all well know who have studied the character of the tree; and he who will advertise, in a manner calculated to mislead the uninformed, is a foe to the interests which he pretends to advance. The cat once signed dreads the fire. The farmer once fleeced will not be likely to try again.

C.

Process of making Beet Sugar.

We have often been asked the manner by which sugar was extracted from beets, but were unable to give satisfactory answers. To those inquirers the following article, from the Silk Culturist, will be found interesting.

The attention of the public having been some time drawn to the manufacture of sugar from the beet, and having repeatedly recommended its cultivation to farmers as a profitable crop, we have felt ourselves under an obligation to give them the details of the process by which it is extracted. We have, therefore, examined the best authorities on the subject, and consulted several gentlemen of some practical knowledge and experience in the business, and the result of our investigation is that the process is altogether more simple and less expensive than has generally been supposed. In describing the various

processes in the manufacture, we have carefully avoided the use of chemical terms, and substituted language which we hope will be understood by every reader.

There are several varieties of the beet which yield sugar, but the Silecial beet is recommended as the best and most productive. This beet will come to maturity in all parts of the United States, up to the 45th degree of latitude. The soil most congenial to its growth is a light sandy loam, of good depth, and if free from stones the better. Probably no country in the world is better adapted to the growth of this root than the alluvial meadows on the Connecticut and other rivers of New England. The cultivation, however, need not be confined to vallies, as in most of the hill towns, lands may be found well adapted to its growth. The land is prepared for the seed by deep ploughing and pulverizing the surface. This is best accomplished by ploughing in the fall and leaving the land in furrows through the winter. In the spring the land should be cross ploughed and harrowed, and, if the soil be light, it will be prepared to receive the seed. The seed may be sown as early as the season will admit, broad cast, or in drills; but ultimately the plants should be from 12 to 19 inches apart. They should be hoed and kept free from weeds —at the second hoeing they should be thinned out and but one plant left in the hill—the surplus plants may be transplanted to vacant places in the field.

In the extraction of the sugar, the beets must first be cleaned by washing or scraping with a knife, and care be taken that all decayed parts be cut off. They must then be passed through the rasper and be reduced to pulp—the finer they are rasped the better, as it facilitates expressing the juice. The pulp must then be put into cloth bags and have the juice pressed out by a screw press. In France they use the hydraulic press, but a cider, or other press, will answer the purpose, and be attended with much less expense. As decomposition commences soon after the beet is out of the ground, and progresses rapidly, no time should be lost in converting them into sugar.

After the juice is expressed, and before it is converted into sugar, it must undergo four distinct and different processes. 1. Defecation. 2. Evaporation. 3. Clarification. 4. Concentration.

DEFECATION.

The composition of the beet juice does not differ essentially from that of the cane—it combines with the saccharine matter small quantities of malic or acetic acid, wax and mucilage, which must be extracted before evaporation is commenced. The first process, therefore, is to purify the juice, which must be done by nutralizing the acid, decomposing the wax and coagulating the mucilage, and hence is called defecation. All this may be done by heating and mixing with it the milk of lime in about the proportion of 46 grains troy weight to the gallon. The milk of lime is prepared by slacking quick lime with hot water, and reducing it to the consistence of cream. The juice must be heated to about 160 degrees Fahrenheit, and the milk of lime poured into it and thoroughly mixed by stirring with a stick. After it is intimately mixed, the stirring must be stopped and the mixture suffered to rest for a short time. It must then be heated to the boiling point, which will throw the impurities upon the surface in the form of scum, when the boiling must be stopped. When the juice has become clear it must be drawn off from below, by means of a cock, or the scum must be skimmed off from the top—care being taken in either case to effect a complete separation.

EVAPORATION.

The next process in the manufacture is to dissipate the water, which is done by "boiling away," as it is commonly called, but in technical language, evaporation. If in the process of defecation an excess of lime has been used it should be extracted. This may be done by a mixture of sulphuric acid and water, in the proportion of one of the former to forty-four of the latter. This mixture put in contact with the lime, causes an effervescence, by which the lime is thrown off, and the cessation of which is a sure evidence that the lime is neutralized. Some manufacturers say that a small portion of lime should be allowed to remain, and others that the whole should be neutralized. As practical men differ on this point, we can safely conclude it is not very material.

The juice is boiled down till it is reduced to about one fifth or one sixth of its original quantity. For this purpose pans or kettles may be used; but it will be seen that those vessels which present the greatest surface to the fire, and give the least depth to the juice, will best facilitate evaporation. As the water evaporates, flaky substances will separate from the juice and collect in a white foam on the surface, which must be skimmed off as it appears. To promote their separation, the boiling is commenced with a moderate fire, which is subsequently increased as they disappear. Sometimes the white of eggs beaten, or a little blood, is added for the same purpose. During the boiling the juice will rise in froth and flow over the top of the pan, unless prevented by occasionally throwing in a small quantity of some fatty substance. But

ter is commonly used, but tallow, lard, &c. will answer the same purpose. It not only causes an immediate subsidence, but hastens evaporation.

CLARIFICATION.

After being defecated and evaporated, the juice is yet in a degree impure, and the object of the next process is to separate it from its remaining impurities, and hence is called clarification. This consists in filtering it through animal charcoal granulated [burnt bones broken to grains,] and is performed in the following manner. Tubs, or vats in the form of those used for leaching ashes, are made of wood or metal, and furnished with a cock inserted near the bottom. The size of the vats is immaterial; but those of the following dimensions will be found most convenient—2 feet 8 inches deep—1 foot 8 inches in diameter at the top and 11 inches at the bottom. They may be four sided or round; but those made of staves and hooped with iron hoops we should think the cheapest, and on some accounts the best.

A strainer standing on legs, and covered with coarse cloth, must first be placed in the bottom of the vat and filled with the charcoal —about 100 pounds will be necessary for a vat of the above dimensions. The charcoal must then be covered with another strainer and cloth, and the vat filled with evaporated juice, or as it is then called syrup. After standing long enough to leach through the charcoal, the cock must be turned and the syrup be slowly drawn off, and the vat refilled as fast as it is emptied. The charcoal must be changed twice a day, but it may be washed and reburnt, and thus prepared, it will answer for another filtration—may be repeated until it is consumed.

CONCENTRATION.

The next process is to solidify the syrup, and hence is called concentration. To accomplish this it must be again evaporated until it is brought into a proper state for chrystalization. As it is important that evaporation should cease as soon as it arrives at this point, Chaptal gives the following rules for ascertaining the fact.—"1. Plunge a skimmer into the syrup, and upon withdrawing it pass the thumb of the right hand over its surface, mould the syrup which adheres to the thumb, between that and the fore-finger, till the temperature be the same as that of the skin—then separate the thumb and finger suddenly—if the boiling be not completed, no thread will be formed between the two; if there be a filament the boiling is well advanced; and the process is completed as soon after as the filament breaks short, and the upper part, having the semi-transparency of horn, curls itself into a spiral. 2. The second mode of judging of the completion of the process is by observing the time when the syrup ceases to moisten the sides of the boiler, and then blowing forcibly into a skimmer which has just been immersed in it—if bubbles escape through the the holes of the skimmer which ascend into the air in the same manner as soap bubbles do, the liquor is considered to be sufficiently boiled."

When the concentration arrives at this point, the syrup must be taken from the boiler and poured into large pans, for the purpose of cooling. The pans must be placed in the air and the syrup occasionally stirred during the process of cooling, which will be completed in about two hours. On examination, the bottom and sides of the pan will be found covered with a thick bed of chrystals, having but little consistence; on the surface of the syrup, a crust will also be formed. To promote chrystalization, or, as it is more properly called, graining, a thin bed of brown sugar is sometimes put upon the bottom of the cooling pan in order to make a nucleus about which the chrystalized matter may gather.

After the syrup is cooled and chrystalized, or grained, all that remains is to separate the sugar from the molasses, and it is fit for domestic consumption or market. To effect this separation, moulds, as they are called, must be prepared in the form of defecating vats, with the lower end drawn to a point, or so near a point as to leave a hole of three fourths of an inch in diameter. These may be made of wood, metal or earthen ware, and their capacity may be regulated according to the convenience of the manufacturer. Those used in the sugar factories in France, usually, are large enough to contain five or six gallons. They are also used in the refining process. Before using them, if of wood, they must be soaked several hours in water, and dried a short time before they are filled with syrup. Thus prepared, and with a cork in the hole at the point, they must be filled, or nearly filled with chrystalized syrup, and secured in an upright position, over a pan or tub of sufficient size to receive the quantity of molasses it contains. After standing from 12 to 26 hours, according to circumstances, the cork is withdrawn and the molasses permitted to drain off. It will at first drain off rapidly; but soon cease to flow in any considerable quantity. To hasten its separation from the sugar, which takes place slowly, the mass must be pierced with an iron spear, by thrusting it in the hole at the point, which will give it vent and cause it to drain off.—This operation must be repeated as often as is necessary, and until the molasses is extracted.

After having remained long enough to have the molasses run off, the sugar is de-

tached from the sides of the mould with a knife, the moulds are set on the floor in a reversed position and left for two or three hours—when by lifting from the floor and giving it a shake, the loaf will separate from the mould by force of its own weight. The head of the loaf will retain a degree of moisture and a portion of molasses, and consequently should be cut off and thrown in the juice intended for the next clarification. The molasses, also, when a sufficient quantity is on hand, should be again concentrated in order to obtain all the chrystallizable sugar it contains. By the foregoing processes the beet is converted into brown sugar, the kind which is consumed in the largest quantities in most families. In the manufacture of loaf, or lump sugar there is another process called "refining," but being foreign to our present purposes we omit it.

Brief Hints for Spring work.

Apply manure to corn and potatoe crops, and not to grain crops.

Let manure be buried as soon as possible after spreading.

When rotted or fermented manure is applied, let it be as thoroughly mixed with the soil as possible.

Wheat thrown out of the ground by frost, should be pressed in again by passing a roller over it.

Ploughing heavy soils when wet, does more injury than if the team were standing idle.

In ploughing green sward deeply, the furrows must always be at least one half wider than deep, else the sod will not turn well.

New meadows should now be rolled.

All grain fields seeded to grass should be rolled.

Barley should be sown as early as possible, upon a light and moderately moist soil, at the rate of one and a half to two bushels per acre, according to the size of the seed.

A roller should be passed over it as soon as it is harrowed, to press the soil round it, and smooth the field.

Barley seed may be free from intermixed oats by pouring water upon it, when the oats will float, and may be skimmed off.

Oats require strong rich soil, good culture, and early sowing.

Preserve leached and unleached ashes which have accumulated during the winter, to be applied to corn, *in* the hill.

To prevent corn being touched by crows, stir the seed with a sufficient quantity of heated tar, and then roll it in plaster, lime, or ashes.

After each hill of corn is dropped, put in a small handful of a mixture of plaster and leached ashes.

Plaster is always most efficacious on light and thin soil—on meadow and clover ground, the earlier it is sown the better.

Plaster when applied to cultivated ground, is best when worked into the soil.

Sowing it broadcast upon Indian corn after it is up, has increased the crop 25 per cent.

Every farmer should attempt the field culture of root crops—he may raise as much cattle food from one acre, as from five acres of meadow.

Farmers who have rich soil, will succeed best with mangel wurtzel, those who have sandy soil, with ruta-baga. They should try both.

Sow garden crops in drills where practicable, in order that the weeds may be cleared with a hoe.

Different varieties of melons and squashes should be planted at the greatest possible distance, in order to prevent intermixing and crossing.

Loosen the soil with a spade round fruit trees growing in grass land.

Examine the roots of the peach trees and remove all the grubs. Their presence is shown by the gum oozing out.

Take every opportunity of setting an ornamental shrub or tree round your house or door yard—now is the time—if you have any taste you will never regret it.—*Genesee Far.*

Seasonable Advice.

SOWING OF GRASS SEEDS.

We extract the following timely and judicious remarks from the Baltimore Farmer and Gardener of the 7th, inst.

Such farmers and planters as may not have put in their grass seeds last autumn should do so as soon as the frost is out of the ground. For *clover*, there is but one opinion as to the superiority of spring sowing, and although many give the preference to sowing timothy seed in August, still there are those, whose opinions are worthy of consideration, that advocate the practice of setting it in spring on the growing wheat or rye: so also, indeed, with respect to almost every other of the artificial grasses.

If you intend to sow *clover* seed alone on your grain fields, you should not think of seeding less than from 12 to 16 pounds to the acre.

Timothy, if sown alone, should be in the proportion of from 2 to 2½ gallons of seed to the acre.

Rye Grass alone 2 bushels to the acre.

If *Clover* and *Timothy* be sown together, from 10 to 12 lbs. of the former seed and a peck of the latter would not be found too much.

If you purpose carrying your mixture still further, sow 10 lbs. or clover seed, 6 quarts of timothy, ½ bushel of herd's grass to the acre, —or

Of *clover* 8 lbs., *orchard grass* 1 bushel, *tall meadow oat* 1 bushel, and *herds* grass ½ bushel.

In Europe the following is in many districts a popular mixture, 2 bushels of *rye grass* seed, and from 12 to 20 lbs. of *clover* seed to the acre.

It is usual to sow the orchard and tall meadow oat in early autumn, but there is no question that they would succeed now. The orchard grass should be moistened with water and permitted to remain so for a day before sowing.

Whatever grass seeds you sow on your winter grain, be sure to pass a light harrow, and roller over them. You need not apprehend any injury to your grain, for although some roots may be dragged out, you will be more than remunerated by the addition you will receive from the tillering of the branches of the plants which will be imbedded in the soil during the process. That the grass seed will derive advantage from being thus securely placed beneath the soil, common sense and reason both concur in affirming. They will be much more likely to escape destruction from birds than if left upon the surface; they will vegetate with greater certainty, and being well fixed in the earth, their roots will be much better able to withstand the droughts of summer and the frosts of winter. We need not say that the operation of harrowing and rolling should be performed when the ground is in a state to bear the treading of the horse without injury, as it will strike the intelligent reader that if done when the ground is *wet*, much injury will result to the grain.

LUCERNE.

Those who may feel disposed to try their fortune with this valuable grass, can do so as soon as the ground is relieved from the frost and dampness. It should be sown on a dry rich soil, which had been previously well cleaned. From 16 to 20 quarts of seed should be sown. It may be put in with the spring barley and oats. In England and Scotland it is frequently cut four times in the season.

OATS.

The earlier, after the frost is out of the ground, that you get your oats in, the better, and if you can possibly spare from your other crops, a portion of manure, do so; for you may rest assured, notwithstanding custom has allotted them to grow on the poorest part of the farm, unaided by nutritious substances of any kind, they would be all the better of a dressing of something calculated to urge them forward. It is to be sure in the general by no means a profitable crop. but then it is a most necessary one, and, therefore, should find favor. But should there be no manure to spare, do, if you can, give the soil an extra ploughing, and thus in part atone for your neglectful culture. We often hear farmers complaining of the degeneracy of, and the falling off of this grain in weight, and may not this be accounted for in the fact, that they are generally grown on the very poorest spots that are to be found, and left to grope their way to maturity in the best way they can.

Two or 2½ bushels to the acre is the proper quantity of seed. They should be well harrowed in.

POTATOES.

Should the weather admit of it, you should get in your *early potatoes* from the middle to the latter end of this month. But you should not dream of reaping a good crop unless you are liberal in your bestowal of labor and manure in the preparation of the soil. Your ground should have a southern exposure, and either be a good soil naturally, or be made so by art. It should be thoroughly and deeply ploughed and harrowed; then strike your rows 27 or 30 inches apart, place your sets about 10 inches distant from each other, throw in your rows a goodly portion of unfermented stable manure, then cover them with the soil, either by running a furrow on either side, or by hand-hoeing. In either event, no *clods* should be permitted to come in contact with the sets. As soon as there is the least indication that the potatoes are coming up, run the harrow crosswise the rows; when the potatoes are up two or three inches, plough a furrow on either side from the potatoes; this must be replaced by throwing the furrow back again. This process will greatly improve the tilth of the soil, and thereby afford the young potatoe plants an additional chance of moving onward in their growth. After the furrow is thrown back, the rows should be gone over with a hand-hoe, cleaned of all weeds, and so regulated as neither to retain too much moisture, nor to prevent a surface that would easily suffer by draught. In two or three weeks more another ploughing and hoeing will be necessary; for it is important to keep the ground stirred and clean. This second ploughing however should not be so near to the plants in the rows as the former; and after this, the *cultivator* instead of the plough must be used to complete the work in about two or three weeks, which will be determined by the advance of weeds, and the wants of the potatoes.

CARROTS AND PARSNEPS.

As soon as the frost is entirely out of the

ground, you may begin to sow the seeds of these roots, for field culture, and thence up to the 1st of May, the sooner they are in the larger will be their yield, and as they are alike excellent food for man and beast, we have always been surprised that comparatively so few were raised. An acre, well prepared and cultivated, in suitable soil, will yield from 500 to 600 bushels, which would be sufficient to keep four cows fully to their milk during the winter.

MANURE.

Carry out your manure to your fields in which you intend to use it. If you intend to top-dress your meadows, or growing crops of grain, the sooner that is done the better, taking the precaution never to let your wagons or carts go on either when the ground is soft.

LIME.

If you intend to use any this season, it is time you had made your arrangements for procuring or burning it. If intended to be used on your meadows, the sooner the better it is spread thereon; if on your corn ground, you cannot get it on too early, as it should receive sufficient ploughings to thoroughly incorporate it with the soil.

ASHES.

Do not omit to provide yourself with a sufficient quantity of this delightful substance; to give your corn plants a dressing, however trifling the quantity applied, it will speak out most eloquently.

FENCES.

See to your fences and have them thoroughly repaired, and thus secure yourself against the inroads of stock of all kinds.

TOOLS AND IMPLEMENTS.

These must be examined and put in order, —and in fact at this critical period of the year, the farmer should have his eyes on the search in every direction.

THE KITCHEN GARDEN.

If you desire to have your table spread with early vegetables, those grateful accompaniments of well cooked viands, prepare yourself without delay a hot-bed, and sow your seeds as cabbage, lettuce, tomatoes, egg-plant, cucumbers, &c. Have you the frames! If you have them not, get a couple of window frames with the glass in them, fix yourself up a box, (the back elevated to about twice the height of the front,) to fit your sashes, then prepare your hot-bed, by simply separating the grosser parts of your horse-dung and putting it in to the depth of about four feet: this must be permitted to remain for some time to go through its more violent heatings, when about 4 inches of good mould should be put on in a dry state; upon which, sow your seed. Over your glass you must throw a matting of straw at night, and always in falling weather. If the middle of the day be fine, the matting must be taken off and the sash raised to give ventilation.

If you have no window frames, make a hot-bed on a southern border well protected from the wind. Dig out the earth, the length required, a spit deep, put in fresh horse dung to the depth of 6 inches, then throw on the earth that had been previously dug out, rake it fine: take stakes with prongs, and drive in back and front, about a foot higher than the bed, place poles from stake to stake, then cover these with a thick layer of corn-stalks, then put on leaves or straw an inch or two thick, and top the whole with pine brushes. At night, or in bad weather, you should cover this bed with a straw matting, which should extend in front so as to reach the ground.— On this bed sow your different kinds of seeds, and rude through it be, it will afford you as many plants as you may require.

We have given above, two very simple modes of making a hot-bed, and shall now copy from M'Mahon his plan of one. He says, in speaking of the

FRAMES.

Large frames ought to be made of inch and half or rather two inch plank, of the best yellow pine, 9 ft. 2 in. long, 4 feet 10 in. wide, as high again in the back as in the front, to give the top a due slope to the sun and a proper declivity to carry off the wet when covered with glass lights, to move off and on occasionally; every joint ought to be tongued, the better to prevent the admission of cold air into, or emission of warm air out of the bed, but in such manner as the gardener may think proper. The back and front are to be nailed to corner posts, so as to admit the ends to fit in neatly, which ends are to be made fast to the posts by iron bolts keyed in the inside, for the greater facility of taking the frame asunder when necessary; each end must be made one inch and a half higher than the back and front, so as that one-half its thickness may be grooved out on the inside, for the sash to rest and slide on, and the other half left for its support on the inside; when finished give it two or three good coats of paint before you use it, and with a little care and an annual painting, it may last you twenty years.

These frames will take three lights of three feet wide each, each light containing five rows of glass frames, six inches by four, overlapping one another about half an inch, which of all other sizes is the most preferable, on account of their cheapness in the first place,

the closeness of their lap, their general strength and trifling expense of their repairs; however each person will suit his own convenience as to the size of the glass. Where the sashes when laid on the frame meet, a piece of pine about 3½ inches broad and near two thick, should run from back to front morticed into each, for their support, and for them to slide on; in the centre of which, as well as in the ends of the frame, it will be well to make a groove 5-8ths of an inch wide and a quarter of an inch deep, round at bottom to receive and carry off any wet which may work down between the sashes.

METHOD OF MAKING A HOT BED.

Provide the requisite supply of good horse stable dung, consisting of that formed of the moist stable litter and dunging of the horse together, choosing that which is moderately fresh, moist and full of heat—always preferring that which is of lively, warm, steamy quality, and of which take the long and short together as it occurs, in proper quality as above. If the dung is rank it would be proper to prepare it a little to an improved state, more successful for that purpose, by forking the whole up in a heap, mixing it well together, and let it thus remain eight or ten days to ferment equally, and for the rank steam and fierce heat to transpire.

Choose a place on which to make your hot bed in a dry sheltered part of the garden, open to the morning and south sun: it may be made either wholly on the surface of the ground or in a shallow trench, of from 6 to 12 inches deep and 4 or 5 feet wide, according to the frame; if made on the surface, which is the most eligible, as it affords an opportunity of lining the sides of the bed with fresh horse dung, quite down to the bottom, to augment the heat when it declines, and also prevents wet from settling about the bottom of the bed, as often happens when made in a trench, which chills the dung and causes the heat to soon decay.

Then according to the size of the frame, mark out the dimensions of the bed, either on the ground or with 4 stakes, making an allowance for it to be about 4 or 5 inches wider than the frame each way: this done, begin to make the frame accordingly, observing to shake and mix the dung well as you lay it on the bed, but I would not advise treading it; for a bed which is trodden hard will not work so kindly, and be no more liable to burn than that which is suffered to settle gradually itself: proceed in this manner until the bed has arrived at the height of 4 feet, which will not be too much, making an allowance for its settling 6 or 8 inches, or more, in a week or fortnight's time; and as soon as finished, let the frame and glass be put on: keep them close till the heat comes up, then raise the glass behind that the steam may pass away.

The next thing to be observed is about earthing the bed, in which to sow the seed, and for which occasion you should have a proper supply of rich, light, dry earth, or compost, ready at this season, under some airy dry shed or hovel, covered at top to keep out rain, that the earth may be properly dry; for if too moist or wet at the time, it would prove greatly detrimental both to the growth of the seed and young plants, as well as be very apt to cake and burn at bottom next to the dung, by the strong heat of the bed: three or four days after the bed is made prepare to earth it, observing previously if it has settled unequally to take off the frame and glasses, and level any inequalities; make the surface smooth, put on the frame again, and then lay therein as much of the above mentioned earth as will cover the whole top surface of the bed about 3 or 4 inches thick. In two or three days you may sow you seeds, after which put on the lights or glasses close, but when the steam rises copiously give it vent by raising one corner of the upper end of the lights half an inch. Cover the glasses of the hot bed every evening an hour before sunset, if mild weather, earlier if bad, with garden mats, uncover them every morning between 8 and 9 o'clock. The plants should have air every day.

This we deem all sufficient to enable the farmer to manage his hot-bed successfully, and for the subsequent treatment of it we shall leave that to his own judgment and that of his gardener.

If you are disposed to encounter the trouble—and it is nothing compared with the value of the luxuries you may enjoy—you may raise early cucumbers, lettuce, melons of all kinds, cauliflowers, and all other tender vegetables in your hot-bed for transplantation, and thus as it were anticipate nature in her usual annual gift of those delicious luxuries.

CABBAGES.

Sow all the early varieties of cabbage seed, and by the time the earth is warm enough to receive the plants into its bosom in the open air, they will be ready to be removed thither, and if judiciously managed in setting out and after culture, they will head nearly as soon as those which were placed out last autumn.

GENERAL CROP OF CABBAGE.

Towards the latter end of this month, you may sow with decided advantage, the flat Dutch, Drumhead, large English Savoy and indeed all the different varieties of Cabbage. When sown early, you have a better chance of availing yourself of a good season to trans-

plant them, the plants have longer time to grow in, and will attain a much larger size than if sown late.

PEAS.

As soon as the frost leaves the ground, you may put in all sorts of early peas, and if planted at intervals of a week or two throughout the spring, you may secure a continuous succession of this delightful vegetable, either for the table or market. The soil most suitable for peas, is a light sandy loam, though they will grow well in any ground except it be in a stiff tenacious cold clay. From 3 to 4 feet is a good distance for the rows to be apart, the peas to be dropped about 4 inches asunder. Generous manuring tends not only to increase their quality of product, but to accelerate the maturing of the pea family. The pease should be stuck before the plants throw out runners,

WINDSOR BEANS.

All of this tribe of vegetables may very safely be planted in open culture after the 20th of this month.

Hysop, Sea Kale, Garlic, Artichokes, Fennel, Rhubarb or pie plant, Lettuce, Radish, Spinach, Carrots, Parsneps, small Salading of all kinds, Celery, Onions, Beet, Leeks, Shives, Parsley, Thyme, Sage, Broccole, and Asparagus seeds, should now be sown and planted.

ASPARAGUS.

Your asparagus beds should be forked and dressed the latter end of this month. In forking be especially careful to stir and loosen every part of your beds, and equally so not to go deep enough to wound the crowns of the roots.

If you desire to make new plantations of this vegetable, you may with perfect safety put out your plants as soon as the ground is rid of the effects of the winter frosts.

TURNEPS.

If you desire to have early turneps for your table, sow the seed any time after the 20th of of this month.

All the fruit trees in your garden may now be advantageously trimmed and pruned—so also your gooseberry, current and raspberry bushes; the cuttings taken from the three last should be planted out to form the material for future plantations of these excellent and healthful fruits.—Let the ground be thoroughly stirred around the old bushes.

FIGS.

This is the best month for planting out fig trees, or for setting out cuttings, layers or suckers from them.

GRAPES.

The earlier after the frost is out of the ground that you transplant vines, or put out your cuttings the better, for it is important that they each start in their growth with the earliest vegetating power of the earth in spring.

Rose, Snow-ball, Lilac, and all other bushes of the flowering tribes should be set out as early this month as possible.

As soon as the plants in your strawberry beds push through the earth, the beds should receive a dressing. Clear out all the weeds, decayed leaves, and old runners: loosen the earth round the plants, and apply some rich mould about them, digging it in so as to prevent a loss from evaporation or washing.

IN THE ORCHARD,

All the different kinds of fruit trees which have not been pruned, should undergo that operation as speedily as possible, and the wounds should be immediately covered with M'Mahon's medicated tar, or some other mixture competent to effect the same object; this tar is thus made and compounded:—

Take 1-2 oz. Corrosive Sublimate, reduced to a fine powder, and 1-2 gill of gin or spirit. Put these into an earthen pipkin, stir them well until the sublimate is dissolved; then *gradually* add three pints of tar into this mixture until the whole is throughly incorporated when a half pound of finely pounded chalk to give the tar an adhesive property must also be added.

This composition, says M'Mahon, will be found eminently useful, as no worm of any kind, can live near its influence, and no evil whatever, will arise to the trees from its poisonous quality; it yields to the growth of the bark, and affords a comfortable protection to the parts against the effects of the weather.

Young apple, peach, plumb, apricot, pear cherry, and indeed all kinds of trees, and shrubs, whether fruit or ornamental, may be set out as soon as the frost is out of the ground.

The same excellent author further advises that you should examine your fruit trees, particularly the peaches, and if annoyed by worms either in their trunks or branches, about the surface of the ground and a little under pick out as many as you can with a sharp pointed knife, and with as little injury to the bark as possible; scrape off all the gum that appears on the stem or branches, and wash all these parts, and any other that you suspect to be infested with these insects, or their embryos, with a solution made by dissolving 1 drachm of corrosive sublimate in a gill of gin which when dissolved must be incorporated with 4 quarts of water,—after which dress the wounded parts with the medicated tar described above.

PRICES CURRENT.

ARTICLES.	Philadelphia, March 14.	Baltimore. March 7.	New York, March 10.	Boston, March 8.
Beans, white, per bush	$1 80—2 00	1 75—	2 20—2 50	2 50—3 00
Beef, mess, new, per bbl	14 00–15 00	14 50–15 00	12 00–15 00	15 50–16 50
Bacon, western, per lb	11½— 12	17— 18	.....	13— 14
Butter, extra, per tub	17— 18	.....	.....	22— 25
Butter, fresh, per lb. (market,)	25— 31	25— 37½	25— 37	30— 37½
Hams, per lb	13— 14	17— 18	13½— 14	15— 16
Hog's Lard, per lb	14— 15	16— 17	15— 16	14— 15
Cheese, American, per lb	10— 11	10— 11	8½— 10	10— 11
Beeswax, yellow, per lb	26— 27	28—	27— 28	26— 30
Beeswax, white,	37— 39	40—	28— 30	38— 40
Bristles, American,	40— 65	.....	25— 65	.....
Flax, American,	9— 10	.....	8½— 9½	—9 12
Flour, best, per bbl	10 50–11 75	10 00–11 50	11 25–	12 00–12 50
GRAIN—Wheat, per bush. Penna	2 10—2 25	—2 30	.....	.....
do. Maryland,	2 05—2 25	.....	.....	.....
Rye, per bushel,	1 50—	1 35—1 40	—1 40	—1 45
Corn, do	85— 93	92— 95	.....	1 18—1 20
Oats, do	49— 53	62— 65	50— 65	65— 70
Barley, do. Penn	83— 90	.....	1 06—1 09	90—1 00
Peas do	.....	1 12½—	1 00 1 06	.....
HAY, Timothy, per 100 lbs	1 10—1 25	.....	.....	.....
Meadow Grass,	90— 95	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	.....	130 00–140	.....
Hops, first sort, 1836, lb	10— 11	— 16	.....	9— 10
Plaster Paris, per ton,	5 00—5 25	3 00—3 25	4 00—	3 75—4 25
SEEDS—Cloverseed, per bushel,	7 00—8 00	8 00—8 50	.....	.....
Flaxseed, rough, do	1 87—1 90	1 62—1 75	1 65—1 75	—1 50
Timothy,	2 25—2 75	3 25—4 00	2 25—2 50	3 00—3 12
Tallow, per lb	— 11	— 8½	— 9½	9— 10
WOOL—Saxony, fleece, per lb	68— 75	50— 60	75— 80	70— 75
Merino,	60— 67½	45— 50	50— 68	65— 70
1-4 and common,	40— 44	35— 38	25— 40	45— 50

To Correspondents.

After the present number was in type, we received several valuable communications. They shall appear in our next.

Notice to Subscribers.

The present number of the Cabinet has been unavoidably delayed—the indulgence of our patrons is therefore solicited. While making an apology for the delay of the present number, it affords us an opportunity of referring to another subject of equal interest to both publishers and readers—we allude to the paper on which the Cabinet has been heretofore printed. We have made several arrangements for a supply of *good* and *uniform* paper; but we have invariably been disappointed—we may say, *deceived*. We are about making a contract for a permanent supply of paper suitable for the Cabinet: and while we promise to spare no pains to render the mechanical execution of the work respectable, and its pages interesting to the agricultural community, we cannot omit an expression of our sincere thanks to the individuals who have contributed to its columns, as well as to the large list of practical farmers, who have come up promptly to its support. We have assurances from every quarter of the state, and indeed, from all the middle, and many of the western and southern states, that our objects have been duly appreciated, and that our enterprize will be amply sustained. Many of the difficulties we had to contend with at the outset have been overcome—We now stand on solid ground. Still we need, and most respectfully solicit the continued and unremitted assistance of the friends of agricultural improvement—and with confidence, as by assisting this enterprize they do not merely benefit a few individuals, but the great mass.

THE FARMERS' CABINET,

A semi-monthly newspaper, is published by

MOORE & WATERHOUSE, No. 67 SOUTH SECOND STREET, PHILADA.

JOHN LIBBY, CORNER OF THE DIAMOND AND UNION ST., PITTSBURG, PA.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY

Vol. I. **Philadelphia, April 1, 1837.** **No. 1**

The Observer.---No. 4.

Practical agriculturists might derive much curious and profitable instruction, from the study of those insects which injure the products of their labor. To ascertain from whence the mischief comes, and how it is produced, is the first step towards the discovery of the means to prevent its occurrence, or to remedy its effects. Perhaps a few remarks on this subject will not be misplaced in the pages of the Cabinet.

Not being of the number of those seers (see-ers) who always see whatever they wish to see, I may not be able to relate the strange sights which they do;—such, for instance, as having seen the *eggs of the wheat fly on the grains*;—or having known a host of *weevils produced by the heating of grain in a bag*. These are things which I have not seen,—yet I am free to acknowledge, that they may have seen *some things* which I have not. I shall, therefore, pursue the unfashionable method of tracing nature, in her successive operations, to their final result;—rather than bolt right up to the conclusion, by trampling the premises under foot. This appears to be the more prudent course, for if it should be ultimately found, that the wheat fly does not lay its eggs on the grain,—or, if it should be proved that the weevil can only proceed from an egg, and that egg from a parent insect, I might be placed in a quandary to discover how the eggs came to be on the grain in the one case;—or, how the heat could produce the eggs in the other. It is prudent to sail with caution when there are breakers ahead.

Before attempting to trace the histories of particular insects, I shall make a few introductory remarks, for the purpose of explaining,

THE GENERAL HABITS OF INSECTS.

It is a singular circumstance in the history of the insect race, that they are destined during the transient period of their existence to appear under three very different forms viz: the larva, or caterpillar;—the chrysalis nymph or pupa,—and the perfect insect. knowledge of these several stages, or forms of insect life, is indispensable to an understanding of their history.

The silk worm affords a familiar instance of those great events which characterize the lives of most insects. The egg, now lying in my drawer, when the proper season arrives, will produce a *larva*, or caterpillar. After feeding for a few weeks, this worm will have completed its first period of existence, and must prepare for the coming change. Having found a convenient corner it first spins itself up in a ball, or cocoon of silk. When its domicil is finished it soon changes to a pupa. The caterpillar, hitherto three inches long, strips off its skin, contracts into an oval form, about one-third of its former dimensions; the surface is now white smooth, and soft, presenting very feeble traces of the included insect. The outside soon changes to a yellowish brown color, becomes more dry and resisting, and the surface is now figured with elevated lines, which mark the situation of the body and limbs of the more perfect animal, which is soon to be produced. In a word, the *chrysalis*, or *pupa* is completely formed. The pupa state continues from two to three weeks, when the *perfect insect* bursts the flimsy envelope which had bound it, opens a passage through its silken tenement, and appears a perfect winged insect, or moth. In this state it does not eat. It moves only in quest of its mate. The only passion it feels, the only care it ex-

ercises, is, to provide itself with a successor —and, having done so, it dies.

The changes which I have described, are called the *metamorphosis or transformation of insects.* All insects, however, do not undergo these changes. Some of the *wingless species* retain through life, the form in which they issue from the egg. These are comparatively few in number. Others are hatched with all the parts of a perfect animal, except the wings. The pupa is distinguished from the larva, by mere rudiments of wings;—and these become fully developed in the more perfect state. Example: grasshoppers, locusts, &c. Insects of this sort are said to undergo a *demi-metamorphosis*, or half transformation.

I will close this essay with a few remarks on the different stages of insect life.

LARVA OF INSECTS.

As comparatively few insects feed their young, or even lay up food for their sustenance, they are instinctively led to deposit their eggs in situations, where the young animals will most easily procure food suited to their nature. The same instinctive care leads them to seek places, where the eggs will be protected against the destructive contingencies of the changing seasons. Thus, insects whose larvæ feed on particular plants, generally select those plants, as a deposit for their eggs. If the eggs are intended to hatch the present season, they are generally placed on the leaves of the plant. Example: the stinking bug which inhabits the squash and pumpkin. Others, which are intended to endure the winter in the egg state, are placed on more permanent parts. Example: the tent caterpillar, which infests our fruit trees. Its eggs are deposited in a dense cluster, around the extremity of a branch.

Numerous insects pass the larva state in the water. The eggs of these are deposited immediately in the water, or on plants, &c. along its margin. Example: the *musquitoe* and *dragon fly.*

Carrion flies deposit their eggs in putrid carcasses, the proper food for the maggot. Yet, even instinct may be beguiled by the senses. The carrion fly is often led, by the smell, to deposit its eggs in decaying mushrooms; and they may even be seen collected upon the stinking blossoms of the carrion flower, (*smilax herbacea.*)

The *bott fly* unerringly selects such parts of the horse as allow its eggs to be licked off by the animal,—whence, they find a ready passage into the stomach, where they complete the first period of their murderous existence.

Led by the same instinct, the *ichneumon fly* deposits its eggs in the body of a living caterpillar, which, after feeding the hungry parasites with its own body, falls at last, a prey to their voracity.

Many species of insects are only preserved during the winter, in the egg state.

PUPA OF INSECTS.

The insect having completed its larva state, seeks a situation to pass the next succeeding period, according to its peculiar nature. Many, especially those of the *moth tribe*, spin for themselves, a silken dormitory. Others, as the *larvæ of butterflies*, attach themselves to the side of a wall fence, &c. and pass into the pupa state without any other than their own proper covering.

Many larvæ bury themselves in the earth, where they form a cell adapted to their purpose. In some of these, the pupa state is of short continuance,—in others, it endures for the winter season. Of this last, the *tobacco worm* is an example.

Many species are only found during the winter season, in the pupa state.

PERFECT STATE.

The last state of insect existence,—the state of perfection,—the only state in which the being can reproduce its kind, like the preceding stages, is subject to great variety of duration. Some never eat in the perfect state; they only propagate and die. Others, feed for a time, but seem to have no other object in living, than to await the proper period of reproduction.

Many insects only survive the winter, in the perfect state.

There is, in general, much uniformity in the duration of the periods and changes of all the individuals of the same species.

The egg deposited in the fall, may hatch in the spring, pass its several periods during summer, and in turn, lay other eggs in the proper season. Example: *tent caterpillar.*

The egg deposited in summer, may hatch in the fall, pass the winter in the larva state, perfect its changes in the spring, and deposit its eggs the ensuing summer; these hatch, and the larvæ remain the next winter. Example: *peach insect.*

An insect having passed the winter in the pupa state, emerges in the spring, a perfect being,—deposits its eggs which hatch, perfect themselves, and in the fall pass into the pupa state to spend the ensuing winter. Example: *tobacco worm.*

The perfect insect may survive the winter; lay its eggs in the spring; these hatch, and pass their several changes during the summer, ready to pass the succeeding winter in the perfect state. Example, *wasps.*

Others, less regular in their changes, seem to pay no further regard to season, than what

severity compels them to do. At whatever stage of life, winter overtakes them, they still seem capable of its endurance.

Still others, whose periodical changes are of shorter duration, may reproduce their kind several times in the year.

New-Garden, 3d mo. 8th, 1837.

For the Farmers' Cabinet.

In the 14th No. of the Cabinet we have the figures of two or three kinds of stocks for shoeing oxen.

As the advantage of using oxen instead of horses on a farm, is now generally acknowledged, it is important that we should examine the best means to fit them for labor, as well as to give them comfort and ease while they are performing it.

There is something noble in the character of the ox, his peaceable and quiet disposition, his enduring patience, his generous exertions to the height of his strength in bearing along his heavy load through heat and cold, excites in us a friendly feeling towards him, and makes us wish to render his condition of servitude as easy as possible. Impressed with these feelings, and a desire to increase our agricultural interests, I have ventured to suggest some improvements in fitting and nailing on the shoes, and in the stocks that are here described.

In figure 59, two strong leather straps are represented to pass under the ox, "intended to prevent his laying down;" for those I would substitute two sacks, one under his belly and the other under the upper part of his hind leg; I have seen both kinds and think the sacks much preferable, particularly for the ease of the ox.

In shoeing, the plan recommended of useing broad nails is quite objectionable; it is much better to bend the head of the nail down to the surface of the shoe. The broad nails are liable to catch upon the stones, turn up, and then draw out; but if the head of the nail is small and sunk into the indented line called the swedging, they are out of the reach of any violence of this kind, for all the pressure comes on the smooth surface of the shoe.

"Turning up the shoe at the toe, between the hooves" is another objection.

When the ox is shod his shoes ought not to prevent his toes coming together in their natural way, but the forepart of the shoes ought to be about half an inch asunder when the toes are closed.

There should be two corkings worked upon each shoe, at right angles with each other; one at the toe parallel to the line of his traveling, and one at the heel across it; these assist him to maintain his standing in frosty weather. The shoe in all cases should be long enough to extend back under his heel, at least as far as any pressure comes upon the foot.

The hoof of an ox is very thin, compared with that of a horse, consequently the swedging or indented line should be near the outer edge of the shoe to prevent the nail from striking the vital parts of the foot.

Some people, through ignorance or inattention, work their oxen until they are lame, and then send them to the smith to be shod; in this condition the hooves are often so worn away, as to be unfit to receive the shoe; and when imperfectly put on they soon come off, and sometimes increase his lameness; all of which tend to discourage the practice of shoeing, and leaves the patient animal to be drove shoeless over rough roads, in suffering to himself, and loss to his owner. If shoeing in this condition of the foot is determined on, the shoe must be made to fit the foot, close around where it is nailed, as pearing and smoothing the foot is impracticable, and when the foot cannot be made to fit the shoe, the shoe must be made to fit the foot, but with all the care and art that is possible to apply; it is better in ordinary cases to turn them out to pasture, or to cease working them until nature has supplied them with a hoof sufficient to hold the shoe firmly to its place.

The ideas here suggested are drawn from experience; they are known by practical men to be improvements in the art of shoeing oxen, and if any one interested in the labor of this noble animal, should think an examination worthy his attention, he will no doubt conclude with the writer of this article, that the knowledge has well paid him for his time and trouble in collecting the facts, &c. Further, that the path to distinction as well as profit in agricultural pursuits, lies in making himself acquainted with every branch of his business, as well as watching the avenues of expense that drain off his "surplus revenue."

SUBSCRIBER.

Wilmington, Del., 3d mo. 10, 1837.

For the Farmers' Cabinet.

Farming.

It has been the prevailing custom with the farmers of New Jersey, for many years, to plough their sward for corn, that they might raise more than in tilling otherwise. I admit it is a good mode to till on the sward, and has always been allowed so by first rate farmers; but I find it greatly to my advantage to reverse the practice, in order to prevent the worm making such sad havoc in my corn fields. About six years ago I planted twenty acres on the sward, and out of that the worms took eight, scarcely leaving a hill to be seen. The tenth day of June I had it planted over again, thinking the worms would not disturb

it so late in the season, but still they preyed upon it, leaving about one half to grow. The next spring, I came to the conclusion to farm differently; instead of ploughing the sward, I ploughed up my stubble field, gave it a good harrowing, furrowed it out both ways, marled and manured every hill, and then planted the corn. In about a fortnight, I made a visit to the field for the express purpose to see if my corn had got up, or if the worms were taking it as they formerly had. I must acknowledge, that never since I have been a farmer, have I had my corn to come up as well; and I am fully satisfied, that it is the best manner to farm where we are harrassed with worms and other insects. Although the field which I farmed had two crops in succession; yet, notwithstanding, the third crop was much better, sounder corn, than I had raised for many years till I adopted this plan.

The manure I had left was considerable, after taking out enough to go over the corn field; and of the remaining part I made a compost, mixed with marl or lime, which make it much better for wheat than to put it on in separate bodies or portions.

The field that came in regular rotation to plant with corn, I ploughed up for wheat and rye. After the process of ploughing was over, I took a three horse harrow, gave it a thorough harrowing both ways, to make the furrows lay level, that the grass roots might rot. Before the usual time of sowing came on, I took what manure I had, put it on regularly, till it was gone. The part of the field which had no manure, I sowed in rye, and the part which was manured I sowed in wheat. Thus I have farmed for five years, with much better success than I ever did in the same length of time previously.

REMARK.

It is highly necessary to all agriculturists to plan and try for themselves, and if their plans should fail, then resort to the "Cabinet," for therein you can find various modes of treating your land and probably of a decided interest to you. I have tried many of my own plans; I get along much better; raise more off of the same quantity of ground, of a better quality and more suitable for the market. We, as farmers, must expect to be industrious, and not let our gardens and cornfields be overrun with noxious weeds to destroy and injure them, but keep them clean and neat, and we will reap the reward of our labor.

The time is fast approaching when American farmers shall surpass all others in the pursuit of agriculture. Husbandmen are looking ahead for the time when they shall attain a greater degree of science in their profession; so that they may cope with the Islands of Great Britain, and surpass the flourishing vineyards of France.

A FARMER.

Pemberton, N. J., March 10, 1837.

For the Farmers' Cabinet.

Reply to A Subscriber.

BY OBSERVER.

I am gratified to find that my remarks on hollow horn, have been thought worthy of a critical review by one of the avowed advocates of the commonly received opinion, respecting that disease. This is as it should be; for so long as people continue to "hug up old errors, and love them better than new truths,"—so long ought they to stand upon their own feet, and defend the ground they occupy against every "innovation."

"A Subscriber," will please accept my thanks for introducing the symptom of *cold horn.* I assure him it was omitted quite unintentionally, when transcribing from Dr. Tofts. As a sign of hollow horn, however, it is perhaps of less value than what either Dr. Tofts, or "A Subscriber" have supposed. Observer did not "overlook the symptom; he was acquainted with the (reputed) fact"—but he does not yet know that it is a fact. It is believed that the horns of cattle present this symptom, independent of the existence of disease. The effect of inflammation is to increase, rather than diminish, the temperature of the part affected. Our sensations of temperature are liable to deceive us,—they are influenced by circumstances which are seldom taken into the account. Thus the shell of the horn being a slow conductor of heat, may possess a temperature very different from the interior, according to the state of the atmosphere. The quantity of heat eliminated in the horn, will be proportioned to the circulation of blood through it,—and this must depend in turn, on the mass of bony matter, to be nourished. Hence, if the hollow in the pith is very large, and the bone consequently thin, less blood will be admitted into the horn, and less heat will be evolved than under the reverse circumstances. We only judge of the temperature of the horn, by comparing it with that of the hand. The same horn may, therefore, feel either hot or cold, in various degrees, depending on the condition of the hand at the time. Even opinion is at variance on the temperature of hollow horns. I have been told by *practical men*, that they are as often too hot, as too cold. "A Subscriber" says, "it cannot be supposed the author knows that death would be in all cases, the immediate result of suspended circulation of blood in the horn." Strange as this supposition may seem to him, it is nevertheless true. Observer does know that when the blood ceases to circulate, death *must*

ensue. He moreover knows, that the blood which circulates through the horn, *must be warm blood*,—that it *must impart warmth* to the parts through which it passes,—or if the external cold is so great as to prevent this warmth, the *blood must cease to circulate*, and the part *must* die. Therefore, if the horn becomes cold, it *must* become dead, and when dead, it *must* exfoliate, and drop off.

"A Subscriber" will of course demur to all this, by saying that as the pith wastes, the circulation is diminished, and consequently the temperature is reduced. For he says "we understand the hollow horn, according to Dr. Willich, to be a disease, which gradually wastes the internal substance of the horn, commonly called the pith." This frank avowal of his creed, brings us at once to the very *pith* of the controversy—*does the pith of the horn waste—yea or nay?* I have said in a former number, that "such a wasting of the pith does not take place;—I challenge those who think otherwise to produce the horn, so wasted." "A Subscriber" says "I am in a situation to see thousands of horns extracted from the hides of cattle annually, five per cent. of which I would lay, are said to be from cattle dying of hollow horn." Five per cent. on the smallest number, (2,000) would give *one hundred hollow horns*, brought under his inspection every year. Possessing such ample materials, why does he not accept my challenge,—why does he not immediately produce the horn;—yea a hundred horns in support of his opinion!—If he possessed such a horn, would he not have produced it? If he had ever seen such a horn, would he not have told us? His failure to do so "indicates more *speculation*, than *knowledge of facts*," and leads me to suppose that in younger life, he may have formed his "opinion with less evidence, than what was required by Thomas of old." He however, says, "I ask him (Observer) to look at the horn he has described under the head of Putrid Horn, &c." And then adds, "here is an admission of all that is necessary. If inflammation produces bony ulceration or caries, the discharge will, of course, be the substance which constituted the inside of the horn. If this bony substance or pith, becomes rotten, (which is the definition of caries) and is discharged, the pith is then out of the horn, and not in it, and consequently the horn is hollow in the sense in which we understand the question. Here, "A Subscriber," "labours very ingenuously," to make an "admission of all that is necessary," *for me*. *But* I cannot admit such an admission. I have not said,—nor do I believe that inflammation of the membranes, lining the cavities of the head and horns, does produce bony ulceration. The horn is liable to caries, in common with all other bony structures, but I have yet to learn that it is more so than other spongy bones. Aware that inflammation may sometimes extend to the subjacent bone, and even produce caries, I used the language which "A Subscriber" has quoted;—"If (i. e. give, grant, allow, or admit the fact that) the inflammation assumes a more violent form, and extends to the bones, producing bony ulceration," &c. But I do not admit the fact, because I have never seen it do so,—because I have not found a well authenticated instance, among my friends where it has done so,—and because the wide field of "A Subscriber's," observations does not appear to have furnished a single case of the kind.

The question, at last, can only be settled by an examination of the horns, and on the evidence which they afford. What then would be the appearances of caries or ulceration of the pith!—If the pith was *entirely wasted*, the horn having lost its support, would either fall off spontaneously, or hang dangling by its attachment to the skin. In this case there could be no mistake.—It would afford "A Subscriber" a full opportunity of "seeing, feeling, and knowing that the fact is so." But has he, or any other person ever met with such a case?—Has he met with one such instance, out of the multitude of his observations?—As such extreme cases may be somewhat rare, I will consider the disease, in its earlier stage, when the pith is only *partially wasted*. It would appear from the expression used by Dr. Tofts, that the wasting commences at the tip, and progresses toward the root. Hence at any stage of its progress, we might expect to find more or less of the end of the pith wanting, and the *stump* would put on the appearance of a carious bone. Instead of a smooth, even surface, covered by the periosteum, it would present a naked, irregular, ragged, spongy face, of a dark color, and emitting a putrid smell. Or if any should look into the cavity of the pith, for the seat of the ulceration, they would find the same general appearances there,—for they attend all ulcers in bones. Will "A Subscriber" be kind enough to inform us how many *such piths* he has seen, during the (twenty?) years of his experience!—As he has not given a single "fact" to support his "speculations," I will again put the question;—what *tanner* ever found a horn from which the pith was *either partially, or entirely wasted* in the manner described.

I rejoice that one who possesses such ample means, has resolved to "examine the subject in future, *more practically*, and transmit the result of his investigations to the Cabinet." And if he will cease to "hug up old errors, and love them better than new truths,"—if he will lay aside his "speculations" and seek only a "knowledge of facts," he will soon

obtain the conclusive evidence of "seeing, feeling, and knowing,"—and will consequently believe that the "hollow horn, (or a disease attended with a wasting of the pith of the horn,) has no existence in nature."

New Garden, 3d mo. 8th, 1837.

P. S.—Since my second number was written, several persons have related to me, instances of cattle dying from *reputed hollow horn*, in which a high degree of disease was found to exist in the *many-plus*, and contiguous organs. I would again call the attention of my readers to observations of this kind, when their cattle die of *hollow horn*.

Agricultural Implements.

NO. II.

THE HARROW.

To the Editor of the Farmers' Cabinet.

Sir,—As there are some improvements in this implement, which possibly may not be known to all the readers of your paper, I take the liberty of forwarding a description of them.

The object for which a *Harrow* is used is to pulverize the earth, and destroy such growth of vegetable substances as may be injurious to those which we wish to bring to perfection, and to effect this the form, &c. to suit different kinds of soil and surface, require some variation. They are all, however, reduced to two principal kinds, viz. those with pointed teeth, and those with edges or cutters at the lower extremities. The latter sometimes called a *Cultivator*.

In order to have one of the former kind to operate well on rough land, the frame which holds the teeth, should be constructed with hinges in a line with the draft, (or motion,) when in operation, so that the different parts will change in relation to each other: this will allow a greater number of teeth to act on the ground, than where the relative parts are fixed; what the width of those relative parts that change their position with each other should be, will depend upon circumstances; perhaps upon most land one foot would be a good width. The anterior, and posterior corners should each have a staple for the team to be attached, so that either corner may go in advance; this will keep the lower extremities of the teeth in a better form, than when drawn only by one corner. The other kind of teeth (*cultivator*,) with an edge at the lower extremity of each should always be made as thin as possible, consistent with the necessary strength. The form of the part that goes into the ground, should ascend from a horizontal to a vertical direction; or other convenient part of a cycloidal curve, and the anterior part be an angle, say from thirty to forty-five degrees, or any other angle most convenient and useful. The parts from the anterior to the posterior extremities, should be perfectly straight horizontally, and the anterior angle should be a cycloidal curve, or line of quickest descent from the highest to the lowest point. The parts above the ground should be made in size, &c. to correspond with the force of team to be applied, and confined to the frame by keys or nuts, as may be most convenient. Teeth of this form, with a hole* through the centre of each, in the part above the ground, for grain to descend through, may be used for drilling. These teeth are sometimes composed of cast iron, at other times of wrought iron and steel. One of the last mentioned teeth, can be used when ploughing to stir the earth in the bottom of each furrow, so as to deepen the soil, without the risk of injury that would in many cases arise from bringing a poor soil to the surface. This tooth may be attached to a piece of wood, and the wood bolted to the plough beam, so as to bring the tooth into the furrow made previously; or into the furrow immediately behind the plough, or it may be attached to a beam with handles and a separate (or other) team used.

Chester Co., Pa., 4th March, 1837.

Composition for Boots and Shoes.

(Communicated.)

One part bees-wax, and two parts tallow, melted together and put upon the leather, about as warm as a person can bear the finger in it, and dried in as near a fire as a person can bear the hand. After it is dried in, the leather may receive blacking in the usual way until the process is again renewed, and so on as long as the shoes or boots are exposed to wet. Experience will direct how often the composition should be renewed; perhaps once a week will be found in ordinary exposure sufficient.

For the Farmers' Cabinet.

As I have never seen the following statement in print, perhaps you may think it worthy a place in your useful paper. It was, formerly, the custom in New Jersey, in raising the sweet potatoe, to take the potatoe out of the hot-bed, and cut it up with a sprout on each piece, consequently the hot-bed was finished with the setting out. On one occasion, an old hog got into a patch and rooted up every hill, and ate the pieces of the potatoes; the owner considered his crop lost, but thinking that some few might

* A tube of a proper size, to pass from the hopper that holds the grain down through the frame, a sufficient distance, so as to discharge the grain immediately behind the tooth, will answer instead of a hole through the tooth.

grow, he replanted the sprouts, and to his surprise they all grew. Next year a few more were tried, they grew also. And now, sir, when the sprouts are fit to set, they are taken off without disturbing the potatoe, and in the course of ten or twelve days, there is a second crop of sprouts ready, after that a third, often in time to plant for the crop.

