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