Darby, Pa. March 7, 1837. D. R.

From the Farmers' Register.

The Proper Distances for Planting Corn.

I hold it to be an axiom, that any subscriber to a useful and punctual periodical, who does not contribute to its support, by paying his subscription, and furnishing any useful facts or theories of which he is in possession, is worthy of any punishment which a jury of editors would inflict.

Not choosing to subject myself any longer to the penalty due to such an offender, I send you my subscription and my mite of matter. The first will, I hope, justify you in paying the post, whether the latter is worth printing or not.

In this world of fancies and Yankee notions, each man has his hobby. Some ride to the south, some glide swiftly on the bosom of the smooth canal; some fly through the air in balloons; some rattle on a railroad, and I, Mr. Editor, ride into my cornfield, and speculate on the value, while I am enraptured by the beauty of that queen of plants.

While all the world is agog for cotton, the poor corn is neglected by all but those who eat it. Let us turn our eyes to it, while I give you the results of some experiments and calculations on its culture.

On the Eastern Shore of Virginia (that most prosperous of all corn countries,) I am told it is the habit of the planters to plant their corn four feet each way—a single stalk at a place. When I first commenced farming, my impression was, that the most economical method of cultivating corn, all things considered, was to plan it so as to plough it both ways, and thereby dispense with the hoe-work. I tried it. Experience and reason have changed my opinion. In 1835, I cultivated a light sandy field in corn, (much such land as that on the Eastern Shore, but not so good.) Part of it I planted 5 by 3, and part (the best land) 4 by 4 feet—both were ploughed both ways, and received the same culture: the cut 4 by 4 was favored rather the most, because it seemed to suffer. The result was, the corn 4 by 4, suffered for instance, while that 5 by 3, had a plenty of room, and was a good crop. This set me to thinking—and the result of my cogitations amounted to the conclusion, that corn must have a plenty of distance one way; else why was the corn 4 by 4 too thick, while that 5 by 3 had distance enough—when there were more stalks on an acre of the latter, than on one of the former—which reminds me, that many persons, and they intelligent and educated farmers too, think—no, conclude without thinking—that because 4 and 4, and 5 and 3, and $5\frac{1}{2}$ and $2\frac{1}{2}$, 6 and 2, and so on when severally added, make 8—that, therefore, there are the same number of stalks on an acre, planted in either way.

This you know is not the fact—on the contrary, the number of stalks is inversely as the *product* of the two numbers. For instance, the number of stalks on an acre 4 by 4, is to the number on an acre 6 by 2, as 12 is to 16. The reason is this—more land can be contained in a square, than in any other rectangular figure—consequently, there are fewer squares in an acre, than there are of any other rectangular figure—so, also, the nearer these figures approach to a square, or the farther they are removed from one, the less, or the greater is their number.*

This important consideration, together with the fact above stated, resolved me to cultivate my corn this year on a different plan.

I accordingly planted it $5\frac{1}{2}$ feet one way, and $1\frac{1}{2}$ to $2\frac{1}{2}$ feet the other, according to the quality of the land. My corn was as good, and better, worked in this way, and I cultivated it with little trouble. By using an X wooden drag, twice in a row, about a week after each ploughing—first, when the grass begins to spring, you leave your land as level and keep it as clean, as you can by cultivating it in any other way—hoe or no hoe. Moreover, the greater the distance one way, the less your corn will be ridged by ploughing; and, therefore, the more dirt you can throw immediately around it without injury. If I am wrong in any of my deductions, I hope you, or some experienced corn planter, will put me right: for, until experience or reason changes my views, I will plant my land 6 by 2, which, according to old style, would be planted 4 by 4. There are $\frac{1}{3}$ more stalks on an acre of the former, than on one of the latter. I contend the last is the thickest. In the mean time,

I am, yours, &c.

SIX AND TWO.

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*The proper and simple rule for comparing spaces, or distance of plants, is to multiply the length and breadth together, and thus ascertain the number of square feet given to each plant, or station. Thus 4 by 4 feet, makes 16 square feet, and 6 by 2, 12 feet only. Yet simple and obvious as is this truth, it is both true and surprising, (as stated by your correspondent,) that many old and experienced corn planters still compare the spaces, afforded by these and other different distances, by adding, instead of multiplying the length and breadth together—Ed.

(From the Ohio Farmer.)

Location, Soil and Cultivation of the Madder Crop.

A location facing the south or south-east is to be preferred. A sandy loam not over stiff and heavy, or light and sandy, or a good brown, deep, rich upland loam, free from foul grass, weeds, stones or stumps of trees. Where a crop of potatoes, peas, corn or wheat, has been cultivated the past season, plough deep twice, once in September and once in October, and if rather stiff let it lie after the plough until spring. When the spring opens, and the ground has become dry and warm, (say in Tennessee, 1st of April, Ohio 15th, and New York, 25th to 1st of May; I speak of the spring of 1836.) Plough again deep, the deeper the better, then harrow well and strike it into ridges with a one horse plough, three feet wide, and four feet vacant, or making a ridge once in seven feet, raising it, if on rather moist ground, eight or ten inches, and dry land six or eight from the natural level, then with a light harrow level, and shape the ridges like a well formed bed of beets, &c.

We will suppose you intend to plant one acre of ground, and that you have purchased 8 bushels of top roots in the fall and buried them like potatoes on your premises—count the ridges on your acre, and take out of the ground, one bushel of roots, and plant it on 1-8 of your ridges; you will then be able to ascertain how to proportion your roots for the remainder.

The following is the manner of planting, cultivating, &c., when the quantities of ground do not exceed three or four acres. One person on each side of the ridge to make the holes, (plant four inches below the surface of the bed, or there-abouts, when covered,) one on each side to drop the roots, and one on each side to cover, pressing the hill like that of planting corn, or three persons on one side, as the case may be, whether you have one or more acres to plant. Let the owner be the dropper of roots, and his most thorough assistances behind him. Make the holes from twelve to eighteen inches apart, and about six inches from the edge of the ridge. As the plants are supposed to have been purchased in the fall, the roots may have thrown out sprouts, and possibly have leaved. In this case, in dropping and covering, you will leave the most prominent sprout or sprouts a little out of the ground, as where a plant has leafed, it ought not to be smothered.

When the plant gets up three or four inches, weed with the hoe, and plough with one horse, between the ridges or beds, but not on them; this will take place 2 or 3 weeks after planting. When up 12 or 15 inches, many of the tops will fall; assist them with a ten foot pole; two persons cross them each way across the bed, cover them with a shovel or garden rake, throwing the soil from between the ridges.—After loosening with the one horse plough, you will, with a shovel scatter the earth between the stalks rather than throw it into heaps; of course we wish to keep the stalks separate, as they are to form new and important roots in the centre of the beds. About the 20th of June, you may plough between the beds, and scatter more earth on the fresh, tops, (all but the ends) and when you get through, you may plant potatoes between the beds if you choose. I do not recommend it, if you have plenty of land, although I raised 1070 bushels Pink Eyes on eight acres the first year, and 60 bushels of corn. If your land is perfectly clear of weeds, you are through with your labor on the Madder crop for this year, except in latitudes where there is not much snow, and considerable frost; in this case cover in October two inches or thereabout. 2d year; same operations in weeding, but no crop between; cover once in June. 3d year; weed only; 4th year; weed in the spring, if a weedy piece of ground.

Begin to plough out the roots in Tennessee, [3 years old] first Sept. Ohio [4 years] same time. New York, 15th or 20th, after cutting off the tops with a sharp hoe. In ploughing out the roots use a heavy span of horses, and a large plough. We ought to choose a soil neither too wet or too dry, too stiff or light. Shake the dirt from the roots, and rinse or wash, as the soil may be, stiff or light; dry in a common hop kiln; grind them in a mill after Wilson's Patent Coffee Mill; this mill weighs from one to two pounds. The madder mill may be from 60 to 80 lbs. weight. Grind coarse, and fan in a fanning mill; then grind again for market. The profit of this crop is immense; the exhaustion of soil trifling, and glutting the market out of the question.

The Editor of the Albany Cultivator, vol. 2, page 20, says—"It is principally cultivated in Holland the province of Zealand; being literally covered with it, from whence it is exported to every part of Europe and America, yielding almost incalculable profits. The import of this article for the use of our manufacturers, is said to amount in value, to more than two millions of dollars annually." Mr. Jefferson, while minister in France, writes: "They cultivate madder here at immense profits; they dig it once in five or six years." I have before me a communication from a cultivator of the article, (see Cultivator, vol. 2, page 93,) who makes the clear profit to amount to $888 30, on an acre once in four years. The lowest amount of profit that I have known on an acre in four years is $300;

the highest 1200; this last included the sale of top roots for planting. The amount will vary according to the soil and cultivation. I have unquestionable evidence that one hill (2400 to the acre) has produced in five years, 4 lbs. of kiln dried madder; another at five years old, 6 lbs. another wherein they took uncommon pains with the hill, 8 lbs. 8 oz. Mr. Woodbury, of Winfield, Herkimer county, N. Y., the writer of the above mentioned communication, purchased in the fall of 1834, one-fifth of an acre of madder 4 years old and planted in hills, (far less productive than if planted in ridges) for which he paid $80, and dug from it one thousand one hundred pounds. After it was kiln dried, he sold it for 18 cents the pound. The usual yield for four years is 3 pounds to the hill, where the land is first rate, and the cultivation is performed by a snug farmer. The crop increases something like the following ratio, viz. 1st year, small growth. 2d, double. 3d, equal to the two first. 4th, equal to 15 per cent. on the whole; at least this is my opinion, not having dug any that was five years old. Madder grows, and the stalks are fresh, in any of the middle and western States until killed by a hard frost, and is almost the first vegetable that starts in the spring, hence I should suppose that madder in Tennessee, at 3 years old, would be equal to four years at Birmingham, Ohio; four and a half, Oneida county, New York; five years Winthrop, Me. The cultivators of Holland and France, from whom we draw most of our supplies, and most of the agricultural authors of those countries, have been silent on the subject.

I am located in the rich bottoms of the Vermillion river. I, in connection with another person, plant this spring 10 or 12 acres. As I have always been of the opinion that a madder soil should be composed in a great degree of decayed vegetables, I think I shall get in four years from 5 to 6000 lbs. of dried Madder per acre. I have a good upland 1 1-2 acres, planted some time since, from which I can spare enough roots next fall, to plant 6 or 7 acres. The price will be, in the fall, for 6 bushels, $24; over 6 and under 12, $3 50 per bushel; over 12, $3.

Birmingham is 38 miles west from Cleveland, Ohio, and 14 miles south-east from Huron, Ohio. Messrs. Wickham and Co., Forwarding Merchants, Huron, will be applicant's agents, to whom funds may be forwarded for the purchase of roots; P. E. and E. B. Bronson, Birmingham, owners, or R. Bronson, Manager. All letters on the subject must be post paid to meet with attention.

I had been in the practice of using the 'Rubin Tinctorum, or Dyer's Madder,' for many years previous to embarking in the business; and before I commenced, I ascertained that the price of the imported article was worth (the preceding thirteen years, on an average, in the New York market,) 15 cents per lb.; the ten years preceding the thirteen years, it was worth 25 cents, and in that time have known it worth 44 cents. In my early communications to Editors of agricultural papers, I stated the crop would equal 2000 lbs. 3 years old, but did not dream that 4 years would produce an average of 4000 lbs. on good land and good culture. The cost does not exceed 4 1-2 cts. per lb., exclusive of selling top roots for planting. They may be sold with profit at three years and even two years old.

It is surprising to me that no more than sixty acres is as yet under cultivation. There will be about one hundred acres planted this spring, and from forty-five thousand to seventy-five thousand acres wanted for the consumption of the United States: And England, as she cannot grow the article, imports all she uses. I say she cannot grow it to advantage; her summers are too moist and cool. It is more absurd to let foreign nations export madder to this country, than to let them export wheat or wheat flour. It is more hardy than the potatoe crop. It is worth three cents more per pound, than the best imported. As a proof, no imported madder can be sold where this has been kept for sale. The difference consists in this, that the brightest roots are selected in the field in those countries, dried and ground, and sent to England. They use it in dyeing their Adrianople, or Turkey red, on cotton; the rest dried, (without rinsing,) ground, and sent to America. In this country, a prudent cultivator rinses, dries, and grinds altogether; then fans or separates the loose bark and small fibres from the pure article. The refuse is used for ground of many colors.

Madder is used in whole, or part, for the following colors on wool, both in England, France, and America, viz: blue, black, red, buff, olive-brown, olive, navy-blue, and many others; finally it produces one of the most beautiful, durable, and healthy colors that is at this time dyed; as for calico printers, it enters greatly into their dyes. The city of Lowell, in Massachusetts, uses thirty thousand dollars worth per year. A war with France would raise the article to thirty one cents per lb. in the New York market. One small establishment in Otsego County, New York, uses equal, each year, to three-fourths of all that is raised in the Northern States at this time.

The reader will now inqure why have not the farmers in the United States, entered into the culture of this article, and completely glutted the market? I will answer, that most of them want their profit at the expiration of each year, not thinking that the horse

or ox is four years old before it is profitable to sell. But there is another difficulty. I have before observed that there was wanting, for the consumption in the United States, from 45 to 75,000 acres. The amount of Madder roots, for planting, dug last fall, was 1000 bushels. There will be planted this spring, say something more than 100 acres; next fall there will be for sale, roots amounting to 250 bushels, and next year, enough to plant 200 acres. Probably it will take ten years or more, to procure a supply of roots to plant, equal to the consumption of 1835—6 or 7. I have before me a communication from a respectable correspondent, detailing the mode of cultivation in Holland and France, together with queries, requesting my answers, which I will most cheerfully give, and which will be forwarded to be inserted in your paper, should you deem the above worthy of publication.

I have, for many years past, believed that the soil and climate of Ohio, was peculiarly favorable to the culture of silk, madder, and the grape for making wine; and having resided here in course of the last and present years, several months, I have been more and more confirmed in that opinion. What hinders this State from rising in rank above New York? Let every farmer take an agricultural paper, and improve the privileges that nature has given them. I have examined the soil and privileges of this country in particular, and do not hesitate to say, I believe that it equals any part of the United States. There is, I believe, no desirable fruit or grain that grows north of Philadelphia, but what flourishes here. It is certainly a most desirable soil and climate, compared with that of the middle counties of New York. Many of the farmers of this section, only skim the surface of the land with the plough. What hinders the water, in the spring and fall, from settling in the ground through the sub soil, and bursting out in springs?——Shallow ploughing. What hinders the farmer from obtaining thirty bushels of wheat to the acre?——Shallow ploughing. I wish I were able to commit to paper all I feel in favor of manual labor, or agricultural schools, backed by numerous agricultural papers, containing communications from a Buel, a Colman, and a host of other scientific and practical farmers. I am not a practical farmer, in a large way, myself, but the aid I have received from perusing those papers, for a few years past, has been of great benefit to me—yes, ten times the expense of four agricultural papers per year.

Not being brought up on a farm, how could I exercise judgment in the selection of a horse, ox, sheep, or hog? I read the communications of writers of acknowledged reputation, on the subject, and compared their arguments with my own reason, improved by previous reading, and made my choice. How should I be able to select and cultivate the various grains and grasses, or to till the ground to a proper rotation of crops, or select and engraft with my own hands the best fruits in the country, and last, though not least, to have a good garden?

I might go on and multiply reasons why I will patronize agricultural papers; but knowing my inability to do justice to the subject, and fearing your readers will think I an fishing for some particular individual, I will conclude with wishing you and your brethren in the cause, many subscribers, and that you will consider me one of them.

R. BRONSON.

Birmingham, Huron County, Ohio.

To the Editor of the Farmers' Cabinet.

Peach Trees.

Sir,—I have observed several communications in your paper, relative to the *Peach Tree*, recommending certain processes for preserving this valuable tree from premature decay. There is one cause of destruction which I have not observed in any of them.

In this country the severe winters have sometimes acted so powerfully on the body of the *Peach Tree*, as to destroy it; which has induced some persons to enclose the whole body of the tree, during the winter season in straw. This is done by placing the straw with the but end on the ground, and extending it upwards to the first branches; the whole is then confined firmly around the tree by bands of straw, or strings, suitable for that purpose.

I have heard of no trees being destroyed by the winter, which have been treated in this manner.

Three or four quarts of unslacked wood ashes, placed around the tree at the ground extending upwards, as far as possible against the body of the tree, and after this from half a bushel, to a bushel of washed (or clean) sharp sand, placed over the ashes, and on the ground around it, and also extending up the body of the tree as far as possible, has been found to be an excellent process to prevent the destruction of this tree by the worm, and at the same time increase the growth of it: The sand seems to prevent any space around the tree, sufficient for the insect to deposit its eggs at the root, which would otherwise, (in common soil) be produced by the action of the wind on the tree. The sand also admits more moisture from rains, probably than would be admitted by most other substances, placed to the same height against the body of the tree. The caustic quality of the ley, produced by moisture from rains, passing

rough the ashes, probably destroys such orms as may be in the root, when placed here, or which may afterwards come into fe. The fertilizing qualities of the ashes, ay also be as useful to increase the growth this tree, as of other vegetable substances.

Yours, respectfully, P.

Chester County Pa., 18th March, 1837.

For the Farmers' Cabinet.

I have heard complaints frequently made, hat brick walls of buildings, were inferior to ood, on account of dampness in the interior f the buildings, caused by the rains beating gainst the walls.

An excellent plan to guard against this, is o build the walls principally hollow; this is ffected by leaving a space between the outer nd inner courses of about one inch, or other onvenient thickness, and strengthening the all by extending a brick from one part to he other, about every square yard, or other onvenient space. An aperture, which can e closed at pleasure, may be made from each partment in a house, by which means the emperature of each apartment may be inreased or diminished by opening and closing hese, and thereby benefit one, by the superuous heat of another, where it would otherise be lost.

All the apartments in a house may also be eated in this manner, from one fire in the asement story or other convenient place.

Yours respectfully, Z.

Chester co., Pa., March 22d, 1837.

Note. The ground (or cellar) floor of a building hould be composed of cement, consisting of lime and and, or other suitable substance, to guard against rats nd mice; and the upper (or garret) floor should also e composed of a suitable cement, laid on lathes to uard against fire, which may originate in the roof, where that is composed of wood. Care should be observed to have the lathes narrow, and placed so as to ermit the cement to enter between them, otherwise it will be difficult to prevent the cement from leaving hem. Interior boards, one inch thick, which are frequently useless for other purposes, sawed into lathes nswers for this purpose.

[The following valuable article we cut rom a New York paper, about a year since. f we are not mistaken, it originally appeared n the American Farmer.]

Work for April—on the Farm.

OATS.

This forms, as it rightly ought, a part of he husbandry of every good farmer; for notwithstanding the hue-and-cry that is raised gainst it on the score of its *robbing* the ground, and being a great *exhauster*, we naintain that every man who would desire o keep his horses, and especially his riding nd carriage horses in *sound* flesh—who desires hat the capacity for quick travel and endurance of fatigue should be imparted to them, should frequently feed them with oats, and the straw when cut and mixed with meal or chopped-rye, makes not only an acceptable food but one highly nutritious. In the preparation of the ground, it should be generously manured, ploughed well, and harrowed finely. Sow three bushels to the acre, harrow in, and as soon as the oats are two or three inches high, sow a bushel of plaster to the acre. The sooner the oats are sown the better. If you have not already sown your clover seed you may do so with your oats.

CORN.

It is presumed that all your more stiff corn ground was ploughed up last fall or early in the winter; if so, it is superfluous to apprise you that the time is at hand to break it up, and it will only be necessary to tell you to list it for planting; but such as may not have been so fortunate as to be in that situation, must break the ground forthwith, and prepare the soil for the corn crop. If the soil be a tenacious clay, deep and repeated ploughing and harrowing will be requisite; barn-yard or stable manure should be applied just before the last ploughing, so as to be brought immediately in contact with the roots of the plants, and thus impart to them nourishment at the earliest stage of their vegetating: the furrows should be three feet apart, and listed at the same distance, so as that the corn would stand three feet asunder each way. Before planting the corn, soak it in a strong solution of saltpetre and sulphur, for 12 hours, then drain and roll the grains in plaster of paris. Some prefer to pass them through a mixture of tar and fish oil before applying the plaster. If tar be used we should prefer the gas tar, which from its offensive aroma would, we are sure, prove very repulsive to grub-worms, as also to crows and blackbirds. If the common tar be used we are certain that Seneca oil would be found much more noxious than fish oil. Drop eight grains of corn into each listing, throw a *pint* of ashes over them, then cover up; when the plants are up, put a spoonful of plaster on each hill, so as to shove them forward beyond the ravages of the cut-worm, a thing always desirable; but particularly so if your ground was not thrown into fallow the previous autumn or winter.

If your proposed corn land is a clover-ley, and was not ploughed up last fall, it would be well to put a light covering of lime on it to promote the decomposition of the tap and lateral roots, if it be but five bushels to the acre you will find infinite advantage to result from it. At all events your clover-ley should be ploughed several days before planting, so as to let the active fermentation which always follows the turning in of large bodies of vege-

table matter, subside somewhat before you put in your corn.

After your corn plants have assumed sufficient size to exempt them from further danger from the grub-worms, thin them out so as to leave but four plants in a hill.

If the ground to be put in corn be sand or sandy loam, it may not be necessary to subject it to such thorough ploughing, but even in such soil, I would plough much deeper than fashion has prescribed; for I hold the crown of the substratum in no reverence whatever, believing that the dread of breaking it, which generally prevails, to be a dangerous fallacy, and to have no foundation in common sense.

A word or two as to *seed corn*. In all close planting, it has been recently suggested by a highly prized correspondent from Virginia, that the *northern corn would answer best;* we coincide with him in opinion, and should be happy in seeing it introduced into culture, in the whole of what may emphatically be called the corn region of our country.

As to the *after culture*, it is almost impossible to prescribe any thing like a rule of universal application; the great object should be to keep the soil stirred and the plants clear from weeds; the cultivator may under certain circumstances be advantageously passed through the corn, three and four times, but this practice is to be governed altogether by the state of the soil and season.

To prevent crows and other birds from disturbing your corn when newly planted, it is recommended to soak a sufficient quantity in a solution of *nux vomica*, or *arsenic*, and strew it about the cornfield; but we confess we have no taste for such insidious modes of warfare; the exhibition of poison, whether to man, the proud tryant of the earth, to the beasts of the field, or the birds of the air, always has been, is *now*, and we trust *ever will be*, abhorrent to our nature. If the birds must be destroyed, shoot them; let them die the death of the brave.

As you have probably not planted your early *potatoes*, you should lose no time in doing so now: your long manure should be used in the row or hill, whether planted the one way or the other, as besides being the most economical mode of applying it, it is decidedly best calculated to promote the prolific growth of this vegetable.

While you are planting your early crop, put in a few bushels of seed *extra* to be fed boiled to your milch cows and hogs, they will come in at a period of the summer when green food is mostly scarce. About 27 inches is a good distance for either row or hill culture.

Spring Grain.—As soon as the ground is sufficiently dry you should sow *Barley, Spring Rye*, and *Spring Wheat.*

PARSNEPS, CARROTS, AND BEETS.

You should sow your early crop of eithe of these delightful roots as early this month as possible. The best-kind of ground for each is a rich loam inclining to sand; but if the ground be well and thoroughly manured ploughed deep, and pulverized finely, they will grow in any soil. No farmer should omit sowing them, if for nothing else, as food for his cattle. They tend greatly to improve the quantity and quality of both milk and butter, and are highly healthful and nutritious to cows, and serve as admirable food for store hogs, suckling sows and their progeny.

MORUS ALBA OR WHITE MULBERRY SEED.

Sow your white Italian Mulberry seed in drills as early as you can get your ground ready this month. Your beds should be thoroughly manured, deeply dug, and well pulverized: keep the plants stirred and clean and in dry weather water them twice or thrice a week, and always just before sun down.

GRASS.

The fields of artificial grasses of all kinds should have a bushel of plaster to the acre sown over them. A moist day, or very early in the morning, should be selected for so doing.

VETCHES OR SPRING TARES.

This is a species of the pulse or pea kind and although but very little cultivated in this country, is greatly and deservedly prized in England, where every intelligent agriculturist has engrafted them into his system of husbandry. The mode of culture is regulated by the object intended to be gained. If seed be the object, they are invariably sown in drills. If for hay, or green food for soiling, they are put in broad cast. About one bushel to the acre in the former and three in the latter mode of culture. If intended to be ploughed in for manure, four bushels of seed is not too much. They will grow upon any well manured and tilled soil, and may be sown any time this month, though it may be prudent to say, the earlier the better: if sown at intervals of two weeks, during this month they would come in as a happy succession to supply the lack of green food in the natural pastures in the heat of summer. In London green tares are as much sought after in bundles, as are clover and rye here. An acre will yield three tons of hay, which is very eagerly devoured by all kinds of stock. As a green crop to plough in, it is considered of great moment, and would prove a most valuable acquisition to be used as a substitute for lime and calcareous manures generally.

FLAX AND HEMP.

It is time that you had sown your flax and emp seed.

Before we close our operations upon the rm, permit us in the singleness of our pur-ose to direct your attention to a branch of ie business of the husbandman, which we ar has been too much neglected: we allude the rearing and treatment of hogs.

Many farmers do not raise a sufficient umber of these animals to serve the purposes f their respective households, and if you ask iem why, they will probably tell you, "O, ey are so troublesome, and then by the time at they are fatted each pound will cost you n cents." Now these allegements may both e very true; but let us see what they are orth when submitted to the test of reason nd argument. They are troublesome we eely admit, but we would ask what is to be one in this life without trouble! Are not all ie acquisitions of man, whether intellectual r physical, achieved by labor? and why ould he who obeys that injunction which omes to us sanctioned by the Source of all ings, to get our bread by the sweat of our rows, expect to be exempt from trouble! Vhy trouble, in the sense here meant—is abor—which should be considered as the weetening of life.

But let us admit that every pound of hog-eat does cost the raiser the sum named: and e would ask, what is gained by not raising ny? Does he sell more corn or more roots y omitting to buy any? Is not the money hich he has to lay out every fall for hog-eat so much lost! Now we maintain that ie heay cost as alleged of raising pork arises together out of the imperfect system gene-lly pursued in managing the hogs. They e turned loose in the woods to pick up a ecarious living through the spring, summer nd fall, and thus neglected, have but little ze when they are put up for fattening, and enerally speaking, when put up in the pen, e in addition to being small, so poor that ey require a double quantity of corn to fat-n them, and thus cost two or three prices in e raising.

Are we asked how we would manage em?—Yes. Then our reply is,—If we had sufficient number in family to require 20 gs, we would lay off each year, 5 acres, to divided in root and cabbage culture, we ould pen our hogs altogether, and allot the nding upon them and the culture of these 5 res to a faithful hand, and as the labor of ie man would be competent to all the work quired to be performed, we would see that took good care of his trust. Thrice a day should boil or steam their food, whether were potatoes, cabbages, parsnips, carrots, ets, turneps, ruta baga, or mangel wurtzel: and indeed, if he were a fellow of energy and ambition, he would besides, be able to attend to the milch cows which should also have the advantage of boiled food.

By pursuing this system each hog would weigh as much as two of those which had been treated with the *luxuries* of the woods, and of course would cost much less, because being in fine, thriving condition on the arrival of the fattening season, they could be put in a state for killing with much less corn than those just taken from the range.

IN THE KITCHEN GARDEN.

For almost all the purposes of garden culture, unless the soil be a very tenacious and wet clay, *cow* manure is to be preferred. If your soil should be of this description, you will of course see the propriety of giving it well rolled horse manure mixed with leached ashes and the vegetable mould from the woods. In applying your manure do not forget that almost every species of garden vegetables require full feeding, and that as a general rule you cannot plant your spade or plough to deeply.

CAULIFLOWERS.

If your early *Cauliflower* plants have been properly brought forward in a forcing border, they are now fit for transplanting, and the sooner they are set out after the weather becomes settled the better. In taking up your plants be sure to let as much earth as you conveniently can remain attached to the roots, and in order to effect this, it would be best to water the plants freely in the bed before lifting them. Plant them down to the leaves; be sure to settle the earth well about the roots, and to form a slight hill around the plant with a hollow in the middle to catch and retain water, which should be occasionally given them in dry weather, until they are fit to be earthed up.

Cauliflowers cannot be raised in poor ground, and the proper soil for them is a deep, rich loam, which must always be backed with liberal portions of manure.

You should also, sow seed now to raise plants for cauliflowers to be earthed in October.

CABBAGES.

Transplant all sorts of early cabbage plants and sow seed for your winter ones.

After transplanting your plants, they should be carefully inspected every morning for some days. Whenever you discover that the grub-worms have been at work, which you can always tell by the plants being cut off, you must immediately search for and kill the enemy. You may generally find him ensconced about half an inch under the ground, two or three inches off from the stem of the plant. To kill them is the only way

to get rid of their ravages. A child of seven years old, can do this work as effectually as a grown person.

Borecole, turnep, cabbage, Scotch kale, Brussels sprouts, Jerusalem kale, broccoli, peas, beans, lettuce, radishes, small sallading, spinach, carrots, parsneps, beets, onions, tomatoes, egg plants, peppers, and indeed all other vegetables of the kitchen garden must be now sown, or planted.

CELLERY.

Transplant your cellery plants for an early crop. Prepare a spot of ground in beds three or four feet wide, manure and dig it up well, rake smooth; then plant the plants out, about three inches apart, and let them remain for about five weeks, when they will be fit to be put out in the trenches.

RHUBARB.

This delicious and deelicate tart plant is too much neglected in our gardens, and we once more call the attention of every one to it who has a garden. It makes as good a tart as the gooseberry, is more healthful, and does not give half as much trouble.

The mode of culture is as follows:—Select a piece of rich sandy loam, manure it well; trench it two or three spades deep, level and rake it neatly, lay it off into beds of four feet depth, sow the seed in drills, thinly; keep the ground stirred, clean of weeds, and water well. The first winter they should be protected by a covering of rush or straw, with a plank thrown over it—after the first winter they will not require it.

In the second spring uncover your plants, hoe between the rows, lighten the earth and give a top dressing of rich mould or compost.

If you would enjoy this luxury at once, buy a few plants, say a dozen; they will be sufficient to supply your family with tarts. We would make this remark—no family where there are children should be without a few of these plants; besides, being a delicious ingredient in the composition of tarts, they are an antidote to the diarrhœa, dysentery, and cholera infantum.

IN THE FLOWER GARDEN.

As your early *hyaciuths* will begin to develope their flowers this month, you must support their stems with small sticks, and to give effect to their appearance, it will be best to paint them green.

The same remark will apply to *tulips*, with this addition, that when the flowers are expanded they ought to be shaded in order to prolong their bloom and lend a freshness to their respective tints.

If the weather be dry, your *Ranunculuses* and *Anemones* should be watered.

When your Auriculas expand their flowers, if the weather be rainy, throw a protection over them, and water them often.

Sow your *Dahlia* seed, and the plants will be fit for transplanting by the middle of May.

Roses should now be transplanted and pruned.

Evergreen Shrubs and *vines* generally should be set out immediately.

Your Carnations and pinks should be shifted. Where they are in frames, they should be frequently aired and watered, so as to enure them to the transition they are soon to experience.

Your *Polyanthuses* and *Primroses* should be attended to now.

The *Jacobean lily* may be planted out towards the end of this month.

Your *walks*, *evergreen hedges*, *box edgings*, and *grass plats*, must all be attended to, and in fact your eyes and hands must be busy in every direction, if you design to have a garden of which you may be proud.

FRUIT GARDEN, &c.

Trees which have not burst into leaf may in all safety be planted during this month. After planting them they should receive a good watering which will answer for the twofold purpose of settling the earth around the roots, and of causing them to push forth young and vigorous fibres; and we will here repeat what we have often advanced before, that many valuable trees are annually lost for the want of being watered,—what we mean by the term, is not a mere sprinkling of the surface, but thorough soaking applications of water in sufficient quantities to reach the roots.

The pruning of such of your fruit trees, as have not been before trimmed, may now be advantageously attended to.

Currants, raspberries, and gooseberries may now be transplanted.

Attend to your strawberry beds; keep them clean of weeds, and clear away the runners as they may advance.

If you should want to make a new plantation of strawberry vines, let the strongest of the runners remain until June, when they may be taken off and transplanted.

Grape cuttings and vines may be planted out, if done early this month: and in a word the eye and judgment of the judicious farmer, planter, or horticulturist, must be busy and actively employed in every direction on his premises, each must practice industry and economy, and exercise untiring vigilance, for without the exertion of these virtues, the best fields may prove unproductive, and loss and disappointment be his lot, when profit and pleasure should have rewarded his efforts.

The Farmer's Song.

Away with grandeur, pomp, and gold,
Away with childish ease;
Give me but strength my plough to hold,
And I'll find means to please.

'Tis sweet to toil for those we love—
My wife and darling boys;
Both tend to make my labor prove
The sweetness of my joys.

The sweetest morsel I procure,
When labor makes it sweet,
Is eaten with a taste more pure
Than meats that monarchs eat.

'Tis mine—yes, 'tis my happy lot,
From cares and av'rice free,
To own but this secluded cot,
True friends and liberty.

Thus I no monarch on his throne
Can grudge his destiny;
Let him his weight of cares bemoan,
Whilst I am truly free.

When labor wearies, and grows dull,
I take my book or gun:
Thus I the sweetest pleasure cull,
And thus all sorrow shun.

Now tell me, all ye gouty train,
Who have what fortune gives,
Is not the cheerful country swain,
The happiest man that lives?

Propagating the Peach.

1st. We gather the stones in the fall which we bury about an inch under ground, high and early ground is preferred as the its will sprout early in the spring,) spreading singly, but as closely as you can in order that the frost may have its full effect upon them. The best time for putting them in the ground is the last of October, but any time in October or November will do.

2d. *Preparing the ground for the young trees.*—Select a rich and middling dry piece of ground, which if very rich, will do without manuring, but if not, manuring is indispensable. Short and old manure is the best, and if some rich dirt be mixed therewith, I think it all the better. The manure should be spread along the furrows, which should be made with a plough four feet apart. If any other manure be added after, I would recommend lime or ashes. The ground should be ploughed as well as harrowed well the first place.

3. *Transplanting.*—This should be done as soon as the pits begin to sprout in the spring, by dropping them in the rows already prepared for them about eight or nine inches apart and covered about an inch or more deep. Some nursery-men let the young sprouts grow six or eight inches high before they transplant them, but the former way I think the best. The young trees should be planted and hoed as often as necessary in order to keep them free from weeds and grass, say three or four times each, the last just before budding and not afterwards that season.

4th. *Budding.*—Select from the healthiest trees the scions of the kinds you wish to propagate, cut off the leaves and keep them in water, at least the butt ends, (those buds that have three leaves are the best.) They may be kept in this manner three or four days. Then take the scion in your hand, holding the butt end downwards, enter your knife about half an inch below the bud and cut upwards about a quarter of an inch above the bud, taking the wood with it, and then cut across the twig deep enough for the bud to come off; then with the point of your knife, take out the wood from the bud; then make a transverse cut in the stock to be budded, about three or four inches above the ground, (first trimming off the leaves and limbs about six inches above the ground;) from the middle of this cut make a slit about half an inch downwards, then with the point of your knife open the bark on each side of the slit, by the transverse cut; enter the lower end of the bud therein, bearing it down with your thumb and finger till the top side of the bud comes just below the first transverse cut, then with bark or yarn wind below and above the bud in order to keep close to the wood. In twelve or fourteen days the bandage may be removed. The time of budding may be from the 20th of August to the 20th September, perhaps later sometimes. In the following spring when the buds grow three or four inches long, the old stalks should be cut off about an inch above the bud. In the following fall or spring, you may set out your orchard, putting the trees about twenty feet apart. The ground should be rich and dry, not springy. Manuring is indispensable unless the ground be very rich.—Corn or potatoes may be planted among the trees, with benefit to them for three or four years.—*Hort. Register.*

Large Hogs.—Joseph Jennison of Southborough, Mass. has fatted and brought to Market this season, two hogs 18 months old, weighing 629 lbs. and 557 lbs., which he sold for 13 cents a pound, realizing the sum of $154,18. Pretty fair business this!

Anthony Hoffman of Pine Plains, killed on the 19th ult. a hog twenty-one months old, which weighed when dressed 891 lbs. and was sold for $100.

Brief Review of the Markets.

PHILADELPHIA, March 27—The Flour and Meal Market has for some days past been dull; the tendency of prices being downward. *Superfine Wheat Flour* is quoted at $10 per barrel. *Rye Flour* is scarce, and small sales have been made at $7 75 to $8 00 per barrel. Considerable sales of *Corn Meal* in barrels, at $4 00 to 4 50. GRAIN. *Foreign Wheat* is very dull of sale, and prices have declined. Sales of 500 bushels from store at $2 00 for fair quality; a large parcel having some smell, is offered at $1 85. A sale early in the last week, of 5000 bushels good quality western Wheat, deliverable after the opening of the Canals, at $2 20 per bushel. Good Domestic is wanted. *Rye*—Sales of 1500 bushels Delaware afloat at $1 40 per bushel; about 1000 Bremen, price not named, but at some decline on last week's rates. *Corn* is in request; sales of several parcels Southern afloat, 3,500 a 4000 bushels; White at 91 for inferior, and 93 for good quality; Yellow flat at 94 for only fair, and 95 a 96 cts. for good quality. *Oats*—Sales of three cargoes Southern, 3,000 bushels at 51 a 51½ cts. per bushel. HOPS have declined a fraction; small sales of first sort at 9¼ cents per pound. OILS—Linseed is arriving more freely, with a very limited demand; nominal price, $1 00. A sale in tierces early in the week at 99 cts. Some shipments have been made to a neighboring market. We have no changes to note in Sperm or Whale Oils. PROVISIONS—Sales of *Mess Beef* at $15 per barrel. Prime City Inspection $11 50 a $12. *Mess Pork*—$22 a 22 50; Prime, $17 to 18 50. Sales of 360 kegs *Western Lard*, No. 1, part at 11½ cts. 90 days, part 12 cts. for superior quality, 4 mos.; 1 a 200 kegs Jersey at 13½ cts. cash. Western *Bacon* is coming in freely, and prices have declined; sales at 11, since 10½ cts. for good quality assorted. RICE—Prices continue steady with a fair demand. A lot of 50 tcs. and 20 half do. sold at 4 cts. per lb. for good quality; sales 70 tcs. in lots, at 3¾ a 3 7-8 cts. SEEDS—The activity noted last week in *Cloverseed* has subsided, several large orders having been filled; and prices have declined for all kinds but strictly prime, which is much wanted. Sales of several lots 350 a 400 bushels, at $6 00 to $7 87½ for inferior old, to good new Seed. *Flaxseed*—Sales of several lots 5 a 600 bushels at $1 90 a 1 95 per bushel. WOOL—Large sales of superfine have been made at former prices; demand steady and prices firm. CATTLE MARKET—The supply offered for the last fortnight has been abundant. Beef Cattle were in good demand and all the supply were taken at $8 a $9 50 for fair to good quality; superior and extra, 9 50 a $10 per hundred. In Cows and Calves, a material decline has taken place, the sales varying from $16 to 35 per head, for fresh Cows with Calves. Hogs—Demand quite fair and quality generally good; the sale ranged from $8 50 to $9 25; extra, 9 50 per hundred. Sheep varied in price from $3 to $6 per head.

BALTIMORE, March 25—*Superfine Flour* we find quoted at $10 37½ cts. per barrel; Wagon price, $10; City Mills, dull of sale at $10. *Rye*, $7 to $7 25 per barrel. BACON—Hams, 17 to 18 cents per lb.; shoulders 15; assorted country 14; BUTTER, printed in pounds, 25 to 37½; roll butter 20 to 28 cents. EGGS, 18 to 25 cents per dozen. LARD 16 to 17 cents. GRASS SEEDS—*Red Clover* per bushel, $8 to 8 50; *Timothy* (herds of the north) $3 25 to $4 00; *Orchard* $2 75 *Fall Meadow Oats* $2 75; *Herds or Red Top* $1 25. HAY $20 per ton. *Hemp* country dew rotted, per lb. 6 to 7 cents; water rotted 7 to 8; HOPS, first sort, 16. *Oats* 62 to 65 cents per bushel. RYE, per bushel $1 35 to 1 40. WHEAT, white and good $2 12 to 2 25. WOOL has not essentially changed from our former prices. Large quantities of foreign wheat have arrived at Baltimore during the past month.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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The Observer.—No. 5.

THE WHEAT FLY.

This favorite caption for numerous articles in the popular periodicals of the day, affords a prolific theme for many a scribbler who only writes to relieve the troublesome twinges of his *cacœthes scribbendi*. Almost every farmer will say that he has often seen the wheat fly; yet, probably, not one in a thousand really knows what it is. Their observations have been so imperfect, their acquaintance with the insect race is so limited, that almost every small fly, seen in autumn—whether the fourth, or the fortieth of an inch long, whether black, blue, or yellow; whether it flies with two wings, or with four—is a wheat fly. These remarks are not intended to cast any reflection on the good sense of my readers, but to indicate the necessity which exists, for more careful and minute investigation. It must be admitted, that much of what has been written on this insect, to say the least of it, is of a very doubtful character.

In order to treat it understandingly, I will inquire,

1. What is the Wheat Fly? and
2. What are its habits?

When these inquiries are satisfactorily answered, and not till then, we may hope to arrive at the best practical means of destroying the enemy, or of countervailing its effects.

What is the Wheat Fly? This insect, commonly called the *Hessian fly*, from its supposed native place, does not appear to be known in the land of Hesse; nor, indeed, in any other part of Europe. We must, therefore, look to American naturalists for what is known of its entomological character. Notwithstanding that the wheat fly seems unknown in Europe, yet there is at least plausibility, if not truth, in the opinion that it was derived from thence. Thus, if it was not known to exist in our country previous to the revolutionary war—if a quantity of straw was, at that time, imported from Germany for the use of the British troops lying at New York—and if its ravages were soon after observed in that part of the country—a strong presumption is raised in favor of its transatlantic origin. *See Journ. Acad. Nat. Sciences*, vol. i. p. 45. *Farmers' Cabinet*, p. 24.

I have availed myself of the labors of those who have observed and described the wheat fly, and determined its place in the systems. From these sources, and from my own observation, I have drawn up the following description:

Class. Insecta.—Insects.
Order. Diptera.—Having two wings.
Genus. Tipula of Linnæus.
Chironomus of Fabricius.
Trichocera of Lamarck.
Cecydomyia of Latrielle.

Cecydomyia. "Antennæ filliform, joints subequal, globular, hairy;—proboscis salient; wings incumbent, horizontal."

C. destructor. "Head and thorax black;—wings black, fulvous at base;—feet pale, covered with black hairs."—*Say.*

Larva. *Body* whitish, a little tapering to the tail, which is acutely pointed;—*feet*, none, or mere rudimentary tubercles;—*mouth*, a sucker;—incapable of progression.

Pupa. General *form* similar to that of the full grown larva;—*color*, reddish brown;—entirely inactive.

Perfect state. *Body*, black;—*antennæ*, a little tapering, about as long as the body, in the male shorter, in the female longer;—*thorax*, large, protuberant;—*wings*, nearly

colorless,* rounded at tip, reaching beyond the abdomen;—*feet* long and slender;—*abdomen* slender, in the female, rendered acute and extensive by the protrusion of the oviduct. Length, about three-twentieths of an inch.

Under the microscope, the *body* appears hairy; the *joints of the antennæ* are verticillate with short hairs, especially in the female; in the male sex, the joints are separated by a central fine thread, in the female, approximated; the *edges of the wings* are finely fringed with short dark colored hairs.

I would advise those who may not already have done so, to procure the fly for examination. This may easily be done at the proper season, (when it is in the pupa or flaxseed state, the beginning of the sixth month,) by pulling up the infected plant and placing the root and part of the stem in a glass jar tied over with gauze to prevent their escape.

What are the habits of the Wheat Fly? The habits of many animals are more concealed from observation, than the animals themselves. It is so in the present instance. Enough, however, has been observed of the habits of the wheat fly, to afford data, from which its history may be inferred with tolerable certainty. It is not only instinctively led to seek the wheat plant as the natural food for its young; but even to select the vagina, or sheath of the lowest blade—rarely the next contiguous one—for its nidus. Later in the season, when the plant is in stalk, and the lower leaves have decayed, we may sometimes find the larva, or pupa, some distance from the ground. In this way, the pupa might be conveyed to a considerable distance, even across the Atlantic. It sometimes affects other grain, than wheat, such as barley, oats and rye, perhaps timothy and some of the other grasses; but it is so seldom observed, except in wheat, as to indicate necessity rather than choice, in the selection of any other plant. Say suggests that the female deposits the egg in the sheath, by thrusting her elongated oviduct between the blade and the stem, but as the larva does not appear capable of moving, and is mostly found near the bottom of the sheath, I think it more probable that she *pierces through the sheath*, and places the egg where we observe the larva.

Some acute observers believe that the fly is only produced at certain annual periods, for example, the egg laid in the fall passes through the larva state and becomes a pupa before winter, in which condition it remains till spring or early summer, when it escapes a perfect fly, but does not deposit its eggs until the next fall. However, this may accord with what is known of many other insects, I think it is contrary to observation in the present case. Sometimes when very few insects can be found in the fall wheat, they become quite numerous in the spring. I have never seen the larvæ in early spring—only pupæ—yet later in the season, larvæ become very common. The eggs of these were probably deposited by flies which proceeded from the winter pupæ. The spring larvæ pass through the pupa state, and become flies between the first and middle of the sixth month. Without any observations on the insect, we would naturally suppose the larva state more destructive to the crop than the pupa, because it then derives some nourishment from the plant; yet, its greatest ravages are generally in the spring.

All the observations which I have been able to make, have confirmed me in the opinion, that they deposit their eggs at various seasons of the year, subject to be influenced by circumstances; and that the duration of the several stages of their existence, depends upon season and temperature. In warm weather, a few months, or even weeks, may be sufficient to produce the fly from the egg; but the progress of its metamorphoses will be retarded, or entirely arrested by cold weather. Last spring the flies were very numerous in my wheat field when I sowed clover seed, in the beginning of the fourth month. They could be seen to rise at almost every cast of seed, and would fly forward and settle down again, in the same way as grasshoppers are observed to do. These had, probably, come out of the winter pupæ in the opening spring and were about to deposit the eggs, which after destroying the crop, produced other flies in the sixth month. This would allow a period of about two months for the completion of their several changes.

When the eggs are laid in early autumn the insects will become pupæ before winter ready to emerge early in the spring and prepare for new devastations in the way I have just mentioned.

Observations are still wanting to determine whether the larvæ of eggs laid later in the fall, can endure the winter in that state, or whether the egg can remain and hatch in the spring. I think it probable, that neither the egg nor the larva can survive the frosts of winter, unless protected from intense cold by a mantle of snow, as was the case in the winter of 1835-6. The autumnal prospect exceeded any thing we had for a long time witnessed; the dreadful reverse at the ensuing harvest, will be long remembered. The fall was favorable to the growth of wheat, but it was also favorable to the propagation of its greatest enemy—the fly. Its ravages were scarcely perceptible in the fall, yet it was

* In the foregoing specific description, copied from Say, the wings are described "black;"—in all my specimens they are, as I have described them, *nearly colorless and transparent.*

undoubtedly there. Whether, in the several states of egg, larva and pupa, or only of the latter, I am not prepared to say. The winter was peculiar. Snow fell in abundance before severe frost set in, so that during a winter of intense cold, the ground was scarcely frozen. The fly was so far preserved, from the circumstances of the season, as to become numerous to excess in the spring crop. Many pupæ, undoubtedly, perish when exposed to the rigors of a severe winter, which would be protected under the snow; and this may account sufficiently for their abundance. I am, however, inclined to believe, that they did pass the winter in the egg, or larva state, or both, by having several times in the spring, detected both larvæ and pupæ in the same plant. The winter pupæ would come out and deposit their eggs first. Then the larvæ, and still later the eggs, producing the appearances noticed. The same, however, might be occasioned by the eggs being laid at different times in the spring.

There is yet room for many interesting observations on this subject.

New Garden, 3d mo. 29, 1837.

For the Farmers' Cabinet.

Agricultural Implements.

NO. III.

THE DRILL CORN PLANTER.

This implement is constructed so as to mark out the ground, drop the corn, and cover it by the power of a horse under the direction of a man who guides the horse and machine with lines and handles, similar to those used when ploughing.

The horse and handles are attached to a beam or to the hopper which holds the corn. Through this hopper, a horizontal axle passes, with wheels on each end, which move on the ground and turn with the axle, or one of them may turn on the axle and the other with it. The hopper or beam is made sufficiently strong to receive one of the sharp harrow (or cultivator,) teeth, described under the article *Harrow*, in a former communication.

This tooth is for the purpose of making an opening in the ground to receive the corn, and the turning axle serves to carry the corn from the hopper and deposit it at regular distances asunder, and has regular holes (or depressions,) formed in the periphery, each sufficiently large to hold *one* grain of corn, but not *two*, and at such distance asunder as to deposit the corn at suitable distances apart. The other parts of the periphery of the axle that turns within the hopper, are sufficiently near to it to prevent the passage of any grain. After the grain is carried from the hopper as aforesaid, it drops from the axle into a tube which conducts it into the opening in the ground, immediately behind the harrow tooth, and may be covered a sufficient depth by means of a chain, with its two ends attached to the machine, and the middle extending behind in a kind of bow over the edges of the opening. The wheels, beam handles and axle, are made of such dimensions and materials as may be required for the distance asunder which the corn is planted and the kind of soil to be acted on, &c. Experience will be the best guide for this.

Corn planted in rows, lying in a northern and southern direction, so as to admit the rays of the sun to the ground, is considered the best position, and experienced farmers say, that corn so planted with stalks equidistant and at suitable intervals asunder, ten per cent. more corn can be produced on a given quantity of land, than where several grains are planted in a hill and the corn worked in two directions, at right angles to each other.

By the use of the harrow teeth, or plough mould board, constructed on the principles described in my former communications, under the articles *Plough* and *Harrow* respectively, corn may be cultivated more easily when planted as aforesaid than in hills, where several stalks are together, because the space between the stalks in the hills, requires hand labor to destroy grass or other substances injurious to the corn; whereas, the plough and harrow teeth will destroy these, or prevent them from growing where one stalk is at regular distances from another, and only in a single row. The plough or harrow teeth may be made of such dimensions, and such number used at the same time as circumstances may require. Experience will, in this case also, be the best guide. In some cases, all may be used to advantage at the same time; in others, only one will be most proper. The frame may be so formed, that the different kinds of harrow teeth or the ploughs may be attached or removed at pleasure. Where farmers do not choose to incur the expense of a drill, and would at the same time wish to plant their corn so as for one stalk to be at the most proper distance from another, they would probably find it to their interest to make a trial, and drop the corn by hand and cover it by a chain as above directed, or with a harrow. Perhaps a portion of the injury usually sustained from the cut worm, might be prevented by planting more corn than is required to cultivate to maturity; this would be allowing a portion for the worm and another portion to grow to maturity, and if a less quantity should be destroyed than might be calculated on, the superfluous stalks might be destroyed after all apprehension of danger from the worm has ceased.

Chester Co., Pa., 23d March, 1837.

NO. IV.

DIRECTIONS RESPECTING THE ROLLER.

This article is not, probably, appreciated by every one as it deserves to be.

All grass lands where the frost has, during the preceding winter, raised part of the roots out of the ground, require the roller to pass over them in the spring, and many persons whose testimony is entitled to great respect, recommend its use upon all land in the spring, where grain has previously been sown or corn planted, for the purpose of breaking the clods, preventing injury from extreme dry weather, and causing the grain to be collected in harvest with less difficulty.

Rollers are sometimes made of one piece, with a fixed gudgeon in the centre of each end which turns in a frame, to which the tongue or shafts are attached. At other times it is formed in two pieces, with a hole through the centre of each, to turn upon a fixed axle or shaft; this allows the ends of each to rise and fall, independent of the other, and press upon a greater surface of ground, than where one is of the same length as these two parts; and when turning the team, one of them turns one way, and the other in a contrary direction on the axle or shaft, or one is stationary while the other turns, by which means the ground is not so liable to be forced up in a ridge before the roller: this is considered an improvement, still there are objections made to it. In the first place, the wood turning on the fixed axle or shaft, is apt to wear rapidly, and to have them boxed with iron, is attended with expense; the ends in contact must be made conical, otherwise the other ends will not rise and fall with the irregularity of the ground; and when they rise, or indeed at all times when the centre of the two are in the same line, there will be a strip or gore of land between them which is not acted on by either. The following described plan would probably obviate both these objections. Let the roller be composed of three parts, each to have gudgeons confined to the centre of the ends which turn in a frame; the centre section in advance or in the rear, so as to extend a short distance over the ground, passed also by a small portion of the other two; this would probably combine the advantages of both the other plans without the disadvantages. The frame should be so constructed that the different portions of the roller would change their relative position, and by these means, act upon an irregular surface; several joints or hinges in the frame permitting a vertical motion in each roller independent of the others, and also a joint, allowing a vertical motion in the tongue or shafts, so as to change its relative position with the frame, will cause the whole to operate well upon an irregular surface, and leave no part of the ground but what will be acted on.

As it is a matter of considerable importance to have the grass roots, particularly clover, forced back into the ground as near a contrary direction as possible from that which the frost may have raised them out of it; a roller of considerable diameter is, therefore, recommended, which must, however, be of considerable weight, otherwise it will not make so great an impression on the ground as one of smaller diameter, on account of its pressure on the ground covering a greater amount of surface at the same time.

A roller made in this form, entirely of wood, except the hinges and gudgeons, would not be expensive, and if kept in a dry place (as all implements should be,) when not in use, would last a long time.

Chester county, Pa., April 7, 1837.

To the Editor of the Farmers' Cabinet.

The writer of this has seen an article taken from the Cincinnati Gazette, stating that oil is made from maize, (or Indian corn,) of which a bushel yields one gallon, price fifty cents, burns clear and without odor, and is not congealable at five degrees Fahrenheit. The extraction of the oil does not diminish the alcohol, which may afterwards be distilled from the corn thus used.

[Will some one who is acquainted with the process, inform the public?]

From a Correspondent.

I observe a caution in No. 17 of the Farmers' Cabinet, signed "C.," stating that the Chinese Mulberry, *Morus Multicaulis*, cannot be produced from seed. I believe a theory held by some, and entitled to great respect, is, that vegetables, like animals, are limited in the duration of life, and *that a graft or slip will not outlive the parent tree.* If both of these opinions be correct, the person who purchases seed, or he who purchases cuttings from trees, near the close of their existence, might find the preparation for producing silk a losing business. *How is this?* I am not fully acquainted on this subject, and ask for information.

If you would add a lustre to all your accomplishments, study a modest behavior. To excel in any thing valuable is great; but to be above conceit on account of one's accomplishments is greater. Consider, if you have rich natural gifts, you owe them to the Divine bounty. If you have improved your understanding and studied virtue, you have only done your duty; and thus there seem little reason for vanity.

Making Cheese.

As practiced in one of the most eminent Dairies in New England.

Add the night's milk with the morning's, and heat it gently over a fire until well warm, then put it in a tub or vat with sufficiently prepared annatto to give it a handsome yellow color. Put rennet sufficient to make it curd in 25 minutes; when curded, take a wooden knife or sword and chequer it all into squares to the bottom; let it stand from 15 to 20 minutes, or until the whey appears above the curd; break it up carefully, with the hands in such a manner as not to bruise or break the pieces of curd; next put a clean strainer on top of the curd so as the whey may arise on top, and lade it off with a dish or dipper; then put a cheese strainer in a cheese basket over a tub, and carefully remove the curd and remaining whey into it, and cut it into slices with a thin skimmer, until the whey has mostly drained out; then bring the corners of the strainer together and twist them, so as to bring the curd in a solid mass, and put the twisted corners down in the basket, and a clean board about one foot square on the top of it, on which put about 20 weight, in order to press out the whey. After remaining about 15 minutes, the curd is to be cut in pieces about one inch square, and put back again with the weight on, and remain from ten to fifteen minutes, and then cut as last stated, and put back again, and so repeated from six to ten times, or until the whey has entirely done dripping from it; after which take it out and cut in pieces of about two inches square, put in a wooden bowl and chop with a chopping knife, until the pieces are the size of Indian corn. The next is scalding the curd, which is done by putting it in the strainer and putting in the kettle of whey heated to blood warmth, for if the whey is too hot it will ruin the cheese, and make it dry and hard; while in the whey it must be stirred with the hand until the whole is equally heated; then it is taken out and put in a cheese basket over a tub, and clean fine salt thoroughly mixed, to give it a high salt flavor, and let it stand until hardly blood-warm, then the corners of the strainer are twisted together as before, and put in the hoop and pressed, in this instance, with a weight of 100 pounds to every 10 of cheese, to remain about half an hour, taken out and turned and re-placed in the press, and add about one-third to the weight—then let it remain three hours. Then take it out and put it in a fine clean linen cloth, perfectly smooth, and no wrinkles in it; put again in the press and press forty-eight hours, being taken out and turned once during the time. At this pressing about one-third additional weight must be added. It must be then taken out, oiled and put on the shelf, where it must be turned, rubbed and oiled at least every twenty-four hours. From long experience, I have found it the best method of making cheese.—*Tennessee Far.*] S.

Mulberry.

A dry, sterile sand is unsuitable; and a shallow soil on a foundation of clay produces leaves of bad quality. In low rich grounds, and extensive plains or prairies, near ponds and in the valleys of rivers, the mulberry tree indeed grows most vigorously, yet the leaves being more watery, though voraciously devoured, they prolong the labors of the insect by inducing weakness, and injure the quality of the produce. These grounds are alike exposed to the destructive frosts of winter and of summer: the moisture of the atmosphere in such situations causes the leaves to become spotted and to mildew, and the leaves thus infected, if given to the insects, are the sure sources of disease and of death.

Sunny expositions and the declivities of hills, those especially which slope to the south east or west. The cocoons of mountainous countries are deemed superior to those of the plains; although not so large, they are usually of a whiter color. Plant the mulberry tree on the high uplands, and on the hills, for here they are neither exposed to suffer from the early and the latter frosts, nor are the leaves liable to become spotted or diseased from the mildew; and from these combined causes, the growth of the tree will be consequently prolonged for a double length of time.

Prepare the soil by suitable nutriment, to the depth of eighteen inches beneath the tree, and to a proper distance around. The roots of the mulberry tree strike downwards; other plants may therefore be profitably cultivated beneath its shade, which is not deemed pernicious, the whole ground being kept as a garden during the first years.

The climate of the countries bordering on the great northern arteries or rivers is in some degree unfavorable. The winds, which, unobstructed, follow almost invariably the general course of the valleys of these rivers, bring down alternately from high northern regions, and from other climes, a degree of cold, during winter, the most intense and destructive. On the best authority I am assured that the pear, and particularly the peach and the cherry, have during the last winters suffered partial destruction in the valley of the Connecticut, as far south as the country around the city of Hartford, and even still farther downwards and towards the sea. Even far below the city of Albany, on the Hudson or North river

the cherry tree particularly, and many other trees which are equally as hardy, and especially during all the period of their younger years, are, as I am assured, extremely liable to suffer death during winter, from the same destructive climate and causes.

The proper soils for the mulberry tree are "dry sandy, or stony." And trees growing on dry, sandy, or stony soils, and situated on the open plains, and on hills the most exposed to cold winds, will be found to suffer least of all from the destructive frosts of autumn and of winter. With all authors I must agree in recommending a soil least of all a cold, moist, and heavy soil on a clay foundation, or even a very rich soil; a dry soil on a friable subsoil, on gentle elevations or declivities, being the most suitable of all for the mulberry from China.—*Kenrick.*

Chinese Mulberry, Morus Multicaulis.

The immense quantities of this tree, now disseminated through every part of the Union, from the different nurseries, will undoubtedly serve to test thoroughly its good or bad qualities. Its hardihood will also be fairly proved by the present winter, which so far at least, may be considered a season of the ordinary severity. For ourselves, we have no doubt that the Morus Multicaulis will become perfectly naturalized in every part of the Union south of forty-two degrees latitude, and that the facility of silk-rearing would be wonderfully increased by it. The leaves being of very large size, the trouble of gathering a given weight is greatly diminished, and there is every reason to believe that two crops of silk may be reared upon them in a single season. The French silk growers now plant the Morus Multicaulis entirely in rows or hedges to be kept dwarf by cutting them down to within one, two or three feet of the ground, annually. The advantages of this method are—perfect hardihood of the plants—facility in gathering—and enormous weight of foliage from a small surface. In addition to this, a crop of silk worms may be fed on the leaves from the cuttings of the Chinese Mulberry of a single season's growth, instead, as in the case of the old Italian variety, of waiting until the tree attained considerable size before plucking the foliage.—*Boston Magazine of Horticulture.*

Value of Corn Stalks as Provender.

No one who may not have essayed an experiment to that effect, can form any idea of the vast amount which may be saved by the practice of a system of enlightened economy on a farm. Nor can he form any just estimate of the valuable purposes to which many things which are cast away as almost entirely useless, may be applied. We were very forcibly struck with the truth of these propositions a few days since, on seeing the fine condition of a *Devon cow*, that we purchased for a gentleman in South Carolina, and which had been subsisted during the whole of the past winter on *corn stalks* and *ruta baga*. Ninety out of a hundred farmers, throw their corn stalks into their barn yards, to be trodden under foot by their cattle, and the custom has become so universal that any one who should deviate from the rule would, in many neighborhoods, be looked upon as an innovator, who had sinned beyond the saving influence of repentance. When an individual, however, is found possessing the moral courage to rise superior to those prejudices which have been hallowed by time, they deserve not only the full fruition of the profits and advantages of their improvements, but are entitled to the thanks of the community. The cow in question, we bought of Mr. *Richard Caton*, and on inquiry as to her *keep* through the winter, learned that she, together with some 60 or 70 others, of which his beautiful *herd* of Devons consists, had been exclusively fed on the articles we have before named. Heretofore they have, each winter been generously served with timothy, or clover hay, and Swedish Turneps; but with a view of testing the value of the corn stalk as a provender for cattle, and of being thereby enabled to sell his hay, he cut his stalks, the which, together with turneps, he submitted to the action of steam, and has had the gratification to find his most sanguine expectations more than realized. His stock has not only eaten their new fare with avidity, but have thriven well, having come through the winter in high health and condition, and are now in as good order as the majority of beef cattle. The Devons it is true are a thrifty race easily kept, and will maintain flesh upon less feed than almost any other breed; but it is equally true, that the process of steaming restores so much of the saccharine matter to the stalks, renders them so easy of digestion as to make them at once as palatable as they are nutritious. Hence there can be no doubt of the great economy in this disposition of them, because, besides returning to the earth an equal portion of manure, they serve the two fold purpose of substituting other and more saleable provender, and of sustaining stock fully as well, if not better than the best hay, be the kind whatever it may.

Let us see how far an acre of stalks will go. If this quantity of ground in corn will yield *one ton* of fodder and tops, we set it down as a demonstrable fact, that it will give *two* tons of stalks; so that any given quantity of land will furnish a hundred per cent more of the latter than the former.

If it should be asserted that the *trouble* of cutting the stalks is an objection to their use, we would remark that there are always a sufficient number of inclement days throughout the winter, when hands cannot be occupied out of doors, to perform all the labor requisite to prepare them, without its bearing in the least as a tax upon time. Of the expense of a cutting box, we will not speak, as no farmer or planter, without detriment to his interest can be without one, and should it be said that *steaming* is an onerous preparation, and that the fixtures are costly, we would reply, that it is neither one nor the other. An ordinary sized pot, fitted up in a furnace, with sufficient number of oblong boxes, with tight covers, to hold the requisite quantity of provender are all the fixtures that re necessary; 40 gallons of boiling water poured upon half the number of bushels of cut stalks, would in one hour cook and render them fit for use. Surely then, there is no individual worthy of pursuing the noble calling of a cultivator of the earth, who would maintain such objections to the impairment of his real and substantial interests.—*Baltimore Farmer and Gardener.*

A Corn Meal Rusk.

Among the many delicacies in the form of bread, which render the enjoyment of breakfast so acceptable, we know of none more deserving of notice than the one prepared according to the following recipe:

Take 6 cupsful of corn meal, 4 of wheat flour, 2 cupsful of molasses, and 2 tablespoonsful of *sal aractus*, mix the whole together, and knead it into dough; then make two cakes; bake them as you would pone, for three fourths of an hour, and you will have one of the most grateful descriptions of bread that ever graced the table.—*ib.*

Carrot Field Culture.

We had a conversation a few days since with a *Yankee Farmer*, on the above subject, and being pleased with the course of his remarks, we prevailed on him to commit them to writing, in the hope that as the season is now approaching when this fine vegetable may be sown, we might, by bringing the topic to the notice of our readers, induce some of them to try the experiment of raising a crop for feed for their milch cows. The *Parsnep* too, should command attention; the same mode of culture will serve for them as for the carrot, with these exceptions—that the drills should be about 18 inches apart and the plants stand about 4 inches asunder. Thus planted in the month of April, in suitable soil, manured with well rotted manure, or a compost of spent ashes and mould, kept clean and hoed three times, they would yield from 500 to 1,000 bushels of roots to the acre, which might be left in the ground all winter to be dug up as wanted for feeding.

To those who desire to have *butter* in winter, possessing all the virtues of that article made from cows fed on *May* pastures, it will be only necessary to say that by a very little trouble they may realize their wishes.

The communication alluded to above will be found subjoined.

"The carrot flourishes best on a loam or sandy soil. The ground should be prepared by ploughing very fine to the depth of ten or twelve inches, fine manure, in quantity sufficient for common crops should be ploughed in, and the ground harrowed merely sufficient to level it, the seed should be sown in drills from twelve to fourteen inches apart; a machine made for the purpose is the best for sowing: four or five plants to a foot is sufficient to be left to come to maturity; a good day for planting corn is a good day for sowing carrot seed. The crop is usually from four to five hundred bushels to the acre. There is not a more profitable crop for feeding stock, raised in the N. England States, than the carrot, where the soil suits the crop; with a little more labor, you will get as many bushels of a much richer vegetable than the potatoe. One experiment has been made, by putting six cows into the stalls in December, and feeding five with corn-meal and hay, and one with corn-meal and carrots, and when slaughtered, the one fed with carrots was pronounced the fattest and handsomest beef. They are equally good for milch cows, increasing the quantity, and adding color and richness of flavor to the butter, but little if any, surpassed by the best pasturing. They can be profitably used in many other ways by a farmer."—*Ib.*

On Pruning Orchards.

There is no branch of the management of orchards less understood, or more unskilfully performed, than the operation of pruning; a belief of its necessity is so general, that even the most careless will seldom omit it—such, however, is the want of skill in many of the operators, that total neglect would be less prejudical, than their preformance of it. If judiciously done, pruning promotes health and early fruitfulness: and will continue a tree in vigor, long after the common period of its duration. Nothing has contributed more to the imperfect knowledge of this operation, than the wordy and unintelligible systems which have been published respecting it; in a mere practical system, it is unnecessary to lay much stress on *wood branches* and *fruit branches*; which, however well under-

stood by an observing, intelligent gardener, can scarcely be comprehended by the laborer, employed in the business of pruning an orchard—from the rapidity of vegetation, which is generally ascribed to the nature of our climate, excessive pruning is very apt to generate an infinite number of suckers from the limbs of apple trees; which, if suffered to grow are more injurious to the production of fruit, than the woody branches which are removed: our great heat and dry atmosphere, render pruning less necessary here than in England, whence we derive most of our instruction on this point. A good general rule is, never to shorten the branches, unless to improve the figure of the tree; and then to take them off at the separation, very close, so that the wound may heal well and soon: the branches should shoot as much as possible in increasing distances, as they proceed from the common centre, inclining a little upwards, by which means the sap will be more evenly impelled, and better distributed; the ranges should not approach too near to each other; for the admission of the rays of the sun is necessary to the production and perfect maturity of fine flavored fruit—in cutting off a branch, it should be done as close as possible, never leaving a stump, for the bark cannot grow over it, and disease in the wood will inevitably follow. If the wound produced by the separation be very large, cover it with tar or thick paint; if small, fresh cow dung will be the best plaster; I have healed very large wounds from the knawing of calves, horses, and sheep, by a liberal application of this plaster, secured by a bandage of paper or linen.

When trees are much pruned, they are apt to throw out numerous suckers from the boughs in the following summer; these should be rubbed off when they first appear, for they may be easily broken off when young and brittle—cutting is apt to increase their number. Trees differ much in their form, and require very different treatment in pruning; it may not be necessary in our warm climate to trim quite as close as in England, but great care should be observed to take off every limb which crosses another, or is likely so to do at a future time: those who can conveniently do it, will find a benefit from forming the heads of their trees in the nursery, the year before they remove them—when transplanted, they will thrive more rapidly from not having been pruned at the time of removal, which in some measure exhausts and weakens the tree. I have been latterly in the habit of giving the principal pruning to my orchards, after they have been planted out about five or six years; their growth, with proper cultivation, is then so vigorous, as to permit any natural defects in their forms to be corrected with safety, by free pruning, and forming their branches: the peculiarity of growth which characterizes each kind is then visible, and uniformity of shape may be more easily attained.

Apple trees should be so formed, as to allow a man and horse to pass under them in ploughing; this elevation of the branches, while it protects them from cattle, opens the ground to the salutary influence of the sun, on the crops of grain or grass.

No error is more universal, than an anxiety for early productiveness in an orchard; it is generally obtained at the expense of much eventual profit, and by a great diminution of the size and vigor of the trees; believing early fecundity to be injurious to the vigor and perfection of plants, I am always attentive to pluck from the trees these evidences of early maturity, in the first stages of their existence.

It was a common practice some years since to apply Mr. Forsyth's celebrated composition to large wounds produced by pruning: that novelty, like many others, had its day among us; and finally lost its popularity, from a general belief of its inefficacy—Mr. Forsyth, at a later period, announced as a new discovery, which had been long known in this part of our country, that cow dung and urine, was more efficacious in healing the wounds of trees than his plaster, even in the moist climate of England. In America our winter frosts decompose it, and our summer heats dry it up so completely, as to render it useless for the purposes intended.—*Coxe on Fruit Trees.*

On Ploughing.

As this is the season for using that invaluable instrument, the plough, perhaps it may be well to call the attention of our readers to the subject. There seems to exist quite a diversity of opinion in regard to the proper depth that land should be ploughed. Many, and in our opinion too many, advocate shallow ploughing. "What's the use," say they "of ploughing up the sand and burying up the manure and the soil out of the reach of the plant?" Let us reason together.—What's the use of ploughing at all? Is it not that we may pulverise the soil, and bring it to such a state that the little roots and fibres of the plant may shoot out and gather up whatever they can find to nourish it? Is it not to incorporate the manure and make it of a uniform consistency as it regards quality, &c.

Now the deeper you make the soil the deeper will the roots plunge, and the deeper and more extensively the roots plunge, the more nourishment will they be likely to find, and the less liable will they be to injuries from drought. Plough deep; don't fear burying

the manure so deep that the roots will not find it—they can go as deep as you can by any plough ever made. It is possible you may not realize so good a crop the first year by burying the manure deeply, you will not lose it, the next year you will have deeper soil—and in a short time, your land will of course be near double depth of soil. What makes the intervales and bottom lands so much better than most uplands? Is it not the depth of soil? Aye but nature demands that. Take nature's advice and make yours so. If nature has made a plough of the elements and buried her vegetable matter deep, and made a soil ten times more valuable for it, follow her example. She did not do all at once, neither need you if you are not able. If you think you have not manure sufficient to make such a soil the first year, or must have the benefit immediately, act accordingly, but begin immediately. If you can plough but four inches this year, plough six the next, and increase annually till you get the soil deeper than you can get the point of your plough. We may appear somewhat dogmatical in our advice. But this is of small consequence provided we can dogmatize some into practice, who are now utterly opposed to it. What runs a farm out, as it is called? Is it not shoal ploughing, a scratch over the soil, as if you were afraid of getting out of the reach of the sun and air? We may verily believe this is the principal cause. The remedy must be the reverse course of management.

An agricultural writer on the subject of ploughing says, that the width and depth of the furrows, for general purposes, should be as three to two, or when the furrows are 9 inches broad they should be 6 inches deep, and that where the furrow is cut in this proportion, it will either be turned over, or reclining at an angle of forty-five degrees, and that a field so ploughed will have its ridges longitudinally, or be left in angular ringlets, or drills, but if the furrows, or slices, are much broader, in proportion to their depth, they will be more completely reversed, and the surface left more even, and suitable for after operations. This I believe to be correct, and if the ploughman wishes to plough eight inches deep, the furrows must be twelve inches wide. This is as shallow as our best wheat lands ought to be ploughed, when grass ground is to be broken up. As it is the opinion of many of our best farmers that one deep ploughing for each crop is better than more, it is important that in that operation the furrows should be laid as flat and even as possible, in order to receive the greatest advantage from the decomposing vegetable matter which was upon the surface. This can only be done with the common ploughs now in use, when there is a strong sward, but when we seed with clover, and plough it up after one or two years, the furrows are but partially recovered, and the land left in a poor condition, unless it is to undergo the usual process of summer fallowing, in which case the soil is rendered fine with as little labor as when turned flat at the first ploughing, but much of the fertilizing property of the sward is lost, being exposed to the action of the sun and air, to the detriment of the cultivator. In all cases, when proper ploughs cannot be obtained for turning the furrows flat I would recommend the use of a heavy roller, by which many of the furrows which are left partially turned will be pressed down, and the fertilizing properties of the sward more effectually retained in the soil than would otherwise be.

Wheat.

Last spring we published some suggestions on the late sowing of spring wheat, as a means of saving it from the ravages of a yellow worm which some incorrectly call *weevil* A number of our subscribers tried the experiment, and so far as we have heard, with entire success. A farmer in Orange county told us that he sowed one acre of spring wheat *ten days* later than the rest in the same field. The first sowed was seriously injured, the last not at all. Several, in other towns, made similar statements.

It has been observed, from the first appearance of this insect, that the earliest winter wheat was less injured by its attacks than any other. It is evident therefore, that the time of laying eggs is short. It is probably, soon after the heads make their appearance. Before they are defended by the leaf which encloses them; and when they appear, most probably the husk soon becomes so hard that the insect cannot pierce it to deposit her eggs upon the kernel. We have, then, only to ascertain the time, as exactly as we can, in which the injury is done, and have our winter wheat too forward, and spring wheat not forward enough, for the operations of the insect, and the damage is avoided. At present sow your winter wheat as *early* as you can, and sow your spring wheat as *late* as you can, and give it time to ripen.

Farmers, and all who find either pleasure or profit in any thing made from wheat would be greatly indebted to any etymologist who should make us better acquainted with the character and habits of this destructive insect.—*Vt. Chronicle.*

From the Whig.

Hints to Farmers.

The great scarcity and high price of every food, ought to induce our farmers to spare no pains to raise large crops of corn, potatoes, turneps, buckwheat, &c.

Indian corn ought always to be planted, if possible, in the mouth of April. Experience has fully proved that the old rule of planting from the first to the tenth of May is a bad one. Early planted corn, fares best in time of drouth, and is much less likely to be injured by frost in the fall.

Cart out your manure and spread it on your corn field. This is much better for the corn, and better for the crop of rye or wheat that ought to follow it, than to allow the manure to remain and rot in the barn yard. It is a very poor plan to manure corn in the hill.

Let your manure be well covered and the ground rolled or harrowed before planting. Take care in tending the corn not to disturb the manure or the sod. Use the plough sparingly and plough shallow; the cultivator is much to be preferred. There is no danger of harrowing too much. Don't hill up the corn; the more flat and even your surface the better.

Always steep your seed before planting, this will make it start sooner and will generally save it from the worms and from birds; if properly done you will not want a scare crow; a week solution of salt petre is very good; but the preparation recommended by the most successful growers of corn is the following.

First pour on your seed corn hot water, nearly ready to boil, and let it soak all night. Then put about a pint of tar and a quart or two of water into an iron pot or dish, and heat and stir it till the tar is thoroughly incorporated with the water, pour this mixture on the corn, having first drained it pretty dry, stir it well together and let it stand an hour or two. Take the corn out of the tar water and roll it in dry ashes, plaster, or dry slacked lime, so that it will plant conveniently.

Plant as soon after ploughing as you can, and always put the corn into moist earth, treading down the hill with the feet or pressing it hard with the hoe. Do not plant very deep. Put six or seven grains in each hill; this will not require more than half a peck per acre of extra seed, which will be repaid more than ten fold, by having the proper number of stalks in every hill. At the first hoeing, let the plants be reduced to the proper number, the least thrifty being pulled up. The number that ought to remain in each hill, will depend on the soil and on the kind of corn raised. Four are not too many for low growing corn, in ground well manured.

Do not top or strip your corn; as soon as the grains begin to set hard, and while the stalk is still green, say the first of September or even earlier, pull or cut it all up by the roots. Tye it up in small shocks or stacks and it will ripen better than if topped, and it will all make excellent fodder. All the corn stalks should be fed out in the early part of winter in the barn yard, they make good manure, or what perhaps is still better, cut up your stalks in a cutting box and steam or soak them before feeding. By manuring your corn ground well with coarse manure well ploughed in, and cutting up your stalks early, you may have good crops of corn, winter grain and grass. You will get the most benefit from your manure and your fields will be cleaner of weeds. AGRICULTURIST.

Deerfield, March 27, 1837.

From the Cultivator.

Farm Accounts—Products of a Farm.

J. BUEL, ESQ.

Sir,—Having been a constant reader of your valuable paper from its commencement, and having been amused and instructed from the perusal of it, especially from original communications upon practical farming, statements of products, &c.; and having heard a gentleman in an agricultural address in this county some years since say, "It is time that farmers leave off guessing, and attend to their business systematically, that they may know their income," &c.—I have once or twice since, began to keep an account of the products of my farm, but have failed to go through the year. This year I began early in the season, and have kept an account of the principal articles produced, and their estimate at about the common market price in this vicinity. But as I am a Yankee, I must be allowed the privilege of "guessing" at a part. The reason of my communicating to you the result of my labors, is not that I expect that I have outdone every body else, for I believe that many farmers in this region, have produced more from the same number of acres than I have, as some of my crops were very poor; my orchard and a few thousand silk worms, almost wholly failed. But I have thought that the publication of the products of farms might influence some of those who occupy land, and farm by guess, to use more exertion; and may probably induce some young men to turn their minds from the fancied pains of speculation to the slow, but substantial, income of good farming. And in this way, and no other, can we compare our own advantages of location with our brethren at a distance. And since there is such an itching desire for removal and the praries of the west, it would be well for many of them to know that they are well situated.

My farm contains about 150 acres of land. I improve about 100 acres, the remainder is in wood; some of the land has been cleared of wood thirty-five years, and farmed without

much system for a number of years; now some of it is in tolerable cultivation, though very little in a high state. I shall now proceed to give the items of produce and their estimate. I am thus particular, that every reader may see for himself, and imitate the example if he thinks proper, and communicate the same for the benefit of others.

1,088 lbs. of maple sugar, at $10 per cwt.	$108 80
Mulberry trees sold for cash,	143 75
35 lbs. of wool, at 50 cents per lb.	17 50
4 veal calves, at $2 50 per head,	10 00
1 killed at four days old, skin sold for	50
5 lambs raised, at $2 per head,	10 00
5 calves raised, $1 per head,	20 00
6 pigs so'd young, at $1 per head,	6 00
8 pigs raised, at $1 per head,	21 00
50 tons of hay, at $7 per ton,	350 00
1 ton of hemp,	11 72
16 bushels of peas, at $1 per bushel,	16 00
59 bushels of rye, at $1 per bushel,	59 00
68¼ bushels of barley, at 62½ cents per bushel,	42 81
70 bushels of wheat, at $1 50 per bushel,	105 00
Flax in the bundle and seed,	67 66
80 bushels of apples, at 25 cents per bushel,	20 00
1,535½ lbs. of cheese, at $8 per cwt.	122 82
280 bushels of potatoes, at 25 cents per bushel,	70 00
200 bush. of ruta baga turneps, at 25 cts. per bu.	50 00
200 bush. of ears of poor corn, at 25 cts; per bush.	50 00
2 bushels of white beans, at $1 50 per bushel,	3 00
3 bushels of onions, at 75 cents per bushel,	2 25
200 bushels of oats, at 50 cents per bushel,	100 00
1,482 lbs. of pork, at $7 per cwt.	103 74
108¾ lbs. of butter, sold at $18 per cwt.	19 51
Growth of ten heads of two years old cattle,	80 00
Growth of five heads year old cattle,	25 00
Total,	$1,639 09

I would remark, that my young cattle, with the exception of one, has pastured on the commons; but as an offset, I have pastured a span of horses, till about the 10th of June, three cows and thirteen sheep all summer, two pair of oxen and one cow about one month; all the butter and cheese eaten in the family, the butter on hand, garden vegetables, &c. not brought into this account. And I consider my mulberry yard worth as much as it was last spring before the sale of trees. I am aware that various opinions will be manifested by those who peruse this statement. Some will think it falls short of what it ought to be, while others may think it extravagantly large. The fact is, my wheat crop was no more than half a good crop, and my corn almost wholly lost, my beans, onions and peas poor, flax not so good as usual. The loss of my wheat and corn, I attribute in a great measure to bad management. My wheat ground fitted too wet, my seed corn bad and planted too late, which left it wholly exposed to the early frosts.

There are other substantial reasons why farmers ought to know the value of their products; in this way they may ascertain the value of their lands. It is commonly supposed that land is worth as much as money, therefore, if your land will pay for cultivating and the interest, that is the real value of your land. For instance, you value your farm at sixty dollars per acre, it must pay the cultivation and repairs, and produce an income of seven per cent. Another reason is, that we may know what branches of farming are the most profitable. Dairymen commonly know very nearly their produce, while those who have tillage of various kinds, are ignorant of the value of their products, and consequently suppose their neighbors are going ahead of them, and they lose no time in converting a good tillage farm to grass wholly, either for the dairy or sheep entire. I would query, is not this one reason of the scarcity and high price of bread stufls? And under existing circumstances, whether we had not better put the best of our tillage lands in high cultivation, and pursue the culture of wheat, corn, roots, &c. which will support our cows, and our sheep, and our families, while our cows, sheep, and young cattle will support our farms!

ASA CARTER.

Champion, Jefferson Co. N. Y. Dec. 1836.

Communicated.

Cotton Seed Oil.

Among the many discoveries and improvements in the arts of the present age, is that of manufacturing oil from the cotton seed as a substitute for sperm oil. The seed is first hulled and then pressed out, and the oil is then clarified. This oil has been tested in Philadelphia and Burlington, and found to be superior in more than one respect, to the sperm oil. It burns with a clear brilliant light, without odor, and is less affected by cold than the oils generally used. It has also been found to be good for paint oil. The oil bran is very valuable for feed, and thought to be equal to the linseed bran or oil cake. A charter has been obtained from the Legislature of New Jersey, and it is expected that an establishment for manufacturing the oil will go into operation the ensuing summer, either in Burlington or Gloucester county.

Burlington Co. N. J., April 6, 1837.

Raising Sweet Potatoes.

To the Editor of the Farmers' Cabinet.

My method of raising sweet potatoes is, (and the best method I have ever found,) in ridges instead of hills. But I do not plant the potatoes. I put them in hot beds and sprout them, then set the sprouts in the ridges about fifteen or sixteen inches apart. There is not only a very great saving of seed, but a much greater yield. In a few days after you have taken up the first sprouts, you will have as many more from the same bed, and then again in a few days, as many more. I am persuaded that those who try this method, will prefer it to planting them in hills.

HENRY A. THOMPSON.

Monmouth county, N. J.

Important to Farmers.

The New York Sun, on the authority of an esteemed correspondent, gives the subjoined information, believing that it must be highly useful to farmers, and would perhaps prove a benefit to the corn market generally, were it adopted. Hundreds of thousands of bushels of corn are annually destroyed by the birds, (particularly the black bird and crow,) which might be preserved by a very simple method. The birds pull it up the moment it appears above ground, and eat the seed. In order to prevent this destruction, the farmer should first soak the seed well in salt water, until the chit is just on the eve of bursting through, then turn it into a vessel of tar, made soft by warming, and stir thoroughly, until every grain is well coated, when it may be separated for planting. Work in some pounded plaster, when planting, and this seed the birds will not disturb; it will come up rank and fine, and pay well for the trouble. If the corn is not soaked well before coating with tar, it will not be apt to come up, as the tar will naturally prevent the necessary moisture from penetrating through it. This has been tried by farmers who never could get a good crop of corn in any other way, and found it to succeed admirably.— *Farmer and Gardener.*

Tenacity of the Apple Tree for Life.

A medical gentleman, who has recently made a tour through several of the western states, related to us the following singular instance, illustrative of the power of the apple tree to support life out of the ground.

In the month of Octr., 1835, Mr. *Alex. M'Coy*, living near Columbus, Ohio, bought of a nurseryman on Long Island, 100 apple trees; they were then packed up, shipped via the great Erie canal and the lakes, to Cleaveland, Ohio. On arriving at that point, the canal being frozen up, the trees remained there until the latter end of March, 1836, when they were sent to *Columbus*, Ohio, by the canal: they reached the latter place in the month of April, following. As it was presumed that the trees, which had now been out of the ground six months, were all dead, or their vital powers so far destroyed as to render their vegetating not only doubtful, but, as was supposed, hopeless, the owner refused to receive them. In this situation they remanied till May, when the agent of the canal forwarded them to their proprietor, who planted them out in his cornfield, rich limestone land, and tended them with his corn. At the period of planting, which was seven months from the time of their being taken up, the trees were partially in leaf, and notwithstanding all of these disadvantageous circumstances, 98 of them lived, only 2 of the hundred dying.

Lime, Ashes and Plaster for Corn.

Our readers will find below an account of a large crop of corn raised by Mr. Semmes, of Maryland, the past season. The whole process pursued in the improvement of this land is not detailed, but we are led to understand, that the great product is in a considerable degree to be ascribed to the use of a mixture of plaster and leached ashes. Having ascertained the benefical effects of this manure by repeated experiments, we feel ourselves well warranted in recommending the use of it to such of our readers as can procure it. Let leached ashes and plaster be mixed, in the proportion of two bushels of ashes to one of plaster, and let a small handful of the mixture be dropped in each hill of corn, either before or after the corn is dropped, and covered with it, and the effect will be surprising, especially if a few rows are left in the field to which the manure is not applied, the difference will be visible and great throughout the season, and we doubt whether this mode of manuring corn in the hill, is not the cheapest, in proportion to the profit, of any which can be applied. We beg our readers to make the experiment, and satisfy themselves. We have found unleached ashes equally good, when mixed with plaster in the same proportion. We have also found a similar application of slacked lime to each hill, highly advantageous, and would therefore recommend it, especially to those who cannot procure the plaster. The following is the account referred to.

Extract from the Journal of a Gentleman who traveled for Agricultural information.

Nov. 1st, 1834.—Visited Mr. John Semmes, of St. Mary's county, Maryland, who informs us that his great crop of corn averaged upwards of twenty-five barrels the acre. Respectable judges of the county were appointed to ascertain the quantity of corn, and after having accurately surveyed one acre, the corn was gathered and measured. The farm is uncommonly hilly.

Process.—He prepares his ground by clover, the ground laid off from five by two and a half to three feet. The corn then dropped, three grains in the check, followed by persons who drop on the corn, or even if they are in advance of the corn-droppers, a handful of two-thirds slacked ashes, and one-third plaster, mixed before it is dropped. Should the corn not come up regularly, he drops one or two seeds more, as may be necessary. He gathers his seed corn from the field before gathering the crop, so as to have a choice of ears. He plants from the 1st to the 10th of April, and ploughs four inches deep. — *Tennessee Farmer.*

Mangel Wurtzel or Field Beet.

A few remarks on the culture of this crop, now the season has arrived for commencing it, may not be unacceptable.

THE SOIL

Is best when a clayey loam; but any soil if ploughed deep and well manured will produce good crops, as the principal requisite is depth and fertility.

THE SOWING

Should be done in the early part of May, although it is frequently performed later. Where the ground is very moist it should be sown upon ridges; but in ordinary cases, it succeeds best when planted in drills without ridging. T. and H. Little, of Newbury Mass. who raised upwards of thirty-three tons to one acre, prepared the ground and sowed in the following manner:—After one deep ploughing, the ground was furrowed two and a half feet apart, and the manure put into the furrows, and covered with the plough; a roller was then passed on the top of the ridge thus formed, to pulverize the lumps, level the surface, and press the soil and manure together. The seed were then dibbled with the finger over the manure, about six or eight inches apart. John Hare Powel sowed his crop thus:—"The holes for the seeds were made by a wheel, containing pegs in its circumference, which penetrated the ground about an inch, leaving intervals of four inches; the rows were made two feet asunder; two capsules [or berries] were dropped in each hole; the wheel of a common barrow was then passed over them, thus compressing the earth, and leaving a slight rut for the retention of moisture."

THE QUANTITY OF SEED

Per acre should be about four pounds; for although this is a large allowance, the expense is small when compared with the insurance of an even crop. Great care should be taken that the seed of the common red and white beet is not mixed with it. Unless the ground be very moist, the seed, before sowing, should be soaked about 48 hours in soft water. After the plants have come up, they should be thinned to about eight inches distance from each other in the rows.

THE AFTER CULTURE

Consists principally in a free use of the cultivator, and in keeping the land perfectly clear of weeds. Col. Powel ascribes his success in the culture of this crop, to deep and thorough ploughing; to the use of cultivators, which complete the production of fine tilth; to the destruction of weeds on their first appearance; to leaving the smallest space upon which a horse can walk between the rows; and above all, *to planting the seeds of a proper kind upon a surface which is kept perfectly flat.* Gideon B. Smith of Baltimore, in 1832, planted one-sixth of an acre which had been intended for early corn, and had been manured the previous year. The seed were sown in drills two feet asunder, and eight inches apart in the drills, and covered as corn. When the plants were up, a weeding hoe was passed over the field, and afterwards a small plough run through it twice, clearing out the weeds with a hoe. This was all the cultivation it had; and the whole labor, including the original preparation of the ground, did not exceed two full days work for one man. The crop was upwards of seventy five bushels; and might have been much larger, as there were many vacant places of six or eight feet length in the rows; and other places where the roots were injured by being crowded. The soil was a fair medium mould, a mixture of clay, sand, and vegetable matter.*

THE PRODUCE PER ACRE,

Under ordinary culture, may be estimated at from six hundred to a thousand bushels. Where, however, the ground is ploughed very deep, well manured, and well cultivated, much larger crops have been obtained, of which a few instances are here given.

Gideon Foster, of Charleston, Middlesex county, Mass., raised forty-three tons to the acre.

The premium crop of Tristram and Henry Little of Newbury, Mass., was 33 tons, 10 cwt. and 14 lbs. to an acre, or *more than fourteen hundred bushels.*

Col. Powel inclosed certificates to the President of the Pennsylvania Agricultural Society, showing that *sixteen hundred and thirty four bushels* of mangel wurtzel, weighing seventy-eight thousand four hundred and forty-eight pounds, were produced upon an acre and fourteen perches; and a part of the same field containing thirteen contiguous rows, produced at the rate of *two thousand and sixty five bushels per acre*, weighing 44 tons, 5 cwt. and 27 lbs.

Henry Thompson of Baltimore, raised in 1833, on less than one-eleventh of an acre, 5 tons, 14 cwt. and 3 qrs., or at the rate af about *sixty tons to the acre.*

In good land, single roots of the mangel wurtzel often weigh nine or ten pounds, and sometimes even *fourteen or fifteen pounds each;* and J. A. Kenrick of Newtown, Mass., raised in 1833, a single root weighing no less than *thirty-six pounds.*†

USES.

This root is admirably adapted for feeding nearly all domestic animals. It is the best of known food for store swine; and swine fatten

*Am. Far. vol. 15, p. 25. † N. E. Farmer.

upon it, yielding firm pork of good flavor, when fed to them raw, equally well as upon boiled potatoes, by which the fuel and labor of boiling is saved. Col. Powel says, "My neat cattle prefer mangel wurtzel to any other root which I have offered to them. I have found its effects in producing large secretions of *good* milk, very great. * * * Its application as food for sheep is not the least important of its uses. Ewes yean usually at the season when grass cannot be supplied. The health of themselves and the thrift of their lambs, essentially depend upon succulent food being had. I am inclined to think that no small portion of the success which English breeders have met, is to be ascribed to the large stores of roots, which they always have at command."

In autumn, when the quantity of milk from cows often diminishes greatly, it may be restored by cutting the leaves of this plant and feeding them. In some instances the quantity has been doubled by this means. The leaves soon grow again, and may be cut every fortnight.* Cows fed twice a day in winter, upon 20 lbs. of the roots at a time, together with 4 or 5 pounds of hay or chopped straw, will, it is asserted, give as much milk as in summer.

In some instances when fed to cattle and sheep, this root is said to have produced *scouring*. This may be owing either to the soil adhering to the roots when eaten, or to the sudden commencement of feeding on them exclusively, instead of their being mixed with a proper proportion of dry food, such as hay, meal, or chopped straw.

This crop has several important advantages in its cultivation. It is little affected by changes of the weather; suffers little from drouth; thrives in moist soils; is not attacked by any insect; and prepares the ground well for succeeding crops. The roots may be kept sound and fresh for eight or ten months.

Farmers who value their land, would find it greatly to their interest to direct their attention more to the cultivation of this crop. It has been found that two tons of mangel wurtzel are equal to one ton of hay for feeding milch cows; and that three tons are equal to one of hay for feeding cattle in general. Any one may readily calculate from this, how much greater a number of cattle may be supported by this means, from a given quantity of land, than by the usual mode of feeding them exclusively on grass and hay. Supposing for instance that thirty tons of mangel wurtzel are the average product per acre, then we shall have an amount from one acre alone equal to from ten to fifteen tons of hay. Now if a method should be devised for raising this amount of hay from an acre, it would excite universal attention and inquiry; but this crop, although possessing advantages not less important, is almost entirely neglected.

* It is probable however that this production of new leaves is in a greater or less degree, at the expense of the root, although very large crops have been raised where this course has been pursued.

Forcing Cuttings.

As the season of setting cuttings of the Morus multicaulus is approaching, the following letter from Mr. John Hopkinson, of Hopkinsville, Ohio, to Mr. David S. Porter, of Cincinnati, containing directions for forcing them, cannot fail of being acceptable to the cultivators of this valuable plant. Not having tried the method, we cannot speak of it experimentally; but have no doubt of its utility in cases where it is desirable to produce a large growth the first season.

"About the 10th of March, if the weather is suitable, I make what we call a hot-bed, by some termed a forcing border, large enough to allow 3 square inches for every cutting I intended to set. The bed is made in the usual manner, by filling up the bottom with fresh horse manure, 18 inches or 2 feet deep. I then procure good sods, (similar to those used for sodding down yards,) sufficient to cover the surface of my hot-bed. These sods I cut into pieces three inches square, and insert a cutting in the middle of each, leaving barely a bud out. I then place these sods completely together on the hot-bed, and sprinkle over the whole a light covering of finely pulverised loam. The manure should be wet with hot water before the sods are put on; the bed should likewise be watered with warm water, every other day, and kept covered with a good thick covering of straw, or some other matter in the night, and cold days.

In this manner, I can have cuttings from 4 to 8 inches high, by the usual time of setting out, say the 1st of May. I then take the cuttings, and the sod with them, and transplant them into the nursery, taking care to water for a few days after they are transplanted."

Tennessee Silk.

We have been furnished with several pieces of silk grown and manufactured by Miss Easterly, of Cocke county in this State. This young lady merits no small share of applause for her ingenuity, perseverance and industry in thus furnishing to the country demonstrative proof of the superior adaptation of East Tennessee to the silk culture, a branch of business which, we have no doubt, is destined, at no distant period, to be ranked amongst our most profitable employments, and to confer on the country, and especially on the laboring class of females, incalculable benefits. The specimens of silk left with us

are, we believe, the produce of the wild mulberry, reeled, spun and woven by Miss Easterly on the implements in common use, for cloth of other materials, yet notwithstanding these great disadvantages, they are highly creditable to the ingenuity and industry of the fair manufacturer, and prove conclusively, that under more favorable circumstances, she would be amply able to compete with the foreign manufacturer both in the beauty, strength and texture of the products of the loom. We are happy to learn that a zeal for the extension of the silk culture is rapidly diffusing itself throughout East Tennessee, authorizing a well founded belief that in less than five years the product of East Tennessee silk will form an item in the list of her productions by no means inconsiderable. In addition to some public-spirited individuals who, from motives of patriotism and of philanthropy, are extensively engaged in the cultivation of the White and Chinese Mulberries, we hear of a great number of individuals who are engaged in the same business on a smaller scale, solely with a view to individual profit. All have our best wishes for their complete success, to which we shall endeavor to render the Farmer a useful auxiliary.—*Tennessee Farmer.*

Canada Corn.

We consider it proper at this time to call the attention of the farmers in general—and particularly those who have suffered a loss of their crops from the unfavorableness of the past season—to the yellow early Canada corn, which has been cultivated here with such success, as to leave little room for doubt as to its superiority in evercoming the difficulties to be encountered in our ever-varying climate. Five acres of this corn was raised the past season, by Mr. Hatch, of the Poughkeepsie Hotel, on his farm two miles below the village. It was planted the first of June last, has yielded sixty bushels to the acre, perfectly sound and in as fine condition as any we have ever seen. We understand that it was perfectly ripe by the 10th of September, and will generally come to maturity in about ninety days. The land on which it was raised was in good condition. Mr. Hatch has already been applied to by 54 of our first farmers, for one hundred and fifty-seven bushels of this corn for seed next year.—*Poughkeepsie Eagle.*

It may not be in your power to excel many people in riches, honors, or abilities, but you may excel thousands in goodness of heart. Hither turn your ambition. Here is an object worthy of it.

Price of Flour—Comparative Table.

We subjoin from the Philadelphia Pennsylvanian, a highly interesting table, giving a comparative view of the price of flour in that city for the three first months in the year from 1796 to the present time. It possesses peculiar interest at the present moment, showing as it does the great and rapid fluctuations of the market, and stating the fact that, at periods when labor did not obtain more than half the price it now commands, flour has sold at much higher prices than those which are now complained of. In 1796, for instance, it sold as high as fifteen dollars a barrel.

Price of Flour for the three first months of the year, from 1796 to 1837, inclusive.

Years.	*January.*	*February.*	*March.*
1796	$ 12 00	13 50	15 00
1797	10 00	10 00	10 00
1798	8 50	8 50	8 50
1799	9 50	9 50	9 25
1800 } 1801 }	11 50	11 25	11 50
1802	7 00	7 00	7 00
1803	6 50	6 50	6 50
1804	7 50	7 50	7 00
1805	11 00	12 25	13 00
1806	7 50	7 50	7 00
1807	7 50	7 50	7 50
1808 (Embargo)	6 00	5 75	5 50
1809 do.	5 50	7 00	7 50
1810 (In July and August this year $11 and 12.)	7 75	8 00	8 25
1811	11 00	10 50	10 50
1812 (War)	10 50	10 12½	9 75
1813 do.	11 00	10 00	9 50
1814 do.	9 25	8 25	8 00
1815 do.	8 00	8 00	7 75
1816	9 00	9 00	8 00
1817	13 50	13 75	14 25
1818	10 00	10 75	10 50
1819	9 00	8 75	8 25
1820	6 00	5 50	5 00
1821	4 00	4 00	3 75
1822	6 25	6 25	6 25
1823	7 00	6 75	7 00
1824	6 00	6 00	6 12
1825	4 87	5 12	5 12
1826	4 75	4 62	4 50
1827	5 75	6 00	5 75
1828	5 00	4 87	4 75
1829	8 50	8 25	8 00
1830	4 62	4 50	4 50
1831	6 12	6 25	7 00
1832	5 50	5 50	5 50
1833	5 75	5 00	5 50
1834	5 75	5 00	5 87
1835	4 87	5 00	5 00
1836	6 50	6 62	6 75
1837	11 00	11 00	10 75

PRICES CURRENT.

ARTICLES.	Philadelphia, April 11.	Baltimore. April 7.	New York, April 10.	Boston, April 8.
Beans, white, per bush.	$1 50—1 62	1 62—1 75	.....	2 50—3 00
Beef, mess, new, per bbl.	14 00–15 00	.....	13 00–15 00	15 50–16 00
Bacon, western, per lb.	9½— 10½	.....	.....	.....
Butter, extra, per tub	16— 17	.....	18— 20	18 — 22
Butter, fresh, per lb. (market,)	.....	25— 37½	25— 37	28— 31
Hams, per lb.	12— 13	.....	13½- 14	14— 15
Hog's Lard, per lb.	11— 12	16— 17	9— 11	13— 15
Cheese, American, per lb.	10— 11	10— 11	10— 12	10— 12
Beeswax, yellow, per lb.	27— 28	28—	27— 28	28— 30
Beeswax, white,	.....	40—	38— 40	31— 33
Bristles, American,	42— 65	.....	25— 65	.....
Flax, American,	8½— 9	.....	8½— 9½	9— 12
Flour, best, per bbl.	9 25—9 50	9 00—9 25	9 00—9 25	11 00–11 50
GRAIN—Wheat, per bush. Penna.	1 95—2 05	1 75—2 05	.....	.....
do. Maryland,	1 70—1 90	1 40—1 85	.....	.....
Rye, per bushel,	1 20—	1 12—1 25	—1 40	1 45—1 75
Corn, do.	90— 95	85— 91	90—1 05	1 00—1 10
Oats, do.	50— 53	55— 56	45— 50	65— 70
Barley, do. Penn.	.....	.....	1 00—1 06	1 10—1 20
Peas do.	1 00—1 25	1 12½—	1 00—	.....
HAY, Timothy, per 100 lbs.	1 05—1 20	.....	.....	.....
Meadow Grass,	.....	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	.....	130 00–140	.....
Hops, first sort, 1836, lb.	9½— 10	— 16	8— 9	8— 9
Plaster Paris, per ton,	4 50—4 75	4 25—4 75	.....	3 75—
SEEDS—Cloverseed, per bushel,	.....	8 25—8 50	.....	.....
Flaxseed, rough, do.	1 65—1 70	1 60—1 65	.....	.....
Timothy,	2 25—2 75	.....	.....	2 87—3 12
Tallow, per lb.	11— 12	— 8½	— 10	11— 13
WOOL—Saxony, fleece, per lb.	60— 73	50— 60	70— 75	70— 75
Merino,	58— 64	45— 50	50— 65	65— 70
1-4 and common,	40— 44	35— 38	35— 45	45— 50

The Markets have been for some time past, and still continue in a very unsettled state. The general tendency is downwards. Flour has declined considerably from former prices, and is still going down.

The wagon price of Flour per barrel, is rather less than the prices above quoted.

20,000 Morus Multicaulis Trees.

We learn that E. P. ROBERTS, editor of the Farmer and Gardener, Baltimore, has received the first parcel of an invoice of 20,000 Morus Multicaulis Trees, which will be disposed of on pleasing terms for cash. They are warranted genuine, and if taken in their original packages, bargains may be expected.

Sugar Beet Seed Agency

For the sale of the choice Sugar Beet Seed, imported from France; also, the Report of the Agent of the "Beet Sugar Society," on making Sugar from the Sugar Beet, and other information relating thereto, at No. 44 Arcade, North end of west Avenue. Entrance from Market street and from Chesnut street, between Sixth and Seventh streets.

Farmers and others interested in promoting the growing of the Sugar Beet and making of Beet Sugar, can obtain the Seed and Report at a very low price at the Agency, which has been opened solely for promoting the object, by usefully disseminating the Seed and information. Orders from the country, directed to the "SUGAR BEET SEED AGENCY," Philadelphia, will be attended to.

THE FARMERS' CABINET,

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, May 1, 1837.** **No. 20.**

For the Farmers' Cabinet.

Agricultural Implements.

NO. V.

THE CORN SHELLER.

Machines for this purpose are made of various forms, and materials, some of them formed so that projections on the periphery of a cylinder, operate on the corn, turn the ear round and shell (or separate) the corn from the cob; others have projections upon the end of a cylinder, or face of a wheel at right angles to the shaft, which operates on the corn. Another form is to have projections on *frustums* of *cones* for the same purpose.

The ear of corn in either case descends upon an inclined plane, so formed that some part of the ear is still in contact with a portion of the projections, and is permitted to turn round as it descends on the plane; a spring pressing against the plane with a proper degree of force, causes the projections to turn the ear round, shell the corn, and pass the cob from the machine, at the lower end of the inclined plane. Where the corn is dry or easily separated from the cob, either of these plans will answer, but where it is moist, or not easily separated, a compound circular motion seems better: such a motion to operate on the periphery of the ear, and at one end of the unshelled part, at the same time is produced in the following manner, viz.:—*Two frustums* of *cones* are placed on a shaft, with the small ends towards each other, and a spur cog wheel is placed between them on the same shaft. This wheel is acted on by another spur cog wheel of larger dimensions; so as to turn it and the two frustums. The sides of the larger wheel have pointed projections formed upon them, which operate on the corn, turn the ear round, and sometimes shell off part of the corn. Projections are also formed on the periphery of each frustum, extending in a direct line from one end to the other; these are made as thin as possible, consistent with the necessary strength, and so as not to break or cut the corn. Two inclined planes, one of them on each side of the larger wheel, extend past the frustums, and sufficiently near them to permit the projections to act on the corn; those projections on the sides, turn the ears round and shell part of the corn, and those on the peripheries the remainder. The space between the wheels and one plane, may be greater than the other; and by using the larger for large ears, and the smaller for small ones, the operation will be performed with less force than when the dimensions of both are equal. A spring to each plane, keeps a sufficient force or pressure on the ear to enable the projections to shell, (or remove,) the corn entirely from the cob.

The shafts of both wheels are usually placed in a horizontal position: and the inclined planes at such an angle, as the ear will pass the most rapidly by the wheels, and at the same time have the corn entirely removed from the cobs: forty-five degrees from the horizon, will in most cases probably be found a proper position.

The dimensions may be in proportion to the power intended to move the wheels, and they may be moved by hand or other power.

A good size for the power of a man, is as follows, viz.:—Each frustum ten inches at the large end, and six at the small end, and two inches long; the small spur wheel four inches diameter, and the large one sixteen inches diameter, and one fourth of an inch thick, exclusive of the projections, each of

which way extend one fourth of an inch. The small ends of the frustums, may be three fourths of an inch assunder: and the springs and planes, placed so as to force the ear against the projections on both wheels, and the whole composed of iron and steel, or part of these and wood. The bearings of the shafts may be one inch diameter, and the whole supported by a frame of proper dimensions.

Chester Co., Pa., 30th March, 1837.

For the Farmers' Cabinet.

The Observer.—No. 6.

THE WHEAT FLY.

In the present unsettled and conflicting state of opinion, respecting the *Wheat Fly*, and the appropriate remedies for the evil which it produces; it is highly important that we should distinguish between truth and error; and endeavor to systematise what is certainly known, so as to bring order out of confusion. With this object in view, I attempted in my last, to identify the true wheat fly, (cecydomyia destructor,) and to furnish some materials for a history of its habits. Those who have written on the subject, seem to have introduced confusion, by confounding this with other depredators on the wheat crop, whose habits are essentially different; such, for example, as the *Maryland fly*. Of this insect I possess very little knowledge. It, however, appears to be one of those who deposit their eggs in the grain before it is cut, much in the same way that the weevil, or *calandra granarius*, does after it is carried into the barn. The similarity will probably extend further. Both deposit their eggs *in the grain* for the express purpose, that the larvæ may feed upon it. To secure this object, the eggs are speedily hatched, and the insect passes through the intermediate stages of larva and pupa, to the perfect state before winter. I think it may be laid down as an established rule, that *the eggs of insects deposited in early summer, hatch the same season.*

By confounding the histories of the wheat fly and the Maryland fly together, a sort of mungrel opinion has been formed, that *the wheat fly lays its eggs in the grain.* Hence, also, originated the unphilosophical notion of sowing the eggs along with the wheat, where they undergo a queer sort of *animal vegetation* in the soil, and continue to "grow with the growth, and strengthen with the strength" of the plants which they inhabit. Some one has told us, (Cabinet, p. 73,) "that with the aid of a microscope, the egg is discernible, in the form of a glutinous matter," on the grain. But is he certain of the fact, that the glutinous matter was an egg? We are not even told that it was in the form of an egg, but "in the form of glutinous matter." Now, glutinous matter is not, necessarily, an egg, and he has afforded us no evidence that it was so in the present case. We are again told, (Cabinet, p. 145,) that somebody "observed the egg on the grain." Admit all this, and what sort of eggs did they see? were they the eggs of the wheat fly—of the Maryland fly—of some other fly—or of no fly at all? Here we are again left without evidence. Therefore,

"The sceptic will remain a sceptic still."

Again, admit that they were, *bona fide*, the eggs of the wheat fly:—are we to understand that they require the fostering care of the seedman to propagate them from year to year? That they can only hatch or vegetate in the ground? and that having done so, they ascend with the young plant? In short, that nature has provided for the production of a sort of eggs, the vivification of which, requires the kind attention of the very creature who is most deeply interested in their destruction? This seems to place the advocates of the doctrine in a dilemma. Whatever other advantages may result from steeping seed wheat—mixing it with quick lime, &c., it seems to me too hypothetical to do so, for the purpose of destroying the eggs of the wheat fly, until their existence *on the grain* is sustained by better evidence. Nor can it be more useful to kill the eggs of the Maryland fly, if its habits are what I have mentioned.

If I have correctly described the habits of the *cecydomyia destructor*, it will appear obvious to the reader, that no application to the grain before sowing, can destroy it. And I fear that it will prove equally true, that no application to the wheat while growing, can answer any better purpose. Burning the stubble, or ploughing it down immediately after harvest, can do no good, for the fly is not then there. After *good husbandry*, the only rational means of preventing the mischief, seems to be *late sowing*. If the *fly* can only survive our ordinary winters in the pupa state—we may, by sowing late, prevent them from getting into that state before cold weather comes on—when they will necessarily perish. By this means, too, we would prevent a deposition of eggs in the spring and so save one crop from destruction, at least by the fly.

Happily, nature has done what art could not accomplish, in furnishing a preventive check to the increase of the wheat fly. Every one knows that the "great fish eats the small ones, the world over;"—but every one does not know that the small as certainly devour the large ones.

There is a very numerous family of insects which were included by Linnæus, in his

genus Ichneumon, whose instinctive habits lead them to deposit their eggs in the larvæ of other insects, such as caterpillars, &c. They do this in order that their progeny may feed upon them; but in doing so they also destroy them. Like all other *parasites*, they first impoverish, and then destroy their generous supporters. Adapted to the transient nature of their nidus, the larvæ of the ichneumons, speedily pass through their several stages, sometimes even before the death, or transformation of the worm, they inhabit. Hence, we may sometimes see the larvæ, or perhaps the perfect insect, issuing from the dying or dead caterpiller. A circumstance well suited to decieve incautious observers, and to afford a hint to those who "*see cut worms changing to flies.*"

In the *ichneumon* family, there is fortunately one species which selects the larvæ of the wheat fly, for the nidus of its offspring. It belongs to the

Order, Hymenoptera—having four wings, the upper ones largest, not reticulated.

Genus, Ceraphron—of Lattriele.

Species, Destructor—of Say.

Ceraphron-destructor. *Body*, black; *abdomen*, subovate pointed; *length*, one tenth of an inch. Has considerable resemblance to a wasp in miniature.

It appears to seek out the larvæ of the cecydomyia, and to deposit its eggs in them, by piercing the sheath of the leaf, as the pea bug pierces the pod, opposite the green pea, for the same purpose. It may be sometimes obtained from wheat, in the same manner as was recommended for procuring the wheat fly. Probably, it does not come out so early as the wheat fly, by one or two weeks. For a detailed description, and figure, see the paper already refered to, in the Journal of the *Acad. Nat Science*, vol. 1, p. 47.

It is impossible to estimate the extent of influence, which the *ceraphron* exerts in checking the increase of the *cecydomyia*. I am inclined to think it very great. Perhaps without it, we might be entirely unable to raise wheat at all.

Since the foregoing was written, a friend of mine, who is a very correct observer, informed me that he once brought home a handful of straws, containing the fly, and laid them in an out building. A day or two after, he observed a considerable number of ceraphrons collected upon the straw; and apparently in search of the young cecydomyiæ. Should they increase in a greater ratio, than the last named insect, they may be the means of eventually rendering it harmless, if they do not altogether exterminate it.

New Garden, 4th mo. 8th, 1837.

[We give the following communication from one of our valued correspondents a place in the Cabinet, in order that both sides may be heard. No good, we are persuaded, can possibly result from a "war of words," but the greatest benefit may be expected, from a full and free "investigation of facts." We therefore hope that our correspondents, waving all personalities, will continue the investigation, as we are satisfied that a free discussion of the subject, will have a tendency to correct many of the prevailing errors, with which it is now surrounded.]

For the Farmers' Cabinet.

"Does the Pith of the Horn waste away?"

Observer's reply to my article, seems so armed at all points, that I feel some reluctance in making a rejoinder, for fear it may lead to a war of words, instead of an investigation of facts.

Observer says, that the omission of the symptom of cold horn, in his quotation from Dr. Tofts, was quite unintentional; this is a sufficient apology; and whether the symptom is important or not, it was certainly important to rectify the error.

The next point of difference seems to have grown out of a mistake. Observer says, "during life the blood must circulate through the horn." I understood him to mean during the life of the animal, but Observer appears to have intended it to apply merely to the life of the horn.

We now come to what Observer calls the "pith of the controversy;" "does the pith of the horn waste,—yea or nay!" Here Observer repeats his challenge, and grows impatient for a horn; even asks for a hundred hollow horns: and from this out, the tone and manner of his reply, seems better fitted for "challenge" and conquest, than for quiet and sober investigation.

I am glad to see Observer correcting his "speculations" or more properly his quotations; he finds them "more erroneous" than he "expected them to be."

I will hint to him still further improvements; in page 212 of the Cabinet he says "a vast number of the hides of such cattle, are annually sold to tanners throughout our country. The shell is separated from the pith of the horns, affording an excellent school for observation." In the regular business of tanning, no such separation takes place; the tanners cut out the horns, shell and pith together; throw them into a horn house, or place of deposit: there they lay until the comb maker comes, and the house is emptied. Tanners know no more about the hollow horn, than other people, only as they have the means of making experiments. I likewise think it would be wise in Observer,

to make some amendments in his challenge, as he calls it; he says "such a wasting of the pith does not take place." How does Observer know this confident assertion to be a fact; he may know of piths that do exist, but of the piths which he has never seen, he knows nothing. Knowledge of the absence of things is a superhuman attribute. All that a man knows, is limited to the sphere of his observation; consequently of non-existences he is totaly ignorant; therefore, the challenge refutes itself.

But independent of this loose manner, in which his challenge is worded, I choose not to accept it; first, because I do not know that I can easily find a hollow horn; and secondly, I desire to avoid controversy: it produces excitement, and that kind of feeling often induces people to love their own opinions better than the truth, or reasonableness of the case.

My former remarks in the Cabinet, grew out of Observer's novel manner of treating the subject. He says in page 211, "If inflammation assumes a more violent form, and extends to the *bones*, producing boney ulceration, or caries, the discharge will be darker colored, and highly offensive, constituting putrid horn." In the same essay, page 213, he says "that hollow horn, or a disease attended with wasting of the bony pith of the horn, has no existence in nature." This seems like admitting the fact, and then denying it; yet in his reply we find reiterated the same apparent contradictions; we read in page 277, that "the horn is liable to caries in common, with all other bony structures;" but again he says, "I do not admit the fact of this bony ulceration, because I have never seen it do so." Here Observer admits the liability, but denies the possibility; that is, the horn may be hollow, but never is hollow; "the bony pith is liable to caries, to discharge and waste away;" but the "wasting of the bony pith of the horn, has no existence in nature." This is what I consider the "pith of the controversy." Does Observer believe this liable case is a possible one; "yea or nay!"

I have since my last communication, dissected a considerable number of horns, all from cattle said to have died of hollow horn; but I have not found any satisfactory evidence of waste or decay, in the pith or bone of any of them. I am therefore unable to send Observer even "one hollow horn." As to the existence of the disease, I have found no reason to change my opinion; I consider the bony pith of "the horn, is liable to caries in common with all other bony structures," and if I believe a thing is liable to happen, I think it reasonable to believe it sometimes does happen. I do not say it is a disease that frequently occurs; I think it probably does not; but to say that "such a wasting of the pith has no existence in nature," is in my opinion assuming a position that has no existence in reason, in analogy, nor in the natural order of things.

The bones of all animals are liable to disease; there is not a particle of oganised matter, bone, muscle or sinew, but what is subject to suppuration, decay, waste, and the external parts to exfoliation? and why should the pith of the horn be an exception?

If Observer is right, then is the bone of the horn unlike all other bones; and what reason have we to believe this? no reason only that its very spongy substance, and exposed situation, renders it more vulnerable and of course more liable to disease, which I apprehend is the fact.

I promised to examine the horns of cattle reported to have died of the hollow horn; I have done so, and have found none that were "wasted away;" but how many bones would we have to examine, before we could find a rotten one, or one that had "wasted away," and yet I presume Observer knows that such a disease exists. Suppose I were to say to Observer, that there is something wrong in the generally received opinion of *bones* being liable to waste and decay; that this is a part of the animal, that is never affected by the diseases, incident to organized beings; would he not say to me that this opinion was founded upon fact, that the testimony was ample to satisfy any unprejudiced mind; would he not refer me to authentic history of diseased bones; and would he not be surprised if I refused to "admit the fact of this bony ulceration, because I had never seen them do so." I have never seen the cities of London, Paris, or Amsterdam, yet I feel no hesitation in admitting the fact of their existence. I have never seen a horn in which I could say the pith had wasted away, during the life of the animal, but still I believe it has an "existence in nature."

I think there is reason to believe that the horns of cattle, become chilled in extreme cold weather; and from this cause I apprehend the "corrupted horn, putrid horn, rotten," and consequently hollow horn is produced. There is no doubt, but the pith of the horn wastes away sooner after the death of the animal, than any other bone; on examination, I have found a number of piths decayed and rotten, toward the point, and the bone at the root of the horn, perfectly sound. This fact favors the opinion that the pith is more frequently the seat of disease, than any other bone; it shows that the pith of the horn has less power than other bones, to resist the general decomposition of organised bodies; and consequently more liable to waste and

decay, during the life of the animal, and particularly so when we consider its exposed situation.

There is a medium between all extremes, which it is hurtful to pass; and the present case is one that seems to illustrate the folly of pretending to a knowledge of things, while the facts that are to establish the truth, are only on the way of investigation.

The hollow horn, is a kind of general term given by ignorant people, to all the diseases of which cattle die in the spring season; and this want of knowledge is perhaps as near the truth, as that excess of information which pretends to know, that such a disease "has no existence in nature."

A SUBSCRIBER.

For the Farmers' Cabinet.

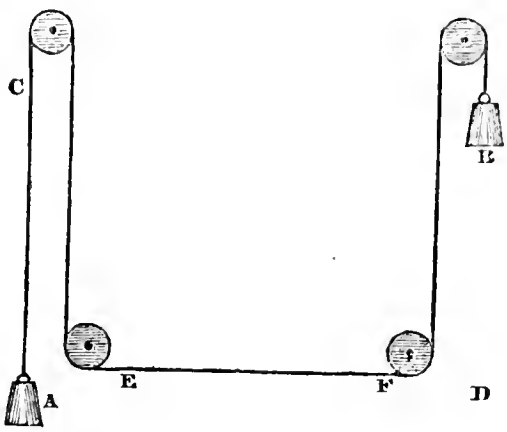
Alternating Elevator for Horse Power.

As the application of horse power instead of men is generally considered advantageous, I have concluded to send a description of a machine, which will be found very useful in raising ponderous substances, such as hay, grain, and other articles, to the higher parts of barns and warehouses, or materials for the construction of buildings, &c. Suppose one end of a rope made fast to a hook or other suitable apparatus, to sustain or hold the object to be elevated, and passed over a stationary wheel or pulley at a point above that to which the objects are to be raised, and under another stationary pulley, placed at a point two or three feet above the ground or object upon which the horse is intended to move, and under another stationary pulley at the same height above the ground or horse's course, as the last mentioned one, and at a distance from it two or three feet more than the height or space through which the objects to be elevated are intended to pass; and over another stationary pulley above the point to which the objects are to be raised, and down to the point from which the objects are to be taken, and the other end of the rope attached to a hook or suitable object to sustain or bear the article to be raised while the other end of the rope descends.

Now suppose one end of the rope to be at the highest point, and the other end at the lowest point, and the hook or other apparatus connected with the object to be raised, and the horse or other power attached to the rope between the two lower pullies, and near to that, one between him and the lower end of the rope, and made to move toward the other pulley, a distance equal to the space through which the ends of the rope are desired to pass; this causes the loaded end of the rope to ascend and the unloaded one to descend the required distance. The load is then detached and another load attached to the other end, and the horse or other power made to move in an opposite direction, which raises the second load while the end of the rope that at first ascended, now descends, and so on each end of the rope ascending loaded, and descending unloaded alternately, as the horse or other moving power passes to and fro between the two lower pullies. Where the two lower pullies cannot be placed at a sufficient distance apart, the horse or other moving power may make an angle or angles and the rope to which the same is attached, be permitted to turn a friction pulley or pullies.

An increase of power may be obtained by using blocks and systems of pullies, and increasing the relative distance for the moving power to pass to and fro, compared with the space through which the elevated objects are to move.

Fig. 75.



The horse moving from E to F raises the weight or object A to C, and lowers the object B to D, and when moving from F to E raises the object B, and lowers A the same distance.

Chester county, Pa., April 13, 1837. P.

[The following letter from an intelligent and practical farmer, addressed to BENJ. M. HOLLINSHEAD, Esq. of this city, we most respectfully commend to the attention of our readers.]

Sugar Beets.

In answer to thy inquiries as to the value of the Beet-root crop, I may state the following facts as the result of my own experience, and from which I come to the conclusion, that, for the purpose to which I have applied them, there is no crop better adapted. The first crop of Beets I raised was in 1835, when I planted about the sixth part of an acre in the middle of the sixth month, and from which I gathered 75 bushels; these I planted in rows about three feet apart, and about one foot between each plant; from this experiment I found, that to raise 450 bushels of the Beet-root on an acre of ground, required much less labour than a crop of common potatoes. Neither do I consider this an average estimate of what

might be produced, for the following reasons:—1st. They should be planted earlier in the season, that in case any of the seed should fail to come up, (as some of mine did,) the vancancies might be filled by transplanting from places where they would be too thick; and in sowing the seed enough should be put in the ground for that purpose. 2d. They might be planted much nearer together, say the rows two feet apart, and about eight inches between each plant in the rows; there would be then sufficient room to give them all the necessary culture. My object in raising this crop was to make an experiment in the way of obtaining Sugar, at the suggestion of an individual who had that object in contemplation for several years; but from our limited knowledge of the process necessary to the accomplishment of that end, were not able to succeed further than in obtaining tolerably good molasses. I discovered, however, that but little was lost in consequence of this failure, because the pumice (that is the roots after being ground and pressed) proved to be very good food for either cattle or sheep. By feeding on this my cows yielded an additional quantity o milk. If for sheep, there was nothing perhaps much better, in consequence of the root being reduced to such very small pieces. The last year, 1836, I again raised another crop, but under the same disadvantages as the year previous—not getting my seed in the ground sufficiently early to admit transplanting and have all the benefits of the season, which was rather an unfavourable one for this as well as most other crops, in consequence of so much cold weather. I had, however, a large quanity of beets, which I have fed away to cattle to good advantage, making use of the tops, in the early part of the fall, as food for hogs, and the roots for cattle. I have fed my cows chiefly with them, and find they give more milk than before, and of a good quality. Laying aside the profits contemplated in the manufacture of sugar from the beet-root, I think it as valuable a crop to the farmer as almost any other, and I think by fair experiment it will be found to be better.

The manufacture of sugar from the beets is a subject that is now engaging the attention of many individuals in different parts of this country, and I have no doubt but little further exertion in diffusing a knowledge of the fact, that it is now become a profitable business both to the agriculturist and manufacturer in foreign countries, and also if the improvements, plans, processes, &c., by which it is carried on, would in a FEW YEARS bring the thing into effectual operation.

I am respectfully, thy friend,
JOHN JACKSON.

Darby, Del. co., 1st Mo. 1837.

[With the following communication from one of our active and esteemed friends in Washington county, we received the names of twenty-four new subscribers, and twenty dollars. We merely mention this as a matter of encouragement to others.]

Receipt for the Cure of Scab in Sheep.

Internally—¼ of magnesia to 1 lb. of sulphur, mix it well, and give it with salt, about six table spoonfuls to 100 head. This must be given a short time previous to the *external* application, which is to be prepared as follows:

Take of the root of skunk cabbage 1 lb. dry—7 lbs. of tobacco—½ bushel of green mullien leaves—½ bushel of the roots of elder—½ bushel of the top of elder. Boil them in chamberley, and apply the decoction as warm as the animal can bear it, which may be done by putting the liquid into a bottle; perforate the cork, through which insert a quill, from which pour the liquid. Particular care should be taken to wet the body of the sheep all over, using about 1 quart of liquor to a sheep. The above ingredient will make a decoction of sufficient strength to cure one hundred head.

The disease for which the foregoing is a cure, has been raging in this (Washington) county for sometime, and still continues to rage. The person who furnished it had his flock badly infected with it; his sheep are now cured by the application of the foregoing receipt. The internal application is once prior to the external and twice after,—the external application but once.

Report,

Of the Committee on Agriculture, to whom was referred the Petition of citizens of Union county, praying for Legislative aid to Agriculture. Mr. Harper, *Ch'm. Read in the Senate, of Pensylvania, March* 25, 1837.

That they have bestowed as much time and attention on the subject, as their other avocations would permit. The subject brought before the Senate by the petitioners is one of very great importance. Land is the source of subsistance for all. It is the capital which supports all kinds of business—it is the substratum of credit. The precious metals may be the basis of circulation; but there could be very little active business, without the credit which rests upon land, and its annual productions. The specific value of land, as well as of its produce, mainly depends upon a proper system of agriculture, of course the interests of every man in the community are blended with those of the farmer. The subject, therefore, is too important to be viewed with indifference by a wise Legisla-

ture, nor will they neglect to apply all the powers constitutionally vested in them, to advance the prosperity of the most numerous and the most valuable class of our citizens.

It becomes proper, in the first place, to inquire whether, in view of the present state of agriculture, legislative aid is necessary for its further improvement. From our own observation, and information obtained from other sources we are led to believe, that the condition of agriculture in our State, is not what it ought to be. The object of farming ought to be secure the greatest returns for labor and capital invested; not merely the greatest crops, for a year or two years, but the largest annual returns, compatible with the increasing value and productiveness of the soil. But is this, in fact, the object with a large portion of our farmers? Does not the contrary appear, manifestly, in many instances? Their sole object appears to be to live with the least possible labor, entirely regardless of the consequences to the land. Their farms are like the garden of the sluggard, overrun with useless and noxious plants; and we may pass them by, as almost beyond the hope of amendment. But, do those who have the true object before them, pursue it in a way likely to obtain its accomplishment? Our Commonwealth has great capabilities for agriculture; a large amount of fertile soil; a pleasant and healthful climate, and settled with a hardy, industrious and enterprising race of men; yet, how few can tell how much can be gathered from a perfectly cultivated acre? How few understand the secret of obtaining from the soil the greatest amount of its annual productions, without the deterioration of its quality? Yet good farming requires, that these should never be severed. No man can farm profitably, either to the community or to himself, (supposing him to be the owner of the soil,) who impoverishes his land; and his energies are wasted, who improves land, without obtaining profits in return. Doubtless there is a wide difference in the modes of farming, in different parts of the States, some lands being much better tilled then others; still, it is evident, there is great room for improvement in them all. These improvements are indispensably necessary. The facilities of transportation from the fresh and fertile lands of the west, will soon be so great, that our farmers must find rivals where, heretofore, competition has not been thought of; the difference of carriage will be no protection against their abundance, if a slovenly and unproductive mode of farming shall predominate here. Besides, the strength and wealth of a State consists much in the number and character of its people. Thousands of our best and most intelligent citizens are yearly tempted to go west, who would better stay here, under an improved system of agriculture. They take with them the accumulations of former industry and economy, and they bestow their exertions in enhancing the prosperity of another State, detracting so much from our own. Are these evils to be borne forever? or till those States shall be so much ahead of us, that the tide of emigration shall set back on us, as affording the best theatre for industry, ingenuity and enterprise? Or until the same system of improvident farming shall have reduced western lands below our own fertility! We cannot believe that our citizens, or Legislature, will carry their neglect or supineness to that extent. We believe that our errors will be corrected: and that means exist and will be applied, to raise our most impoverished fields to more than their pristine fertility.

But can all this be effected without Legislative interference? The experience of this world does not give an answer in the affirmative. Although individual enterprise and public spirit may do much in particular districts, general improvement has ever been the result of governmental patronage. Individual care and skill have acted as pioneers, by showing what could be done; and Government has aided in the dissemination of konwledge, and has encouraged its application in pratice. It is unnecessary to give a detailed history of the agricultural colonies of Holland and the Netherlands; of the boards of agriculture of England and Scotland; and latterly of France, of some parts of Germany, and of some of the States of this Union. Is it not reasonable that it should be so. It will be recollected, that farming is an art, is as much imitative, as any of the mechanic arts, with this difference against it, that in the mechanic arts, all the materials are of a known quality; and those, which profess to be alike, are really homogenous. The powers of water, in equal quantities and elevations, are equal all the world over; and so in most of the arts; —while the soil of all countries, and of any considerable portions of the same country are so diverse, that similar applications will produce quite contrary results. So much is this the case, that experiments, from any considerable distance, are deservedly looked upon with distrust. The whole character of the soil may change in a few rods. As an instance, it may be mentioned, that our geological survey has ascertained, that the great limestone range of the Cumberland valley, divides the borough of Harrisburg. It will be necessary to have a series of experiments conducted, on almost every square mile of our territory, before the powers of our soil can be universally and fully developed. Consider these varieties of our soil, as connected with the changes of atmosphere, and varie-

ties of climate and seasons in our Commonwealth, and the Senate will have some imperfect idea of what must be done, before the subject shall be exhausted. Can it be expected that individuals can do all these things and make known the results for the general benefit? It is worthy of consideration that the profits of agriculture, though among the most sure, are also the smallest, which reward the industry of any class of our citizens; that a farmer's business is almost always pressing, few items of it admitting of any delay. Think also, that in very few instances is the farmer protected in the enjoyment of the profits of the inventions, which his skill and talents enable him to make, and that his portion of the public burthens is much greater, in proportion to his income, than that of any other class of our citizens. Think of these things, and then say whether the farmer, laboring under so many disadvantages, can afford to be so much more public spirited than any body else? We think not. For these, and other reasons, let our expectations be what they may, the Commonwealth, in fact, will be slow to reap the full benefit of individual exertions. They will be made slowly, and a knowlege of them will be spread slowly; so slowly, that a whole generation shall pass by without being scarcely sensible of a forward movement.

Will it be said that individuals, by voluntary association and contribution of funds may remedy this evil? Something may, no doubt, be done; but the evil is too great to be fully mastered in this way. It will require a series of experiments, during a course of years, many of which will fail. A voluntary association may be very useful; but to require them to give their time and attention, and likewise to be at all the expense of spreading information, is asking too much. Many are so unreasonable as to except flowers and fruit almost instantaneously after the seed is so sown. They become discouraged by a little delay, and retire from the society. This discourages others, till at last, perhaps just at the time when the most brilliant results might be expected, the most persevering and public spirited desist from their labors. The society sinks—the cause sinks—and, in addition to the mortification of disappointed hopes and defeated exertions, they must bear the ridicule and derision with which the igornant, prejudiced, and the fault-finding proclaim their triumph.

When we consider the importance of the subject, and the uncertainty of these improvements being made, or rather the certainty that they will not be made by individual or associated exertions alone, we might suppose the argument in favor of Legislative action complete. It is well known, that mechanics, manufacturers, and those engaged in other branches of industry, beneficial merely to a single district or neighborhood, ask and receive Legislative bounty, protection and exclusive privileges. This is an interest, affecting the whole State, which, if prosperous, makes all our outlays for internal improvement profitable; which, if not prosperous, must make us all bankrupt. The value of the annual produce of the land in Pennsylvania, amounts at a low estimate, to forty or fifty millions of dollars. Suppose, that the utmost that could be done by the exertions of all, should be to add ten per ct., to that productivness, what a difference it would make in the prosperity of our State, in a few years. It might make just the difference between prosperity and adversity, for if we could live without an annual gain of four or five millions, and no gain at all! What an additional impetus it might give to the extent and productiveness of our public works, to have the transportation of this in addition to the present amount?—How many valuable citizens would be induced to come here, and be dissuaded from going from us under such a state of things! Does any one doubt, that under a proper system of farming, ten per cent. would be added to the present amount of our agricultural productions? How very few plantations are now so perfectly managed, that twenty or twenty-five per cent. could not be added! How many might easily be made to yield fifty? And are there not many, very many, whose productiveness could be doubled? Is not, therefore, the argument in favor of Legislative action, conclusive? There still remains a most difficult and perplexing part of this subject for consideration. In what manner, and to what extent, shall aid to this great interest be administered? It is evident that means must be used to have our farming conducted on scientific principles. It must, in some way, be interwoven with our system of education; men must learn to judge from the constituent parts of the soil, and their combinations, what will be the species and quality of its most profitable productions. An agricultural school and a pattern farm, under proper regulations, would imbue the minds of its pupils with valuable principles, and would exemplify and illustrate those principles with a corresponding and successful practice. This would be expensive; but a very small ratio of increase in the annual productions of our farms, would repay it with enormous interest. One successful school of this kind, would no doubt, be the means of organizing many others; and would, eventually have a most beneficial influence on the education and agriculture of our State, and a most beneficial influence on the health and morals of our literary young men. Very signal benefits might be derived to the State from an agricul-

tural survey, soon after the completion of the geological survey now in progress, under an act of Assembly. A report of a skilful practical farmer, after a thorough examination of all the varieties of farming in use among us, would be a source of much valuable knowledge. Such a report should give minute details; and then would be seen the intimate relation between the minerals, which the earth covers, and the true method of cultivating its surface. Then might a pretty accurate judgment be formed, as to what we might reasonably except and hope from our labours.

There yet remains for consideration, the particular way pointed out by the petitioners. They ask Legislative encouragement to county agricultural societies, by aiding them to offer such premiums as will induce the ingenious and enterprising to devote their labor for the public benefit. It has the recommendations of incurring but a small expense, and of avoiding too much governmental interference in the pursuits of individuals. Its tendency would be to elevate the standard of good farming; and this every government ought to do, if it were only to increase the facility of raising taxes. But in a popular government like ours, where the happiness and prosperity of the people ought to be the only aims of government, the means of promoting them cannot be neglected without great injustice.

The committee have supposed, that this subject would be likely to attract public attention; and that, by another year, public opinion would indicate the proper course for our successors to pursue. The arrangement of the details of a general law on the subject, would not be without its difficulties; and as the session is near the close, they have concluded to report no bill, and to recommend no further immediate action on the prayer of the petitioners. They therefore respectfully conclude with the following resolution:

Resolved, That the committee be discharged from the further consideration of the subject, and that it be recommended to the early attention of the next Legislature.

Blight in Pear Trees.

The Pennsylvania Horticultural Society, anxious to promote the discovery of a preventive for the disease usually termed *blight* in Pear Trees, offers a premium of FIVE HUNDRED DOLLARS, to be paid the person who shall discover and make public an effectual means of preventing its attack. The premium not to be awarded until after the expiration of three years from the publication of the preventive, nor until the Society shall be fully satisfied of its efficacy. Communications on the subject may be addressed per mail to David Landreth, Cor. Sec. Philadelphia.

Seed Stores.

[Persons residing at a distance from the city, frequently inquire where they may purchase seeds, without fear of imposition. We take great pleasure in recommending to our patrons, and all interested, the seed establishments of D. Murphy, No. 5 South-Fifth st., and D. Landreth and Co. No. 63 Chesnut st., Philadelphia; Joseph Breck and Co. Boston, and R. Sinclair, Jr. & Co. Baltimore.]

Extracts from the Catalogue of D. Landreth & Co., with remarks.

ARTICHOKE,

Large globe,—A perennial plant; the flower heads in an immature state contain the part used, which is the pulpy receptacle commonly termed the bottom, freed from the bristles or seed-down. The tender central leaf-stalk or mid-rib of the leaf, blanched, is by some thought preferable to the Cardoon. Plant the seed early in the Spring, three or four inches apart in rows, the latter separated so as to admit of hoeing—when one year old, transplant to permanent beds, allowing each plant two or three feet square of room—protect during Winter by raising over them a mound of light dry earth.

ASPARAGUS,

Large green,—Early in the Spring soak the seed in warm water for 24 hours, then drill it in thinly, in rows sufficiently wide apart to admit the hoe—when two or three years old, they may be transplanted into permanent beds, which should be so situated as to cast off an excess of moisture. A convenient width for the beds is four feet with three rows of plants in each; they should be planted at least four inches beneath the surface, and well manured at the time and annually thereafter.

BEANS,

Long pod, broad Windsor.—These are sometimes called English or Horse-Beans. Plant very early in the Spring, in double or single drills.

Early six weeks, red speckled valentine, China red-eyed, brown speckled valentine, or refugee, royal dwarf, white, red French, cranberry bush.—These are usually termed Dwarf or Bush Beans. The early six weeks, Red speckled Valentine and China red-eye, are among the earliest. They may be planted for the first and succession crops from the middle of Spring till close of Summer—the usual mode of culture is in rows or drills.

Lima, Carolina or Sewee, scarlet runner, white Dutch.—These require poles; the two first are rather tender, and should not be planted till close of Spring. They may be forwarded by sprouting them in a hot-bed, and transplanting at the proper time.

BEET,

Early turnep-rooted, long blood-red,—Generally esteemed the best for table use, may be sown in drills from early in the Spring till commencement of Summer.—The plants should stand six to eight inches apart in the drills, but the seed should be put in thicker, to secure a full crop. *French Sugar,*—This is attracting much attention. It is cultivated precisely as is the ordinary kind. Those who desire full information as to its culture and conversion into Sugar, are referred to Chaptal's Agricultural Chemistry, and the Report of the Philadelphia Sugar Beet Company. *Swiss Chard,*—The *leaves* of this variety are used after the manner of Spinach—the *mid-rib* of the leaf as Asparagus. Cultivated as the common Beet, but requires more room. *Mangel Wurtzel,*—Principally grown in farm culture for stock. May be reared similarly to the ordinary kinds, but is usually planted with the drills wide enough apart to admit the horse hoe.

To preserve beets during Winter, pack them in a cellar in horizontal layers mixed with dry earth, or in hills in the open air, with from two to three feet of earth over them.

BORECOLE,

Dwarf German greens, or kale.—This is an excellent green for Winter and Spring use; being dwarf, it is easily preserved during severe weather. Sow early in Autumn, in good ground, either broad cast or in drills, and treat as for Winter Spinach.

Scotch Kale,—Sow in seed-bed middle of Spring, and transplant and treat as directed for Winter Cabbage.

BROCCOLI,

Purple cape: Imported seed.—This is decidedly the best of many kinds—produces heads like Cauliflower, in Autumn. Sow in seed-bed middle of Spring, transplant into very rich ground when eight to twelve inches high, and manage generally as usual with Winter Cabbage.

BRUSSELS SPROUTS,

Cultivated for the small heads which spring in considerable numbers from the main stem. Sow in seed-bed middle of Spring, and transplant and manage as Winter Cabbage.

CABBAGE,

Early York, first early, early sugarloaf, second do., Landreth's large York do. Philadelphia, third early, or late Summer, early Battersea, do.—The early and Summer varieties are usually sown in seed-beds early in Autumn, protected during Winter, and transplanted early in the Spring. Where the climate is mild, and the land suitable, they are planted in the Autumn, in which case they head earlier than those put out in Spring. Should a supply of plants not have been obtained in Autumn, sow in hot-bed very early in Spring, or somewhat later on a warm border in the open air. But let it be borne in mind that in no case can fine Cabbage be had unless on heavily manured and well-tilled land—especially the early kind.

Curled Savoy, flat Dutch, large late Bergen, large drumhead, drumhead Savoy, red Dutch, for pickling,—Late Autumn and Winter sorts. Sow in seed-bed middle to latter end of Spring, and transplant early in Summer. To have these kinds head early in the Autumn, sow at same time with the early sorts. To keep them during Winter, bury the stalk and part of the head with earth—over which, if the cold be severe, sprinkle straw.

CARDOON,

The tender stalks of the inner leaves rendered white and delicate by earthing up, are used for stewing; and for soups and salad in Autumn and Winter. Sow early in the Spring, and when one year old, transplant to permanent positions—allow each plant two to three feet square.

CARROT,

Early horn, long orange.—These are by the majority of cultivators esteemed the better kinds for table use, and some who grow them in field culture, prefer the long orange to the *Alteringham*, as being richer and equally productive. Sow early in Spring in drills, in deeply dug and well-manured ground—the drills should be twelve to eighteen inches apart—when the plants are up a few inches, weed and thin them, so as to stand five or six inches from each other, except those intended for early use, which may be thinned by drawing the daily supply.

Alteringham, or field,—In field culture, the drills should be sufficiently separated to admit the horse-hoe, say thirty to thirty-six inches. To preserve during Winter, remove them to a cellar, or protect them where they stand.

CAULIFLOWER,

Early: Imported seed.—Sow the early sort in seed-beds, beginning of Autumn. Keep them in a "cold frame," protected from severe cold during Winter, and transplant to very rich ground, so soon as frost ceases. Hand-glasses or boxes placed over them at night, when first put out, are useful.

Late: Imported seed.—The late variety matures in the Autumn, and is sown at the same time, and managed similarly to Cape Broccoli. It is not, however, so certain to succeed as the Broccoli—nor is it a better vegetable, when obtained.

CELERY,

White solid, red solid.—Sow quite early in the Spring, in a moist place and convenient to water, which give freely as the plants advance in growth.

When the plants are six inches, more or less in height, transplant a portion into trenches—which repeat at intervals of two or three weeks, for a succession, until the necessary quantity be set out; as they advance in growth, blanch by earthing up gradually: that intended for late Winter and Spring use, had better not be blanched at all.

Celeriac, or turnep-rooted,—Cultivated similarly to the common sorts.

CHERVIL,

Used as small salad. Sow in narrow drills early in the Spring, and again after the heat of Summer.

CORN SALAD,

Used as a small salad throughout the Winter and Spring. Sow thickly in drills first of Autumn, and sprinkle with straw on the approach of severe weather.

CORN,

Indian, golden Sioux, sweet or sugar, early white flint,—The golden Sioux is the earliest variety, which is its only recommendation for table use. The sweet or sugar is by far the best kind, and the white flint next in quality.

CRESS, OT PEPPER GRASS,

Curled,—Used as small salad. Sow very thickly in shallow drills, on a smooth surface, at short intervals throughout the season.

CUCUMBER,

Early Frame.—For early use, plant in hills on a warm border, latter end of Spring.

Long Green.—This variety is principally used for pickling. Plant in hills middle of Summer, and manage as usual with the early kind.

EGG PLANT OR MELONGENA,

Large purple, white—ornamental.—Sow in hot-bed or other protected place very early in the Spring—and late in Spring transplant into very rich ground.

ENDIVE,

Curled, broad leaved.—Sow at close of Spring to middle of Summer in shallow drills; when up an inch or two, thin out to stand a foot apart—tie up to blanch as needed.

LEEK,

Large London or flag-leaved.—Sow in seed-bed middle of Spring—when the plants are four or five inches high, transplant into rows—plants and rows wide enough apart to admit the hoe.

LETTUCE,

Early curled,—Used as small salad. Sow very thickly on a smooth surface, early in Spring, and at any time throughout the season.

Early cabbage,—Medium sized head, very firm.

Brown Dutch,—Resembles the early Cabbage.

Royal cabbage,—Large firm head, very superior.

Curled India,—Large head, withstands the heat well; this is a variety of uncommon excellence.

White cos, green cos,—Upright growing kinds, very crisp and tender—but soon shoot to seed.

To have fine head Lettuce, sow in seed-bed middle of Autumn—protect the plants by a cold frame or with litter, as they stand in the ground; early in the Spring transplant them into rich ground. For a later supply, sow in drills from time to time, during Spring and Summer—when up a few inches, thin out, leaving plants at proper distances. For this purpose the Royal Cabbage and India are the better kinds.

MELON,

Nutmeg, N. J. seed. Citron, N. J. seed. Both fine kinds of the cantalope or musk variety. Plant in hills of light soil, latter end of Spring. Pumpkins and squashes, if grown near by, deteriorate them.

Water, N. J. seed.—Plant in hills of light sandy earth, latter end of Spring.

MUSHROOM SPAWN,

Imported,—Kept on sale in the form of blocks or bricks. Planted in hot-beds and banks of dung, covered with earth.

MUSTARD,

White, imported seed, brown,—Both varieties are sown like cress, and used as it is as small salad.

The seed of the white has proved useful in dyspepsia. From the seed of the brown is manufactured the condiment in daily use.

NASTURTIUM, OR INDIAN CRESS.

The flowers and young leaves are used as salad. The leaves are gathered whilst green and tender, and pickled, as substitute for capers.

OKRA. GOMBO.

The use of this vegetable is fast increasing. It is esteemed highly nutritious, and among the most wholesome vegetables.

Plant the seeds late in Spring, in hills or drills—if in hills, two to three feet apart, and two to three plants in each—drills, three feet apart, and 8 or 10 inches between the plants. The seed is liable to rot in the ground, and

should be put in thickly, to secure the requisite quantity of plants. Very rich ground is demanded by this vegetable.

ONION,

Silver skin, yellow Strasburg.—Sow the seed early in the Spring, very thickly, in beds or drills—at mid-summer, or whenever the tops die, remove them to a dry place—early in the following Spring re-plant them in rows, the bulbs two or three inches apart, the rows wide enough to hoe between them. By this process onions of large size are obtained early in the season.

Wethersfield red.—This variety is grown in the middle and eastern states of full size, the first season. Sow the seed early in the Spring in strong ground, thin them to stand two or three inches apart, and keep the ground in fine tilth.

PARSLEY,

Curled plain.—Sow early in the Spring, in rows or beds; the former is the better mode. If the seed be soaked in warm water some hours immediately before sowing it, it will vegetate more speedily. It is not uncommon for it to lay in the ground two or three weeks before it vegetates.

PARSNEP,

Fine sugar.—Sow early in the Spring, in good ground, deeply dug. The best mode is in drills, eighteen inches apart. When the plants are up two or three inches, thin them to stand six or eight inches apart. The variety here named is decidedly the best.

PEA,

Landreth's extra early, rods 2½ feet, early frame, do. 2½ do.; early Charlton, do. 3 do.; dwarf blue imperial, do. 2 do.; dwarf marrow, do. 3 do.; tall sugar, do. 5 do.;—Arranged in the order of their ripening.—The first named has been pronounced the earliest in America. The varieties here enumerated are not one-fourth of those in cultivation, but they are among the better sorts, and more than sufficient for any garden. The pea thrives best in light loamy soil. The early sorts, especially, demand rich ground. Sow in drills which may be drawn singly or two nearly together. When the plants are up a few inches, hoe them and draw earth to the stems, and when they begin to vine, rod them. The first plantings may be made so soon as the ground will work, and for a regular succession sow at short intervals during spring and early part of summer.

PEPPER,

Bull nose, sweet.—These varieties resemble each other. The sweet possesses less warmth. They are principally used for pickling.

Cayenne.—The cayenne is usually ground when dry for table use. The pods, when green, are also pickled. Sow each kind in drills, on a warm border, late in Spring or commencement of Summer, and thin them to stand 16 or 18 inches apart.

POTATO,

Irish, early and late.—Of the Irish potato several varieties are cultivated. Among the early, *Fox's seedling, and Ash-leared Kidney* rank high. Among the late, Foxite and Mercer obtain the preference in this section.

Sweet,—These may be advanced by sprouting the roots in a hot-bed; and when all danger from frost has passed, slipping off the sprouts and planting them.

PUMPKIN,

Cashaw, common field.—There are several varieties of the pumpkin, of which the cashaw, a long crooked-necked kind, is deemed best for cooking. Plant latter end of Spring in hills eight or ten feet apart each way.

RADISH,

Long scarlet, long salmon, white turnep-rooted, red turnep-rooted.—These are generally used for the earlier sowings, which should be made on a sheltered border, as soon in the Spring as the ground can be worked. The land should be well manured, deeply dug, and raked free from clods and stones; if cold weather return after the seeds have sprouted, protect by cedar brush, straw, or the like.

Yellow turnep-rooted, summer white.—These are better adapted to the Summer than the preceding, which in warm dry weather soon become tough and sticky.

White Spanish, black do.—For Winter and Spring use. Sow early in Autumn.

RHUBARB,

Tart.—This species is cultivated for the footstalk of the leaf, which possesses an agreeable acidity, and resembles the gooseberry when made into pies or tarts. Sow the seed in seed-bed early in the Spring and transplant in the Autumn or ensuing Spring, to any desired situation, allowing the plants two to three feet square.

SALSAFY, OR VEGETABLE OYSTER.

The roots are boiled and stewed like carrots, as a vegetable dish; or par-boiled; made into cakes, with paste, and fried like oysters, which they closely resemble in both taste and scent. The stalks of one year old are used in the Spring as asparagus.

It is cultivated precisely like the carrot and parsnip, withstands the Winter, but for convenience had better be removed in Autumn to some sheltered place.

SCURVY GRASS,

Used as small salad. In season throughout the Winter and Spring. Sow in drills or broad cast early in Autumn, and protect during winter by a sprinkling of straw.

SEA KALE.

This vegetable is in high repute in England. It is forced into growth early in the Spring, blanched and used as asparagus. Plant in hills about two feet apart.

SORREL,

French,—Used as salad. Sow middle of Spring, in shallow drills, and thin the plants to twelve inches apart.

SPINACH,

Round Savoy-leaved, prickly seeded,—May be grown either broad cast, or in drills. For Spring and early Summer use, sow as early as the ground can be tilled, and afterwards at short intervals. For autumn supply, sow at close of Summer. For Winter and early Spring use, sow middle of Autumn. The latter sowing will need a sprinkling of straw or long manure, on the arrival of cold weather.

Spinach is one of those vegetables for which the ground cannot be too rich; the stronger it is, the more succulent will be the leaves.

SQUASH,

Early bush, long green crook-neck, cocoanut,—Plant at same time with the early cucumber and cultivate in like manner. The *bush* variety occupies but little room and is best adapted to small gardens.

TOMATO OR LOVE APPLE.

Sow in hills three feet apart, on a warm border, early in the Spring. For a later supply, sow a short time afterwards in a more open situation. As the plants advance in growth, support them by brush-wood. To have the tomato very early, it is necessary to start the plants in a hot-bed, or they may be reared in a flower-pot in a window, and subsequently transplanted.

TURNEP,

Early Dutch white flat, red topped, early stone, large globe, yellow Swedish or ruta-baga, white Swedish.—The best for family use, and indeed for general culture, are the two first named, which resemble each other in all respects but color.

For summer use, sow early in the Spring; they are not, however, certain to succeed at that season. For the main crop, sow at close of Summer, and protect during Winter in mounds of earth.

The ruta-baga or Swedish, requires more time to mature, and should be sown at midsummer or earlier; it is more generally grown for stock than table use, but is excellent late in Spring when other kinds have become pithy.

Stone Walls.

MANNER OF CONSTRUCTING THEM.

Of all the different kinds of writings, none are to me more interesting and instructing than those of travelers. The manner in which they relate the various incidents with which they meet—the interest they take in the arts, agriculture, and curiosities of a country, indicate with great accuracy the bent of their minds. Thus in the travels of Prof. Silliman, we see the philosopher, the geologist—in those of Carter, the statesman, the admirer of grand and beautiful scenery—of Prof. Humphrey, the accurate observer of men and things. While many men travel over a country without imbibing a single new idea, and can tell of nothing worthy of notice, save of good things they may have eaten by the way; others, as a Colman or an Ulmus, will tell of the various improvements in agriculture, state of the crops, beautiful farms, orchards of rare fruit, &c. Farmers usually remark upon the quality of the soil, farm buildings, cattle, and whatsoever is new in farm implements, or admirable in the tillage or crops of the country.

During my excursions, which have extended but little farther than *to mill and to meeting*, my attention has been particularly directed to fences, the different materials of which they were composed, and their comparative durability. I design, agreeably to my caption, to make a short article on the different kinds of stone wall, and the manner of building them.

The best, of course, is a full height real New England wall, but as we have no stone for building such walls in Western New York, it is needless to remark further upon it. Half wall, built three feet high of stone, and surmounted with posts and boards, rails or poles, is becoming quite common; but as there is so great dissimilarity in the manner of building it, it may be profitable to describe some of the different ways, and remark upon their relative advantages.

The handsomest wall I ever saw was made of cobble stone, three feet high, three feet wide at bottom, one and a half at top—laid in regular courses, the largest at bottom—having strips of cedar running through the wall every few feet to act as binders. Posts sawed six inches square at bottom, tapering to two by six at top, were inlaid once in seven feet. To these were nailed two boards six inches wide, with six inches of space between them. Wall made in this manner is

very durable, except when exposed to high winds. In exposed situations, the wall is very liable to be thrown down, by the posts acting with a great purchase upon it.

Another way of making half wall, and I think more durable, is of common field stone, the thickness of which is governed somewhat by the quality of the stone—three feet high, and surmounted by a pole of black ash or cedar, sometimes laid on blocks raising them three or four inches above the stone, and at other times small stones are laid so as to nearly cover the pole. Across this pole stakes are driven once in twelve feet, and then another pole laid in such a manner as to break joints with the lower one. A fence made in this manner, if the stone are well laid, will not blow down, and I think far more durable than the former. Stakes standing out from the wall are objected to as unsightly, and perhaps they may be sometimes in the way in ploughing.

To prevent frost throwing the fence, flat stones are laid slanting so that the water may run off from them. This I think important.

Another method I have seen practised, is to lay turf between each layer of stone. This adds to the appearance of a wall, and I think when proper turf can be obtained, tends to strengthen it, the moisture of the stone keeping the turf from decaying.

In conclusion I would remark, that the materials for making half wall are much more common than those who have never made any wall would suppose. Let a farmer who has a field which he designs to plough, draw off all the stone to one side of the field before he commences. After the field is ploughed, harrowed and sown, and before he goes on with the roller, let him go over it again with his stone boat; and follow this practice for two or three years, and if he does not have stone enough to make a half wall on one side of his field, he will have at least very much improved the appearance of it.—*Genesee Farmer.*

Culture of Rhubarb, or Pie Plant.

As the season is now at hand for sowing and planting this most excellent vegetable, the annexed communication of Mr. Edward Sayers is very opportune. To those who have cultivated it, or partaken of tarts made from it, we need not dwell upon its excellence, but to such as are unacquainted with it, we will remark, that as a material for deserts it is unexcelled by any other plant or fruit that grows. For such purposes many prefer it to the gooseberry, and indeed, when its virtues in a medical point of view are taken into the account, we hold it as a duty for every parent to keep a few roots in his garden, as while it answers for the purpose of preparing one of the most excellent tarts that can be made, its curative powers in the summer complaint of children, and indeed, in all affections of the bowels, either in the young or adult, should commend it to general culture. While tarts compounded from it, serve either to remove or prevent such diseases, those made from other materials exert an injurious influence. —*Balt Far.*

[From the American Gadener's Magazine.]

CULTURE OF THE PIE PLANT, OR RHUBARB.

The pie Rhubarb is one of the best know substitutes for green gooseberry *tarts*, in the early part of the spring, and by many persons is greatly preferred in wholesomeness and flavor. This excellent vegetable has been cultivated in the vicinity of large cities, in most countries, where it has always found a steady demand, as a market vegetable, and in private gardens it is always the first consideration.

CULTURE AND MANAGEMENT.—The rhubarb is of easy culture, and very hardy, which renders it peculiarly adapted to this climate. It may be propagated either by seed or cuttings. The seed may be early sown in the spring, on the west border in drills, eighteen inches apart, and managed in usual way of culture: the plants will be of a sufficient size to remove into a stationary bed, in the month of October, which is the best time for planting rhubarb. The method I have generally followed, and found to answer best, in making new plantations, is, by dividing the old roots and crowns, in such a manner that each set has one or more eyes. These *sets* I plant in nursery rows, two feet apart, and one foot from each other in the rows, in the spring, and remove them into their stationary bed in the fall.

PREPARING AND PLANTING.—The ground intended should be well prepared by manuring and trenching, as the rhubarb requires deep rich soil; this done, the bed may be divided into rows four feet apart each way, and at the angles the soil may be taken out of the depth of eighteen inches into which may be planted one large root entire, which is to be covered with at least half of a wheelbarrow of well rotted manure, when the surface may be levelled. The after management of rhubarb requires good culture, as manuring, keeping clean, &c. If the Plants are slightly protected, in the fall, with a quantity of manure, they will be benefitted, and will also strengthen their roots.

The routine of planting rhubarb should be every three years, as young plants always produce the most tender stalks or canes. The method I have adopted, is, to take up one-third of my bed every year, by which I always keep up a good succession of young plants.

Yours, EDWARD SAYERS.

INTERESTING TABLE.

A TABLE *to show at a glance, the number of Hills or Plants contained in an acre of land, at any given distance from each other, from* 40 *feet by* 40, *to* 1 *foot by* 1, *omitting fractions.*

feet.	*feet.*	*per acre.*	*feet.*	*feet.*	*per acre.*	*feet.*	*feet.*	*per acre.*
40	by 40	27	8	by 7	777	3 9	by 2 9	4224
39	39	28	—	6	905	—	2 6	4636
38	38	30	—	5	1089	—	2 3	5162
37	37	31	—	4	1361	—	2 0	5808
36	36	33	—	3	1815	—	1 0	6637
35	35	35	—	2	2722	—	1 6	7744
34	34	37	—	1	5445	—	1 3	9272
33	33	40	7	7 0	888	—	1 0	11616
32	32	42	—	7 6	957	3 6	3 6	3555
31	31	45	—	6 0	1037	—	3 3	3829
30	30	48	—	5 6	1131	—	3 0	4148
29	29	51	—	5 0	1214	—	2 9	4525
28	28	55	—	4 6	1382	—	2 6	4978
27	27	59	—	4 0	1555	—	2 3	5531
26	26	61	—	3 6	1777	—	2 0	6222
25	25	69	—	3 0	2074	—	1 9	7111
24	24	75	—	2 6	2489	—	1 6	8297
23	23	82	—	2 0	3111	—	1 3	9956
22	22	90	—	1 6	4148	—	1 0	12445
21	21	98	—	1 0	6222	3 3	3 3	4124
20	20	108	6	6 0	1210	—	3 0	4818
—	15	145	—	5 6	1320	—	2 9	4873
—	10	217	—	5 0	1452	—	2 6	5361
—	5	435	—	4 6	1613	—	2 3	5956
19	19	120	—	4 0	1815	—	2 0	6701
—	15	152	—	3 6	2074	—	1 9	7658
—	10	229	—	3 0	2420	—	1 6	8935
—	5	456	—	2 6	2904	—	1 3	10722
18	18	134	—	2 0	3630	—	1 0	13403
—	15	161	—	1 6	4840	3 0	3 0	4840
—	10	242	—	1 0	7260	—	2 9	5289
—	5	484	5 6	5 6	1417	—	2 6	5808
17	17	150	—	5 0	1584	—	2 3	6453
—	15	170	—	4 6	1760	—	2 0	7260
—	10	256	—	4 0	1980	—	1 9	8297
—	5	512	—	3 6	2262	—	1 6	9680
16	16	170	—	3 0	2640	—	1 3	11616
—	15	175	—	2 6	3168	—	1 0	14520
—	10	272	—	2 0	3960	2 9	2 9	5760
—	5	544	—	1 6	5280	—	2 6	6336
15	15	193	—	1 0	7920	—	2 3	7040
—	10	290	5 0	5 0	1742	—	2 0	7920
—	5	580	—	4 6	1936	—	1 9	9051
14	14	222	—	4 0	2178	—	1 6	10560
—	10	311	—	3 6	2489	—	1 3	12672
—	5	622	—	3 0	2904	—	1 0	15840
13	13	257	—	2 6	3484	2 6	2 6	6969
—	10	335	—	2 0	4356	—	2 3	7740
—	5	670	—	1 6	5808	—	2 0	8712
12	12	302	—	1 0	8712	—	1 9	9956
—	10	363	4 6	4 6	2151	—	1 6	11616
—	5	720	—	4 0	2420	—	1 3	13939
11	11	360	—	3 6	2765	—	1 0	17424
—	10	396	—	3 0	3226	2 3	2 3	8004
—	5	792	—	2 0	3872	—	2 0	9680
10	10	435	—	1 6	4840	—	1 9	11062
—	9	484	—	1 0	6453	—	1 6	12906
—	8	544	4 0	4 0	9680	—	1 3	15488
—	7	622	—	3 9	2722	—	1 0	19360
—	6	726	—	3 6	2904	2 0	2 0	10890
—	5	871	—	3 3	3111	—	1 9	12445
—	4	1089	—	3 0	3358	—	1 6	14520
—	3	1452	—	2 9	3630	—	1 3	17424
—	2	2178	—	2 6	3960	—	1 0	21780
—	1	4356	—	2 3	4356	1 9	1 9	14223
9	9	537	—	2 3	4840	—	1 6	16594
—	8	605	—	2 0	5445	—	1 3	19913
—	7	591	—	1 9	6222	—	1 0	24454
—	6	806	—	1 6	7260	1 6	1 6	19360
—	5	968	—	1 3	8712	—	1 3	23232
—	4	1210	—	1 0	10890	—	1 0	29040
—	3	1613	3 9	3 9	3097	1 3	1 3	27878
—	2	2420	—	3 6	3318	—	1 0	34848
—	1	4840	—	3 3	3574	1 0	1 0	43560
8	8	680	—	3 0	3872			

For the Farmers' Cabinet.

As "book farming" is so obnoxious to some of our practical agriculturists, and the introduction of science or system, by any thing written on a subject is so seldom read by such,—who consider the mere saying "I know," a sufficient illustration in any matter relating to farming, it is not to be wondered at that so little improvement is made in the business of agriculture.

One farmer will tell you, "I know there is money made by stall-feeding cattle," yet at the same time, he cannot tell how much hay or grain he has fed. Perhaps in a future number, I may give an account of some stall feeding of the last winter. My object in this, was to exhibit a table, showing the number of spaces contained in an acre of land at various given distances. [See Table on preceding page.]

The foregoing table contains all that is necessary for liming or manuring land, planting corn, roots, &c. aided by which, we may make some curious and interesting calculations. If we take corn, for instance, as it is most in season,—Mine is of the yellow kind, 14 rowed, slightly indented, about 120 ears of which will make a bushel, weighing 58 lbs. On an average, the ears contain each, 630 grains, making 75,600 grains in a bushel of ordinary corn; but if selected for seed, the bushel consists of about 61,248 grains. Now, if ground be marked out 4 feet by 3, (if convenient, have the north and south spaces the wider,) an acre will contain 3,630 hills; calculating that each hill will produce three ears of corn, which is not an extravagant calculation for a favorable season; we have 10,890 ears, or 90 bushels per acre. If four grains were planted in each hill, it did not require quite 8 quarts to plants an acre; it is better, probably, to plant 5 or 6 grains in each hill, and depend upon the after weeding to regulate the numbers.

As a stimulant for practical farmers, I glean the following from an agricultural work now before me:

"In 1822, J. & M. Pratt, of Easton, Madison county, New York, obtained from one acre, 172¼ bushels of corn; from two others, each 161 bushels. In 1821, the same gentleman obtained from 4 acres, 680 bushels, or 170 to the acre. Their crops were subjected to the examination of committees for a premium, and they say they have no doubt of being able to raise 200 bushels per acre."

"In 1823, Benj. Bartlett, of Easton, Madison county, New York, obtained from one acre, 174 bushels. The veracity of this gentleman is equally unquestioned, and his too, was a premium crop."

J. J. M.

Chester county, April 23, 1837.

For the Farmers' Cabinet.

Raising Cabbage.

Mr. Editor,—It being about the time of planting seeds for raising Cabbage, I would observe that for two years past, I have raised them from old stalks. Plant such stalks as have not been injured by frost, quite deep in the ground in the spring season; they will sprout from under the surface, and will take root about the usual time of setting out plants. My method has been to take off these sprouts as close to the stalks as convenient, and set them out as other plants. Last spring I set both kinds at the same time, and they flourished equally well; no difference would be observed.

Yours, &c. T. Wood.

Stretsville, Pa. April 14, 1837.

PUMPKINS.—A subscriber wishes information through the Cabinet, as to the best method of preserving Pumpkins during the winter.

The Markets

Are still in a very unsettled state—so much so, that we think proper to omit our Prices Current for the present number. Great pecuniary distress pervades the commercial cities and principal towns along the sea board, which must ere long, be felt seriously in the interior. The failures in New York and New Orleans have swelled to a frightful and almost incredible amount—In the latter city, cotton and flour cannot find purchasers at one half the former rates. The entire business operations of the country are unhinged. It is not our intention here to investigate the causes by which this much deplorable state of our monetary affairs has been produced to the serious injury of the country. One fact, however, should be known, and remembered by all—it is that during the last year, (1836,) our *imports* from foreign countries, exceeded our *exports* more than SIXTY MILLIONS OF DOLLARS: this ought not to be. The balance of trade should be in our *favor*, not *against* us. We have witnessed the last year what we hope may never occur again—America, always considered as the granary of the world, *importing large quantities of bread stuffs*. Besides, there are hundreds of articles brought from foreign countries at a great expense, that could easily be raised by our farmers to their advantage, and consequently, to the benefit of the country. We advise farmers to be content with their rural homes—to cultivate thoroughly their plantations; strive to excel in agricultural science, remembering that he who causes "two blades of grass to grow where only one grew before," is a benefactor to his race—be content with certain and modetate gains, and you have nothing to fear. To young men, the sons of farmers, we most respectfully say, learn perfectly the art of tilling the ground—there is no occupation more honorable or dignified—and fix not your minds on the gaieties of a city life, or the pursuits of trade or commerce. Sudden fortunes are seldom made, and trade and commerce are at best, but hazardous enterprises. The bow of promise surrounds them it is true, but it has led thousands on to ruin; of this the present state of affairs affords melancholy proof. The whole mercantile world is convulsed. But the prudent and thrifty farmer, and every farmer who will, can be both prudent and thrifty, feels not the shock—surrounded by every needful comfort, his lot is an enviable one. He is truly an independent man.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, May 15, 1837.** **No. 21.**

For the Farmers' Cabinet.

Agricultural Implements.

NO. VI.

THE PORTABLE HORSE MILL.

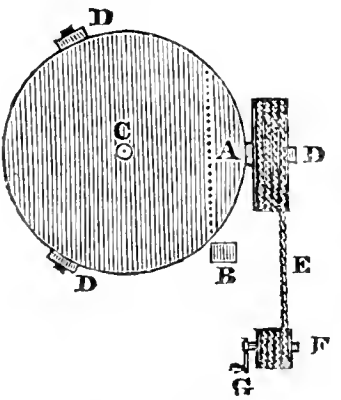
So long as the demand for the labor and services of men is greater than the supply, it is the interest of farmers, and all consumers of the produce of farms, to have as much of the labor as possible performed by horses and oxen, as a substitute for that of men. With these views I send the following remarks for the Cabinet, thinking they are sufficiently explicit to enable most persons to direct the building of a machine.

The shafts, boxes, bolts and nuts may be composed of iron, and all the other parts of hard seasoned wood, of such dimensions as the proprietor may choose; this will depend upon the amount of moving force to be applied, the required velocity, &c. The whole may be placed upon runners or on wheels, and thereby made portable, and be used to convey a continuous circular motion to the *corn sheller*, described in a former communication, and other kinds of machinery upon a farm, by means of cogs, rope, band, chain or otherwise, and by using a crank an alternating motion may be obtained.

Suppose a horse placed upon a horizontal wheel, and drawing at a fixed object with sufficient force to move the wheel by his feet round a fixed vertical shaft; this wheel is supported by three small vertical wheels, placed at equal (or other) distances asunder, each with one end pointing toward the fixed vertical shaft, and the horse placed with his middle over one of them, and at right angles to the radius of the horizontal wheel; the vertical wheels extend from the periphery of the horizontal one toward its centre, a sufficient distance to be turned by its lower face, acting on their peripheries, and the one beneath the horse extends beyond the periphery of the horizontal one, a sufficient distance to convey motion to other machinery by cogs, rope, band, chain or otherwise.

If two or three horses should be used at the same time upon the wheel, each horse is placed over a vertical wheel.

Fig 76.



The horse A drawing at the fixed object B, parallel with the dotted line, turns the horizontal wheel C round the fixed vertical shaft at its centre; this moves the vertical wheels D D D and band E, and turns the pulley or wheel F in a continuous circular direction; and an object attached to the crank G will be moved in an alternating direction.

Chester co., Pa., 29th April, 1837.

For the Farmers' Cabinet.

Alternating Elevator for the Power of Men.

In my last communication I gave a description of the "ALTERNATING ELEVATOR FOR HORSE POWER." *This* will give one for the application of the power of men, which may be used to advantage in situations where horse power cannot be procured, or where the situation will not admit of its being used.

The useful effect of horse power compared with that of men, where both are applied to the greatest advantage in elevating ponder-

ous or heavy substances, continued for ten hours each day, is generally considered by writers on the subject, as six to one in favor of the horse.

As there are some situations where the power of men can be used more conveniently than any other, it becomes a subject of considerable importance to apply it in such a manner, that the greatest useful effect will be produced from a given amount of exertion or labor.

A horse moving on a horizontal road, attached to a rope, and the rope passing over a vertical pulley and descending into a well, or from the upper pullies, as described in the *Alternating Elevator* referred to above, will elevate two hundred pounds at the rate of two miles an hour; a man of ordinary strength and activity would not be able to carry his own weight to this height, independent of any load.

Perhaps this manner of a man carrying his own weight alone to a given height, and raising an amount of weight rather less than his own, to the same height as he descends, would be the best application of human exertion, and it is upon this supposition, that I recommend the following described machine for that purpose.

Suppose a man weighing one hundred and sixty pounds, of ordinary strength, ascending upon a ladder, and descending in a bucket attached to one end of a rope, and the other end of the rope attached to a weight rather less, say one hundred and fifty eight pounds; this rope runs upon a pulley placed rather higher than the point to which the weight is to be raised; now the same man carrying up a load of seventy-nine pounds, and descending upon a ladder unloaded, would not be able to continue the exertion for ten hours each day, with more than two-thirds the velocity that he does when ascending unloaded, and descending without any muscular exertion. If we take the above estimate as a correct one, the power of a horse may be stated by the number eighteen; the best application of human power, three, and the usual mode of ditto at one.

The insurance upon the life of a horse, together with the expense of his food, attendance, &c. annually, would not generally be more than fifty per cent. beyond that of a man's board and wages; this will make the relative value of the power of a horse to that of a man, in the most usual manner of applying the power of the latter, (as above stated,) in the proportion as twelve to one, and compared with the best manner of applying that of men, as four to one; consequently, horse power should always be used in preference to that of men, where circumstances will admit; and a man should always descend without muscular exertion, and at the same time raise a weight as near an equality with his own as possible, where this kind of power is used.

Probably there are exceptions to the rule of ascending unloaded, particularly where a man is more conspicious for strength than activity; in this case he might carry up such a load as experience may dictate.

Fig. 77.

A man weighing 160 lbs., descending in A, will raise 158 lbs. in B; he then places 158 lbs. in A, and descends in B, and so on alternately.

Chester co., 15th April, 1837. P.

For the Farmers' Cabinet.

The Observer---No. 7.

THE PEACH INSECT.

Only a very few have, successfully, cultivated an acquaintance with the history and habits of the *peach insect*—or submitted the plans, which have been proposed to arrest its ravages, to the test of fair experiment. Their communications, too, may be inaccessible to the readers of the Cabinet, generally. Hence, I have thought that a brief summary of what appears to be known, on the subject, may not only prove interesting, but perhaps, encourage further investigations.

The Peach insect belongs to the

Order, Lepidoptera;—having the body and wings covered with fine scales, in form of a loose powder, which easily rubs of. Ex. Butterfly.

Family, Crepuscularia;—which fly abroad during the evening and morning twilight.

Genus, Sphinx—Linnæus.
Sesia—Lamarck.
Egeria—Fabricius.

Egeria. Antennæ furiform; palpi long, separate, covered with long scales, or porrected hair; wings horizontal in repose; abdomen bearded at tip.

EGERIA EXITIOSA.

DESCRIPTION.

Male. *Body*, steel blue; *antennæ*, cilliated on the inner side, black, with a tinge of blue; *palpi*, beneath, yellow; *head*, with a band at base, both above and beneath, pale yellow; *eyes*, black-brown; *thorax*, with two pale yellow longitudinal lines, and a transverse one behind, interrupted above, and

a spot of the same color beneath the origin of the wings; *wings*, hyaline, nervures and margin, steel blue, which is more dilated on the costal margin, and on the anastomasing band of the superior wings; *feet*, steel blue, the coxæ, two bands on the tibiæ, including the spines, incisures of the posterior tarsi and anterior tarsi, behind, pale yellow; *abdomen*, with two very narrow pale yellow bands, one of which is near the base, and the other on the middle; *tail*, fringed, fringe margined with white each side.

Female. *Body*, very dark steel blue, with a tinge of purple; *antennæ*, destitute of ciliæ; *palpi*, beneath, black; *thorax*, immaculate; *superior wings*, without any hyaline spot; *inferior wings*, hyaline, with an opaque margin and longitudinal line, the latter and the costal margin dilated; *tergum*, "with the fifth segment bright reddish fulvous."—*Say's Am. Entomology, vol. II., plate* 19.

The general aspect of the *peach fly* strikingly resembles that of a blue wasp, especially the female when in a state of repose, for we do not readily discover the nature of its lustrous covering, except by the touch, and the inferior transparent wings are concealed beneath the superior opaque ones. In the *male*, the central portion of all the wings are transparent, or want the blue scales. In the *female*, the inferior wings, only, present this character. The broad red orange band which crosses her abdomen, will also distinguish her from the other sex. Of two females now before me, one measures three-fourths, the other five-eighths of an inch long. The male perhaps is a little shorter.

Conforming to the general habits of the family to which it belongs, our subject ventures abroad only during the twilight, and thus so effectually eludes observation as seldom to be seen, unless collected in the pupa state.

Although the *egeria* so generally affects our peach trees, as to have acquired the appropriate name of *Peach Fly;* yet, in my garden, not only the peach, (amygdalus persica,) but the almond, (A. communis,) the dwarf flowering almond, (A. pumila,) the Chicasaw plum, (prunus chicasa,) and the black plum, (P. domestica,) have all shared the same fate. Future observations may, possibly, determine that those trees are affected by different species of egeria.

When deposited in confinement, the *eggs* are oblong-oval, yellowish white, and so small as to be indistinctly visible to the naked eye. Hence, it is difficult to discover the place where they are usually deposited. But as the larvæ are first observed at or immediately below the surface, and first penetrate the soft bark in that situation, we may safely infer, that to be the place where the eggs were deposited. I have, sometimes, seen a vast number of minute larvæ, resembling those of the peach fly, in the moist, soft gum, which had exuded from the tree at the surface of the ground—the eggs of these might have been placed in the gum.

The young worms appear to penetrate the bark *about the commencement of the autumnal frosts.* Having reached the wood, they turn their course downwards to the root. As they make but slow progress, they cannot escape the frosts of winter, and must, therefore, pass that season in a torpid state. With the return of spring, they resume their downward course, for a time, and then return towards the surface, where they arrive about midsummer, in order to assume the form of pupæ. The worms are then an inch, or more, in length, of a yellowish white, or cream color, the head flattened, and of a reddish brown hue.

Having completed the larva state, it emerges from the bark, and choosing a situation, *just at the surface of the ground,* among the gum, grass, and its own gnawings of the bark, it envelopes itself in a sort of cocoon, or follicle, composed principally, of gnawed bark cemented together with a glutinous web. This *follicle* is oblong-oval, an inch long, brown, and exteriorly presents nothing but the fragments of bark which compose it. Within this homely dwelling, the worm undergoes its first transformation.

The *pupa* is of a chesnut-brown color, a little rough, or spinose, and exhibits the form of the contained members in bold relief. The pupa state, probably, endures for two or three weeks, before the final transformation takes place.

Generally, the pupæ contained in their follicles, may be found, in the situation I have described, *between the first and middle of the seventh month* (July.) James Worth (*Journ. Acad. Nat. Sciences, Philad. vol. III.*) examined his trees on the *tenth*, and found *thirty* larvæ, (all of which had returned to the surface preparatory to their change) and *twenty* follicles, from four of which, the flies had already escaped. I have never seen the pupæ at any other period. Those who wish to examine the insect can most readily procure it in this way.

Some persons believe that the peach insect does not always observe the periods I have mentioned. Evan Thomas, in *American Farmer, vol. VI. p.* 37, after confirming some of the statements I have made, says, "in general, however, the pupæ are formed early in October, in the midst of a conglomeration of gum, fibrous, and excrementitious matter, and about the close of the month, the insect issues from the chrysalis, deposits its eggs, as before mentioned, and prepares to hibernate, like others of the same tribe, in the roofs of houses, beneath the bark of old

trees, &c. The larvæ appear in April, assume the nymph state, and accomplish their final transformation in July. Thus, there are two periods in each year, assigned for their production and reproduction; nevertheless, individuals may be seen, during the whole season, in almost every stage of existence." This history will hardly be sustained by future observations. It does not seem probable, that the fly would deposit her eggs in October, and then endure the winter in a state of hibernation—nor do I suppose, that eggs hatched in April, would reach the perfect state in July.

Agreeably to the history of the habits and changes of the peach insect which I have given, it appears that the eggs are deposited from the middle of the seventh, to that of the eighth month, and perhaps later—that they soon hatch, and the young worms penetrate through the bark in the fall, where they continue till the next midsummer. We may see innumerable punctures in the bark, where the worms have entered—yet we find comparatively few of them inside—hence, it is probable, that many of the young progeny perish before they find a secure nidus. The destruction is in proportion to the age and growth of the worm—hence the *later spring and summer months are the periods of greatest injury.* The trees should, therefore, always be carefully examined, and the worms destroyed, once or oftener in the spring. This would of course, prevent their summer ravages.

Numerous other means have been proposed for the preservation of the peach tree. These may be conveniently classed according to their contemplated object, viz.—such as are intended

1st, To destroy the eggs or larvæ—and

2d, To prevent the access of the fly to the root of the tree, for the purpose of depositing its eggs.

Remedies of the first class, can only be successfully applied, very soon after the eggs have been deposited, while they, or the young larvæ, are yet on the outside of the bark; for it cannot be supposed that they will be destroyed through the bark. To this class belongs *boiling water, brine, decoction of tobacco, soft soap, lime wash, &c.* applied to the trunk and root of the tree. They might, perhaps, be advantageously applied at intervals during the latter part of the seventh, and two or three of the following months.

Remedies of the second class should, however, be preferred, inasmuch as it is better to prevent than to cure the evil. Among these may be mentioned

1. Such as render the vicinity of the tree disagreeable to the fly. This has been attempted by planting a bunch of worm-wood at the root of the tree, and, in several experiments, with apparent advantage. Two trees so guarded in my yard, escaped the worm for several years, but were finally destroyed. Perhaps if the stalks had been tied up around the trunks, instead of being allowed to fall, it might have succeeded better. It has also been recommended, to tie the leaves and stems of tobacco, &c. around the trunk, for the same purpose. I do not know with what advantage.

2. Such as allow the bark to dry, and become hard at the surface, so as to resist the attack of the young worms. This can be conveniently effected, to a certain extent, by *piling loose sand, ashes, lime, tanners bark, sawdust, flax shives, &c. around the tree.* As these substances do not retain much moisture, the young worm must either pierce the dry, hard bark, or pass far down, in quest of that which is softer—and it may often perish in the attempt to do either. The same object has been obtained by removing the surface earth, spreading a coating of lime mortar round the trunk, and then returning the earth. This last method, in particular, has been thought highly beneficial.

3. Such as keep the flies at a still greater distance from the root of the tree. With this view, it has been advised to remove a little earth from about the tree, then to take a bunch of straw, or a piece of coarse cloth, or matting of any kind, and place it round the tree, retaining the lower end by replacing the earth upon it, and the upper by means of a string round the stem. To be effectual, this application should be made just before the season when the eggs are deposited, say the first of seventh month (July) and it ought to be removed so soon as that season is passed. Perhaps not earlier than the tenth month (October.) When the wrapping is taken off, the trunk should be well washed with *hot water, brine, decoction of tobacco, &c.*, as already mentioned, in order to destroy any eggs or larvæ, which may have been lodged on the bark beneath it. The design in promptly removing the guard from the tree, is to afford an opportunity of applying the wash to the bark, so as to destroy any larvæ, which may have entered at the top, before they reach the root.

From all that is known on the subject, I would then advise, *first*—to apply the straw or matting, during the period of laying the egg; *second*—so soon as this can with safety, be removed, to apply some of the washes which have been mentioned; and *third*—to examine the trees, two or three times in the spring, and remove any larvæ which may have got into them. Constant vigilance and persevering industry are indispensable requisites for a successful horticulturist.

New Garden, 5th mo. 1st, 1837.

For the Farmers' Cabinet.

The writer of this has heard that a small lump of lime, put into the water in which potatoes are boiled, causes them to be dry and mealy, and that salt usually causes them to be hard and firm. Z.

For the Farmers' Cabinet.

It is said that spirits of turpentine placed upon the head of horned cattle will cure the disease called the *Hollow Horn*. The process recommended, is to put a small quantity just back of the root of the horns; and repeat as often as may be necessary. Animalcule is supposed to be the cause of this disease. A.

From a communication of James Camak, Esq. of Athens, Geo. to the Editor of the Farmers' Register.

Indian Corn,

MADE WITHOUT TILLAGE AFTER PLANTING.

By experiment, I have arrived at some conclusions in regard to the culture of Indian corn, which I think are of importance to planters in the southern states. I communicate them for the use of the public with great hesitation, because they are directly at variance with the received opinions on the subject.

The early part of my life was spent in agricultural pursuits—and hence, if there were no other reason, I feel a deep interest in every thing relating to agriculture. I noticed, very early, the great difficulty in transplanting successfully the young corn plants. Whence comes this, but from breaking the roots in taking the plant up! How is it then, that intelligent planters affirm the doctrine, that one chief object of ploughing corn, is to cut its roots! If breaking the roots of young corn in transplanting it, is really fatal to its future growth, must not breaking its roots with the plough, when it is older, and the season hotter, be a serious injury to it! Any other conclusion seems to me to be at variance with the general economy of nature. It seems to me that there can be, in truth, but two reasons for ploughing or hoeing corn,—1st, to destroy grass and weeds; and 2d, to keep the soil loose, that the roots may penetrate easily, in search of their proper food. But in accomplishing these two purposes, great injury must be done to the corn, by breaking its roots. Can we not accomplish both these ends, and at the same time keep clear of the attendant mischief! I think we can.

Last spring I planted a small piece of poor ground—first breaking it up well. The rows were made three feet apart, and the stakes left about a foot apart in the drill. The ground had been very foul last year with crab grass, whose seed matured. The corn was not well up this spring before the grass began to appear. When the corn had about four or five blades, the young grass completely covered the ground and the corn was turning yellow. I spread a small quantity of stable manure around the corn, and covered the whole ground with leaves from the forest, taking care to do this when the ground was wet, and the leaves also, that they might not be blown awry, and to leave the tops uncovered. In *ten days* there was not a particle of *living* grass to be found, and the corn had put on that deep bluish green which always betokens a healthful condition of the plant.

From the day the corn was planted until after the fodder was pulled, and the tops cut, nothing more was done with it, and the result is a product at the rate of *forty-two* bushels to the acre—about one third of the stalks having two ears on each of them.

I noted, in the course of the summer, the following facts:—

1st. The corn treated thus, was always ahead of some planted alongside of it, and treated in the usual way.

2d. It ripened at least ten days sooner than other corn, planted at the same time.

3d. During the hottest and dryest days the blades never twisted up, as did other corn in the neighborhood.

4th. In the dryest weather, on removing the leaves, the ground was found to be moist to the surface, and loose, as deep as it had been at first broken up.

5th. The heaviest rains had scarcely any effect in washing away the soil, or making it hard.

It certainly will require less labor to produce corn in this way, than in the usual mode. And even if it required more, we have the consolation to know, that while, by the old mode, every hour's work is an injury to the land, by this mode, every hour's work is making the land, better; for few things can be better manure than the coating of leaves put on in summer, when ploughed in in the winter or spring following.

I used leaves raked up in the forest, because of these there is an ample supply within the reach of almost every person—and because there seems, from my observation, to be a strong antipathy between dead and decaying forest leaves, and crab grass, that most harassing foe of agriculturists.

I make this communication, as I have already said, with hesitation, because the idea of raising corn without ploughing and hoeing, and at the same time improving the land, by protecting it against the influence of a scorching sun and washing rains, is directly in the teeth of the universal practice for ages. The thing is, however, at least, worthy of further trial. It *may* lead to most important

results. Those who think the plan worth any attention, may easily make an experiment with an acre or two, and note carefully its progress through the summer. If they are satisfied, after the trial, that there is any thing in it, to extend the operation will not be a difficult matter.

If, on experiment, it should be found advisable to extend the operation, the proper way would be I think, to collect the leaves in the winter, and deposite them in heaps on the ground on which they are to be used, and the next spring, during a wet season, after the corn is up, spread them, taking care to leave the tops of the young corn uncovered.

There is one very important result that must follow the success of this plan on a large scale—and it was with an eye chiefly to that result, that my experiment was undertaken. The constant excuse for not improving land, is that where cotton is grown, the time necessary, first to cultivate the growing crop properly—next to gather it, and then to prepare for a new crop, leaves the planter no time to collect manure. My plan will put an end to that excuse at once; for wherever leaves are to be had, half the time usually bestowed on working the corn crop in the usual way, spent in gathering leaves and putting them on the ground, instead of ploughing it, *may* in a short time, accomplish every thing that can be desired in the way of manuring.

Why may not the same process answer in the cultivation of cotton? If it keeps the ground soft and moist, and prevents the growth of grass and weeds in a corn crop, it will surely have the same effect with cotton—and be the means, further, of preserving the cotton when the bolls open, from all the injury it sustains from the soil in wet seasons. This is, however, but speculation. Let it be tested by actual experiment.

JAMES CAMAK.

Farmers' Work.

Pasturing Stock.—Do not turn your cattle to grass too early in the spring. Dr. Deane was of opinion that the 20th of May, was, in our climate, quite early enough to permit cattle to go to pasture; and some farmers think it best to keep working oxen and horses to hay, &c. at least to the first of June. It is not right to turn all sorts of cattle into pasture together. Milch cows, working oxen and fatting beasts should have the first feeding of an inclosure. Afterwards sheep and horses. When the first has been fed off, it should be shut up, and the manure which has been dropped should be beaten to pieces, and well scattered. Afterwards the second pasture should be treated in the same manner, and the rest in course, feeding the wettest pasture after the driest, that the soil may not be too much broken up by the cattles' feet.

Dr. Deane observed, that "something considerable is saved by letting all sorts of grazing animals take their turns in a pasture.—By means of this, nearly all the herbage produced will be eaten; much of which would otherwise be lost. Horses will eat the leavings of horned cattle: and sheep will eat some things that both the one and the other leave.

"Let the stock of a farmer be greater or less, he should have at least four inclosures of pasture land. One enclosure may be fed two weeks and then shut up to grow. Each one will recruit well in six weeks; and each will have this time to recruit. But in the latter part of October, the cattle may range through all the lots unless some one may become too wet and soft. Feeding pastures in rotation is of greater advantage than some are apt to imagine. One acre, managed according to the above directions, will turn to better account some say who have practised it, than three acres in the common way."

An English writer says, in turning out horses to grass in the spring, it is usual to choose the forenoon of a fine day to do it in; the natural consequence is, the horse fills his belly during the sunshine and lies down to rest during the cold of the night, thereby probably exposing himself to disorders. In some parts of Yorkshire, a better practice prevails; the horse is turned out at bed-time; the consequence is, he eats all night, and sleeps in the sunshine of the next day."

It will not be proper, when you have turned your cattle to grass, to overlook or neglect them. You should see every animal every day, if you rise an hour before the sun for that purpose.

The bottom of an old hay stack is said to be excellent manure for pasture land, as besides the nourishment it affords, it contains a quantity of grass seed, which furnishes a new set of plants. It should never be suffered to mix with manure for grain, or corn lands, as it will cause them to be overrun with grass and other plants, which though useful in a pasture, are weeds in arable land.

Importance of Destroying Weeds.

The abundance in which weeds are seen in some fields, show conclusively that but little of the mischief caused by them is understood. Weeds are injurious to the land and to the crop in almost every possible way that they can be. In the first place they exhaust the soil to support their own useless growth, and abstract that nourishment from

it, which ought to go exclusively to support the crop. Secondly, they crowd upon other plants above ground, prevent them from branching out at their roots, and deprive them of a free circulation of air necessary for their health and vigor, so that they shoot up only single, weak, sickly stalks, incapable of producing a valuable crop. Thirdly, they throw off from the soil through their leaves into the air, an almost incredible quantity of moisture, and speedily reduce the ground to so dry a state, as to be fit for weeds only to grow in. So enormous is the quantity thrown off by some plants, that it actually exceeds more than twice their own weight in a single day. A bunch of grass, placed, during a very dry season, under a large vessel, sent off moisture in two minutes so as to cover the vessel with drops, which run down its sides. Dr. Watson, who first performed this experiment, was led to conclude from its results that an acre of grass exhales more than thirty hogsheads a day. Plants are in fact but channels through which moisture is conveyed up from the soil to be dissipated in the air. Hence, the absurdity of the opinion, that weeds will prevent the ground becoming dry by shading it. Let any one in dry weather examine a piece of perfectly bare soil, a few inches below the surface, and compare its degree of moisture with that of soil at an equal depth, near the roots of a thick growth of weeds, and he will find the difference astonishing.

Now, of what use is it to attempt raising crops if they are to be wasted by a growth of weeds? Of what use is it to buy land, and plough it, and prepare it, and put in the crops, if after all, these crops are suffered to be *eaten up* by such intruders. If a drove of cattle should break into a field, no one would think of resting a moment till they were driven out; and yet many allow myriads of noxious weeds to overspread their lands, often doing threefold more mischief, with scarcely an effort to check their progress. And this is not only permitted in cultivated fields, but in meadows and pastures, which are sometimes literally covered with Canada thistle, St. John's wort, and many others, to the total exclusion of every thing else from the soil. —*Gen. Farmer.*

Beans.

What is the best kind of beans to plant for a field crop. Some say the *white* bean because they think it is the most saleable. Mr. Buel says the *China bean* is the best; because he says 1. It is intrinsically the richest and best bean; 2. It ripens early, and comes off in time for a crop of winter grain; 3. We think it gives the best crop; and 4. It brings *us* the best price. Yet we ought in candor to add, that it requires the best ground. The white bean will grow where this will starve. The white bean is the most saleable. We think plaster may benefit the bean crop; and recommend that it be sown at the rate of a bushel to the acre, before the last ploughing for the crop.

On an acre of light ground, where the clover had been frozen out the preceding winter, I spread eight loads of long manure, and immediately ploughed and harrowed the ground. Drills or furrows were then made with a light plough at the distance of two and a half feet, and the beans thrown along the furrows about the 25th of May, by the hand, at the rate of at least a bushel on the acre. I then guaged a double mould-board plough, which was passed once between the rows, and was followed by a light one horse roller, which flattened the ridges. The crop was twice cleaned of weeds, by the hoe, but not earthed. The product was more than forty-eight bushels by actual measurement. The beans brought me one dollar the bushel last fall. The third experiment was likewise upon a piece of ground, where the clover had been killed. It was ploughed about the first of June, the seed sown like peas, upon the first furrow, and harrowed in. The drought kept them back, but about 65 rods of ground, on which the experiment was made, gave a product of twelve and a half bushels. The crop was too ripe when it was harvested, and as it was cut with a scythe, I estimated that about two and a half bushels were left upon the ground. No labor was bestowed upon them from the time they were sown till they were harvested.

Agriculture.

To solicit his mother earth for life's sustentation by the wholesome process of tillage, has ever been the most natural and honorable occupation of man. The great Creator has designated the earth, not only as the common receptacle of the mouldering bones and decayed forms of human kind, but also as their common source of aliment and support whilst the vital current continues to flow. And, as the pursuit of agriculture is the most universal and natural employment of our race, so it is the most rich in moral fruits; and more than any other avocation, leads to a desirable innocence and simplicity of life. Its rural scenery, "the pomp of groves, the garniture of fields, all that the genial ray of morning gilds, all that echoes to the song of even, and all the dread magnificence of heaven," are so many sublime incentives to adoration and gratitude.

The season of the year has now arrived when the busy operations of husbandry are commencing.

"When first young zephyr melts the mountain snow,
And Spring unbinds the mellowing mould below,
Press the deep plough, and urge the groaning team,
Where the worn shares, in opening furrows gleam."

It is now the patient earth endures the rake and the harrow; and in return for the deep wounds inflicted on her broad and furrowed visage, promises an ample remuneration in those precious fruits that constitute the life of man and beast. It is now that the hand of industry deposits among the clods the dry and withered seeds, which would remain as unproductive as the salt sown by Ulysses on the sea shore, but for the kindly blessings of Heaven.

The true secret of Agriculture, as Cato has long since taught us, to "*feed well.*" The neglect of this rule will be fatal to all success in the matter, will bring disappointments instead of harvests, and poverty instead of abundance. It will be found universally, that husbandry may be pronounced good or bad according to the observance or disregard of this rule. Let the faithful beasts of burden be consigned to leanness, let the lowing herds pine away for want of sufficient pasturage, let all the creatures for man's use be left in meagre, ill-fed forms, and no great penetration will be requisite to pourtray the character of such husbandry. But reverse the picture, and the most captious and fastidious taste would admit the merit of the management that could so bless and beautify the beasts of the field.

Gooseberries.

In all cases, the gooseberry should be kept free from suckers, and trained near the ground to a single stem, this mode of training them being found to cause a far greater product in quantity, as well as an increase in the size. They need much attention in other respects, and one-third of the old wood must be regularly trimmed out every autumn, by which means a succession of thrifty bearing wood will be kept up; as the finest fruit is produced on the young shoots of the previous year's growth, it is also necessary every autumn to dig in a plenty of old well-rotted manure around them. This treatment will cause them to grow strong, and the fruit to be large and fair. Where the summers are very hot, a northern aspect is preferable, and the fruit will be twice the size if they are planted against a north fence, or in any other situation where they are sheltered from the intense heat of noon-day, which, when differently situated, often scorches the fruit to such a degree as to entirely stop its growth.—*Prince.*

He who knows the world will not be too bashful. He who knows himself will not be impudent.

Potatoes for Food.

Their uses for man or beast are too well understood to require any remarks of mine on the subject. This most valuable of plants in the whole vegetable kingdom, undoubtedly affords more healthy nourishment to that portion of the human family residing in Europe and America, than that of any other vegetable; perhaps it is safe to say double the amount, and at less than half the expense.

Orchards and Gardens of Damascus.

The city is entirely surrounded by orchards, or rather by forests of fruit trees, with which the vines are entwined as at Naples, and hang in festoons among fig, apricot, pear and cherry trees. Under these trees, the earth, which is rich, fertile, and always well watered, is carpeted with barley, corn, maize, and all the leguminous plants which this soil produces. Little white houses peep out here and there, from amidst the verdure of the forests; they are either the gardners' houses, or little summer houses belonging to the family who own the ground. These cultivated enclosures are peopled with horses, sheep, camels and doves, and every thing that can impart animation to the scenery of nature; they are on an average, two or three acres in extent, and are separated one from another by mud walks baked in the sun, and by fine quickset hedges. Numerous shady paths, refreshed by fountains, intersect these gardens, leading from one suburb to another, or to the different gates of the city. The gardens form a boundary twenty or thirty leagues in circumference round Damascus.—*Lamartine's Pilgrimage.*

The Farms of England.

The farms are regularly laid out in squares and parallelograms of from two to forty acres, and in general they are laid down as smooth and level as the roller can make them. Here is a luxuriant wheat field, and there a fine meadow, and next a rich pasture, and there busy preparations for putting in potatoes or turneps; and there barley or oats just shooting up from the dark and rich soil. But scarcely a rod of *fence*, such as we meet with every where in the United States of America, do you see in your two hundred miles ride from Liverpool to the metropolis. All is *hawthorn*; and these hedges, which are, for the most part, kept neatly trimmed about the gardens and farm-houses, and by the road side, add more to the beauty of the country than any description had pictured upon any mind. The common method of making the hedges is this: first a ridge is thrown up, perhaps a foot from the level of the fields which are to be fenced off, then the young thorn is planted in two parallel rows, about a foot or

eighteen inches apart. The growth is not very rapid; but when it has attained the height of four or five feet in about as many years, it becomes so dense that no domestic animals would think of breaking through it. The leaf is small, deeply verdant, and beautifully serrated. In the month of May these hedges are clothed with a white fragrant blossom, very much resembling that of the thorns of our own country, and it is then that the honeysuckle and other wild flowers unfold their bright hues and mingle their sweetness with the hawthorn. In the hedges, trees, such as the oak, the elm, and the horse chesnut, are planted, sometimes in rows near together, but oftener far apart, so that each one rises and waves by itself over the humble, but not less charming growth below. Single trees of a great age, and very large, are sprinkled here and there in every direction, and every now and then you catch a glimpse in the distance of a grove or circular clump, which adds not a little to the beauty of the landscape.—*Humphrey's Tour.*

Is Farming Profitable?

In prosecuting the business of life, it is very desirable to do it in such a manner that, so far as regards temporal matters, competency at least may be secured; and the way in which this can be done the most easily, effectually, and with the least probability of reverses, becomes an inquiry of considerable interest. We speak now of the ordinary means of obtaining a good living, of the regular prosecution of professional business, of the usual results of trade, of money at the legal rates of interest, and farming as it has been on the average for the last five years. Now in some respects the "times are out of joint;" all the customary modes of doing business seem to be broken up; men are in a haste to be rich; and the opportunities for speculation, and the success which in some instances has attended it, appear to have had their influence every where—less perhaps among farmers than any other class of citizens, though even for them it will not do to plead entire exemption.—Many have sold their farms, and after spending months in looking for others, have come again and consented to pay roundly for the privilege of getting on to the "old place" again. Other farmers have sold out, and without personal investigation, have at once started for that earthly paradise, the far west.—Disappointed, they have returned, and after having lost most of their property in the expenses of removal, are content to again commence a gradual accumulation of property. But a great majority are still working on, sowing and reaping, and it is a question which should be solved; whether such are not on the whole making money as fast as they probably would with the *same capital* in any other legitimate business. What we mean is, can a a man with five or ten thousand dollars, realize as much from it by investing it in a farm, as he could by loaning it at the legal rate of interest; and will it support himself or his family as handsomely in the first way as the last! To contribute our mite towards answering these questions, is the object of this paper.

The man who expects to get rich at once by farming, must expect to be disappointed; but in this matter he is no worse off than he who has only the same moderate capital in cash, and uses it in a legal way. In both cases the addition to the capital stock, can consist only of what remains of the income after *all* demands upon it are met. We will attempt to illustrate this. Two men, A. and B., are about to commence life with the same capital, say five thousand dollars in cash, each; and their personal expenses are also the same. A. invests the whole of his in a farm, and stock, and goes to work upon it. B. is apprehensive he could not live so, and invests his cash in stock which yields him seven per cent., and determines to do enough to pay his way, so that the interest shall be clear; now which of the two are the most likely to possess competence, if not actual wealth, at the end of ten years? Perhaps a majority at first thought, would say, B. certainly; but we think differently, and imagine that the chances are altogether in favor of A., and these are some of the reasons for this opinion.

In the first place his occupation is favorable to health. The life of a farmer is one of labor, it is true; but labor, unless carried to excess, is far from being prejudicial to the body or the mind. Vigorous exercise, such is the law of our natures, is necessary to the full development of either our bodily or mental powers, and unless this necessity is forced upon us in part, we are apt to evade it, and we suffer in consequence. The maxim, that *every man naturally is as idle as he can be*, we do not dispute; acquired habits, induced by the necessity for exertion, are sufficient to account for any seeming exceptions to this rule. Hence the probability is, that A., having before his eyes the necessity of labor on his farm, will perform the labor, and reap the double benefit in his health and in his purse; while B., who cannot expect to feel that necessity, will of course be less active and industrious, will become less and less inclined to labor, and will eventually feel the effects of this disinclination in diminished health and decreasing profits.

Another reason why the prospects of A. are better than those of B. is to be found in the *habits* that personal industry is almost sure

to create. Experience and observation both assure us, that the man who has any means of living beyond what depends on his own exertion, is very apt to acquire contemptuous ideas of economy, and whatever may be his original intentions, sooner or later finds himself trenching first on the interest of his capital, and then on the capital itself. There can be very few instances found in the country, where the sons of rich men have not diminished the inheritance received from their parents, and the examples are still more rare in which the second generation have not succeeded in scattering the descending property to the winds. A pride, as false as it is injurious, makes those who *can* live upon their money, dislike exertion, until this dislike becomes a habit, rarely shaken off, even after its effects are staring the individual in the face.

But the most sufficient reason of all why A. will succeed, while B. will probably fail, is found in the fact, that money invested in farming is far better than money at 7 per cent. This we think will be questioned by few who have been in the habit of observing what passes around them, or examining the reports made of particular farms which have from time to time appeared in the farming journals of the day. In all such reports it is evident, that after deducting the expense of working, a certain per cent. for the wear and tear, and the necessary repairs, and the interest of the capital employed, the remainder will be clear profits. The amount of this profit will depend on circumstances. The expense of working a grain farm will be greater than on a grazing farm, but the capital employed in stocking is less, and the profits usually much higher; the returns for labor are quicker, and the proceeds accumulate in a comyound ratio.

There have been quite a number of farm reports given to the public through the agricultural journals, but we do not recollect one in which the expense of working was given with precision. The value of the products of the farm have been stated, and the reader has been left to form his own estimate of the amount to be deducted for the items of expense mentioned above, and in most cases the amount of capital employed has been left to conjecture. How then shall the actual expenditure of the farmer be estimated ? for unless this can be done with an approximation to accuracy, it is evident the clear profit of a farm can not be known.

We have been convinced by observation and experience, and by estimates made with as much care as possible, that one-third of the proceeds of a farm will amply suffice to cover all the ordinary expenditures, or in other words will pay for working, keep the farm in repair, and replace the interest on the capital. We are sustained in this position by a communication from Dr. Beekman, the Secretary of the State Ag. So., addressed to the editor of the Farmer's Register, Richmond, Va. in which he states, that except in extraordinary case, one-third of the products will meet all expenses, leaving two-thirds as profit.

Mr. S. T. Vary of Kinderhook, made a report of his farm for the Cultivator, in which he estimates the proceeds from 145 acres of land at $2,285. Deduct one-third of this, and there is left $1,524, which is the interest of $21,772; Mr. Vary did not state his capital or the value of his land, but the profits would pay the interest on 145 acres at $150 an acre—probably more than double its actual price.

Mr. Carter, of Champion, Jefferson county, has furnished judge Buel a farm report, which makes a total of $1,639 from 100 acres.—Among the items is one not usually found on farms, viz: mulberry trees, and which to Mr. C. are quite a source of profit. This amount, less one-third as expenses, &c. would leave $1,093 as profit, or the interest on a capital of $15,600, which would fix Mr. Carter's 100 acres at $156 dollars an acre—a price which would make the good farmers of Jefferson county open wide their eyes.

We have been furnished by a friend with two farm reports, which, though more full than the foregoing, as they state the capital employed, are still deficient in not giving an accurate account of the expenses of cultivation. The first report is from a farm on which 86 acres are under cultivation, and the capital, including farm and stock, is estimated at 4,500 dollars. The proceeds of this farm are given as follows:

Wheat,	$160	Wool,	$112
Barley,	111	Sheep,	24
Oats,	350	Dairy,	50
Hay,	240	Beef,	80
Peas,	40	Grass Seed,	35
Pork,	150		
Potatoes,	40		$1,442
Ruta Baga,	50		

Making a total of $1,442, after leaving many minor sources of profit out of the account, such as two or three acres of poor corn, and other things of which the actual value was not ascertained. The crop of wheat on this farm was reduced at least two-thirds by the severe winter, yet after deducting one-third of the whole, a profit of $962 is left. This sum would be worth the interest of $13,742; or in other words, the capital in this case pays an interest of twenty-one per cent. The cultivated land of this farm at legal interest would be worth 159 dollars an acre.

The other report is from a small farm, forty

acres under cultivation, and the capital in farm and stock estimated at $1,600. The following is the list of the items with their value; and it should be added that the report is for 1835, when farm produce, as will be seen from the prices, was from ten to twenty per cent. below its present value.

Oats, 310 bushels,	44 cts.	$135	62
Potatoes, 340,	25	85	00
Ruta Baga, 240,	25	60	00
Buckwheat, 24,	50	12	00
Corn, 100,	50	50	00
8 pigs,	$2 00	16	00
15 lambs,	1 00	15	00
20 tons hay,	6 00	120	00
1 colt,	20 00	20	00
Cheese, 11 cwt. at	07	77	00
Butter, 605 lbs,	15	90	75
Eggs, 25 doz.	12	3	12
Beef, 16 cwt.	3 50	56	00
Pork, 8 "	5 00	40	00
Wool, 80 lbs.	50	40	00
Grass seed,		6	00
Peas, 50 bush.	50	25	00
		$851	49

Deduct as before one-third from the above total, and we have $567 66, as the profits of forty acres. This would be the interest of $8,100, or on the value of 40 acres at $200 per acre. This farm pays 35 per cent. on the capital at the above estimates of expense and profit, a fact which goes far to prove the conclusion often advanced in this journal, that small farms yield a greater profit than large ones, as they are in general much better cultivated.

But it is very possible some will contend that one-third of the products will only pay for cultivation and repairs, and that the interest of the capital employed should still be deducted in order to give a correct view of the comparative profits of A. and B. We will do this, and it will be seen that the farm which is estimated at $4,500 pays 14 per cent. on the capital, and the one estimated at $1,600, twenty-eight per cent. on the sum invested. These two reports have not been given because there was any thing extraordinary in the amount of their products; on the contrary we imagine there are few good farms which might not equal or exceed them; our object has been to call the attention of farmers to a proper estimate of their advantages, and show that money might be safely and profitably invested in the business of cultivating the soil.—*Genesee Farmer.*

Accustom yourself to strict observance of your duty in all respects, and it will in time be as troublesome to omit or violate it, as it is to many people to practise it.

From the Farmers' Register.

Directions for the Cultivation of Watermelons and Cantelopes.

February 25th, 1835.

Enclosed I send you memoranda for the management of watermelons and cantelopes, by a gentleman who, in 43 degrees of north latitude, frequently raises melons weighing from thirty to forty pounds. If the same pains were taken in the south, how fine and large we might grow our melons.

Your obt, serv't, —— ——.

Holes, 2 feet diameter, 20 inches deep, filled 1 foot with garden rubbish and unrotted manures, beat down hard, and watered, (two or three buckets full,) then filled to the top with rich soil: on this spread an inch of fine compost or well rotted manure, compact, but not hard. Stick the Seeds—(say twenty or thirty to a hill,)—the upper end of the seed to be a little below the surface of the compost; brush over the hill with the hand so as to fill the holes made by the fingers; then cover the hill with an inch of clear *sand*, often watered. In Alabama, I should think, grass turf, (the grass side down,) would be a good filling for the 12 inches.

Hills, 10 feet apart, 2, 3, and at most, 4 plants only to remain in a hill, and standing apart from each other: thinned by the time the plants have 6 leaves.

If the season be dry, dig down by the side of the hills nearly as deep as the bottom of the holes, and put in a bucket or two of water–filling the hole after the water is absorbed: as soon as the yellow bug is gone, take away the sand and supply its place with soil. This is all that can be done in the hill.

When the plant has six leaves, take off the center shoot with the point of a sharp penknife, and when the lateral shoots are six inches long, take of all but three: when these begin to fall to the ground, secure them down with cross sticks; and as they advance, spade up the ground foot deep in advance of the vines.

Once in every 3 or 4 feet, put a shovel full of soil on a leaf joint of the vine, (not covering up the leaf,) and press it down gently with the foot on both sides of the leaf: if this is kept moist it will take root. The ends of the vines to be kept to the ground by cross sticks.

Let the vines spread from the hills so as to cover the whole ground.

If the side branches of the main vines are inclined to head up, and not to keep to the ground, take them off, say a foot from the main vine.

All pruning to be done in the middle of the day when the sun shines.

Let no melon set within 4 or 5 feet from

the root; and then only one on a lateral branch, three to a plant. Let the vine run on as far as it will—keeping it to the ground: permit no melon to grow that is deformed: pull off no male blossoms.

When the melon is nearly to its size, others may be permitted to set on the same vine, and a second crop raised. I should think the vines might be made to grow from 20 to 30 feet long.

Great care should be taken that the vines are not moved or trod upon.

The *early* but *small* melons. Let the melon set at the 2d or 3d leaf-joint from the root, and take the vine off two joints beyond the melons.

To increase the number of cantelopes.—Take off all the melons that set within two feet of the roots.

These may be planted 6 feet apart, 4 to the hill, and require no particular attention.

Sand on the hills is one of the best preventatives against the yellow bug, though not entirely a preventative.

It is useful to plant pumpkin or squash seeds near the hills for the bugs—taking care to pull them up as soon as the bugs are gone.

Cantelopes should not be planted nearer than 20 yards to muskmelons or cucumbers.

To improve your seed, save none but from the very best melons.

Keep a record if you wish to know certainly the results.

Important Questions in Husbandry should be Settled.

No Advantages gained by Cutting up Corn when bitten by a Frost.

There are, in relation to practical husbandry, very many important questions, which remain yet to be settled. Nothing could contribute more succesfully to the advancement of the rural arts, than to bring such questions to a satisfactory solution. The questions to which we allude are indeed very numerous. Scarcely any truth, in relation to the practice of agriculture, is so well and so generally ascertained and established, as to command universal belief, and produce uniformity in practice. In regard to almost every thing that comes within the province of agriculture, practical men entertain different opinions. Yet it is an unquestionable truth, in relation to every sort of business under the sun, that there is one *right* way of doing it, and that there is no other way equally good. When two or more farmers differ in their opinions, relative to practicing any specific branch of husbandry, they may indeed all be wrong, but it is certain they cannot all be right.

It is very desirable that the important questions which so frequently arise, in relation to the practice of agriculture, should be settled in a satisfactory manner. Gentlemen of scientific and practical attainments, who delight in rendering themselves useful as the patrons of agriculture, should, with a single eye, aim at such objects.

Important questions in relation to the advantages of using plaster, the manner of its application and the manner also of its action, remain yet to be settled. The public mind needs to eb further enlightened on those subjects, for it is obvious that farmers do not in general avail themselves, to so great an extent as they might, of the advantages to be derived from the use of this mysterious article. Important questions relative to the best methods of cultivating the wheat crop, the corn crop, and all the other crops connected with the husbandry of the country, also remain yet to be settled. There are also yet to be settled questions of the highest importance, relative to the advantages to be derived from the culture of roots, together with the manner of their culture, and the most profitable uses to which they can be applied. We see already that an immense field lies in view, affording unlimited scope for inquiry, and for investigations relative to the agricultural interests of the country.

To these general remarks, we add two specific questions, selected not only because they are intrinsically important, but because they frequently occur, and no less than any others divide the minds of farmers. 1. If corn, while in a state of imperfect maturity, be bitten and injury by frost, will any thing be gained by cutting it up? 2. Is it profitable, in ordinary cases, to cut up corn at all, or to cut up the stalks while the ears are attached to them? In answer to the first question we shall now offer some remarks, and to the second we may respond at another time.

At the time of the great frost in September, we happened to have a small field of corn which was badly injured by that frost and what to do with it was to us a perplexing question. Having, however, a slight impression that something might be gained by cutting it up immediatly, we went at it, and cut and put up with our own hands, as much perhaps, as grew on the fourth of an acre. But finding that the work was to lsome, and having some misgivings as to what might be the consequences of it, we concluded to discontinue our labors, and abandon the crop to its fortune, whatever it might be.

The results of this experiment were such as fully to sustain the opinions entertained by by the old farmer of Waterloo, as reported by the editor of the Farmer, who was present and heard the conversation. The conversation turned on the question, what should be done

with corn that had been stricken with the frost? The old farmer "said that corn would ripen when deprived of its tops by the knife, and why should it not ripen when deprived of its leaves by the frost? But the leaves were not all killed, and the juices were fresh in the stalks. He thought the best management was, to let it alone." We are satisfied that the old farmer gave wise counsels—that his reasoning was logical, and his opinions correct. On subsequently examining the results of our experiment, we were not able to discover that the corn which had been cut up, had, in any respect, the advantage of that which had not been cut. The difference in quality was not indeed very striking, yet there was a difference, and it was decidedly in favor of the uncut corn. In relation to this experiment we submit the following remarks. 1. Several of the stalks, although put up as well as we knew how to do it, got down and suffered by exposure to the weather. In such case the corn was badly damaged. 2. No part of the corn that had been cut up, came in so well as that which had not been cut, while some of it was badly injured by exposure to the weather. 3. If any advantages were gained by cutting, they were to be found only in the greater value of the stalks for the use of fooder. Were these sufficient to balance the expense of cutting and putting up, together with considerable loss in damage to the crop? This we doubt. We think, as did the old farmer of Waterloo, that when unripe corn is stricken with frost, the best way to manage it is, to let it alone.

Dan Bradley.

Marcellus, Feb. 1837.

Marl.

It would be well if every cultivator was aware of the important fact, that whoever finds marl, finds a mine of great value. It is one of the best and most general manures in nature; proper for all soils and all crops. Marl is usually found under moss or peat, in low, sunken lands, and especially nigh the sea or large rivers. It has been sometimes discovered by ant hills, as those insects bring up small pieces of shell from their holes. It may be known by the application of a mineral acid, and even good vinegar will cause an effervescence.

"To find the composition of a marl, pour a few ounces of diluted muriatic acid into a Florence flask; place them in a scale and let them be balanced: then reduce a few ounces of this dry marl to powder; and let this powder be carefully weighed, and gradually thrown into the flask, until after repeated additions, no farther effervescence is perceived. Let the remainder of the powdered marl be weighed, by which the quantity projected will be known. Let the balance then be restored. The difference of weight between the quantity projected and that requisite to restore the balance, will show the weight of air lost during the effervescence. [That air proceeds from calcareous earth alone, which contains forty-four per cent. of this carbonic acid air. Suppose five hundred grains of marl lose forty-four grains by the escape of air, then that marl contained one hundred grains, or one fifth part of the whole weight of lime stone.—T. G. F.] If the loss amount to twenty or twenty-five per cent. of the quantity of marl projected, by the marl essayed is calcareous, or marl rich in calcareous earth. Clayey marls, or those in which the argillaceous ingredient prevails, lose only eight or ten per cent. of their weight by this treatment, and sandy marls about the same proportion. The presence of much argillaceous earth may be judged by drying the marl, after being washed with spirit of salt, when it will harden and form a brick."—*Domestic Encyclopedia.*

Pasture for Swine.

A lot of land well seeded down to clover, is wanted by good cultivators for pasturing swine. The quantity of land to be proportioned to the number of swine that may keep the grass from going to seed. This will prevent waste, and the shorter the grass is the sweeter it will be, and the more pleasant food to the animals for whose use it is destined. The pig pasture should have a good supply of water, and running water is to be preferred to still water, but the latter is better than none. Hogs should not be permitted to run in their summer pasture till about the first of May; and they should be well ringed, or the gristle of their noses should be shaved off before they are allowed that liberty.—*Cultivator.*

Persian Roses.—"A man must behold a Persian rose to have any idea of its transcendant excellence above the roses of any other country; and its charms are not thrown away. The gardens of Prince and people are universally planted with it; and every path strewed with its delicious flowers."

These groves of roses, some of which grow to the height of fifteen feet, form avenues of superior beauty, and when spread over platforms and diversified with lilacs, with a thick underwood of fragrant shrubs, are the favorite resorts of numerous nightingales. The palaces of the King display all that original magnificence can achieve, in splendor or artificial decorations, in superb grottos, terraces, labyrinths, fountains, avenues, baths and gardens, and every where the rose predominates with the nightingale inhabiting its branches.

Fruit.

As many men are very negligent about cultivating good fruit we recommend to the ladies to take hold of this business. Our climate is well adapted to the raising of excellent apples, pears, plums, cherries, currants, gooseberries, some kinds of hardy grapes, and other valuable fruits. All these may be obtained at a small expense. And a small piece of ground will yield a large profit; and when one raises fruit which is known to be good, it is far more valuable than that often called good. We always dread to taste of fruit of an unknown kind, lest we should have our mouth drawn into a shape like that of poor Pat, when he tasted the persimmon, and his brother thought that he was trying to whistle. Now, ladies, give a little expense and attention to fashions, and a little expense and due attention to cultivating fruit, and you will make a great improvement, and soon receive with pleasure the fruit of your doings, instead of saying, in sober reflection, all is vanity.—*Yankee Farmer.*

From the New Hampshire Patriot.

Indian Corn.—Ridging.

Extract from an Address read before the Merrimack County Agricultural Society, at their annual Cattle Show and Fair, holden at Concord, October 1836, *by Cyrus Barton.*

There is a mode of culture in practice in some parts of the State, which, in my opinion, is far preferable to that generally practised in this country. Preferable, because more than one-half of the labor of ploughing and hoeing is saved, and at the same time a better crop is obtained. The mode is this: When a piece of mowing or pasture land is to be broken up in the spring for corn, the first thing is to spread the manure evenly over the whole surface. The ground is next thrown into *ridges*, by means of a plough with double mould-boards and shares—so that a furrow is turned up on each side of the plough as it passes along. Instead of going round, or "marking off a land," as it is termed, the plough returns on the same side, within 20 or 24 inches of the first furrow. You then have a *ridge*—the edges of the two furrows coming nearly in contact, the grass is covered up, and all the manure which was spread over the space occupied, is thrown within the ridge. A man follows with his hoe to mend up the turf where it breaks and falls back, and to fill up the interstices between the edges of the turf with the soil from the furrow.

As the ground only requires to be ploughed to the depth of about four or five inches, two yoke of oxen will easily plough two acres and a half a day, and which, where the ground is tolerably smooth and free from stones, the man who follows will dress and render fit for planting in the same time—or, as is frequently practised, the corn is dropped and planted, at the same time the ridges are dressed; and which is no doubt the better way.

Here then is a vast saving of labor; for I believe that one acre, by the present mode, is a good day's work; and, on the intervale lands in this town, the services of three yoke of cattle are required. But this is not all—for the ground has then to be harrowed, cross ploughed, and furrowed out for planting. So that the difference in labor, of preparing grass land for a corn crop, is as three to one in favor of ridging.

But this is not the only advantage. The ground being ploughed at the very time of planting, after the grass has become green, the decomposition of the turf and manure, thrown together within a ridge, causes fermentation to take place, the genial warmth of which causes the corn rapidly to spring up, and come forward with a vigorous and healthy growth—and with the whole of the manure confined within range of its roots, subject neither to evaporation, or to be washed away by rains, the corn usually comes to maturity some eight or ten days earlier than when treated in a different manner.

The mode of *ridging* has long been practiced in Sullivan County. More than twenty years ago, before I left the farm for the more arduous and severe labors of the workshop, I assisted in dressing these ridges. The improved plough was at that time unknown, and the ridging were then made by passing the common plough through both ways in the same furrow. It is the only mode practised in some of the towns in that county now, whether the surface be rough or smooth, or the ground wet or dry, when a crop of corn is to be taken from grass land; and I am happy to say that the experiment has been tried here during the present season, with the most satisfactory results.

At a suggestion of Paul Jacobs, Esq. who last year represented the town of Croyden in the Legislature, and who is one of the most extensive and best farmers in Sullivan county, Mr. William Low of this town was induced to send for one of the improved ploughs for ridging; and with which he ridged several acres on the intervale, which he planted with corn, and from which he has realised a tolerable crop, better than most of his neighbors—though not so good as the average of a good year. Mr. Robert Eastman of this

town, prepared a few acres of his ground in the same manner, and with a like result. This plough may also be used to great advantage in the cultivation of potatoes, two acres and a half of which may be ploughed and planted in a day, with the assistance of two persons to drop the seed as the ground is ploughed, and which is covered by the ploughing and dressing the ridges.

After a crop has been taken from ground prepared in this manner, the plough is run through the ridges lengthwise, either in fall or spring and the soil is prepared for the succeeding crop.

If, then, as has been fully demonstrated, a saving of one-half if not two-thirds of the labor of breaking up grass land and preparing it for a corn crop, can be realized by this mode of culture, and at the same time a better crop produced, it is certainly worthy the attention of the farmers of this county, who, I am satisfied will give to the subject all the considerations which its importance demands.

Washing Sheep.

Bartholomew Nelson, Esq. late of Augusta, now of Hallowell, remarkable for his plain, practical common sense, observed in conversation, that he thought he had made quite an improvement in his mode of washing sheep. Having a stream in his pasture, where he could raise a small head of water, he made a plank box, eight feet long, four feet wide, and three and a half feet high, just below his dam, from which he conducted a stream of water into his box, sufficient to keep it full and running over at the lower end besides a constant discharge from the bottom of the box through a two inch augur hole, to let off the sediment. This box or vat, he considered of fair size for four men to work at, standing on the outside, dry, while they washed their sheep, and then returned them to the flock in the yard, made of suitable size for the number of sheep to be washed. He thought this cheap establishment increased the comfort of his laborers, compared to wading into the water, and also that they could wash faster and cleaner, without bending so much, or exposing their clothes to be rent.

A number of neighbors might join in preparing such a convenient concern, where they could find suitable water; or one could build, and then rent the accommodation, if he choose. Considering this information too good to be lost, and it being a good season to provide the little lumber necessary, I thought I would relate it as recollected.

I think he stated that 3 or 4 men completed the whole concern in half a day.—*Bangor Mechanic and Farmer.*

Root Crops.

The great advantage of the culture of root crops has been proved beyond a doubt; and those who do not wish to neglect the most profitable branch of farming, should pay particular attention to the subject.

Carrots, when planted in a proper soil, a deep rich sandy loam, always a profitable crop, and furnish excellent food for horses in spring when mixed with cut hay, meal, &c. The Long Orange variety is by far the best for field culture.

As feeble plants, as well as feeble animals, generally produce feeble offspring, potatoes for seed should be selected from the largest. In dry soils, and in dry seasons, uncut potatoes generally succeed the best, because they do not dry up so soon. When potatoes are cut, they should for this reason be planted deeper than otherwise.

Gen. A. W. Barnum of Vergennes, Vt. raised in one instance at the rate of 3410 bushels of potatoes to the acre,* as was proved by the examination of several persons; and he is of opinion that 1000 bushels may be raised upon an acre of land, with less than half the expense it usually costs on four acres. Those who wish to perform the experiment are referred to the full description given in the Genesee Farmer, vol. 5, page 141.

Mangel wurtzel is one of the most profitable crops the farmer can cultivate. Any deep rich soil is well adapted to it, none other should be employed. It may be sowed from the first to the middle of May—about three pounds to the acre—in drills about 15 or 18 inches apart. It will require no more labor to hoe a given number of rows at this distance, than the same number at a greater distance, after a cultivator has been passed between them, and we get more from the ground. It is much better to sow them too thick than too thin, as they are easily thinned by the hand afterwards. Success greatly depends on keeping them clear of weeds at the early stages of their growth. Better not cultivate a crop if it cannot be done in the best manner, as disappointment in consequence of bad culture, does more mischief than is commonly supposed. Nevertheless, do not fail to cultivate a crop which is attended with so much profit.

T. & H. Little, of Newbury, Mass., raised 33½ tons of mangel wurtzel to the acre, or more than fourteen hundred bushels. Gideon Foster of Charleston, Mass., raised 43 tons to the acre. Henry Thompson of Baltimore raised at the rate of 60 tons to the acre.

The ground intended for ruta baga should be prepared during this month, in order that

* See Gen. Far. vol. 5, pp. 19, 141.

they may be sowed early in June. The preparation consists in enriching, if practicable by rotted manure, and finely and deeply pulverizing by ploughing and harrowing.

Soils for root crops should always be rich and deep enough to require no ridging; but when a soil is fertile and shallow, better crops are frequently raised by throwing it into ridges than leaving the surface flat, because in this ridge the fertile soil is accumulated. Hence some have supposed that ridging should be performed in *all* cases.

Peas as a Field Crop.

There is probably no vegetable which affords more nutritive matter than peas. Their culture, however, as a field crop, is not very extensive in this State, and their use as an article of diet or food, except when green is not very general. According to the calculation of some farmers, as many bushels of peas can be raised on rather poor land, as there could be raised bushels of corn on the same soil. If this be actually true, it would be much better to sow peas than to plant corn on such land. Oats should be sown with the peas, as they serve to support them and prevent their lodging, and they may be separated afterwards by a sieve properly made. Rich land is not so favorable for peas, as it causes them to produce more vine in porportion to the peas, than land of a poorer quality, and it is also thought best not to sow too many to the acre.—*Maine Farmer.*

Silk Growers Almanac for 1838.

The Subscribers propose publishing by subscription, an Almanac with the above title, which will contain, besides the usual calculations, full directions for the cultivation of the Mulberry tree, rearing silk worms, and reeling the cocoons into merchantable raw silk, also directions for the cultivation of the *Sugar Beet*, and converting the same into sugar. It will be edited by an experienced Silk Grower, printed on fine paper, 12 mo. with fair type, and embellished with numerous engravings, and will contain from seventy-five to one hundred pages of closely printed matter. The Almanacs will be ready for delivery on the first of September, 1837, and it is requested that subscription lists, to whom they may be sent, will be returned by the first or middle of August, as no more will be published than sufficient to supply subscribers. TERMS.—$15 per hundred, $2 25 per dozen, and 25 cents per single copy. All orders by mail (post paid,) or otherwise, enclosing the cash, will be promptly attended to. Those persons to whom these are sent, are requested to act as agents.

THOMAS D. PERIT & Co.
No. 108 Chesnut street Philad.

Back Numbers.

We have now finished the reprint of our back numbers, the seventh number will in the course of a few days, be forwarded to all our subscribers who are entitled to receive it. If omissions have occurred in the transmission or receipt of former numbers, we will, on receipt of notice thereof, free of expense, forward duplicate copies.

The Money Market, and Prices Current.

There is still great fluctuation in the markets—the prices of most articles have declined considerably, and are at present so unsteady as to induce us to defer our prices current until the first of June. The most important matter that has transpired for years, and one which will affect every class of the community, is the suspension of specie payments by *all* the Banks in Philadelphia, New York, Boston, and Baltimore; we presume that country banks generally will adopt the same course, in self defence. The suspension of specie payments by the banks, has created much unnecessary alarm—and shows pretty conclusively, we think, that they are not able, on every emergency, to meet their liabilities: nevertheless, we believe they are generally solvent, and that no greater risk is run in taking their notes *now* than there has been heretofore; indeed, if the present course had not been adopted, the country would have been well nigh drained of specie by excessive *exportation*. Farmers should not be alarmed—there is no necessity of sacrificing the notes they have on hand, as we think they will soon pass current in all business transactions. The greatest inconvenience will be felt in cities and large towns; and among the poorer classes. As the country banks have already, or must undoubtedly follow the example of the banks in the large cities, in the suspension of specie payments, we presume that they will not be backward in redeeming their notes whenever the city banks commence the "good work." The Baltimore banks redeem all their five dollar notes—we regret that the other banks in this city and elsewhere, had not adopted a similar plan; it would have prevented the great inconvenience now felt for want of change. Again we say, be of good courage—keep out of debt, and above all let every farmer shun a bank—his name should never be found within its doors.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, June 1, 1837.** **No. 22.**

For the Farmers' Cabinet.

The Observer---No. 8.

The observant and experienced Locke inquires, "Whoever, by the most cogent arguments, will be prevailed upon to disrobe himself at once, of all his own opinions and pretensions to knowledge and learning, which, with hard study, he hath all his lifetime been laboring for, and turn himself out stark naked, in quest of fresh notions?—all the arguments that can be used, will be as little able to prevail, as the wind did with the traveler, to part with his cloak, which he held only the faster." This appears to be the precise situation of "Subscriber." He acknowledges having "dissected a considerable number of horns, all from cattle said to have died of hollow horn, but *has not found any satisfactory evidence of waste or decay in the pith or bone of any of them.*" Yet, only *holding his cloak the faster*, he immediately says, "*as to the existence of the disease, I have found no reason to change my opinion.*"

I feel as much reluctance to engage in a war of words as he can possibly do; and I anxiously desire to avoid any thing which would induce him "to love his own opinions better than the truth." But I am willing to pursue the "investigation of facts," *let what will become of the cloak.*

In speaking of the horn, I said that "during life, the blood must circulate through the horn." By what "Subscriber" calls "a mistake," he understood this to mean, "during the life of the animal," and not to apply "merely to the life of the horn." I made life a necessary condition to preserve the circulation in the horn. This life could only be understood in relation to the part referred to. It was a *mistake* to understand the tail, or any other part, when the horn was spoken of. I do not, however, profess to be a correct linguist; and, exposed as I am, to the arbitrary exactions of an arduous profession, I am often obliged to write with more haste than is consistent with perspicuity of style.

"We now come (says "Subscriber,") to what Observer calls the pith of the controversy; does the pith of the horn waste, yea or nay?" He seems sorely vexed that I should have denied such a wasting of the pith; and quarrels, downright, with my challenge, for those who believe in it, to produce the only proper evidence in the case, *the horn so wasted.* These things are not strange. My denial has thrown the *onus probandi* on him; he must either accept the challenge, and sustain the position by proof, or abandon it as untenable. He has preferred the latter course. Having "dissected a considerable number of horns, all from cattle said to have died of hollow horn, but not having found any satisfactory evidence of waste or decay in the pith or bone of any of them," he very prudently "chooses not to accept the challenge;—first, because he does not know that he can readily find a hollow horn; and secondly, he desires to avoid controversy." The former is a very good—the latter a very bad reason for this choice. Facts furnish the very best means, either to prevent or terminate controversy. But it is always dangerous to persist in supporting an opinion without proof, *for the sake of controversy.* It is this which "induces people to love their own opinions better than the truth, or reasonableness of the case."

At page 308, second column, "Subscriber" has made a number of quotations, to show my "novel manner of treating the subject," by "*admitting the fact and then denying it.*"

This is also a "mistake." The term *hollow horn* is used in a generic sense, as the name of a disease, and not to express the condition of the horn merely. It is this *disease*, placed in contradistinction to a mere hollowness of the horn, which is denied. Hence. I have denied, and still do deny, the existence of *hollow horn*, and admit the possibility of horns becoming hollow *from ordinary caries*, like other bones. The horns are always hollow,—they may become more so by caries of the pith, without the animal having *hollow horn*. Polled, or hornless cattle, are supposed to be affected with the same disease. They are said, and with equal propriety, to have hollow horn, and they are treated much in the same way as horned cattle, by boring. "Subscriber" will now understand this seeming paradox. That *cattle have not always hollow horn when their horns are hollow.*

In the next column, "Subscriber" says "suppose I were to say to Observer, that there is something wrong in the generally received opinion, of bones being liable to waste and decay, &c. would he not say to me that this opinion was founded upon fact; that the testimony was ample to satisfy any unprejudiced mind? Would he not refer me to authentic history of diseased bones? And would he not be surprised if I refused to admit the fact?" Yes, most assuredly I would. But suppose "Subscriber" had given facts and reasons to prove the opinion erroneous, that he had pointed out sources of deception, sufficient to create strong doubts of its correctness, and on the faith of these, had called upon me for testimony in its support. Would he not be surprised if I should say to him, I have examined a considerable number of bones, all of which were said to be diseased and attended by the ordinary symptoms, but I have not found any satisfactory evidence of decay in any of them; yet, I have found no reason to change my opinion? Would he not tell me that opinions should be founded upon knowledge, and that knowledge be derived from facts? "Subscriber" has attempted an analogy between things totally dissimilar—ordinary caries and hollow horn. By confounding them together, he has completely broken the parallel. Once admit the analogy, and we shall have as many *hollow diseases* as there are bones in the skeleton, to become hollow by caries. In order to give him the full benefit of his argument, I pledge myself to renounce all scepticism in the case, whenever he shall produce the thousandth part of the evidence for the existence of hollow horn, by which the occurrence of ordinary bony caries is supported.

"Subscriber" says, "there is no doubt, but the pith of the horn wastes away sooner after the death of the animal, than any other bone. On examination, I have found a number of piths (in the horn house I suppose,) decayed and rotten toward the point, and the bone and the root of the horn perfectly sound. This fact favors the opinion, that the pith is more frequently the seat of disease than any other bone." The fact, as stated, is true of the *pith*, but does not apply to the *bone of the pith*. The pith is composed of a spongy bone, covered and lined with a highly vascular periosteum, and having its interstices filled with blood vessels. Towards the tip, the bone is more porous, consequently, there is a larger proportion of animal matter in that part to putrify, as "Subscriber" has justly remarked. It was this animal matter—not the bone which he found rotten. The inference he draws, "that the pith is more frequently the seat of disease than any other bone," requires the evidence of facts for its support. If he will make the examination, he will find that the end of the pith in the horns of sheep, is almost entirely made up of animal matter—much more so than in cattle—and hence, he would suppose, much more liable to decay;—yet, I have not understood hollow horn to be more common among sheep than cattle.

One more remark, and I am done. "Subscriber" thinks that the "general term (hollow horn,) given by ignorant people, to all the diseases of which cattle die in the spring season, is, perhaps, as near the truth as that excess of information which pretends to know that such a disease has no existence in nature." I plead guilty of the "*folly of pretending to a knowledge of things*," and am justly charged with that "*excess of information*," which denies the existence of *hollow horn*. I know it has an existence in the minds of what he is pleased to call "ignorant people," but having diligently sought for it in nature, and in the history of observed facts, without success, I must be permitted to doubt and to deny its existence, until evidence shall be brought to sustain it. "Subscriber" volunteered to advocate this opinion of "ignorant people," and to prop their tottering edifice, but its ruins have tumbled upon his own head. He has not proved the existence of hollow horn. He has not detected the folly of my pretending to a knowledge of things. He has not shown that it is "excess of information" for me to pretend to know more than "ignorant people." I hope that he will, therefore, "disrobe himself of all his own opinions and pretensions to knowledge," respecting hollow horn, "and turn himself out, stark naked, in quest of fresh notions," more consistent with observation, experience and facts.

Since my essays on horns were written, the editor of the Farmers' Cabinet has kind-

ly put me in possession of a recent, and very valuable English work, on "Cattle, their Breeds, Management and Diseases." I shall make a few extracts, confirmatory of the views held out in those essays.

"The horn of the ox is composed of an elongation of the frontal bone, covered by a hard coating, originally of a gelatinous nature. Its base is a process or continuation of the frontal bone, and it is, like that bone, hollow, or divided into numerous compartments or cells, all of them communicating with each other, and lined by a continuation of the membrane of the nose." p. 278. "Hence, it happens, that the frontal sinuses extend from the angle of the eye, to the very foramen through which the brain escapes from the skull, nay, as we shall see presently, to the very tip of the horn." p. 275. This is admirably shown by a section of the head and horn, p. 273. [We could not procure the engravings in season.]

"We have described the horn, at the base, as being very thin, it is quite as much so as the cuticle, or scarf skin, and it covers one of the most vascular bones in the whole body. No where else can the practitioner get so near to the circulating fluid—or to so great a quantity of it. He, therefore, puts his hand on the root of the horn, assured that he shall there have the precise temperature of the blood, and thus be enabled to judge of the degree of general fever, or constitutional disturbance." p. 280.

INFLAMMATION OF THE FRONTAL SINUSES.

The whole of this cavity is lined by a prolongation of the membrane of the nose, and when one part of it is inflamed, the whole is apt to be affected. This accounts for the very serious character which nasal gleet, a discharge from the nostrils, sometimes assumes in cattle. In the horse we think little of it, except it has a glanderous character, or is connected with considerable cough or fever. But the sooner a gleet from the nose of an ox is examined into, and properly treated, the better, for the inflammation is far more extensive than that which occurs in the horse.

After a little cough, with slight nasal discharge, we occasionally find the beast rapidly becoming dull, and drooping, and carrying his head on one side. Either grubs or worms have crept up the nostril, and are lodged in some of the sinuses, and are a source of irritation there; or inflammation, at first merely that of the membrane of the nose, and connected with common cold, has extended along the cavity, and is more intense in some particular spot, than in others; or has gone on to suppuration, and matter is thrown out and lodged there, and generally, about the root of one of the horns. The veterinary surgeon does one of two things, he either opens the skull at the root of the horn, with the trephine, or he proceeds in a more summary, and a better way—he cuts off the horn at its root. More than a pint of pus has sometimes escaped from the orifice; and, although there may not have been any suppuration, and throwing out of pus, yet the inflammation will be materially relieved by the bleeding that necessarily follows such an operation. The opening into the sinus, which is thus made, should, however, be speedily closed, or the stimulous of the atmospheric air will render the inflammation worse than it was before." pp. 275-6.

This is, evidently, what I have described under the head of *inflamed horn*. His recommendation to cut off the horn, seems inconsistent with that to close the orifice immediately. It is the only case in which I have advised, or admitted the propriety of boring. See Cabinet, p. 211. This is the only disease of the horns mentioned in the book. Hollow horn appears to be unknown to our trans-atlantic neighbors.

New-Garden, 5th mo. 10th, 1837.

For the Farmers' Cabinet.

Agricultural Implements.

NO. VII.

MACHINE FOR CUTTING GRASS AND GRAIN WITH HORSE POWER.

This machine is extremely valuable where the proprietor has large quantities of grass or grain to cut, on land sufficiently smooth and clear of stones, and other obstructions, but where there are such obstructions, the power of men can be employed to greater advantage. The first cost of a machine, and interest upon this, would be too great for each small farmer to own a machine exclusively; yet several might combine, and arrange their business so as to keep one in use every day, during the season of cutting grass and grain; or a person who understands how to keep a machine in perfect repair, and use it to the greatest advantage, might find the business, as a constant employment, during the season, a profitable one; in such case he might furnish the machine, and receive a stipulated sum per acre, and the owner of the grass or grain furnish the horses, (which are generally idle, or have but little to do during this season,) and be at all other expense, except the machine and personal attendance upon it as aforesaid.

The average speed of a good machine, may be stated at one and a half acres per hour, this would be fifteen acres per day, allowing ten hours employment each day. The usual cost per acre, when cut by the power of men, including board, will average

about one dollar per acre for grass; now if we deduct one dollar per day for the expense attending the machine (this includes a man's board and the extra grain that two horses require beyond what they would when idle,) and we have fourteen dollars per day, as a compensation for the owner of the machine.

The following general description, will probably be sufficient to enable a person to build a machine. The cutter is a circular edge of steel, formed by several segments confined by screws upon a horizontal wheel, and turns between the two wheels that support the machine, one of which gives motion to the cutter by the aid of cog wheels, so constructed as to continue the motion while it moves up and down, over the irregular surface of the ground; this is produced by having the spur cogs on the shaft of the wheel, which carries the cutter, made of sufficient length, upon the shaft, to continue in gear, and at the same time move up and down from the lowest and highest points.

Sometimes there are two cog wheels used, and at other times three, the former called single, and the latter double gear. In the former case, the face cog wheel, axle or shaft, and one of the wheels which support the machine turn together, and the other wheel turns on a fixed axle; in the latter case, both the wheels that support the machine, turn on a fixed axle; one of them has a face cog wheel bolted on the side of the felloe; this works into a horizontal spur cog wheel, which turns another spur cog wheel on the shaft which carries the cutter. In either case, the wheels are so proportioned as to give a motion to the cutting edge, six or eight times faster than the forward motion of the machine. The shaft of the wheel which carries the cutter, turns on a pivot in a box at the lower end, and that box is attached to a slide, or to the axle of a pair of wheels, constructed so as to move up and down with the irregularity of the ground, and a sufficient length of the shaft above the cog wheel is made of a cylindrical form, to move up and down, and at the same time turn in another box. The lower side of the cutter rubs upon a stone, or other suitable substance to keep it sharp, as it turns round, and the horses go one before the other, at the edge of the uncut grass or grain. The driving wheel is prevented from sliding on the ground, by spikes or spurs in the periphery.

Chester co., Pa., 13th May, 1837.

Potatoes.—In Prussia the potatoe is cultivated with peculiar success;—as the stalk grows, the earth is heaped up, leaving only three leaves at the top; roots are thus greatly increased, and the produce is said to be astonishing.

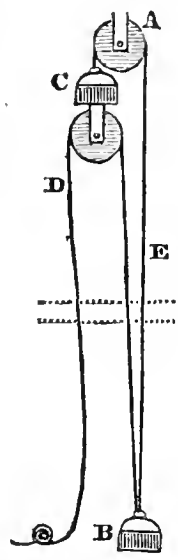
For the Farmers' Cabinet.

Alternating Elevator for the application of the Power of Men or Horses.

NO. II.

The following additional remarks on two former communications upon this subject, may be of service. By adopting this plan no ladder will be wanted, and the power will be more than double.

Fig. 78.



A is a fixed vertical pulley or wheel.

B one of the vessels which ascends and descends alternately, and may weigh 50 lbs.

C the other vessel that ascends and descends with a vertical pulley attached to it, both may weigh 195 lbs.

D E a rope made fast to B about one third the distance from one end; the short end E, of the rope is passed over the fixed pulley, and made fast to the other vessel C, which ascends and descends, and the other end D of the rope is passed over the movable pulley attached to the vessel C, and allowed to descend in a vertical direction.

Now suppose a man weighing 150 lbs. in the vessel B, on a load of 290 pounds, and drawing down at the rope D with his hands, applying a force of 100 lbs. or two-thirds of his weight, this reduces the weight of B from 490 lbs. to 390 lbs., and adds 200 lbs. to C, C—395 lbs., B—390 lbs., } 5 lbs. in C more than B, will be sufficient to cause a preponderance, if all the parts be properly constructed, if not, B may be made heavier, and a still greater force applied to C by the rope D.

Thus B rises to the lower dotted line, and C descends at the same time to the upper dotted, three or four feet above the lower one. The load 290 lbs. is discharged, and B—50 lbs. and the man—150 lbs. } 200 lbs., which is 5 lbs. more than C—195 lbs., this extra weight of B more than C, causes B to descend to the lowest point, and at the same time C ascends to the highest point.

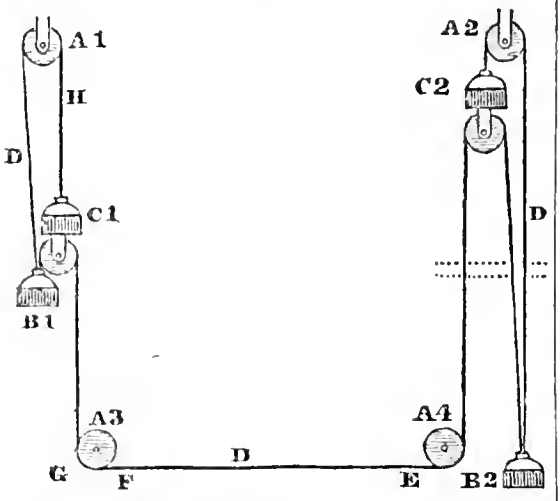
When horse power is desired to be used with a machine constructed upon this principle, the following described parts may be used, viz:

A 1, A 2, A 3, A 4, are four vertical fixed wheels or pulleys.

B 1, B 2, are two vessels which ascend and descend alternately; each may weigh when empty 30 lbs., and be loaded with 570 lbs.

C 1, C 2, are two other vessels, each with a moveable pulley attached, which ascend and descend alternately, each may weigh 20 lbs.

Fig. 79.



D D D a rope with one end made fast to one movable vessel C 1, and the other end to the other C 2, and passes over the two upper fixed pullies A 1, A 2, and is connected with the other movable vessels B 1, B 2, and passes over the two movable pullies attached to C 1, C 2, and under the lower fixed pullies A 3, A 4.

Now suppose a horse attached to the rope at E and moving to F, drawing with a force of 200 lbs., B 2=570 lbs. will be raised to the lower dotted line, and C 2 with the movable pulley will at the same time descend to the upper dotted line, two or three inches above the lower one, and B 1 will at the same time descend to C 1, and C 1 will ascend to H. This calculation allows five per cent. for the friction of the pullies, and inflexibility in the rope, and supposes the horse or other moving power, to pass through thrice the space that each of the vessels B 1, B 2, C 1, C 2, does, and also supposes a load of 570 lbs. raised and discharged at the highest point from B 1 and B 2, each time that they ascend; but suppose one of them to ascend and descend loaded, and the other to ascend loaded with 1140 lbs., and descend empty, or increase the moving power to four horses—800 lbs., at a velocity of two miles an hour, and multiply 570 by 4 will give 2280 lbs., raised by each vessel B 1, B 2, at each ascent or twice this amount—4560 lbs., by one of them, when the other ascends and descends loaded. I have given certain specified weights in order to explain the principle, but these may be varied with circumstances, for instance, where the friction is greater than here supposed, the load to be raised may be less, compared with the moving power.

Chester co., Pa., 20th May, 1837. P.

For the Farmers' Cabinet.

The Black Fly.

In some sections, the black fly, known to our farmers generally, is found extremely troublesome and injurious. I have myself witnessed its bad effects. A remedy has been proposed in some of the papers. It is to sow a bushel of dry ashes to the acre on vegetables, subject to the inroads of this insect. The ashes to be applied while the dew is on, or while the vegetables are moist. The application should be made when the plants are from two to four days old. This top dressing, while it prevents the ravages of the fly, stimulates the growth of the plants. I have tried the experiment for two or three years past with my turnep-field, and invariably with the best success. Should a rain immediately succeed the sowing of the ashes, the application should be immediately repeated.

A Bucks County Farmer.

Extract of a letter to the Editor, from a gentleman in Indiana county, Pa., dated, May 20, 1837.

"A short time since I subscribed for the Farmers' Cabinet, from a desire to sustain an agricultural work published in our State; at the time of subscribing I was unacquainted with the publication, but having lately received it from the thirteenth number, and finding it one of merit, and worthy of general patronage, I have interested myself so far as to recommend it to some of my friends and neighbors, and as the result of my efforts, I herewith send you the names of thirty subscribers, with payment in advance. You will also please send me the work from the commencement, as I wish to preserve it entire for binding.

I hope that this attempt to establish an agricultural newspaper will be successful. I have long regarded it as a disgrace to Pennsylvania, one of the first agricultural states in the Union, that no Agricultural Journal was published within her borders. I am rejoiced that you have made the effort, and not only so, but that the Farmers' Cabinet, so far as I have examined it, is calculated to promote the interests and welfare of the State, as I hold it to be a true principle that any plan by which the agriculture of a country is advanced, and its staple productions increased, tends to benefit the community, both individually and collectively. I regard the "Cabinet" as eminently calculated to advance the interests of agricultural science, and so long as it is conducted with reference to *utility*, it will afford me great pleasure to recommend it—and I hope that the farmers of Pennsylvania, will give it their cordial and hearty support."

For the Farmers' Cabinet.

Importance of Irrigation.

BY SAMUEL HAINS.

The Memoirs of the Philadelphia Agricultural Society, contain many valuable papers on Agricultural Science, but unfortunately the circulation of the volumes published by the Society, (at long intervals,) has been very limited. On looking over a volume published in 1825, my attention was forcibly arrested by an article on the importance of irrigation. Since that article was penned, great and important changes have taken place in the agriculture of the country—many farms then almost ruined by a bad system, have been reclaimed, and not only present evidences of great fertility, but have abundantly remunerated their proprietors for all the expense and labor bestowed upon them. Yet there is still room for much greater improvement, not only in the immediate vicinity of the city, but throughout the whole country. The following are extracts from the communication referred to, and you are requested to give them a place in the Cabinet, at your earliest convenience.

Cast your eye upon a map of Pennsylvania, and within a range of thirty miles around this city, you will see one of the best watered districts in this country; a district closely intersected with numerous streams of the finest water, most of which I know from actual levels taken in various directions, have their sources at an elevation of from 300 to 500 feet above the level of the tide. The great elevation from which these streams flow, besides being favorable to a great supply of water, afford an opportunity of spreading it over a great extent of surface.

Within the limits above mentioned, and from which a great portion of our small articles for market are produced, I have no hesitation in saying, there are 50,000 acres of good arable land over which water might be commanded at pleasure, if the farmers would unite in an arrangement to convey it from one farm to another, furnishing each by turns with a copious supply two or three times a week.

I had an opportunity of seeing the good effects of an arrangement of this kind in the Island of Maderia, where, although no rain falls from the month of May to October, the finest vegetables of all kinds are produced in abundance by means of irrigation. Channels for conducting the water are made at great expense, and carried over the roughest grounds for miles together: the distribution of the water (I was informed) was fixed and regulated by the laws of the Island; similar regulations connected with irrigation exist in different parts of Europe.

Irrigation is one of the most ancient practices connected with agriculture; and in some countries even at this day, is deemed of the first importance, and without which their population could not be supported.

In the early settlement of this country, and for nearly a century afterwards, farms were valued in proportion to the quantity of land capable of irrigation. In offering a farm for sale or rent, during that period, no man ever forgot to mention, that it "contained so many acres of watered meadows," and that "more might be made:" but since the introduction of plaster, and red clover, watered meadows are almost wholly neglected, particularly in the farming districts nearest the city, where, above all others, the practice ought to be continued, and if properly managed, would be immensely profitable.

It is worthy of remark, that in many remote parts of this state, particularly those settled by Germans, and their descendants, watered meadows are highly valued. I am informed, it is a prevailing opinion among them, that the disease called *slavering* in horses and cattle, does not occur in those fed on the hay or grass from watered meadows, and I am inclined to think there is truth in the opinion, for I remember well when the disease was unknown in the neighborhood where I was brought up, viz. a few miles this side of Downingstown: hay was then seldom made from any other, than ground occasionally overflowed with water.

It is an erroneous opinion, that spreading water over land renders it unfit for the plough, or growth of grain. It is in many situations the cheapest method of enriching and restoring worn out lands than can be resorted to, and upon a dairy farm its advantages must be incalculable.

In the climate of our country, experience shows, that we may regularly look for a period of great drought between the months of June and October; the present season is another proof, that however abundant and seasonable the rain may be in the fore part of summer, and however cheap, and plentiful, butter, vegetables, and other things may be in the early part of the season, yet a few weeks of dry weather will have the effect to increase the price upon the consumer, while the articles are of inferior quality, and scarcely to be had in the market.

There is no way of counteracting the effects of drought so effectually, as by spreading water over the lands. Every kind of grass, grain, or vegetable may be improved or preserved by a skilful application of water; even fruit trees may be benefitted, and the fruit improved by it. The quality of butter, as well as the quantity in dry seasons, is greatly improved upon watered meadows:

and garlic, and many other weeds so injurious to the dairy, are lessened or wholly destroyed by irrigation. The practice which prevails in our country of draining the lands, with a view to get rid of the water, as though it were a nuisance, is attended with injurious consequences, particularly in a dairy farm. Cattle and live stock of most kinds requiring free access to water in dry warm weather, and the quantity drunk is much greater than most people imagine; for milk cows, it ought to be clean and cool, if possible, during summer: very few dairy farms in the neighborhood of the city, are as well provided as they ought to be in this respect.

Strangers, particularly those from France and Germany, in passing through our part of the country, while they see much to admire in the management of our farms, must be struck with surprise at our neglect, I might say contempt, of those beautiful streams of water with which almost every farm is supplied. In the rapid progress of agricultural improvements, the uses to which they might be applied, seem to have been overlooked: the time however is approaching, when they will be carefully improved, and their skilful management rank among the chief cares of the husbandman.

Among the means that might be devised for improving the produce of the dairy and garden, and rendering their supply regular and constant, irrigation stands pre-eminent. Lands may be manured, and judiciously divided, the exact time of planting may be known, the best kind of seeds, the best cattle and stock may be provided, but in a drought these avail nothing: "when the ground is parched, and the clouds give no rain, the hopes of the husbandman lie prostrate."

A copious stream of pure water issuing from an elevated source, is of inestimable value to the farmer, if properly managed; but like every other valuable article, it requires great skill in using it to the best advantage. In Europe, much ingenuity and talent have been employed on the subject of irrigation; the engines for raising water, canals for conveying it, and the time and manner of spreading it over the ground, have been studied with great care and brought to great perfection. In this country we have much to learn; facts might be collected in abundance to prove, that much good has been effected by it, and it would also be easy to show, that much evil has arisen from its neglect.

Whenever irrigation comes to be successfully used, it must be first under the direction of men experienced in the art; water used at an improper time or in a slovenly manner does more harm than good. I remember to have seen a few acres of meadow, over which spring water was judiciously spread, produce three crops of good hay in one summer: the water was collected in a pond, and passed rapidly over the ground at stated periods. The best method of watering gardens and orchards, is unknown in this country, although it has been partially and successfully tried in some instances within my knowledge. The nature of our climate, and the increasing demand for fruits and vegetables of good quality in our market, will compel our farmers to study and practice irrigation from the same necessity, which forty years ago compelled them to learn the best method of collecting and using manures.

In many parts of the country a strong prejudice exists against irrigation, lest it should by increasing soakage and evaporation injure and destroy the mills. This I think is a mistake, for the absorption would go to replenish the springs, and the evaporation would soon descend in showers: nothing is lost; the greater the surface of water exposed to evaporation in any country, the greater and more frequent will be the showers. I take it therefore to be sound reasoning, that irrigation would increase, rather than diminish the streams of water.

[Mr. H's description of the country in the vicinity of our city, is, with but few exceptions, regretfully true; and, as he alleges, "great and important changes" must take place, adapted to the demands induced by a growing population, accelerated by circumstances now in incipient progress. Let grain, and the hitherto common commercial articles of this kind, be brought, in ever so great abundance, from distant places, the lands within reach of indispensable and perishable supplies, must be devoted to the daily wants of a large city; and most of them cannot be brought from great distances. The objections, unreasonably fostered by theoretical forebodes, that the lands near the city, will depreciate when remote supplies of field culture glut our markets, are contrary to all experience in Europe, and will so be found here. The most encouraging *facts* could be produced, to prove that cities and population increase, and towns grow into cities, as the means of subsistence are in plenty. Those means are necessarily in demand, as cities extend, and population, of course, increases; the one stimulating and inducing the other. It can be indubitably shown, by incontestible evidence, that lands in the immediate neighbourhood of such cities, rise in value, with a rapidity which sets at nought all specious adverse anticipations.

R. PETERS.]

Radishes.

This root being liable to be eaten by worms, the following method of raising them is recommended in the *Farmer's Assistant:*

"Take equal quantities of buckwheat bran and fresh horse dung, and mix them well and plentifully in the soil by digging. Suddenly after this, a great fermentation will be produced, and great numbers of toad stools will spring up in forty-eight hours. Dig the ground over again, and sow the seed; and the radishes will grow with great rapidity, and be free from the attacks of insects. They will grow uncommonly large."

From Dickson's Live Stock and Cattle Management.

Principles and Practices

IN BREEDING NEAT CATTLE, AND OTHER SORTS OF LIVE STOCK.

With a view to the improvement of the several breeds and kinds of live stock, different principles, practices, and systems of management, have been proposed; but those which appear to be the most suitable, correct, and proper for the purpose, to have the greatest foundation in practical experience, and to be the result of the latest and most full inquiry on the subject, are those given by Sir John Sebright, in his valuable letter on "the Art of improving the Breeds of Domestic Animals." This work, together with the remarks of several judicious farmers and breeders, who have investigated and explained the principles and practice recommended therein, establish beyond all doubt the following facts and axioms:

1. That the males and females, intended to breed together, should be provided with particular attention to the good or bad qualities of each or "in reference to each other's merits and defects."

This is considered essentially necessary, as it is not always found, "by putting the best male to the best female, that the best produce will be obtained;" as should they each of them have a disposition or inclination to the same fault or imperfection, in however slight a degree, it will commonly preponderate and prevail to a much greater in the offspring, and thus decrease their value. The same faults or defects in the different sexes are unquestionably to be equally as much avoided and prevented, as the excellencies and perfections of them are to be united and combined.

2. That a breed or variety of any sort of animals may be considered "to be improved, when any desired quality has been increased by art, beyond what that quality was in the same breed, in a state of nature."

The increasing the natural good qualities and properties of different breeds and sorts of animals, should be the first consideration of the breeder, such as "the swiftness of the race horse, the propensity to fatten in cattle, and the fine wool in sheep, improvements which have been made in particular varieties of the several different species to which these animals belong." By such means, improved values are given to different sorts of animals as live stock.

3. That after a breed or variety has been rendered, in the above manner, as perfect as it is capable of being made, "what has been produced by art, must be continued by the same means; for the most improved breeds will soon return to a state of nature, or perhaps defects will arise which did not exist when the breed was in its natural state, unless the greatest attention is paid to the selection of the individuals which are to breed together."

The same care, nicety and exactness must be bestowed, in keeping up, as in forming the improvement itself; the smallest inclination or tendency to deviation or imperfection in the stock is to be attended to the instant it begins to make its appearance, in order that it may be counteracted "before it becomes a defect," and be corrected before it has attained too high a degree, but at the same time without carrying correction too far on the contrary side.

4. That full and proper regard is not only to be constantly had to the "qualities apparent in animals selected for breeding, but to those which have prevailed in the race from which they are descended, as they will always show themselves, sooner or later, in the progeny, it is for this reason that we should not breed from an animal, however excellent, unless we can ascertain it to be what is called *well bred;* that is, descended from a race of ancestors which have, through several generations, possessed, in a high degree, the properties which it is our object to obtain."

It is of the most essential importance, that the animals selected for breeding be not only *good* in themselves, and capable of being traced to parents which are the most pure and perfect of their kind, but that every intervening link in the chain of their ancestry should likewise have been good.

5. That "if a breed cannot be improved, or even continued in the degree of perfection at which it has already arrived, but by breeding from individuals so selected as to correct each other's defects, and by a judicious combination of their different properties, a position that will scarcely be denied, it follows that animals must degenerate by being long bred from the same family, without the intermixture of any other blood, or from being what is technically called *bred in and in.*"

Therefore, connecting animals for breeding that have too near or close a relation in blood to each other for a length of time should be avoided, though animals of different families of the same sort may often be united with propriety and advantage.

6. That "if the original male and female were of different families, by breeding from the mother and the son, and again from the father and the daughter in the same way, two families sufficiently distinct, might, it is supposed, be obtained; for the son is only half of the father's blood, and the produce from the mother and the son will be six parts of the mother and two of the father."

In this manner of combining them, they

would not be sufficiently near in their kindred or blood as to deteriorate their offspring or stock.

7. That though "the occasional intermixture of different families" is believed "to be necessary," it is not "by any means approved of, to mix two distinct breeds, with the view of uniting wholly the valuable properties of both. This experiment has been frequently tried, but has, it is believed, never succeeded. The first cross frequently produces a tolerable animal, but it is a breed that cannot be continued.

Thus, were it possible, "by a cross between the new Leicestershire and Merino breeds of sheep, to produce an animal uniting the excellencies of both, that is, the carcass of the one with the fleece of the other, even such an animal so produced would be of little value to the breeder; a race of the same description could not be perpetuated; and no dependence could be placed upon the produce of such animals; they would be mongrels, some like 'the former,' and some like 'the latter,' and most of them with the faults of both."

In the intermixing of different families of animals as crosses, much care and nice attention must be bestowed not to unite such as cannot have the valuable qualities or properties which they may possess, or an improvement of them perpetuated, and afterwards certainly produced in their offspring.

8. That a particular formation *generally* indicates a disposition to get fat in all sorts of animals; but this rule is not *universal*, for we sometimes see animals of the most approved forms, who are slow feeders, and whose flesh is of a bad quality, which the graziers easily ascertain by the touch. The disposition to get fat is more generally found in some breeds than in others. The Scotch highland cattle are remarkable for being almost all quick feeders, although many of them are defective in shape. The Welch cattle have but little disposition to get fat; not from being particularly ill-shaped, but because they are almost invariably what the graziers call *bad handlers.*"

Consequently, such animals as are well shaped or approach nearest to the approved form, and which have the most proper *feet* in the flesh, should be employed in the raising and improving of such stock.

It cannot therefore be too strongly impressed upon the attention of the breeder and improver of different sorts of live stock, to be most particular in a just and suitably exact selection; in putting animals together that are not too closely related in their kindred, and in crossing the families and breeds of different kinds in the most fit and correct manner.

Worms on Fruit Trees.

We find the following statement in the Lansinburgh Gazette:

Mr. Stephen Beach, who resides in Ferrisburg, Addison county, Vt., tried the following experiment with complete success: He took a slip of Birch bark about the width of three fingers, this he put around the trunk of the tree, two or three feet from the ground, and fastened the ends together, by means of a small nail driven into the tree. This bark he besmeared with the skimmings of a pot where salt pork, &c. had been boiled. The worms as it is well known spin down from the trees every night, and when they attempt to ascend the tree, they are arrested by the bark, or rather by the grease on it. They approach this and can pass no further. They gather in large quantities below this strip of bark and remain for a season and then disperse; some who attempt to cross the bark, would be found stretched out at full length and dead. It seems probable the grease and salt together destroys them. By this simple contrivance this gentleman succeeded to rid his orchard of every worm in a very short time. He informed me that one of his neighbors applied grease, or rather oil, on the tree itself; this he said prevented the worms from ascending, but it will nigh destroyed the trees. It is believed that when birch bark cannot be obtained, that pasteboard would answer the same purpose.

Agriculture.

"How forcibly," exclaims the Niagara Democrat, "how forcibly should the present scarcity of all the productions of the earth, tend to draw the attention of the owners or cultivators of the soil to the necessity for exertion to introduce a system of more industrious and thorough husbandry. True the seasons have been unpropitious—but the present crisis in agricultural productions throughout the country, is in a great degree to be attributed to another cause—a neglect of agriculture. Our whole social system has been diseased by the all-absorbing business of SPECULATION. It has drawn the mechanic from his work shop, the professional man from his duties, and enticed the tillers of the soil to look for wealth in the inflated bubbles of artificial value, and build their hopes upon the sandy foundations of imaginary sudden gain, rather than by the patient but sure process—the use of the plough. Among the types that the disease has put on, was one which created a species of contempt for ordinary pursuits of industry. Those who have been wrapt in a cloud of airy nothing, have looked down upon plodding labor, as if it was out of fashion, obsolete, and unnecessary.—

But the disease is working out its own cure; the whole machinery of the social fabric, so jostled and thrown out of gear, by the excitement of sudden and unnatural gain, is undergoing repair. A salutary retribution has inflicted the penalty of transgression, and is enforcing the fiat of the Creator, founded as are all His decrees, in immutable justice.—The retrospection of the last three years, will in the end do more to convince us that patient industry is the only natural healthy means of gain—that, aside from this, all dependence is uncertain and untenable—than would the preaching of an army of political economists. The basis of all industry, of prosperity, must be the pursuit of agriculture. That neglected, it is impious to charge upon the seasons that portion of misfortune which is clearly attributed to our own errors. All the productions of the earth are extravagantly high; the consumer is threatened with starvation; and the producer is not bettered by the emergency, for he has but little to sell—he has neglected his fields, has left the most dignified and exalted of all human pursuits, to chase the retreating shadow of unnatural gain! Let us profit by the bitter lesson of experience; let us suppose, for such reliance is at all times the dictate of wisdom, that the season now opening upon us is to be one of plenty, that the earth will give good returns for all that is committed to its charge—and then, if we come short of abundance, we shall at least have the consolation that we have neglected no duty necessary to the accomplishment of our designs."

How to Improve a Poor Farm.

Richard A. Leonard, of Middletown, N. J., has furnished us an interesting account of his manner of improving a worn-out farm, and of the sale of its products the last year; and we regret that from the great accumulation of matter on hand, we cannot give his letter in detail. We are obliged to content ourselves with a brief abstract of material facts.

Mr. Leonard came into possession of 90 acres of cultivated but exhausted land in May 1833. In that year the sale of its products amounted to $550 88; in 1834 the sales amounted to $718 05; in 1835 to $1,125 04; and in 1836, notwithstanding the unfavorable season, and the failure of most of his staple crops, to $1,166 13—thus more than doubling its products by judicious management, in three years. His expense during the last year, for labor, dung and freight, amounted to $254 72—thus leaving him a nett profit on his farm of $912 41—or more than $100 per acre per annum. We will quote Mr. Leonard's statement of the means he adopted to thus double the fertility of his soil.

"My farm," says he, "was in so low a condition that it would not produce more than ten bushels of rye, or twenty of corn per acre; and as I had no other income but what I could make upon this poor farm, I set about farming in earnest. I found it was in vain to attempt improvement without manure, so I contrived to get about 400 loads a year, 300 of which I made in the following manner. I have marl, though of very inferior quality. I cart about 100 loads of this into my barn yard, and by yarding my cattle upon it through the season, contrive to increase it to 200 loads. I also cart about 50 loads to my hog pen, on which I keep my hogs the year round. In this way I got 100 loads more, which is excellent for potatoes, corn, &c., and as my farm is situate near the bay, I obtain from New York annually, from 50 to 75 loads of the best stable dung, at about $1 per load on delivery, and by mixing it with the earth, &c. make up the 400 loads. By this treatment I find my land improve rapidly, and my income in like proportion. But I am sorry to say there are many farmers among us who are still pursuing the old land-killing system, scarcely making both ends meet. I might say something concerning the beneficial results of underdraining, and of lime as a manure; but I conclude for the present."

This communication affords a worthy example of prudent industry and good management, and shows that even a poor farm, well managed, may be rendered more productive than many a good farm now is, under bad management.—*Albany Cultivator.*

Useful Instructions Regarding the Milking of Cows.

The operation of milking is performed differently in various parts of the country. In some, the dairy maid dips her hand into a little milk, and by successively stripping the teat between the finger and thumb, unloads the udder. The plan however, is attended with the disadvantage of irritating more or less the teat, and rendering it liable to cracks and chaps, which are followed by inflammation, extending to the rest of the quarter. This accounts for the disease occurring more frequently among the cows under the charge of one milker than it does in those which are under the charge of another; and, as this practice is more common in some parts of the country than in others, it also accounts for the disease being more common in these parts. This plan of milking where the irritation is not sufficient to excite the extent of inflammation to which I have alluded, frequently produces a horny thickening of the teat, a consequence of the cracks and chaps, which renders it more difficult to milk than when in its natural state; and at the same time predisposes to inflammation, when any case

occurs to set it up. These effects may be, and are almost entirely avoided, by the more scientific plan of milking adopted in other parts of the country, where instead of drawing down or stripping the teat between the thumb and fingers the dairy maid follows more closely the principles which instinct has taught the calf. (The calf jerks its nose into the udder and forces down the milk.) She first takes a slight hold of the teat with her hand, by which she merely encircles it, then lifts her hand up, so as to press the body of the udder upwards by which the milk escapes into the teat, or if (as is the case when some hours have elapsed between milking times,) the teat is full, she grasps the teat close to its origin with her thumb and fore finger, so as to prevent the milk which is in the teat from escaping upwards; then making the rest of the fingers to close from above downwards in succession, forces out what milk may be contained in the teat through the opening of it. The hand is again pressed up and closed as before, and thus by repeating this action, the udder is completely emptied, without that coarse tugging and tearing of the teat which is so apt to produce disease.—*Quar. Jour. Agri.*

From the Memoirs of the Philadelphia Society.

Utility of Lime in preserving Fence-posts.

BY WM. WEBB.

Accident in some instances, has led to the discovery, that lime applied to wood, preserves it from decay. The white-washing of fences is practised, more as a substitute for paint, and for appearance sake, than to prevent decay. Even this superficial mode of applying lime, is of some use in preserving wood. Having full confidence in the efficacy of lime, as a preservation of wood, to make fence-posts less subject to rot, I have this season, for the first time, used it as follows: I provided a number of narrow boards, about three feet long of various breadths, and one inch thick, with a hole in the end of each. When the hole in the ground was ready for the reception of the post, some lime was put into it; on this lime the post was placed; some of the narrow boards were then selected, and placed close to and around the post in the hole. The ground was then rammed into the hole, after the usual manner; and when filled, the boards were drawn out. This is done with greater facility, by putting a stick into the hole in the upper end of the board, by which it may be raised by a lever or prise, if too fast to draw out otherwise. The boards being all removed, fill the space they occupied with quick lime; if but partially, it is better than if totally slaked, because as it slakes it will expand and make the posts stand very firm. If altogether slaked, it also swells and makes the post quite secure. From three to five posts, with hewn or uniform butts will require one bushel of lime. Boards to surround the post half an inch thick (and perhaps this thickness of lime may be sufficient) would not take quite half that quantity. The lime is all the additional expense, except the extra labor (which is very trifling,) to be incurred by setting a fence, with that part of the posts in the ground enveloped in lime.

To prevent the ground from adhering to the posts at the surface, and occasioning their decay, this part being the one which generally first begins to rot, lime-mortar is applied, plaistering round the posts with an elevation adjoining to the wood. Into this mortar, gravel was pressed, to prevent the rains from washing it away. This mortar may be applied at any time most convenient after the fence is made.

WILLIAM WEBB.

From the N. A. Review.

Sugar Maple--Sugar.

Next to the pines and oaks, there seems to be no tree in the country of more extensive celebrity than the sugar maple. The extraordinary neatness of its appearance, and the beauty of its foliage, which in summer is of the liveliest green, and in autumn assumes the richest and most glowing red, are sufficient to recommend it as a beautiful ornament in our gardens and avenues. The bark is remarkably smooth, and the tree is infested, we believe, by no insect, nor subject to any maladies. The branches are disposed with much regularity, though without stiffness, and so arranged, that their usual outline is an elegant oval. It is to this tree we are chiefly indebted for the beautiful curled and bird's eye maple, employed in cabinet work, which rivals, if it be not admitted to surpass in brilliancy and richness, the finest woods of tropical climates. But the sugar maple derives its chief reputation, as well as its name, from the qualities of its sap. A large portion of the sugar used in many parts of the country, the western districts of Vermont and New York for instance, is derived from the maple. Michaux remarked, nearly thirty years since, that at least ten millions of pounds of this sugar were then annually made in the United States. This quantity is far less than might be procured, from the same source, in case of necessity. According to Dr. Rush, the northern part of New York and Pennsylvania alone, contained at the same period, thirty millions of sugar maple trees; and if we suppose each tree to yield, on an average, from two to four pounds of sugar annually, the pro-

duct would go far towards supplying the whole consumption of the country.

The maple sugar can be made of a quality equal to the best imported. We have seen it formed into very good loaf sugar. It is, however, in a brown state that it is generally used; and, except in the districts where it is produced, it is less agreeable to the palate of consumers generally, than the product of the cane. To manufacture it, requires a great expense not only of labor, but of fuel; and hence it probably cannot be sold, at a distance, for a price which will enable it to compete with the imported article. The sap of the tree, or maple juice, as it is called, is greedily coveted by wild and domestic animals, who break through enclosures for the sake of obtaining it, and is generally an agreeable and wholesome beverage. We have been informed, however, of one instance, in which it is proved to be of a highly intoxicating quality. This circumstance occurred about thirty years since, in the western part of the state of New York. All the sap procured from the maple trees of an extensive district, was found to have undergone a vinous fermentation; and children who drank it freely were in some cases rendered delirious for two or three days. We have heard of no other instance of this phenomenon, nor have we learned that any probable explanation has been given of its cause.

Profits of Cow Keeping.

Mr. Holmes,—No branch of husbandry is more profitable than the keeping of cows, if properly managed. We have but few farmers in the state of Maine who make great profits by the dairy. Many farmers among us are solicitous to improve their breeds of cows, and some raise considerable quantities of good roots, with which to feed them during the winter. This is all very good, so far; but what is the treatment of cows during the summer season, the time when all, or nearly all, the profits are obtained? Cows kept in dry, short pastures, in summer, will not be profitable to their owner, however much ruta baga, mangel wurtzel, or carrots, have been fed out to them during the winter. I believe it to be a fact, that cows generally, (some few exceptions,) are shamefully stinted in their food during the summer, in our state, notwithstanding our grazing lands are excellent.

I believe that the most profitable mode of keeping cows through the summer is by soiling, or feeding them with grass in the barn or yard. This may frighten some farmers, and excite the ridcule of others; but I think it will be granted that he is the best farmer who realizes the greatest number of dollars and cents from a given quanity of land, with the least amount of labor. Many farmers pride themselves on raising great crops; and 100 bushels of Indian corn have been raised on a single acre. This is a great profit, but I believe that 3000 bushels of ruta baga may be as cheaply raised, take one year with another, as 100 bushels of corn. Three thousand bushels of ruta baga will give about a bushel and a half a day, each to six cows throughout the whole year. It is easy enough to see that cows fed in this way will be in excellent condition, and yield immense quantities of butter and cheese.

The method of soiling as described by Dr. Dean, was to feed cows with new mown grass: an acre of rich ground, he says, will summer a number of cows. A little hay or grass will indeed be necessary at all times of the year, but I believe roots should be raised in great abundance, and be made the chief article for feeding milch cows throughout the year as far as practicable. Cows do not generally yield great quantities of milk till June; but by supplying them liberally with roots they may be made to yield as much milk in March, April and May, as any part of the year. as Farmers, whose cows calve early, and who have an abundance of roots, may make prodigious quantites of butter and cheese early in the spring.

Farmers in Europe and in this country have practised soiling their cattle during summer, and those who have had experience in this mode of summering, have declared it to be a much cheeper and more profitable mode than grazing.

The practice of soiling cows in our state would certainly make a great saving of land, and of course it would give to farmers a larger pasture for sheep—more land could be spread for the culture of wheat—and last, not least, more land could be spread for the cultivation of mulberry trees.

Immense quantities of manure could be made, especially by those farmers who are not afraid of a little labor in hauling muck, loam, and other materials calculated to absorb the urine of animals, which is most commonly entirely lost.

Our climate is extremely well calculated to keep butter and cheese in an excellent condition.

The State of Maine may be the first dairy country upon earth—our butter and cheese might be of such quality that it would be eagerly sought after throughout the United States and the British provinces—our farms might easily acquire wealth and independence, if there was a little more enterprise.—*Maine Farmer.*

The peach trees are said, by the Hagerstown Torch Light, to have been severely injured.

Long and Short Scions.

Which are best, long or short scions? We have always supposed that a short scion, having two or three buds upon it was sufficiently long for the purpose of engrafting. We do not know now, but they are equally as good as those which are a foot in length. We have, however, seen and watched the progress of some that were uncommonly long, set two or three years ago, which have done uncommonly well, while some short ones, set the same season, have not done so well. It is possible, however, that the difference may be owing to some other cause. It is well, however, to watch and observe the operations of nature as she carries on her silent but interesting operations around us, and endeavor to treasure up as many facts as possible, and draw such conclusions as facts will warrant to guide us in future operations. We hope that those who may be engaged in grafting, will experiment a little and note the result. By the way, we are inclined to think that the mode of engrafting by cement is not so sure or safe a method as the old mode of using clay composition. We may be mistaken in this, but we are induced to draw this conclusion from observation. The cement does not so thoroughly protect the scion from the extremes of heat and cold as does the composition, and this may be one reason why it has not succeeded so well in this region. Many, however, still prefer it, and think it is equally as good as the other, and much more expeditiously applied.—*Maine Farmer.*

From the American Silk Grower and Agriculturist.

MR. COOKE:

Dear Sir,—As "one of the farmers" has requested the "Reverend gentleman!" (whose statement concerned a half acred of corn that produced 70 bushels of ears,) to give some explanation of the mode of cultivation, you are at liberty to publish the following:—

My object, in making the statement alluded to, before the Agricultural meeting, was to show the importance of *early planting* on our sandy soils, and the *benefit of ashes* on such ground.

In answer to the inquiries of "one of the farmers," I remark:

1. That it is not known "how long the land had been cleared;" it was a pasture when I purchased it.

2. The corn was planted "in rows one way," about 2½ feet apart, and the hills in each row were less than 2 feet apart.

3. The ground was ploughed about 7 inches deep the October before, and not at all in the spring. It was harrowed, and then furrowed for planting.

4. I usually put 5 or 6 kernels of corn in a hill; and at first hoeing reduce the plants to four by pulling up the least thrifty.

5. The manure used was a *compost* of decayed chips, clay and barn-yard manure—one shovel-full to a hill.

6. The ashes were applied some days before the first hoeing.

7. The season was pretty dry in July, but as the ground had not been ploughed in the spring, there was no injury from the dronght.

8 and 9. The corn was hoed three times, and "hilled" but little.

10. No instrument was used in dressing it but a hoe. Ploughing between corn is always injurious to the roots. It also, hurts potatoes in dry seasons by making the ground more dry.

11. A part of the stalks were cut for my horse, and the rest were left till the corn was ripe.

Having thus disposed of the questions proposed, I will add, that I have uniformly found that *autumnal ploughing* is the best for our plains, with harrowing in the spring. The drought never injures a crop on land thus prepared. Even beds for beets, carrots, &c. should be prepared in the autumn, and only raked in the spring. The roots grow *straighter* and *longer*, and without the radicles that are so apt to injure them.

As a proof that potatoes do best with *autumnal ploughing and early planting*, I would mention, that on a piece of land in my garden 5 rods by 4½ I raised 86 *bushels in one year*. The land was not even furrowed in the spring: but holes were dug for the manure the last week in April, and planted immediately. They were planted "in hills" at about the same distances as the corn above mentioned, and, after the first hoeing, a small quantity of ashes upon a narrow shingle put upon each hill around the potatoes. They were hoed three times.

Another fact that is important, is, *the earlier* the potatoes are, *the better they are* for summer, autumn, winter and spring. Those whose tops are green when the frost comes, are positively unhealthy. *It is a great object to have them ripen in hot weather.*

Yours respectfully,

Z. S. BARSTOW.

Keene, 20th April, 1837,

To Destroy Ticks on Lambs.

Boil tobacco in a large kettle; then put some of the liquor in a tub, adding water to it, and after wetting a lamb, let a boy hold him, standing on his feet in the tub, then squeeze out all the liquor you can. A man and boy can wash thirty, after the liquor is prepared, in two hours.

Vinegar Tree.

We have the molasses or sugar tree among us in the shape of the rock or sugar maple, which many of our farmers make use of to good advantage, and many more might, did they know how to improve the good things which Providence has supplied them with. In addition to this, we have undoubtedly, a good *vinegar tree*, though we have never tried the experiment in order to ascertain the facts, and the time may now, perhaps, be past for doing it this year. While perusing the last number of Silliman's Journal of Science, we were struck by the following remark from Prof. F. Emmet, while speaking of the properties of Formic acid,—"Being lately very much struck with the odor peculiar to the red oak, I applied my lips closely to the transverse section of some fresh cut logs, and, to my astonishment, sucked up with ease, a pure and grateful vinegar, sharp to the taste, and so like the bests pecimens of the acetic acid, that distillation could not have improved its qualities. The tree was full grown and sound, and felled in the month of February about the 6th, and the wood examined as soon as cut. The acetic acid existed more abundantly in the red portion next to the heart."

Now it is well known that the sap in the red oak is abundant, perhaps as much so as in the maple. Would it not, if tapped at the time the maple is, yield a quantity of pure vinegar sufficiently large to supply a family for a considerable part of, or for the whole year? We wish some one who has an opportunity would try the experiment, and let us know the result. The acetic acid is much used in the arts, and if it can be obtained in this simple way, of a good quality, it will be a discovery of considerable importance.—*Maine Farmer.*

Agriculture.

It is very evident that for a few years past the Agriculture of America has been rising in the scale of human employments; its rewards have been greater than were ever realised before. We do not mean that a given quantity of farmer's produce has sold for more *dollars* than it ever commanded before, but that with a given amount of labor the farmer is enabled to produce a geater amount of *wealth*, to command a greater amount of the substantial comforts and conveniences of life.

A glance at the causes of this appreciation of agricultural industry, will convince us that it is destined to be permanent.

There is no apprehension that our agriculture will ever degenerate, and fall back to the unskilful, inefficient labor of the half barbarous cultivator with his wooden spade.

As far as the prosperity of this leading occupation depends upon a skilful and judicious cultivation of the earth, it is not only certain not to recede, but to advance.

But the prosperity of the agriculturist is promoted not only by improvements in the processes of his own art, but by improvements in all other arts. The products of agriculture, being articles of prime necessity, have at all times nearly the same intrinsic value. But their exchangeable value varies very greatly. Before the invention of the spinning jenny and the power loom, a bushel of wheat might have paid for two and a half yards of cotton cloth of a given quality; whereas now a bushel of wheat will buy six or seven yards of a fabric of equal or better quality. So a great number of other manufactures have contributed to increase the *exchangeable value* of agricultural produce. And it is obvious that these advantages are as permanent as the applications of mechanical power that have given birth to them. The present improved processes in the manufacture of useful fabrics will never be abandoned unless still better are discovered.

It is the growth of various manufactures in our own and other countries, and the improved means of transportation by which these manufactures are brought to our doors, that have chiefly contributed to secure a better reward for agricultural industry.

Finally, agricultural industry was greatly elevated when the plough was substituted for the spade. Its condition was still further improved when the several kinds of labor were divided, and mechanical expertness acquired in the various arts. It advanced still farther, (and of this last melioration we have by no means reached the utmost extent,) when labor-saving machinery was generally introduced in the manufacturing arts.—*Detroit Journal.*

Millet.

This grain may be sown any time between the middle of May and the middle of July, and will make you a heavy crop of hay in six weeks, say from 2 to 4 tons to the acre. If you design it for hay alone, as soon as the head is formed, you should cut it; cure it in cocks, and you will have a hay more nutritious than any other. It cures easily, keeps well, and is eaten with avidity by either horses or cattle.

If you want to obtain the grain, let it remain a few days longer until the head turns yellow; then cut; thresh out the seed, when dried, and stack or stow away your hay. When the seed is permitted to ripen, the hay, of course, is harsher, but is still a highly nutritious provender for stock of all kinds.

If you desire hay only, you may sow from three pecks to a bushel of the seed; if for both grain and hay, from two to three pecks will be sufficient.

Corn.

If there be any who may have put in their corn without being able to manure their ground, from want of time, who may have manure at command, we would advise them still to give it a dressing, either before the grain comes up, or just after it has done so.

Those who may live upon tide water, where the sea-weed washes ashore, have a certain resource in that article to insure a good yield of corn, and by taking a little trouble may add 25 per cent. to their product: in ploughing their corn the first time, let the furrow be turned from the stalks on either side; let the cart follow the plough with the sea-weed, put in a shovel full of it around the stalks in the furrow, then let the plough return the soil, covering up the sea-weed, and they may rest assured the happiest results will crown their labors.

Those who have not this resource, have an equal fertilizer in the mould and leaves from the woods, which, if applied in the same way, would act equally efficient. So also would well rotted manure of any kind.

But should there be any who are so situated, as not to be able to encounter this trouble, we would advise them to a less laborious course. Let them mix ten bushels of spent ashes with one of plaster, and cast a common sized kitchen ladleful upon each hill soon after the corn is up.

If there should be any who may not be able to obtain the ashes, an ordinarily sized tablespoonful of plaster to each hill, will act as a charm, if put around and on the plants, when they first come up.—*Farmer and Gardener.*

Manufacture of Beet Sugar in France.

The French Minister of Finances in his report recently made, states the manufacture of beet sugar in France to be as follows:

In 1835—668,936,762 lbs.
" 1836—1,012,770,589 lbs.

That the value of the raw sugar from the harvest of 1835, was 30,349,340 francs. That of 1836, 48,968,805 francs.

The number of manufactories now at work in the making of beet sugar is 512: besides these there are 39 being erected.

By this exhibit it will be seen, that public confidence in this branch of agricultural industry, is steadily on the increase in France; which fact should inspire those engaged in the pursuits of husbandry in America, with a like confidence; and we sincerely hope, that every farmer and planter will feel himself justified in putting in more or less of the seed, with a view of ultimately adding this to the other branches of his culture. When so many disasters have followed the exertions of the wheat-growth for the last four years,—when the price of cotton has so greatly fallen,—when its sales have been so precarious—and when so little profit has recently ensued to the tobacco planters, surely each and all of them should look around them with a view of embracing other pursuits; and to us it appears clear, that none which promises surer prospects of success and profit could be desired than those of the beet and mulberry culture. Blessed with soil and climate both happily adapted to their growth, how easy a matter will it be, for any one so disposed, to embrace either, or both branches, upon a small scale, without materially affecting those which now form the staple articles of their growth.—*Ib.*

Ewes and Lambs.

Farmers sometimes experience a difficulty in making ewes own their lambs; and oftener perhaps when cases of twin lambs occur than at other times. When sheep are as valuable as at present, those who desire to rear all their lambs may find a benefit in sprinkling a little fine salt over the disowned lamb. This will usually attract the mother, and when once the operation of licking has been performed, there is usually but little danger of desertion. A friend assures us he has practiced this method with decided success; and no injury to the lambs need be apprehended from the application. Sheep, when about to lamb, should be moved and disturbed as little as possible; as all such disturbance, especially with young or wild ewes, greatly increases the probability of their forsaking their young. Ewes in the spring of the year should be kept by themselves, and fed with grain or roots in such a manner as to make them less fearful, as well as to keep them in good heart.—*Genesee Farmer.*

For the Farmers' Cabinet.

Farmers' Song, for 1837.

While the commercial world doth rock,
And feel the earthquake's power—
We only *hear* the distant shock,
Which deepens every hour.

While Merchants' notes suspended lie,
Nor Banks their specie yield—
The plough still merrily *we* ply,
And still enrich the field!

While anxious brows, and faces pale,
Like spectres fill the town—
We speed our toils with look so hale,
'Twould ill befit the frown.

While Parsons, Squires, and Doctors all
Must whistle for their fees—
Earth's credit has no rise and fall,
The Farmer rests at ease:

Not ease like that which sluggards love,
As sweat of brow will show;
But rest of mind! 'tis this we prove,
The sweets of *this* we know.

What if we *sell* not as before?
Our lands still yield their crop;
We shall not starve!—and what's still more—
May cheer the sufferer's hope!

With 'food and raiment,' we're content,
And if God smiles, they 're ours—
For both through fields and flocks are sent,
With honey from the flowers.

So thanks to Him who gave our lands,
And makes us differ now—
From those who gaze on empty hands,
Or 'neath misfortune bow.

Plainfield, N. J. CLEMENTINA

PRICES CURRENT.

ARTICLES.	Philadelphia, May 29.	Baltimore. May 25.	New York, May 29.	Boston, May 26.
Beans, white, per bush	$1 37—1 62	1 50—1 75	1 75—2 00	3 00—4 00
Beef, mess, new, per bbl	14 00–15 00	.....	13 50–14 50	15 50–16 50
Bacon, western, per lb	7½— 10	8— 9	8— 10	.....
Butter, extra, per tub	14— 16	.....	17— 19	20 — 25
Butter, fresh, per lb. (market,)	25— 31	25— 37½	25— 38	.....
Hams, per lb	9— 13	10— 12	10— 12	14— 15
Hog's Lard, per lb	8— 10	10— 12	8— 9	10— 11
Cheese, American, per lb	10½— 11½	.....	10— 12	10— 12
Beeswax, yellow, per lb	25— 27	.....	23— 25	25— 30
Beeswax, white,	.....	.....	38— 40	38— 40
Bristles, American,	.....	.....	25— 65	.....
Flax, American,	.....	.....	.....	9— 12
Flour, best, per bbl	8 75—9 00	8 00—9 00	9 00—9 25	8 50—9 25
GRAIN—Wheat, per bush. Penna	2 00—2 10	.....	.....	.....
do. Maryland,	1 75—1 95	.....	.....	.....
Rye, per bushel,	1 00—1 10	90—	—1 10	1 07—1 10
Corn, do	90— 94	85— 86	90— 95	90—1 08
Oats, do	50— 53	45— 46	50— 60	62— 65
Barley, do. Penn	80— 90	.....	.....	1 00—1 10
Peas do	1 00—1 25	1 12½—	.....	.....
HAY, Timothy, per 100 lbs	1 05—1 20	15 00 pr. ton.	.....	22 50 pr ton.
Meadow Grass,	70— 90	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	.....	—140	.....
Hops, first sort, 1836, lb	9 — 10	— 16	7½— 8½	6— 7
Plaster Paris, per ton,	2 75—3 00	4 75—4 87	.....	3 75—4 00
SEEDS—Cloverseed, per bushel,	5 00—6 25	6 50—6 50	.....	.....
Flaxseed, rough, do	1 40—	1 37—1 50	.....	.....
Timothy,	2 25—2 75	3 00—3 50	.....	2 87—3 12
Tallow, per lb	8— 10	— 8½	9— 10	12— 13
WOOL—Saxony, fleece, per lb	65— 73	50— 60	75— 80	70— 75
Merino,	58— 62	45— 50	50— 68	65— 70
1-4 and common,	40— 44	33— 36	35— 45	45— 50

NOTE.—The above prices are merely nominal—the panic caused by the suspension of specie payments by the Banks, is beginning to subside.

Preserving Pumpkins.

A correspondent at Union Bridge, Maryland, under date of May 9th, says—"in looking over the Farmers' Cabinet to-day, I find a request from one of your subscribers for information as to the best method of preserving pumpkins through the winter. I answer, that the way to preserve them for one or more years, is, to pull them before the frost comes on, and keep them in a warm dry room. This is my method, and I have now several large ones in my house, in a fine state of preservation; and my neighbor, Mr. Davis Lightner, one of your subscribers, has them two years old at this time, weighing 43 pounds, each. They are very fine."

Short Horn Cattle.

A distinguished American agriculturist, now in Europe, has prevailed upon Mr. J. Whitaker, of Yorkshire, England, to send a part of his superior herd of Durham Short Horns to this country, for sale by auction, and that they may be expected to arrive early this summer. The sale will take place in the neighborhood of Philadelphia. Mr. Whitaker is the most celebrated and successful breeder of "Durham Short Horns" in England, and it is principally from his stock that Colonel Powell and the Ohio Importing Company have made their best selections for some years past. They are universally acknowledged to be the finest cattle ever brought to this country. A rare chance will, therefore, soon be offered for obtaining choice and pure animals, without the risk or expense of a sea voyage.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. **Philadelphia, June 15, 1837.** **No. 23.**

For the Farmers' Cabinet.

Agricultural Implements.

NO. VIII.

THE REVOLVING HAY AND GRAIN HORSE RAKE.

This machine is of great importance not only in saving labor and expense, but also in saving property by despatch, where it would otherwise be injured or destroyed by wet; but for want of care in the construction of it, both in materials and porportion, its character for usefulness has, in some degree, been impaired. This, like all other machines should be made so that in ordinary use every part should be strong enough to preform its part and in extraordinary cases some part which can easily be repaired should break or give way so as to save the other parts which would be more difficult to repair when broken. Experience has shown that the teeth of this machine should be made so much weaker than the other parts as to break in extraordinary cases, and thereby save the other parts.

The following description for the power of one horse will probably be found in practice a proper proportion, the dimensions may be varied according to circumstances. For instance, where the ground is rougher than usual, the head may be shorter; and where it is smooth enough, the head may be increased to double the length here described, and two horses used at the same time: and where all the hay to be gathered is of a coarse kind, the teeth may be placed further apart. The teeth here described will be sufficiently strong to cause the head to make a half revolution, or stop the horse when coming in contact with a fixed obstruction, except in extraordinary cases.

A new tooth in place of a broken one is easily supplied.

Chester county, Pa. 15th May, 1837.

Each piece of wood, (except the shafts,) is straight, and the whole is composed of hard, strong, seasoned timber.

Rake head, 10 feet long, 3 1-2 inches square, with 18 mortices, each 1 1-8 inches square, 6 1-2 inches asunder from centre to centre, parallel with each other, and at right angles to the head. It is made round or cylindrical, 3 1-2 inches diameter, and 2 inches long, equi-distant between the 4th and 5th mortices from the ends, for the large ends of the shafts to turn on, and also the same diameter, and 1 1-8 inches long between the 7th and 8th mortices from the ends, within about 1 1-2 inches from the 8th mortices, for the large ends of the handles to turn on. The corners are taken off 1-2 an inch on each side, and a rivet passed through at right angles to the mortices, near each end.

Eighteen Double Teeth, each 4 feet long, 1 1-8 inches square, driven to the middle in the head, and pointed at both ends, forming 2 teeth with points in opposite directions, 2 feet from the centre of the head, leaving the upper side of the fore or anterior teeth straight.

Two Shafts, each 3 feet long, 3 5-8 by 2 inches at one end, and 2 inches square at the other end, bent upwards in the middle to make room for the hay and grain; a natural turn is best. The large ends are cut semi-circular, to fit the rounds on the head; and 2 straps of iron, each 15 inches long, 1 1-2 inches wide, and 1-8 of an inch thick, bent in the middle to fit the other part of the round on the head, and bolted to the edges of the shafts, from collars or circles for the head to turn in. The corners, 1-4 of an inch on each side, are taken off, and small hooks riveted on the outside of the shafts at the small ends, for

the horse to draw by. The shafts are parallel with each other, and connected together by

A Shaft Board, 5 feet 7 inches long, 6 inches wide, and 3-4 of an inch thick, with double tennons on each end passed through the shafts. The hind or posterior edge of the shaft-board is 2 feet from the circle on the shafts, so as to permit the teeth to turn behind it.

Two Handles, each 4 1-2 feet long, 3 5-8 by 1 1-8 inches at one end, and 2 by 1 1-8 inches at the other end. The large ends are cut semi-circular, to fit the rounds on the head; and 2 iron straps, each 15 inches long, 3-4 of an inch wide, and 1-8 of an inch thick, bent in the middle to fit the other part of the rounds, and the ends bolted to the edges of the handles, form collars or circles for the head to turn in. The corners are taken off 1-4 of an inch at each side, and the handles framed together parallel with each other by

Two Rounds, each 1 1-8 inches diameter, one of them 2 feet 7 inches long, and the other 2 feet 3 inches long; the parts that go through the handles are reduced to an inch diameter. The centre of the long round is 2 feet from the circle on the large ends of the handles, and the centres of the two rounds are two feet asunder. The ends of the long round receive

Two Press-Rods, each 2 by 1 inch at one end, and 1 inch square at the other end, and 2 feet 9 inches long; and have holes, each 1 inch diameter, bored at right angles across them, 5 inches from the large ends. The rods turn on the round, and are kept near the handles by small pins passed through the round. The small ends are guarded by thin flat-headed nails covering them, and press against 4 iron dogs, 2 on each side of the head; a dog on each side of the head is confined by a bolt and nut; the bolt passes through the rake head, and through oblong holes in the dogs, each, 1 1-2 by 1-2 an inch; the oblong holes serve to adjust the dogs to the small ends of the press-rods; each dog is about 5 inches long, 1 inch wide, and 1-2 an inch thick; the hole near one end, and the other bent up at right angles about 1-2 an inch for the press-rods to force against when the handles are raised at the small ends; the head is cut away on one side, so as to sink the top of the turned up part of the dogs to a line with the upper side of the rake head; these dogs are immediately at the outside of the handles.

Two Standards of the hold-fast, each 1 foot long, 2 by 1 1-8 inches at one end, and 1 1-8 inches square at the other end; they are connected together, about 4 inches from the large ends, by a *round*, passing through from one edge to the other; the out edges of the standards are 9 inches asunder, and parallel with each other; the small ends are made into parts of circles, 1 1-8 inches diameter, and turn on the long round between the handles; 2 straps of iron, each 7 or 8 inches long, 3-4 of an inch wide and 1-8 of an inch thick, bent in the middle, and the ends bolted to the sides of the standards, form (with the circular ends of the standards) collars or circles, 1 1-8 inches diameter, to turn on the long round between the handles; the large ends of the standards are kept over the two middle hind or posterior teeth, by small staples driven into the round at the out edges of the straps; or circular grooves may be formed in the round, 1 inch diameter, and collars or circles of a corresponding diameter, formed to turn in them.

A Round for the standards is 9 inches long, 1 1-4 inches diameter, with 1 1-8 inches in the middle reduced to 1 1-8 inches diameter, and the ends that go through the standards reduced to 3-4 of an inch diameter, or the size of the holes in the standards.

An Arm, 3 feet 7 inches long, 1 1-8 inches square, has one end cut into the part of a circle to fit on the middle of the round of the hold-fast, and a strap of iron 7 or 8 inches long, 3-4 of an inch wide, and 1-8 of inch thick, bent in the middle, to part of the same circle: fits on the other part of the round, and when the ends of the strap are bolted to opposite sides of the arm, the strap and end of the arm form a collar or circle, 1 1-8 inches diameter, to turn on the middle of the round of the hold-fast; the other end of the arm is connected by a similar strap to the middle of the hind or posterior edge of the shaft-board; the strap and end of the arm embraces a portion of the shaft board; this portion is formed by making a mortice 1-2 an inch wide and 1 1-8 inches long, leaving 1-2 an inch between the mortice and the edge of the board; the corners of this portion next to the mortice are taken off, leaving a part of it semi-circular; 2 small screws, each 1 1-2 inches long, passed into the edge of the board at the ends of the mortice, serve to strengthen this portion; the end of the arm may be 1 inch from the middle of the strap, and it and the edge of the shaft-board may be straight; the space between the arm and shaft-board allows a little motion in the shafts, without moving the large ends of the standards of the hold-fast when in operation; the handles are braced by a rod of iron about 3 feet long, 1-4 of an inch diameter, bent in the middle, and riveted to the middle of the long round, and the ends riveted to the handles between the rounds; each of the small straps may be of the same dimensions; the bolts for the dogs, handles, and shafts, may each be about 3-8 of an inch square or diameter, with a head on one end, and a screw and nut on the other, and of sufficient length to pass through the objects intended, including the nut, but no more; the bolts for the standards and arm

may each be 1-4 of an inch square or diameter, and long enough to extend through the objects intended, including the nut, but no more. *The whole machine made as smooth as possible.* One bolt serves for two dogs, and one bolt for both ends of a strap; each nut on the shafts, handles, and arms, should be on the upper side, and those on the standards should be on the hind or posterior sides.

The machine may be varied from the aforesaid dimensions to suit circumstances. The points of the teeth should be kept each set in a straight line, parallel with the head; the tennons are confined in the mortices by small pins. The whole machine should be well painted, and kept entirely out of the wet, or as much so as possible.

The operation is as follows, viz:—The shafts are raised at the small ends a sufficient height to make room for the hay and grain between them and the fore or anterior teeth; this causes the arm to push back the large ends of the standards of the hold-fast on the two hind or posterior middle teeth, to within an inch or two of the points of those teeth; the small ends of the handles are raised, at the same time, to a suitable height for the person attending it to hold by the middle of the upper or short round of the handles with one hand, while he guides the horse by a line with the other hand. The shafts are held to this height by the harness on the horse; and sometimes a small cord or leather strap (and buckle) attached, with one end to the bolt on the arm near the shaft-board, and the other end to the middle of the long round of the handles assists to keep the shafts and handles to a proper height. The horse is brought within two or three feet of the shaft-board, and the dogs adjusted to the press-rods so that, when the standards of the hold-fast rest with their large ends on the two middle hind or posterior teeth, within an inch or two of the points of those teeth, and then raised about half an inch from the teeth, the small ends of the press-rods press with equal force against the two dogs on the upper side of the rake head. The four dogs are each confined firmly to their places by the bolt head pressing with great force against one dog, and the nut against the other dog on the opposite side of the rake head. Each bolt goes through the head at right angles to a flat surface formed to receive the dogs, and each fits in the head as tightly as possible so as not to split it. The rake head lies on the ground when in operation, and the fore or anterior teeth also on the ground, about four or five inches from their points; each set of teeth, as they alternately become the anterior ones, are straight on the upper side and the same, when hind or posterior teeth, are straight on the under side from the head to their points, or as near the points as possible, so as to preserve substance enough to prevent them from being bruised when in operation—the points being always made so as neither to be bruised, nor to push the hay or grain before them. The usual method is to reduce them in a straight line from about four or five inches from the ends, to the ends of the teeth, leaving 1-4 of an inch square on the end at the upper part of the anterior teeth, and on the lower part of the end of the posterior or hind teeth, and then dress off this 1-4 of an inch half round, or of a semi-spherical form; and when hard timber cannot be procured, the teeth may be made larger, so as to give the necessary strength, and their ends guarded by sockets or tangs of pointed iron or steel. The corners of the teeth, from the points to the rake head, are made as square as possible, so as to wear smooth. When the small ends of the handles are raised, and the press-rods force against the dogs, and the rake head raised till the points of the fore or anterior teeth come in contact with the ground, the draught of the horse then causes the rake head to turn with the other side up, and the other set of teeth forward, which discharges the hay or grain into winrows or sheaves, and the other set of teeth go into operation until they become filled: the head then performs, in like manner, another half revolution, and so on alternately, without stopping the horse, forming regular winrows at right angles to the course which the horse moves and two sheaves at each half revolution—one sheaf on each end of the rake. The scatterings of hay are collected merely by passing over the ground that the winrow has been taken from; and when the machine becomes filled, the load is discharged as before stated, but in detached parcels of a very convenient size, to be taken from the meadow. In gleaning a stubble field of grain, after the sheaves are removed, the scatterings are first collected into winrows, and then the horse made to walk at the side of the winrow, and collect it into heaps; or it may be taken from the winrow, and the ground where the winrow lay be passed over with the machine as before stated. When the handles are lowered at the upper ends, and the standards of the hold-fast forced down on the two middle hind or posterior teeth, the fore or anterior teeth are thereby raised. Additional weight on the handles prevents the head from being turned too soon by the pressure of the hay on grain on the anterior teeth. The arm always pushes back the lower ends of the standards of the hold-fast so as to clear the points of the teeth when required.

It is better to *know* a few things, than to have a mere *notion* about many things.

From the Farmer and Gardener.

Work for June.

ON THE FARM.

The labors of this month are full of interest, not only to the farmer, but to every individual in the community, as upon the results of the labors of the husbandman usually performed in it, much depends whether the products of the earth be plentiful or scarce. This being the case, let us see what they are.

CORN.

This will require the most assiduous attention of the cultivator. Where that operation has not already been performed, it must be thinned out, and as *transplanted* corn answers better than that which is *replanted*, we would advise that the superfluous stalks be taken up with care, with as much of the soil attached to them as possible, in order that they may be placed wherever, by the worm or casualty, other stalks may have been destroyed.

The operation of thinning, replanting and transplanting being over, then comes the duties of its future cultivation. The earth must be *kept open*, and *free from weeds*, if you expect to make a good crop of corn. The mode, therefore, by which these objects are to be attained, becomes an object of deep concern. The plough, we have always thought, was too freely and too long used in the culture of this article. We are entirely opposed to ploughing after the corn has reached sufficient height to have sent out its lateral roots, across the intervening spaces of the furrows, because it is impossible, after that period, to plough without doing incalculable injury to the growing plants, in the cutting and destruction of the roots. While the plants are but a few inches high, great benefit is derivable from the use of the plough, for beyond all doubt, pulverization is one of the happiest agents within the use of the agriculturist; but, as we have premised before, it may be carried too far. After the lateral roots branch out to any considerable distance, it is best to use the *harrow* and *cultivator*, these implements both serve to open the soil to the influence of the atmosphere, the sun and weather, without exercising any pernicious effects upon the roots of the plants. The opinion is too generally received as correct, that the working of corn during a *drought* is the cause of its *firing*. We believe, that wherever corn *fires* after such ploughings, that it may be traced to the circumstance of its roots being cut at a time when there is not moisture enough in the earth to nourish and counteract the deleterious effects resulting from the bleeding of the roots. If the roots be essential to the growth of the plant, and all must admit that they are, it is important that they be preserved in their integrity of form and volume—every portion of them being intended to answer some valuable purpose of extracting or imbibing nutriment from the earth. Deprive an animal of the means of conveying food into the stomach, and death must supersede, and surely it cannot rationally be presumed that if the source of deriving aliment be measurably destroyed, that the vegetable thus injured can flourish in perfect vigor; on the contrary, in proportion to the extent of injury which the roots may sustain, will be that which the plant suffers, for in the same proportion that you withhold food from the stalk will its fruitfulness be decreased.

Give to each hill of corn as early this month as possible,—indeed it should be done when the corn first comes up,—a small portion of spent ashes and plaster.

BUCKWHEAT.

This grain should be put in this month, and as the sooner it is done the greater the security there will be that its ripening will not be arrested by untimely frosts. And here let us for once pursuade each of our readers to put in an extra quantity; we are solicitous upon this head, because we are desirous of adding to the quantity of provender for the cattle, and we believe that no better hay can be given to milch cows than that made from the straw of buckwheat.

POTATOES.

Dress your ground early, and put in your late potatoes, and recollect that if you would make a good crop you must keep your potatoes free from weeds, and the earth around them open.

CUTTING AND CURING HAY.

In haymaking bear in mind that the rain should never catch your grass in swarth: that to cure it in the greatest perfection, it should be alike preserved from rain and sun; that the best plan to do this is, after one day's exposure in swarth to the sun, your grass should be put into cocks and turned each day until cured after the dew is off; that your clover should be salted when put away in mow or stacks, and that if alternate layers of clover and straw be placed in the stack, the former will keep better, and the latter prove as acceptable to your stock as hay.

RUTA BAGA.

Get in your *ruta baga*, if possible, by the 10th of the month, and in preparing your ground do not spare either manure, ploughing or harrowing; they can be raised either in drills, or broadcast.

TURNEPS.

Sow a few for autumn use, and while you are providing for your own table or market, recollect that your cattle would be grateful if you were to put in an acre for their use, to afford them succulent food at that season when green herbage is scarce.

MILLET.

This vegetable product may be sown any time during this month, and, indeed, up to the 15th of July, either for hay or grain. Those who may not have a sufficiency of land in grass for hay, cannot do better than to put down a few acres. If sown in good light sandy loam, well manured, it will average from 2 to 4 tons to the acre.

PUMPKINS.

No farmer or planter should omit to put in among his corn a few acres of this excellent and substantial plant. For early winter feeding there is scarcely any product of the earth better adapted for farm uses. We are aware that an objection has been made to its use by some as food for hogs, on the ground that it is scouring, but this objection is easily removed by cooking them, which process not only renders them more palatable, but greatly increases their nutritive properties, by concentrating their saccharine matter. With others another objection has been urged; we allude to the difficulty of ploughing the corn; but this is more ideal than real; for if put in after the corn is up, before the vines assume any considerable length the corn will be nearly ready to be put by. But should it be otherwise, it would be an easy matter for a careful hand to precede the plough, and turn the vines out of the way until it should have passed, when the vines could be replaced. This labor could be performed without any serious inconvenience as to time, and as the pumpkins would not materially substract from the yield of the corn, while they would immensely add to the solid comfort of the barnyard dependents, we do hope that such of our readers as are not in the habit of cultivating them, will now commence the good work.

Our Country—Agriculture—Silk.

The present unexampled depression of trade; the great derangement of our money matters; the high prices of most of the necessaries of life; and the utter prostration of thousands who thought themselves rapidly advancing to wealth, seem to require of all a careful examination of the causes which have led to these disastrous results, and an adoption of the best means of lightening the pressure, and forever preventing its renewal. So far as the inquiry involves financial or political considerations, the columns of the Farmer are not deemed a proper place for their discussion; but it appears to us that the great interests of the nation, which it has been the aim of this journal to advocate and enforce,—*the improvement and extension of our agriculture, and the more complete development of our ample resources*,—cannot be more forcibly presented to the American people than by the present position in which we find ourselves placed.

With a country confessedly the richest in the world; embracing all the varieties of soil and climate required for the production of all the necessaries, and most of the luxuries of life; and a population proverbially active and intelligent; we find ourselves purchasing bread of foreign nations, and involved in a debt beyond our present ability to pay, without the most ruinous sacrifices. Such a state of things ought not to exist; it is a shame to us to be importing wheat from abroad, when that article has, and should still, form an important item in our exports. The existence of such a fact would almost justify the charge, and the continuance of it will certainly subject us to the allegation, of being unable to appreciate the natural advantages bestowed on us by heaven, or if appreciated, not possessing the energy and forethought necessary to render them available.

Nearly one-third the population of the United States are engaged in the production of a single article—cotton. Their bread, their meat, their clothing, they buy; and as the times and the prices of cotton have been, the planters have found themselves getting rich with unwonted rapidity. But by this course, the south has placed themselves, and in a great measure all the commercial and manufacturing interests of the country, completely at the mercy of foreigners. *They* have touched the article of cotton, have reduced its price at their pleasure, and the prosperity of the nation seems at once crumbling to dust. There must be a change in these respects. We boast of our independence, and find ourselves slaves to foreign merchants and brokers; we pride ourselves on the inexhaustible fertility of our soils, and buy our bread of the impoverished regions of Europe; we talk of our advancement in wealth, of our manufactures and our commerce; but as if on purpose to disturb the pleasing illusions of our day dreams, half a dozen men, the directors of a single monied institution in England, readily convince us that with all our boasted prosperity, we can scarcely pay our debts.

The remedy which common sense points out for this deplorable state of things, is not to rid ourselves of the present difficulty by new promises to pay hereafter; but to go to work like honest, independent Americans,

and by the improvement of our agriculture, by its extension, and by the introduction of new sources of prosperity, depending on our *industry* and our *soil*, to place ourselves above the fluctuations of trade, or the liability of being dunned by foreigners. In the first place we must raise our own bread. Every section of the Union can do this; and the south as well as the north must engage in the business with spirit. If the south raised but half the cotton they now do, and turned the surplus labor to the production of bread, they would probably realize as much profit as they now do when forcing their millions of cotton upon the glutted markets of Europe. So far as the farmers of the north are concerned, they have personally nothing to complain of; but they must be sordidly blind to their true interests to desire wealth, or success in agriculture, at the expense of any section of our country, or body of our citizens. They feel that the failure of every house in New York or New Orleans is a blow aimed at public confidence, and that as members of the same great family, what is felt by one must eventually more or less be felt by all.

An anxiety to be rich without labor has become our besetting sin; and those who of all others ought to know and feel differently, farmers and farmers' sons, have been among the most active in bringing about this state of things. The professions have long been crowded to over-flowing, yet our young men, as if the cultivation of the soil implied dishonor, or to handle the axe or the plough was a disgrace, still cling to the hope of a professional living, and as a natural consequence we have among us too many idle drones, too many who are willing to get their living by hook or by crook, rather than by honest, persevering and honorable industry. This unhealthy state of feeling must be corrected; and the mind of the young impressed with the truths, that of all aristocracies, a moneyed one is the most oppressive, but an aristocracy of idleness is the meanest and most detestable.

We must extend our agriculture until it shall furnish abundance of the necessaries of life, and with the blessing of Providence, place beyond the possibility of want all classes that are willing to be industrious and live within their means. We must depend on agriculture in a great measure for our remittances abroad, and this surplus should be made as large and available as possible. No matter what may be the forms or modes adopted to procure it, the origin of wealth is the earth; and the more extensive and perfect the culture of the soil, the more sure and firmly based is the individual or national prosperity.

In addition to this, we must develope new sources of productive industry, and render ourselves to the utmost independent of the favor or the caprice of foreign nations. No man in his senses will at this time of the world advocate the Chinese or terrapin system; yet there can be little danger of a want of exchangeable articles sufficient to give the commercial interests full activity, even when we shall produce for ourselves all the important necessaries and luxuries of life. Few farmers have an idea of the immense drain constantly made on the capital and prosperity of the country, in paying foreign nations for commodities which, with a little skill and exertion, we might abundantly produce among ourselves. We shall not be accused of exaggeration when we say that fifty millions of dollars are annually required to pay France and Great Britain for things which we can produce better than they, were the enterprise and industry of our people but sufficiently directed to one or two points, and that too without interfering in the least, or but very little, with any of our present sources of profit or industry.

We have room here to refer to the single item of *silk*; though we might with equal propriety embrace ordinary woollen goods, sugar, and iron, as things we should furnish not only for ourselves, but for exportation. The letter of Mr. Judson, Member of Congress from Connecticut, to Mr. Adams, as chairman of the committee on manufactures, is a valuable document, not only as exhibiting the importance of the silk business as a branch of national industry, but also showing the progress already made in this new, and as we believe, most profitable investment of labor and capital in this country. In one respect the silk business is different from most others; it requires little or no money for its introduction into families, and experience in France and Italy conclusively proves that it is here carried on with the least care and the greatest profit. Unlike other farming pursuits, the silk manufacture is best managed by females and children, and the labor of only a few weeks is required to convert the mulberry leaves into an article fit for market, and commanding a price of ample remuneration.

The importance of the silk manufacture to us may be inferred from the fact, ascertained by a reference to the collector's returns, that the importations of *manufactured silks* during the year ending on the 30th of September, 1836, amounted to *seventeen millions, four hundred and ninety-seven thousand, nine hundred dollars*. This sum, saved to us, as it might be by home manufacture, would have in a great measure prevented that rude commercial shock which is crushing the prosperity of the principal cities to

the dust. Silk goods we must have; their cheapness, durability, beauty, all conspire to render them one of the necessaries now, as they formerly were one of the luxuries of life; and the demand for them is rapidly increasing. Would it not be good policy to retain a part or the whole of this sum at home! Experience has shown that the climate of the New England and middle states, is excellent for the growth of the mulberry and the habits of the worms, as well as distinguished for the fine quality of the silk and size of the cocoons. Two years since, northern Italy, with a comparatively trifling population, sold silk, raw and manufactured, to the amount of five millions of dollars; and New England alone in five years from this time, might produce as much.

Not one of the least promising indications that our country is destined to become a silk growing one to a great extent, is the success which has so far attended the efforts of those who have engaged in the business, and indeed the whole process is so simple and easily conducted, that where mulberry leaves and the eggs of the worm can be procured, it is hardly possible to fail. The principle of association is beginning to be brought to bear on this new source of national wealth, and companies for the production and manufacture of silk have been formed in most of the states; and though scarcely a bushel of cocoons could have been procured in the country previous to the last year, some of these establishments have already turned out from ten to forty thousand dollars worth of goods from our native silk. In Massachusetts there are five or six companies with an aggregate capital of some half a million of dollars—vast plantations of the mulberry, both Italian and Chinese, are growing—and the state, with commendable liberality, has granted a present bounty of two dollars per pound on all silks grown, reeled and throwed; or in other words made ready for the manufacturer; a sum, considered by competent judges, nearly sufficient to defray every expense in the whole process of growing and preparing. We hail with pleasure the rise of this new item of national industry and profit, and shall watch its progress with interest; viewing it as we do, not as merely a question of dollars and cents, though even here it is important, but as a new link in the chain of cause and effect, which will bring into action new energies, promote industrious habits, and render us eventually less dependant on foreign nations, and of course less at the mercy of their enmities or their friendships.—*Gen. Far.*

The wisdom of a wise man will be seen in his seeking *most* to know the things most important to be known.

Wheat---Important Discovery.

The New York Farmer publishes a letter from the Rev. Mr. Coleman, announcing an important discovery from the destruction of the grain fly.

The grain fly or insect, which, for a few years past, has been destructive to wheat in many parts of the country, has this year extended its ravages, and excited, wherever he made his appearance, very serious alarm. An eminent farmer in the state of New York wrote to me a year since, that he must give up the cultivation of wheat, as his crops were so much injured that he hardly obtained a return equal to the seed sown. I knew another instance in the same State, where, though the straw was large, and the appearance promising, yet from thirteen bushels sown not more than seven were obtained.

I have known other cases in which the whole field has been mowed and sold for litter; and in a recent excursion up the valley of the Connecticut I have heard complaints every where, and hundreds of acres so destroyed that the grain they would yield would hardly pay for reaping. Besides this, the same insect has destroyed many fields of rye in the same manner as the wheat, and had been found this year in the oats: the progress of the insect has been about forty miles a year; and a distinguished gentleman in Vermont, a practical and extensive farmer, remarked that he feared they would on this account be obliged to relinquish the cultivation of small grains.

The habits of the insect have not yet been accurately observed. I myself have not yet seen the fly, but have seen the worms in the kernel after the grain has been destroyed. He is represented as being a small reddish fly, which is seen hovering over the wheat fields in immense numbers, while just in flower, and has been observed to light upon the kernel or bud, to ascend it, and then descending to the inner side, to deposit his egg between the stalk and the kernel. I purposely avoid the use of all scientific terms, wishing to be understood by common farmers. From this egg the worm is generated which entirely consumes the grain while in the milk, leaving nothing but the husk, in which are found several yellow worms, about an eighth of an inch in length. As the work of destruction is now completed, any farther observations are of no importance, unless we can some way reach so as to destroy the germ of the insect. No preparation of the seed or ground, has yet been found effectual to this end.

The continuance of the fly upon the grain is thought not to exceed three or four days, and they are seen in great numbers just at night. Some farmers have found late sow-

ing a partial security as the season for the flies has passed away before the wheat was in condition for their attack.

Spring wheat sown as late as the 7th and 8th of June, has been untouched, though in case of such very late sowing, the farmer will be fortunate if, in attempting to escape the fly, he does not get nipt by the frost.

I have now, however, the extraordinary happiness of announcing to the agricultural public, what there is reason to believe, will prove an effectual, as it is a reasonable and feasible preventive. Should it prove effectual, the remedy will be worth millions and millions of dollars to the country. It was communicated to me, on a late tour of agricultural inquiry and observation, by Dr. Eliquant Lyman, of Lancaster, N. H., an intelligent, enlightened, and practical farmer, whose crop of wheat usually averages from 25 to 30 bushels per acre. It consists in the application of fine slacked lime to the wheat just at the time of its heading out and flowering, at the rate of about a peck to the acre.

It is sown broadcast upon the wheat while the dew is on, and the field is rendered white with it. The best mode of applying it is with the hand, and for the person who sows it, taking his proper breadth or cast, to walk backwards, so that he may not cover himself with the lime. It must be sown while the wheat is wet or the dew is on, and the philosophy of its application is very simple. The maggot of the fly is deposited between the grain and the stalk. It is, of course an animal substance. The lime, or alkali, mixed with the dew, is carried down upon, and neutralizes or destroys it. Dr. Lyman has now tried this preventive three successive years, and has invariably, as he assures me, saved his crops, while those of his neighbors have been destroyed.

I visited, at the same time, the field of a Mr. Bellows, in the same town, who had been advised by Dr. Lyman to make this application. The field consisted of several acres. He did it; it has proved successful, and what is strongly confirmatory of the value of this remedy, is the fact that a field of rye, belonging to Mr. Bellows, adjoining his wheat, and I think within the same enclosure, which was not limed, has been nearly destroyed by the fly.

These are certainly very important experiments, and I made no delay in presenting them to the public. Dr. Lyman has promised me a more particular account of the experiment and result, and likewise Mr. Bellows, which as soon as received, I shall be happy to communicate. I have received indirect and indefinite communications that the same experiment has been successfully made in Gilmanton, N. H.; but I have not yet been able to obtain either the name or the details.

HENRY COLEMAN.

Meadowbanks, May 15, 1837.

The following article was handed to us by an esteemed friend, from Pemberton, N. J. It is taken, we believe, from the Graziers' Guide.

Symptoms of Murrain.

Decrease of appetite, a stretching out of the neck as if there was a difficulty in swallowing; a shaking of the head, as if the ears were tickled; a hanging down of the ears, and deafness, a dullness of the eyes, and a moving to and fro, in a constant uneasiness.

All these signs, except the last, increase till the fourth day; then ensues a stupidity, and unwillingness to move, great debility, a total loss of appetite, a running at the eyes and nose, sometimes sickness, and throwing up of bile, a husky cough and shivering. The fever which was continued the three first days, now rises and increases towards the evening. The pulse all along quick, contracted, and uneven, a constant diarrhœa or scouring of fœted green excrement, a stinking breathe, a naseous steam from the skin, infects the air. Tumors or boils are to be felt under the fleshy membrane of the skin, and eruptions appear all along the limbs. These symptoms increase till the 7th day, when the crises or turn takes place, for better or worse.

REMEDY.

As soon as there is reason to believe the animal is infected, remove it from the rest, and put it by itself in a house or shed well ventilated. Bleed it copiously, even to fainting, wash the body all over with water and vinegar, milk-warm; to clear the skin from filth, rub it frequently, and it will derive much benefit from the pores being open.

Make a rowel as soon as possible in the dew lap, and keep it open till a cure be effected. If the dung be hard a cooling purge of 4 oz. of alum in powder, 1 oz. nitre, 1 oz. each of grains of paradise and anniseed powdered, ½ dram solid opium cut small, 4 table spoons of molasses, and plenty of drink of bran water, vinegar, bitters and salts, diluted with water; but no hay till the beast is sufficiently recovered to chew the cud; if a purging comes on by the fourth day, check it by warm medicines, as snake weed or venice treacle, or the following drink: 4 oz. prepared chalk, 2 oz. powdered anniseed, 1 oz. powdered ginger, 1 dram opium cut small, mix and give it in a quart of warm ale or gruel.

All the litter used about an animal sick

with this disease must be burnt. All the cattle that die of the complaint should be buried at least 5 feet deep, to prevent the fluvia, that would otherwise arise from the carcass, and *inevitably* spread the infection.

Importance of Destroying Weeds.

The abundance in which weeds are seen in some fields, shows conclusively that but little of the mischief caused by them is understood. Weeds are injurious to the land and to the crop in almost every possible way that they can be. In the first place they exhaust the soil to support their own useless growth, and abstract that nourishment from it, which ought to go exclusively to support the crop. Secondly, they crowd upon other plants above ground, prevent them from branching out at their roots, and deprive them of a free circulation of air necessary for their health and vigor, so that they shoot up only single, weak, sickly stalks, incapable of producing a valuable crop. Thirdly, they throw off from the soil through their leaves into the air, an almost incredible quantity of moisture, and speedily reduce the ground to so dry a state, as to be fit for weeds only to grow in. So enormous is the quantity thrown off by some plants that it actually exceeds more than twice their own weight in a single day. A bunch of grass, placed during a very dry season, under a large vessel, sent off moisture in two minutes, so as to cover the vessel with drops, which run down its sides. Dr. Watson, who first performed this experiment, was led to conclude from its results that an acre of grass exhales more than thirty hogsheads a day. Plants are in fact but channels through which moisture is conveyed up from the soil to be dissipated in the air; hence the absurdity of the opinion that weeds will prevent the ground becoming dry by shading it. Let any one in dry weather examine a piece of perfectly bare soil, a few inches below the surface, and compare its degree of moisture with that of soil at an equal depth, near the roots of a thick growth of weeds, and he will find the difference astonishing.

Now, of what use is it to attempt raising crops if they are to be wasted by a growth of weeds? Of what use is it to buy land, and plough it, and prepare it, and put in the crops, if after all, these crops are suffered to be *eaten up* by such intruders! If a drove of cattle should break into a field, no one would think of resting a moment till they were driven out; and yet many allow myriads of noxious weeds to overspread their lands, often doing three-fold more mischief, with scarcely an effort to check their progress. And this is not only permitted in cultivated fields, but in meadows and pastures, which are sometimes literally covered with Canada thistles, St. John's wort, and many others, to the total exclusion of every thing else from the soil.—*Germantown Telegraph.*

Go the right way to work, brother Farmer's.

I am sorry there is so much need of the admonitions I am about to give. Depend on it, you do not "*work it right*," or you would make your farms and stock twice as valuable as they now are. Many of you *farm too much*. You would find it much more profitable to farm twenty acres WELL, than forty by halves. The last season I made my ground produce at the rate of one hundred bushels of Indian corn to the acre. Is this not much better than a common crop of thirty or forty bushels! You will certainly say it is, and with the same breath ask how I manage to make it produce so plentifully! My land being much infested with ground mice, or moles, and overrun with grubs and other vermin, I put on, early in the month of March, about seven bushels of salt to the acre, which thoroughly destroys all kinds of vermin, being an excellent strong manure, and ploughed and worked the ground over and over until it became completely mellow; I then had every corn hole filled with hog manure, and after dropping my corn (which had been previously soaked in warm water) I had scattered a pint of lime over every hill, and then covered the whole with a little mellow earth. In about a week the corn began to come up plentifully, after which I nursed it with the plough and hoe, every other week for eight weeks, at which time it was as high as my head, and not a spire of it was destroyed either by the frost, grub or birds. My other things I manured and nursed equally well, and I have been amply paid for all my extra care and trouble, as I raised more than twice as much much per acre as any of my neighbors, and did it in much less time. I mean I got all my harvesting done two or three weeks before many others. This is accomplished in a great measure by redeeming time; rising between three and four o'clock in the morning; then if the day be very sultry and hot, I lie by from twelve to three and rest. I then feel refreshed and able to work until quite dark. This I call "*working it right;*" whereas, should I lay in bed until the sun be up and shame me, haunt the tavern at night, drink whiskey, but half manure, half plough, half plant, half nurse, half harvest, and do every thing by halves, I surely should not "*work it right*" nor get a half crop.

I shall now conclude by giving you for further consideration, a few excellent observations from a wiser head, perhaps than my

own, which I shall endeavor to improve for myself, and hope every brother farmer will do so likewise.

"I often say to myself, what a pity it is our farmers *do not work it right.* When I see a man turn his cattle into the road to run at large, and waste their manure during a winter's day, I say this man *does not work it right.* Ten loads of good manure, at least, is lost in a season by this slovenly practice—and all for what? For nothing, indeed, but to ruin his farm.

So, when I see cattle late in the fall or early in the spring, rambling in a meadow or mowing field, pounding the soil and breaking the grass roots, I say to myself this man *does not work it right.*

So when I see a barn yard with a drain to it, I say the owner does not work it right, for how easy it is to make a yard hollow, or lowest in the middle, to receive the moisture and all the wash of the sides, which will thus be kept dry for the cattle. The wash and moisture of the yard mixed with any kind of earth or putrid straw, is excellent manure; yet how much do our farmers lose by neglecting these things; in fact they *do not work it right.*

When I see a farmer, often going to the retailer's store, with a bottle or jug, lounging about a tavern, or wrangling about politics, or quarrelling with, and defaming his neighbors' good name, I am certain such a man *does not work it right.*"

AN OLD FARMER.

Matters in General.

ROLL YOUR GARDEN BEDS.

Seeds will come up much better on ground rendered fine, and then rolled or pressed smooth. The reason is, the earth is brought in contact with the seeds, and a chance given to vegetate. There are fewer places for insects to skulk and hide in, and of course less danger of the plants suffering from their depredations.

KEEP YOUR HOES SHARP.

Very likely your grandfather, and perhaps your father never heard of such a thing as grinding a hoe; but no matter, try it for yourself, and see if a sharp hoe does not work as much easier as a sharp axe. You would think yourself poorly provided for mowing, without rubstone or rifle; and a file for sharpening a hoe, is as necessary, where facility of labor is consulted, in the field of corn, as the former implements are in the meadow.

GOING TO GRASS.

Don't be in a hurry to turn your animals to grass, if you have any thing in your barn to feed them on. Horses or cattle turned out early, trample your land, destroy the roots of the grass, refuse good hay afterwards, and in all probability fall away rapidly for some time. Pastures should not be turned into until the grass will afford a good bite, this gnawing for a living is hard work for an animal. If necessity compels you to let out your cattle, always use your driest pastures first as they will poach least. If you are a farmer you will have your pasture divided into several fields, and turn into them in succession.—Milch cows pay best for good feed, horses next, and sheep will do well where the others would starve.

KILL THE WORMS ON YOUR FRUIT TREES.

With the leaves and the blossoms will come the worms, and the earlier the attack is made upon them the better will it be for your fruit trees, and the easier the labor of destroying them. When the sun first warms them into existence, and they leave their honeycomb nest at the extremity of the twigs, the slightest touch is sufficient to destroy them, but when they have lived to spin their web, have grown on the destruction of the young buds and leaves, and been inured to the weather, they are a formidable pest to the farmer and proportionably difficult to subdue. A small swab or brush on the end of a long rod, dipped in a lye made of wood ashes, or pretty strong soap suds, applied to these young colonies of worms is effectual to their demolition. If the operation has been delayed, and the web is thick, it must be broken up by winding on the pole or rod, or the liquid will not touch them. The morning is the best time to apply the lye, or suds, as the worms are then in the nest. When the sun is up, they leave the nest, mostly, and disperse over the trees for feeding.

SWEET ELDER.

This is a bad shrub where it gets foot-hold, and is one of the most difficult to exterminate. It is besides good for nothing, and so completely occupies the ground as to exclude all other vegetation. Cutting seems rather to benefit it than otherwise, certainly such as it gets in mowing, as in meadows it always spreads more rapidly than elsewhere. We have seen it stated that while the plants are young and vigorous beating them to the ground with a pole so as to bruise and strip the whole, will effectually destroy them. It is possible that the bruised juices, from their changed nature, may operate on the plant like those from a gangrened wound on the animal system and cause their death. There can at any rate be no harm in trying the experiment.

CANADA THISTLE.

This monarch of agricultural pests, has as many lives as a cat, and bids defiance to all ordinary methods of extermination. Mowing in the moon, or out of the moon, salting and sheeping, ploughing with crops and without, in short all the usual modes of destroying intrusive weeds have been alternately tried, and generally without success. The only method we have yet tried that has been crowned with entire success is to cut them several times in the summer an inch or two below the surface of the ground, or repeating the operation as fast as shoots appeared. We have in this way destroyed numbers of small patches; and it is in this state the thistle can only be assailed with a reasonable prospect of destroying them effectually. Mowing or ploughing repeatedly, will check their growth and prevent seeding, but will not in ordinary cases ensure their destruction.

ST. JOHNSWORT.

This stinking, poisonous weed, is becoming quite too common in our fields. Independent of its almost entire occupation of the ground, its spread is to be regretted on account of the injurious, and sometimes fatal effects, it has on animals confined in pastures where it is common. We have seen young cattle and sheep die in consequence of being driven to feed on it; and nothing is more common than to see horses that have white feet or noses with the skin on such parts highly inflamed in consequence of exposure to this plant. If you have it on your farm, mow it and burn it carefully, to prevent its spreading by seed; and where only a few stalks appear, do not rest until the last root has been extracted by the hoe.

PISMIRES, OR ANTS.

Now is the time for those who have pots of honey, or tubs of sugar and molasses, to be visited by these little insects; and if suffered to make an undisturbed acquaintance, their visits will be made so frequently and by such numbers, that serious loss and trouble will ensue. To prevent their attacks some have recommended a piece of camphor to be suspended in the vessel containing the sweet, yet not to touch it; and this, if done before they get a taste, will probably keep them away. But if they have once found their way in, they will continue to feed in spite of camphor. The best way where these insects are plentiful and voracious, is to insulate the vessels containing the sugar or honey. This may be done by making a platform of a plank with short legs, and placing these in shallow earthen or tin vessels, which are to be filled with water, which is to be renewed as often as necessary. This however, is only a preventive. To destroy them, next fall just before the ground freezes, finally, and after they have assumed their torpid state, go around to their hills, and with a shovel or spade cut out the centre below their habitation, and scatter it on the surface. If in that situation, they or their young, can stand such winters as we have had for two or three years past, why, then they are tough fellows, that's all.

TO KEEP OFF BUGS.

Parkhurst says, that "melon seeds soaked twenty four hours in a decoction of tobacco and water, will be effectually protected against the bugs." If it will do this, it will do the same on pumpkins, squashes and cucumbers. But the best method we have ever seen tried, next to the daily application of a squeeze with the thumb and finger, is to place a portable coop containing a hen and chickens in the midst of a bed of melons or cucumbers. The chickens will do no injury, and will speedily exterminate the whole race of bugs that may infest the premises.—*Gen. Farmer.*

Curing Clover Hay.

Clover hay should never be scattered out of the swath, because in addition to the labor in scattering and again raking up, the hay is thereby greatly injured. Indeed, if the weather be favorable for curing, neither timothy nor any other kind of hay should be scattered, because the less any grass is exposed to the sun and air in the process of curing, the greater will be the value of the hay, and the less the labor required.

Let the clover lay in the swath untouched, until about two-thirds of the upper part be sufficiently cured, which in good weather, will, if the swath be tolerably heavy, be effected in eight or ten hours; if the swath be light, in a proportionably shorter time, when thus far cured, turn the swath bottom upwards with the fork, an operation speedily performed. Let it then lie exposed to the sun until the under side be cured, which will be, according to the thickness of the swath, in from four to six hours, then throw three swaths together in windrows, and commence hauling in, the wagon running between two windrows and loading from each. It can hardly be necessary to observe, that all these operations must be performed after the dew has dried off. It is to be recollected that clover will keep with less drying than almost any other grass. A common test is, to take up a bunch of hay and twist it, if no juice exudes, the hay may be hauled in with safety,—we have often hauled in clover cut in the morning, in the evening, and always the

succeeding day, unless prevented by bad weather—sprinkling every layer of hay with salt, at the rate of 12 or 15lbs. to the ton, or interposing a layer of dry straw, from 6 to 12 inches thick, between every two layers of clover of the same thickness, we found a great preservative; and especially the latter mode will enable the farmer to put up the hay in a far greener state, than could otherwise be done with safety. Besides this advantage, the straw interposed between the layers of hay, by absorbing its juices will be rendered much more valuable as provender, and if salt be sprinkled on the hay will be greedily consumed both by cattle and horses. From the great quantity of this grass produced on an acre, its highly nutritive quality, the ease with which it is cut and cured, farmers will find that clover hay is the cheapest food on which they can keep their stock in good order during the winter. If put up in good order in the fall, sheltered from bad weather, and salted, both horses and cattle will keep fat on it alone throughout the winter, without the aid of grain, unless when worked.

The prevalent notion, of the difficulty of curing clover hay, is entirely erroneous. In a climate like ours, there will seldom be found any, in a wet and cool climate, like that of England, the difficulty may exist to some extent, as clover when put in cocks will not resist rain as well as timothy and some other grasses; but in the course of fifteen years experience, we have seldom lost any or had it much injured by the weather, indeed we have found it comparatively easier to save clover hay than corn blades, and as three or four tons of the former, with the aid of plaster, can be made at less expense, than one ton of the latter, the farmer must be blind indeed to his own interest, who does not take care to provide himself with at least as much clover, as will furnish an abundant supply of provender for his stock.

Clover should be cut for hay when about one half the heads have become of a brown color. If cut earlier, it is believed the hay will not be so nutritious, if later, the stems will have become harder, and the grass be on the decline. For hogs, however, and young stock, it will be advisable to cut some so soon as it is in full bloom, when cut in this state and salted, hogs are very fond of it and it is believed might be chiefly wintered on it, if otherwise carefully protected from inclement weather. At all events by the use of it as a food for hogs in part, a great saving of corn may be effected.

When the farmer can do it he will find a great advantage in providing himself with long, narrow and high sheds, open at least on the south side for the preservation of his clover hay, and when hauling it in, to begin at one end, and spread a layer of hay along the whole length of the shed, and then repeat the same process; by this means, he will be able to put up his hay, in a much greener state than could safely be done, if put either in a stack or mow, and as yet there are but few persons in this country sufficiently expert in the art, to stack it so as to ensure its preservation. In narrow sheds, one load is considerably dried before another is thrown on it, and when the sheds are filled, the narrowness of the bulk being so much greater, there is far less danger of injury to the hay by heating.—*Tennessee Farmer.*

Ridging.

Soils for root crops should always be rich and deep enough to require no ridging; but when a soil is fertile and shallow, better crops are frequently raised by throwing it into ridges than leaving the surface flat, because in this ridge the fertility is accumulated.—Hence some have supposed that ridging should be performed in *all* cases.—*Genesee Farmer.*

The manner of cultivating Ruta Baga and Mangel Wurtzel in Europe, has familiarized those who have grown them in this country with *ridging* for either of these crops; but we confess we are not satisfied as to the propriety of that mode of culture, except under peculiar circumstances of locality. In England, where from the extreme humidity of the climate, there is no danger to be apprehended from exposure to the rays of the sun, ridging may be of great service in concentrating the manure in the immediate vicinity of the growing plants; but in most parts of this country, we think the practice injurious, inasmuch as the plants from their elevated position are subject to suffer from drought. If a concentration of food for them be the great object to be attained by ridging, that can be equally as well effected by placing the manure in a furrow, covering it over, smoothing down the surface to a level, and planting on the top in the centre of the manure.

Most all the authorities prescribe the ridge form for the culture of these roots; but those who have done so in this country, have not, we apprehend, considered the difference in the climates of this country and those of Europe where they are grown. Last year, our Ruta Baga was grown on a fine rich loam, with a southern inclination and exposure, and we do know that they suffered from solar influence, and taking counsel from experience, we shall give them *this* season a flat surface, believing it better adapted to our climate than the ridge form.—*Ed. Farmer and Gardener.*

Stimulation of Soils.

BY THE HON. JOHN WELLES, OF BOSTON.

From a frequent perusal of the benefits derived from lime in its application to soil in Europe, I have been induced for more than a score of years, successively, to make use of it for agricultural purposes to the extent of more than one hundred casks annually.

One of my first experiments arose from a desire to give a top-dressing to a piece of land, which it was otherwise inconvenient to do. The soil was a heavy black loam. Having a quantity of black earth from a trench, (or top stratum,) I procured a quantity of lime. A bottom of four or five buck loads of earth was first placed; then a couple of casks of lime were spread thereon; then earth and lime again, till my materials were used, or the quantity needed was had at the rate of eight or ten casks to the acre. Thus a cask being supposed to produce about five bushels of slacked lime, the cost of which, if the casks are swelled and the lime partly slacked, is eight to ten cents a bushel. This is the most moderate application in Europe, and the cost is about the same.

This mixture after lying twelve or fourteen days, was shovelled over, and after some days being found fine and well mixed, was spread from the cart on the ground. To my surprise I found the effect produced to be equal to what is usual from common compost manure!

In England, where lime is most used for agricultural purposes, it is considered that in its crude state, or uncalcined state, it is most beneficial, if pounded or made fine. This, where limestone abounds it is well to know; but there is little of it in this neighborhood. Encouraged by this experiment, I continued to purchase and apply considerable quantities of damaged and air slacked lime in my cultivation, particularly for a low, flat piece of land. This being intersected with small ditches, furnished the earth, I was not able otherwise to procure to mix with the lime. It is not well, however, in such cases, to lower the surface by taking off more than will keep the ditches open. When the earth is tough with sward, &c., it may be made finer by being carted out and put in heaps on the ground, and spread afterwards. Indeed this is done to great advantage in the winter. The poaching the land or making a rough surface for the scythe being then well avoided.

As this land cannot advantageously be ploughed, I have in applying every third year a top-dressing, as my custom is, alternated, giving first a dressing of earth and lime, and at the expiration of three years, a coat of compost manure.

This has been done on the principle that a more judicious mixture would be made, and a better composition of soil be had. I have been guided herein from general reasoning—not from any proof that the lime might not be repeated.

It seems, however, to be a prevailing opinion, where lime has been most in use, that it opens the sod and makes it more porous, giving thereby a better action to other manures, which a judicious husbandry should in succession apply. In this application of lime to a grass sward in a deep springy soil, I have been for a long time well satisfied. It was several years before I undertook the same practice on a light soil, and I did it with less expectation. But I was somewhat surprised to find it equally beneficial.

So far lime has been mentioned as a component article in top-dressing for a green sward. Its effect will be shown on ploughed land, and in a grain crop.

* * * * *

I had a piece of ground of about four acres, of rather light soil, which gave promise of a very small crop of grass. Being without the means of obtaining manure, as I had a quantity of earth of the top stratum, taken on building a wall, I forthwith procured a quantity of lime and mixed it in the manner before mentioned. About the middle of June I had the grass mowed and the land ploughed. The lime compost was then spread and harrowed in. An early sort of yellow corn, which, when ripe, husked itself was procured. And my neighbors, who knew the process, were, in the fall of the year, much surprised by the stout ears of golden grain that unfolded to view!

I trust enough has been said to show the beneficial use of lime. Whether it acts on the atmosphere only; or as a stimulant to the soil, or actually contains (as is strongly maintained by some) within itself the food for plants, is well worthy of discussion.

But whether either of these causes separately or they altogether conduce to the nutrition of plants, an advantageous effect of the use of lime on soil seems conclusively to follow. I have endeavored to avoid nice discriminations and have stated my practice plainly, not from its novelty to many of your readers, but because not only a great waste is made of this article, but it is believed that as its average price in good condition is about ten cents, it may be used to good advantage. So also it is with mortar, rubbish of walls and chimneys, plaster, &c., from old buildings.—These, (and it is somewhat relative to this discussion) I have made use of as a top-dressing to low soil to very good effect.

It has been observed that if lime is a fertilizer of soil why is it that where it abounds and often forms an under stratum, a greater fertility does not prevail. To this it may be

answered that lime is a constituent principle, it is believed, in all soil, and may be supplied, where from experience a deficiency is found. But when it superabounds as in most other things excess may be injurious. In all this more experience is wished for as the only safe and profitable guide.

Preventing Milk from becoming Sour.

We mention the following fact more for the purpose of calling the attention of our readers to the subject and inducing them to try experiments, than with a belief that the single experiment related will be of any great importance. Dr. Hare, of Philadelphia, in giving an account in Silliman's Journal of his experiments upon the essential oils, seems to think that the more acrid ones will resist putrefaction better than the mild ones. Among other experiments, he states that he found "the essential oil of cloves and cinnamon possessed an antiseptic power quite equal to that of Kresote."

"On the 2d of July he added two drops of oil of cinnamon to an ounce measure of fresh milk, it remained liquid on the 11th, and though it finally coagulated, it continued free from bad taste or smell, till September, although other portions of the same milk had become putrid." Now it may be possible two drops to the ounce of milk may render it a little too spicy for common purposes; but this fact may lead to the discovery of some substance that may be added, and while it does not injure the taste or qualities of the milk, preserve it a long time from becoming sour or from putrefying. Such a thing would be a great convenience to many families, especially those who are in the habit of purchasing their milk and do not wish it to become sour immediately.—*Maine Farmer.*

The Bee Moth.

Mr. Tucker—If you think the following worthy of a place in the Farmer, please insert it.

The cultivation of the Honey Bee has of late years, in this quarter, been attended with great loss in consequence of the attack of the miller or moth. I have noticed that when the wrens' nest immediately in the vicinity, that they fed upon the moth and frequently upon the miller, and will seek no other food for themselves and their brood so long as they can find sustenance from that quarter; and they will nest near by if there is a small box made for them to nest in, with a door so that they can enter, and raised up some 6 or 10 feet high, or the carcass of a horse's head raised up the same distance.

5th Month, 1837. Triangular.

Soiling with Merino Sheep.

Friend Fessenden—If it is thought that the following would be useful to the wool-growers it may be published. I should like to have some of them at least, try it, and publish the result of their experiment in the New England farmer.

It is two weeks since I commenced keeping my Merino sheep twenty hours in the twenty-four, under a well ventilated shed, and supplying them plentifully with cut grass three times a day; allowing them to run out in an adjoining lot about two hours in the morning and two in the evening; keeping their shed well littered with straw, and the remnant of their fodder. Every few days we put a layer of earth for the purpose of sweetening the pen and making compost.—So far as I have tried the experiment, the sheep look well, and, I think, are improving.

Several advantages may be found in this kind of sheep management. 1st. They are kept out of the dew, rains and hot sun, which are said to injure both sheep and wool. 2d. We can keep our sheep from running over the cattle pasture, which we believe to be injurious to feeding cattle. 3d. A large stock of cattle may thus be kept as well as sheep. 4th. It adds to our stock of manure. 5th. The sheep are kept from dogs. The manure will fully compensate for the trouble.

Respectfully, M. P.

Chester County, Penn. 6th Month 23, 1835.

Bugs—Bugs—"O! the Bugs."

I do not mean bed bugs, but one of a different character, with a striped jacket which destroys our vines, squashes, melons, cucumbers, &c. being like that nondescript animal by some called the Garden Hog, in not waiting for them to come to maturity, but seize and devour them as soon as above ground, but very much like them as to their shyness, as they are "off," as the fly said, on the near approach of any one. Sir, I last year planted my cucumbers, &c. near where grew some tansy at one corner—soon after up, the "striped-jackets" attacked them, except those in the immediate vicinity of the tansy—observing this, I put around each hill some sprigs of tansy which caused the bugs to leave them, and by a few applications, so as to keep it somewhat green, were kept off, as the scent is strong and I believe not agreeable to them.—*Maine Farmer.*

Laborers.—When about to return to their homes, from their occupations, particularly in the evening, or in cool or damp weather, ought always to put on their coats or jackets, and by no means to return in their shirt sleeves.

From the Schenectada Reflector.

Flax Growing.

The impression has gone abroad among farmers that the raising of Flax is unprofitable, from the fact that it leaves the soil in an unproductive state, unfit for raising a crop the following season. From whence this impression originated I am unable to determine, unless it is from the fact that the same piece of ground will not produce good flax several years in succession. Those who have taken pains to inform themselves by experience and observation; have ascertained that flax does not impair the soil and render it less productive, as many suppose, but on the country it is rendered more productive.

In a conversation with an intelligent farmer the other day, he stated that he had raised flax and barley in the same field; that in the fall he ploughed and sowed this field to winter wheat, and that the wheat on the flax ground grew nearly a quarter larger than that on the barley ground, and yielding in the same proportion when thrashed and cleaned out. The same gentleman also informed me that some years ago, when flaxseed was worth only $1 per bushel, he sowed 6 or 7 acres, and kept an accurate account of the expense of ploughing, sowing, harvesting, &c, which he deducted from the proceeds of the flax and seed, and found a nett profit of $35 per acre.

The foregoing induces me to submit the following problem, for the solution of all concerned:

If flax-growing is as beneficial for preparing the soil for other crops as is represented above, and if land, well cultivated, will produce a crop of flax worth $35 per acre, over and above the expense of cultivation, &c. and that too when flaxseed is worth $1 per bushel, what other crop can be put in the same soil equally lucrative, especially when the seed is worth $1 50 per bushel? E.

To Farmers.—Attend to water courses, so that your land may receive all possible benefit from irrigation. If you have any land (especially mowing lots) which is so situated that you can turn the wash of a public high way over it, you will act wisely in availing your self of that circumstance. The wash of the roads, early in the Spring, is highly charged with fertilizing particles, and one pail full is worth a barrel of that which flows from a Summer shower; and if you do not look out in season, it will find its way to some brook, and suddenly take French leave of your premises. Get your farming tools in readiness before the hurry of business comes on. Let the wooden part of those implements, which are exposed to the weather, be well seasoned and painted.

From the Utica Observer.

Corn.

Dr. Goodsell, of this city, has handed us a letter just received by him from the Hon. H. L. Ellsworth, of Washington, accompanying a sample of the celebrated Maryland or Baden corn, and enclosing a copy of a letter from Mr. Baden, which discloses the secret of his success. We regret that we are unable to copy the letter of Mr. B. He states that he has brought his corn to its high perfection by selecting the best seed in the field for 22 or 23 years. When he first commenced, it was with a common kind of corn. He was at first, troubled to find a stalk with *two good ears* upon it, but now he does not pretend to lay up any seed unless it comes from stalks which bear four, five or six ears, and he has seen those which bore eight ears. It yields nearly double the crop of any other kind of corn. He plants about the first of May, in hills five feet apart each way, and his two stalks in a hill. Some of this corn was sent to Illinois, and the increase was 120 bushels on an acre, and it produced more fodder than any other kind.

The American Farmer.

Far, far from the bustle of "high sounding fetes,"
And the "rattles" of city and town;
What pleasures we feel in our quiet retreat,
Where plenty our cottage surround.

CHORUS.

No life with a farmer's I think can compare,
For his days they are tranquil,—his nights void of care.

Our woodlands afford us good timber and fire,
Our fields yield us grass,—hay and grain;
As for milk, cheese and butter, we have our desire,
With plenty of beef, pork and game.

CHORUS—No life with a farmer's, &c.

The wool of merino's we to clothing apply,
Our orchards rich cider afford;
And honey, and mead, our hives they supply,
While our garden enriches our board.

CHORUS—No life with a farmer's, &c.

Our carriage and horses are ready at hand,
When we journey or visit a friend;
And every comfort we have at command,
For resources with us know no end.

CHORUS—No life with a farmer's, &c.

The world thus our own, with a better in view,
We move on to those regions above;
Where in fields ever verdant, our souls shall renew,
The worship of God, whom we love.

CHORUS.

No life with a farmer's I think can compare,
Who the world thus enjoys with thanksgiving and prayer.

PRICES CURRENT.

ARTICLES.	Philadelphia, June 14.	Baltimore. June 13.	New York, June 14.	Boston, June 13.
Beans, white, per bush.	$1 37—1 62	1 50—1 75	1 75—2 00	3 00—4 00
Beef, mess, new, per bbl.	14 00–15 00	.....	13 50–14 50	15 50–16 50
Bacon, western, per lb.	7½— 10	8— 9	8— 10	.....
Butter, extra, per tub	14— 16	.....	17— 19	20 — 25
Butter, fresh, per lb. (market,)	25— 31	25— 37½	25— 38	.....
Hams, per lb.	9— 13	10— 12	10— 12	14— 15
Hog's Lard, per lb.	8— 10	10— 12	8— 9	10— 11
Cheese, American, per lb.	10½— 11½	.....	10— 12	10— 12
Beeswax, yellow, per lb.	25— 27	.....	23— 25	25— 30
Beeswax, white,	38— 40	.....	38— 40	38— 40
Bristles, American,	.....	.....	25— 65	.....
Flax, American,	.....	.....	.....	9— 12
Flour, best, per bbl.	8 75—9 00	8 00—9 00	9 00—9 25	8 50—9 25
GRAIN—Wheat, per bush. Penna.	2 00—2 10	.....	.....	.....
do. Maryland,	1 75—1 95	.....	.....	.....
Rye, per bushel,	1 00—1 20	90—	—1 10	1 07—1 10
Corn, do.	91— 94	85— 86	90— 95	90—1 08
Oats, do.	50— 53	45— 46	50— 60	62— 65
Barley, do. Penn.	80— 90	.....	.....	1 00—1 10
Peas do.	1 00—1 25	1 12½—	.....	.....
HAY, Timothy, per 100 lbs.	1 05—1 20	15 00 pr. ton,	.....	22 50 pr ton.
Meadow Grass,	70— 90	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	.....	—140	.....
Hops, first sort, 1836, lb.	9 — 10	— 16	7½— 8½	6— 7
Plaster Paris, per ton,	2 75—3 00	4 75—4 87	.....	3 75—4 00
SEEDS---Cloverseed, per bushel,	5 00—6 25	6 50—6 50	.....	.....
Flaxseed, rough, do.	1 40—	1 37—1 50	.....	.....
Timothy,	2 25—2 75	3 00—3 50	.....	2 87—3 12
Tallow, per lb.	8— 10	— 8½	9— 10	12— 13
WOOL---Saxony, fleece, per lb.	65— 73	50— 60	75— 80	70— 75
Merino,	58— 62	45— 50	50— 68	65— 70
1-4 and common,	40— 44	33— 36	35— 45	45— 50

Owing to the uncertainty of prices, we make but few alterations in our table for the present number. Country produce generally remains firm. The accounts from most regions, are quite favorable as regards the crops. A very great improvement has taken place within the last few weeks, and the prospect of average crops is cheering. There is still great pressure in the money market—many of the merchants in the principal cities, heavy dealers, and speculators have sunk before the storm. The commercial, manufacturing and mechanical interests have felt its fury,—but amid all the desolation and wide spread ruin, the agricultural interest stands firm and unshaken—The faithful cultivator of the soil, if true to himself, has nothing to fear.

To Correspondents and Subscribers.

After the present number was in type, we received several communications, among them one, entitled "A Trip to Maryland." We regret that they were not received in season—but they shall appear in our next. ☞ A notice to subscribers is also unavoidably deferred.

The Money Market is still in a very unsettled state,—Bank notes are from 7 to 10 per cent. below the par value of American silver.

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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I. Philadelphia, July 1, 1837. No. 21.

For the Farmers' Cabinet.

A Trip to Maryland.

We passed over the Bridge at Wilmington, into the rich alluvial bottoms of the Christianna Creek, which extends nearly a mile from the city. The causeway is hemmed with two rows of beautiful trees, and surrounded with luxuriant pasture grounds, that have, within these few years, been very considerably cultivated and improved. The high land immediately connecting those rich bottoms, is gravelly and poor, but the immense amount of manure produced by the marshes, enables the farmer to force vegetation in every corner of his farm, and thus make his habitation a place of comfort and plenty.

The land through New Castle county is tolerably well improved; much of it is under cultivation, and the crops of wheat look well and bid fair to produce at least an average quantity; oats and corn not forward enough to form any opinion.

In Maryland, where the ruinous three field system of farming prevails, the wheat looks bad enough to alarm one with the fear of want, notwithstanding some of her most intelligent citizens are inclined to the opinion, that the prospect is in favor of a medium crop.

As we advance towards the table land that divides the waters which flow into the Delaware and Chesapeake, we find a kind of soil perhaps the most congenial to the growth of wheat of any in the United States, and why it is not a subject of deeper interest to the inhabitants of Pennsylvania, particularly to the enterprising citizens of Chester and Delaware counties, is a matter of some surprise.

In Chestertown we found land selling at five dollars per acre, and shell lime at six cents per bushel, neither of which seemed to excite any anxiety among the farmers, though the land was about a mile from the wharf, and the wharf within a few hours sailing of the city of Baltimore.

On many of the farms upon the Eastern Shore, there are immense beds of shells spread over acres of land, and in some places six or seven feet deep, in a perfectly sound state, yet covered with mould, perhaps the growth and decomposition of grass and trees for many a century. A white oak that measured fifteen feet in circumference, had once reared his lofty head over those banks, but was now prostrate in a wilderness of underwood, with his tangled roots jammed full of shells, and most of them without any appearance of ever having touched the earth. Shells make the purest and best of lime; by a chemical analysis, it is found to contain little or none of those foreign substances that constitute from twenty to thirty, and in some cases, as much as forty-five per cent. of stone lime.

Shell lime can be had on the Eastern Shore at a very small expense, compared with what a Pennsylvania farmer pays for stone lime, even if he should be so fortunate as to have a lime stone quarry upon his farm; and yet such is the desponding condition of agriculture in this country, that little or no attention is paid to the subject.

We visited Whurton Point, a high bluff of rolling land that projects some distance into the Chesapeake, and forms rather a pleasant prospect of land and water scenery; but what was far more interesting, were the beds of shells which cover a space perhaps of fifty acres from one to six feet deep.

This property lies nearly opposite the mouth of the Susquehanna, which is constantly disgorging great quantities of all kinds of drift wood upon the shore. With this

wood they burn the shell lime at an expense of about two cents per bushel.

The proprietors of this estate live in Delaware, and are making efforts to introduce the Pennsylvania mode of farming into the neighborhood; they have now on hand thirty thousand bushels of shell lime, which is to be drawn out this season and spread at the rate of one hundred bushels to the acre for the next year's crop. We had taken with us small quantities of Ruta Baga, Mangle Wurtzle, and Sugar Beet seed, and here we found a person willing to prepare a piece of ground to try the experiment of root culture with the siftings or dust from the shells as a manure. We likewise engaged him to make an experiment upon an acre of poor land in raising of wheat. We directed him to turn the land down with the plough, spread upon it one hundred bushels of shell lime, sow it with three bushels of oats; when the oats had grown up and was beginning to change its color, roll it down, plough it in and sow the ground with two bushels of corn broad cast; about the second week in October, roll the corn down, plough it in and sow the ground with wheat. To give this experiment a fair trial, the oats should have been sown in the early part of the fourth month.

I am inclined to the opinion that the above plan would make the principal part of Delaware and Maryland produce twenty bushels of wheat to the acre, which, at $1 50 per bushel would buy the land and pay all expenses of lime, seed and labor, and if laid down with clover, would, for a succession of years, produce good crops of hay and pasture. Such an investment of idle money would be more profitable than shaving notes at two per cent. a month, besides the additional security of real estate, and the satisfaction every generous mind must feel in the reflection that his labor has made two blades of grass grow where one grew before. This Peninsula possesses local advantages that few places in our country can boast. A soil peculiarly adapted to raising of grain, one that is easily improved and very difficult to wear out. It is watered with such a number of creeks, outlets and bays, that many of their farms are bounded by navigable streams, and very few indeed that lie further than five or six miles from a landing where abundance of lime and plaster can be had at reasonable prices; stone lime from the Schuylkill sells from sixteen to twenty cents per bushel, and shell lime at about half the price.

While so many are enamored with the "far west," parting with their friends, their homes, and their firesides, for a prospect of buying land cheap, and being independent, for $1 25 per acre, could here buy hundreds of acres for less than nothing, compared with the wild lands of the west, and that too within a day's journey of three of the largest cities in the Union. I say less than nothing, for such is the depressed state of agriculture in the peninsula, that farms are often sold for less than the buildings, fences and other improvements have cost.

It is certainly a question of some importance, whether the worn out lands of Delaware, Maryland, and other parts of our country cannot be improved at less expense than to clear off the almost impenetrable forests of the west. When we consider the time it necessarily occupies to clear and make ready for the plough an hundred acres of heavy timbered land, the expense of labor, where labor is not easily obtained, the distance from market, the privations and hardships inseparably connected with new settlements; it seems at least worthy of an experiment to ascertain the fact. A SUBSCRIBER.

Wilmington, Del., 5th mo. 18, 1837.

For the Farmers' Cabinet.

Agricultural Implements.

NO. IX.

THE THRESHING MACHINE.

A machine for this purpose requires great care in the materials and proportions, owing to the liability of coming in contact with sticks, stones, and other foreign substances: therefore, it is best either to have all the parts so strong as not to be injured by them, or some part to give way and thereby save the other parts. A cylinder to turn with considerable velocity, having spikes or projections in its periphery moving between other similar projections in a fixed concave, is, probably, the best kind of a machine for grain in every stage of dryness. One of the former kind may be made with a hollow iron cylinder, the ends composed of cast, and the shaft, projections, and periphery of wrought or malleable iron; the projections are made tapering and passed part way out through openings cut in the periphery, not quite so large as the larger end of the projections; each projection has a key through it, parallel with the centre of the cylinder, so as to press with great force against the periphery, and thereby force the projection outwards and confine it firmly to the cylinder. The concave and projections within it may be composed of cast iron, all in one piece, and be confined by bolts and nuts to a frame of iron or wood.

The latter kind may be composed of spikes or projections that will bend when coming in contact with sticks, stones, &c. and which may be bent back (or returned) to their proper position without breaking, and are confined firmly to a cylinder and concave of

wood. A machine for this purpose may be driven by a horse upon the *portable horse mill* described in a former communication. Grain secured within the field (when cut) in small stacks, and when dry threshed, and the chaff and grain left together, until immediately before grinding the grain, would (probably) preserve the grain from injury, to which it is always liable by sweating, when placed in large masses together, either in barns or stacks, and which is, probably, one of the causes of northern flour being generally inferior to that from the south.

The straw, after the grain is threshed from it, might be secured in large stacks or in a barn.

Chester co., Pa., 13th June, 1837.

For the Farmers' Cabinet.

Many inquiries have been made of the writer of this, respecting the proper time to cut timber in order to prevent the rapid destruction of it from worms, exposure to heat and moisture, or from dry rot, and not having practical knowledge sufficient to answer the question, I take the liberty of asking for information from the various readers of the *Cabinet.*

This is a subject of great importance. Houses and other buildings, fences, bridges, carriages of various kinds, agricultural implements, ships and other vessels are composed in part of timber, to which we may add streets, and rail roads;—consequently any additional knowledge respecting the most suitable time to cut each particular kind of timber communicated through the columns of the Cabinet, might be the means of conferring a great benefit upon the nation.

The particular situation and purpose that each kind of timber is best fitted for, would likewise offer a wide field for observation and remarks through the same channels. A knowledge of the relative cost and utility of each particular substance to preserve timber from either of the aforesaid causes of destruction, or from any other cause, would be of service to the public.

For the Farmers' Cabinet.

Broken Limbs of Animals.

An idea prevails with many persons, that broken limbs of horses and other quadrupeds cannot be cured, owing to the difficulty of keeping the part sufficiently at rest during the time necessary for a broken bone to heal or acquire sufficient strength to support its share of the animal's weight.

I heard of a case some months since which was successfully treated in the following manner, viz: Two pieces of scantling sufficiently strong to support the horse were placed over and parallel with him in the stable; a piece of strong linen was then passed under him and the two opposite ends confined to the scantling so as to raise him from the ground or floor when required; a wooden box was provided with a bottom, two sides, and one end, composed of boards nailed together, and of sufficient length, width, and depth, to contain the leg from the knee to the foot, inclusive, besides a space of half an inch or more, on each side of the leg to admit the necessary bandages, &c. with the bottom cut away sufficiently for the foot to enter and retain its natural relative position with the leg. The broken leg was confined in this box and treated in the usual manner that bones are when broken, and the box together with the leg from the knee to the foot confined in a horizontal position or nearly so, by straps of leather or other suitable substances passed over the horse's back and the two ends confined to the box; the horse was permitted to put his other three feet upon the floor sufficiently to preserve a healthy action to the limbs, but not so as to permit him to displace the broken limb in the box and injure it. A cure was effected in the course of a few weeks. This was one of the anterior (or fore) legs. I see no difficulty in treating a hind leg by partially suspending the animal in this manner and varying the other parts according to the particular nature of the case.

Chester co., Pa., June, 1837. Z.

For the Farmers' Cabinet.

"Does the Pith of the Horn waste, yea or nay?"

I thank Observer very much for his simile of the cloak and the wind. I never should have thought of so apt a likeness. I would rather undertake to find even a hollow horn than an image in nature so appropriate. I hope Observer will excuse me, for I am tempted to say his reply was like unto the north wind,—loud, rough, and empty.

Observer says he is "willing to pursue the investigation of facts, let what will become of the cloak;" I am willing to hold fast to the cloak let what will become of the "wind," or in other words, I love a good warm dress during a storm.

I am glad to see that Observer has admitted the fact, that "horns may become hollow by ordinary caries like other bones," which settles the question in the affirmative, as to "the existence of hollow horn" from that cause. It is true Observer has such a dislike to hollow horns, that he will not own a horn hollow, without it has been deprived of its internal substance according to his own notion.

He strives hard to show that a horn made hollow by ordinary caries, is not the hollow

born; or in other words, that a horn may be hollow, and not hollow at the same time. But it must be obvious to every unprejudiced OBSERVER, that any disease, no matter what, which produces "corrupted horn, putrid horn, rotten horn," and eventually discharges the bone out of the horn, must leave an empty horn, and consequently a hollow horn, in the simple sense of the term.

I know of no stronger proof of the existance of hollow horn than the absence of the internal structure; and I assure Observer that when death is produced by such violent diseases as he has told us the horn is subject to, it will be no consolation to the farmer to know that a horn made hollow by ordinary caries, is not the hollow horn according to the "generic sense."

As I have given Observer information that has enabled him to find a hollow horn for himself, I feel pretty much out of danger from his challenge, and hope that he will not expect me to continue the discussion upon the mere existence, or non-existence of the hollow horn. The fact is now admitted, "that hollow horn exists;" that the bony part of the pith wastes away by a disease to which "all bones are liable." But as I am now in the way of cutting and spliting up old horns, I am willing to open a discussion upon the pithy part of the bone.

I assume this position, that if there is a disease that wastes away the bony part of the pith, a disease of a less virulent character will waste away the pithy part of the bone. Our readers will here see the distinction. The pith of the horn is altogether a spongy bone; there is no part of it but what is soft, when compared with some other bones; but some parts of this pith are much softer than other parts, and it is those soft and more spongy parts that I now propose to examine. I have, since my last essay, dissected a number of piths from horns of cattle slaughtered for the market, by which I am enabled to make comparisons between the piths of diseased cattle and the piths from cattle in good health. The result of those examinations have not as yet furnished ocular proof of the pith wasting away; but there are some facts that leave the conjecture entirely upon that side. These facts I intend to arrange for a future number of the Cabinet, and leave the conclusion to the public. In the mean time I hope to hold fast to my cloak, and to be indulged in the orthodox belief of the wasting of the pith, according to Dr. Tofts, who says in the 1st vol. of the Memoirs of the American Academy, "that this spongy bone is sometimes partially, and sometimes wholly consumed."

I stated in my former essay, that upon examination, I found a number of piths decayed and rotten toward the point, which fact I concluded, favored the opinion of piths being more liable to disease than any other bone. Observer says it was "animal matter, not the bone which he found rotten." Now there is no possible means by which Observer could know that the statement here made is true; he never saw the piths which I have described; he knows nothing of them, only by reasoning from other piths which he has seen; yet he rounds off a paragraph in as positive a manner as if he was speaking of a matter of fact. I examined the piths or bones, and *knew them to be rotten*, or I should not have made the statement.

In my last essay, I suggested to Observer what I thought would be an improvement in his method of controversy; but he seems to have profited little by the hint. This positive manner might be useful in a political contest, where the merits of a cause depend upon its success; or in a polemical controversy, where the dictum of authority supersedes the necessity of reason; but in the arts and sciences, in the investigation of facts that are to unfold new truths and useful discoveries to mankind; where the paths of knowledge are untrodden and every step is in darkness; the mind revolts at a gratuitous parade of information where all are equally ignorant, all inquirers, all learners.

Observer says he "pleads guilty of the folly of pretending to a knowledge of things." I have charged him with no such folly, it was the folly of pretending to a knowledge of the ABSENCE of things, and he acknowledges himself justly charged with "that excess of information which denies the existence of hollow horn." If Observer would say that he doubts the existence of hollow horn, he would speak rationally; but to deny the existence of hollow horn, or of any thing else, is irrational and nothing short of folly; it is a folly because the non-existence of a thing cannot be proved, and what cannot be proved, must always remain a matter of doubt, and matters of doubt are not subjects to which we can neither affirm or deny. Again, Observer says "it is dangerous to persist in supporting an opinion without proof." So far from it being dangerous to support opinions in the absence of proof, it is the only time that mere opinions can be properly supported.

Theories, opinions, and belief range under the head of probabilities; in this state they are fit subjects for investigation, for inquiry, for analogy, and for rational conclusion; but the moment proof is obtained, they cease to be matters of opinion, they are then knowledge; for instance, the most simple man when caught in a shower, never says he believes it rains, or that it is his opinion that it rains, but he speaks of it as a matter of fact, because he knows it.

These remarks upon Observer's articles, are not made in a fault-finding disposition, nor with any pretensions to literary knowledge, but with a desire that they may be received without offence, and be useful in introducing a more agreeable manner of investigation, and one more in accordance with the subjects under discussion; or in figurative language I would say, that the SUN with his gentle rays, would much sooner induce the traveler to part with his "cloak," than Boreas with all his roar of noise and "*wind*."

A SUBSCRIBER.

Wilmington, 6th mo. 10, 1837.

To the Editor of the Farmers' Cabinet.

The discussion between two of your correspondents in relation to the "horn distemper," seems to have arrived at that point which each one has avowed himself equally anxious to avoid; viz. a dispute on words. I think nothing can be plainer to an *impartial* observer, than that they are perfectly agreed in the main matter disputed between them. They both assert the existence of a disorder among cattle which causes the horns to become hollow. One contends that this is the "hollow horn," but the other controverts this position, and asserts that it is something else. The case seems to stand thus, "*horns become hollow*," vs. "*hollow horn*." Now this appears to me so equally balanced, that it is quite immaterial which *horn* of the dilemma is chosen. "OBSERVER" has, however, endeavored to escape both horns by bringing in the polled cattle as subject to the same complaint,—but this does not alter the case, unless he can prove that all cattle are of that description.

He has devoted all his ingenuity (and no little does it require) to prove the difference —to render plain the paradox;—and to show the very nice distinction between "*horns hollow*" and "*hollow horns*."

"'Tis strange what difference there should be
Twixt tweedel dum and tweedel dee!"

But seriously; though I sincerely admire "Observer's" zeal, and think highly of his observations on other subjects; on this one he is certainly wrong, not only in his opinion but in his manner of supporting it. In spite of every disposition to judge favorably, one of two conclusions must force itself on the mind; that either his horns or his words *are* hollow.

I should be very sorry to hurt Observer's feelings in any way;* but if the truth is severe, it is no fault of mine. I have endeavored to show the folly of disputes on words, for it is only these kind of differences that create bitterness of feeling; no one is angry at another for denying a mathematical truth, or believing that the world is flat; but wherever there is a distinction without a difference, we are sure to find the most determined disputes; the most confident assertions, and the most zealous partizans.

In conclusion, I avow my belief in the existence of a disease among cattle, which may be relieved by boring the horn and allowing the decayed matter to escape. It would be superfluous to bring proof of a fact, that I have never yet heard doubted by any person "ignorant" or learned. A FARMER.

For the Farmers' Cabinet.

It seems to be the opinion of some persons, that fat and oily substances and vegetable acids do not attack copper while hot. Can any of the readers of the Cabinet give an explanation upon this subject?

If correct, what is the temperature at which either will begin to act on the copper? This is a subject of great importance in domestic economy.

Raising and Preserving Pumpkins

A worthy and intelligent subscriber to the Cabinet, residing in Pittsgrove, Salem county, New Jersey, has sent us a communication in answer to the inquiry in our 20th number, as to the best method of preserving pumpkins. As we are cramped for room in the present number, we can only give the following abridgement of his communication. He states that for the last few years, he has had no difficulty in preserving pumpkins, from six to nine months. His plan is to gather them when they are fully ripe, (by all means before a frost falls,) and then keep them in a warm, dry place. He states that in October, 1835, he had a pumpkin, of the ordinary kind raised in Jersey, about one foot in diameter, called the "cheese pumpkin," brought in from the field; it was placed on the corner of a cupboard, and there left until March last—a period of about twenty months—during

* OBSERVER, possesses too much good sense, to suffer his feelings to be wounded by observations of this nature. We are assured that his object in pursuing this controversy has been to elicit truth, and thereby correct the popular and prevailing errors on an important subject. That good may result from a well tempered and judicious discussion, admits of no doubt. OBSERVER has given his opinion frankly. If the position he has assumed is untenable, let it be demonstrated by argument. We want facts, on this and on every subject of moment to that class to whose interests the Cabinet is devoted—and we know from conversation with many of our readers, as well as from the fact that the articles in question have been copied into a number of the public journals, that it has been the means of exciting the attention of many to an investigation of the disease usually called "*hollow horn*." We hope to hear often from "*Observer*" and "*A Subscriber*,"—on subjects within the range of our work: And, if "*A Farmer*" can, by the force of argument, dislodge "*Observer*," from the position he has assumed, our columns are at his service.

which time it remained in a state of perfect preservation. This, he thinks, is owing to three circumstances. 1. The pumpkin being fully ripe, and uninjured by frost when brought in. 2. A fire being kept in the room during the winter. and 3. The air being allowed a free passage during the warm weather. Subscriber, is of the opinion, that great profit may be realized by cultivating this article as food for swine and cattle—and, he would respectfully solicit through the pages of the Cabinet, information as to the best kinds of pumpkins, and the most improved method of raising them.

For the Farmers' Cabinet.

Cement.—Four parts chalk, mixed with five parts fresh clay, is said to have an adhesive property equal to five thousand pounds.

For the Farmers' Cabinet.

Gas from Resin compared with that from Oil, is said to possess valuable properties in the proportion of nine to five in favor of that from Resin.

A Picture.

BY CHARLES MINER, ESQ.

It would seem hard to say that we are an ungrateful people. But listen to the language of complaint. Our newspapers are weekly pouring forth the most melancholy notes, approaching almost to despair; yet what is our situation? Is it one demanding the liveliest expressions of gratitude and joy, or of querulousness and discontent! Rouse yourself, my friend, if you have any doubt,—come, go with me—let us clamber yonder hill—look abroad—Is not this a goodly prospect? The stream that we see to the east and south, is the Delaware—the river far to the west, is the Susquehanna. The clear waters which fertilize that valley of the north, are the French Creek and the Schuylkill. Behold these numerous brooks which run east and south to the Delaware, they water, and in their course impart health, fertility and wealth to Delaware county—those which flow west and south into the Susquehanna, are the Conestoga and Octoraro, which, with their tributary rills, pass through Lancaster; and the lovely stream that murmurs at our feet, is the Brandywine—I need not say, that yonder charming city is Philadelphia—nor need I mention to you the names of towns and villages which lie within our view—but the eye now embraces a population of more than 300,000 inhabitants. Look closer—if you can withdraw your eye from gazing on so delightful a prospect as the whole presents—look closer—separate the parts from the whole—take a single plantation, the one on our right, for instance—do you see that stone house—that large barn—those meadows spotted and enlivened by those milch cows, those fattening cattle and sheep—observe the fields yellow with grain—could you see the inside of the mansion, you would find the drawers full of those things which render a family neat and comfortable—the cellar stored with plenty, and the table crowned with abundance. "And what of these?" I reply, that the picture of this farm is the likeness of the thousands and tens of thousands that lie under our view. The farmer is the lord of the soil—he has no proud duke or marquis to come annually to show his superiority and demand the evidence of his vassalage—the tythe pig he roasts for his table, and he snaps his fingers at the taxgatherer. In truth, he knows nothing of want or oppression, but by name.

Under this blue sky—with these clear waters—in this lovely clime—with a government of his own choice, enjoying the most perfect freedom; where on this earth is there now, or was there ever, a people who had so many causes for joy and thanksgiving—and so few for repining. Our cup is full and overflowing with blessings. We are like a pampered child, fed so profusely that we do not know how to enjoy the luxuries that are crowded before us.

A Suggestion for the coming year.

A gentleman of high respectability informs us, that the following mode of sowing winter wheat in the spring, has been partially adopted in Tennessee with the happiest success. In early winter the seed grain is put into casks, and water enough added to soak and cover it. It is then exposed so that the water becomes frozen, and it is kept in this state as far as practicable until the soil is fit for its reception in the spring. It is well known that the operation of frost upon the seed of winter grain has the same effect as if it is sown in autumn—as wheat or rye sown at the setting in of winter will grow and mature. The advantages which are experienced from sowing in the spring, are, 1st, that the grain is not subject to be winter killed; 2d, it escapes the Hessian fly in autumn, and possibly it may escape it in the spring; 3d, the ground being fresh stirred for spring sowing, the growth will be more vigorous; and 4th, as it will come into ear late, there is at least a probability that the crop may escape the grain worm. The advantages are so manifest, that the experiment is worth a trial; and we shall feel obliged to some Tennessee correspondent who will give us the details and result of the practice in that state.

Introduction of Turnep Husbandry in England.

A correspondent of the Boston Courier, speaking of the introduction of the sugar beet into this country, makes some forcible remarks on the prodigious impulse which the prosperity of a nation may receive by the introduction of a single new plant, which he illustrates by the following historical fact:—

In an early part of the reign of George the First, the culture of the turnep was limited in England to a few gardens, as that of the beet now is with us, and used almost exclusively for culinary purposes. That monarch, in one of his visits to his electorate of Hanover, was attended by his secretary of state, Lord Townsend; whilst residing there, this nobleman was struck by the appearance of extensive fields devoted to the culture of the turnep, as food for cattle and sheep; impressed with the belief that this method might be introduced with advantage in to his own country, he, before leaving Germany, took care to provide himself with seed, and, on his return, earnestly recommended to his tenants a practice, which, in Hanover, had been found to produce the most favorable results. His wishes were attended to, and the experiment surpassed in success, his most sanguine expectations. The field culture of the turnep spread rapidly through the county of Norfolk, which, from that epoch, dates its high reputation as an agricultural district. Lands, which rented for one or two shillings an acre, soon brought fifteen or twenty, and sterile warrens, on which were to be seen only a few half-starved rabbits, were reclaimed, and are now covered with rich harvests of grain. Colquohoun, in his statistical researches, computes that the annual value of a crop of turnpes *in Norfolk* alone, amounts to no less than fifteen millions sterling. When it is considered that this root has been the means of bringing under culture, lands, which, without it, must have remained valueless; that it leaves the soil in a condition to ensure a good crop of grain or grass, and that the latter is a good preparation for wheat, we may safely consider the benefits resulting to England from the turnep culture as incalculable. If it was now asked, says Colquohoun, who was the man, in modern times, who had rendered England the most signal service, no one should hesitate to say, that it was the nobleman whom shallow courtiers nicknamed in derision, "Turnep Townsend." In half a century the turneps spread over the three kingdoms, and their yearly value, at this day, says the same author, is not inferior in amount to the interest of the national debt!!!

From the Maine Farmer.

Questions and Answers.

What is the average crop of Ruta Baga, to the acre, on land well manured and taken care of?

Answer. Six hundred bushels, each bushel weighing 64 pounds, after being well cleared of tops, dirt, and small roots. Much greater crops have often been produced; say from one to two thousand bushels to the acre, or at that rate on smaller lots.

What are they worth, ton for ton, or pound for pound, for stock, compared with good English hay, corn, potatoes, apples, &c.?

A. When properly fed out, they may save hay, pound for pound; because if given in any considerable quantities, stock may be kept in good condition, if poor hay, or even straw be added. They are worth more than potatoes in equal weight; and as much as apples, and less liable to decay. To keep a creature in decent flesh, with hay, five bushels of Ruta Baga are equal to a bushel of meal.

What kind of stock is it best and most profitable to feed them to?

A. All kinds: horses and swine not excepted. If they refuse them at first, let them become hungry, and they will soon eat them well. I have wintered swine on them, in a raw state. They are worth for them certainly as much as potatoes—and are most excellent for sheep.

What is the cost to raise them, per bushel, compared with potatoes?

A. Much less: as they yield much more on a given quantity of land; their seed and planting cost less; their hoeing more; and their leaves pay the harvesting.

Are they not more exhausting to the land than potatoes, or most other crops?

A. They are: as much more weight is taken from the soil than by most other crops. I think no one ought to object to having a large crop, because it takes more from the soil than an inferior one; but it should be known that Indian corn will not grow well the next year after a large crop of ruta baga, as each require from the soil similar qualities.

More hereafter, in relation to Ruta Baga, from A. B.

The season has arrived when farmers should be on the alert to prevent noxious weeds from seeding, and thus spreading over the land. It would undoubtedly be better to eradicate them thoroughly and at once, but in many cases this is nearly or quite impossible, and the only thing that can be done, is, as far as practicable, to prevent the extension of the evil.—This may in most cases be best done by cutting the weeds before the seed is sufficiently ripened to propagate the plant.

PRICES CURRENT.

ARTICLES.	Philadelphia, June 27.	Baltimore. June 27.	New York, June 25.	Boston, June 26.
Beans, white, per bush.	$1 37–1 62½	1 50—1 75	1 75—2 00	2 25—2 50
Beef, mess, new, per bbl.	14 00–15 00	13 00–14 00	13 50–14 50	15 50–16 50
Bacon, western, per lb.	7— 7½	7— 9	8— 10	.....
Butter, extra, per tub	11— 14	16— 20	17— 19	14— 18
Butter, fresh, per lb. (market,)	18— 25	25— 31¼	25— 31	.....
Hams, per lb.	12—	10— 12	10— 12	14— 15
Hog's Lard, per lb.	11— 12½	8— 10	8— 9	10— 11
Cheese, American, per lb.	10½— 11½	9— 11	10— 12	9— 13
Beeswax, yellow, per lb.	25— 27	23— 25	23— 25	25— 30
Beeswax, white,	.....	38— 40	38— 40	38— 40
Bristles, American,	.....	25— 65	25— 65	.....
Flax, American,	.....	9— 10	.....	9— 12
Flour, best, per bbl.	8 00—9 00	7 75—9 00	9 00—9 25	8 00—9 00
GRAIN—Wheat, per bush. Penna.	0 00—0 00	.....	.....	.....
do. Maryland,	0 00—0 00	1 60—1 70	.....	.....
Rye, per bushel,	0 00—0 00	85— 90	—0 00	0 00—0 00
Corn, do.	96—1 00	90— 92	90— 95	1 07—1 09
Oats, do.	50— 58	48— 50	50— 60	62— 65
Barley, do. Penn.	.....	.....	.....	1 00—1 10
Peas do.	1 00—1 25	— 8	.....	.....
HAY, Timothy, per 100 lbs.	1 05—1 20	14 00—	.....	22 50 pr ton.
Meadow Grass,	70— 90	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	.....	—140	.....
Hops, first sort, 1836, lb.	9 — 10	— 9	7½— 8½	6— 7
Plaster Paris, per ton,	2 75—3 00	2 75—2 85	.....	2 00—2 25
SEEDS—Cloverseed, per bushel,	5 00—6 25	6 00—6 50	.....	.....
Flaxseed, rough, do.	1 40—1 55	1 37—1 50	.....	.....
Timothy,	2 25—2 75	3 00—3 50	.....	2 87—3 12
Tallow, per lb.	8½— 10	— 11	9— 10	10— 11
WOOL—Saxony, fleece, per lb.	00— 00	50— 60	75— 80	65— 70
Merino,	00— 00	45— 50	50— 68	60— 65
1-4 and common,	00— 00	33— 36	35— 45	40— 45

REMOVAL.

The office of the Farmers' Cabinet is removed to No. **45 NORTH SIXTH STREET**, a few door above Arch, where we shall be happy to see our friends. Subscribers who may not have received the work regularly, are requested to call on us.

☞ Subscriptions will be received as heretofore, by Mr. O. Rogers, at the old stand, No. 67 South Second street.

BINDING VOL. I.

We would respectfully inform subscribers, that we have made arrangements for binding the first volume of the Cabinet. Volumes left at our office, No. 45 North Sixth street, will be bound in a neat, durable and workmanlike manner;—Price, twenty-five cents.

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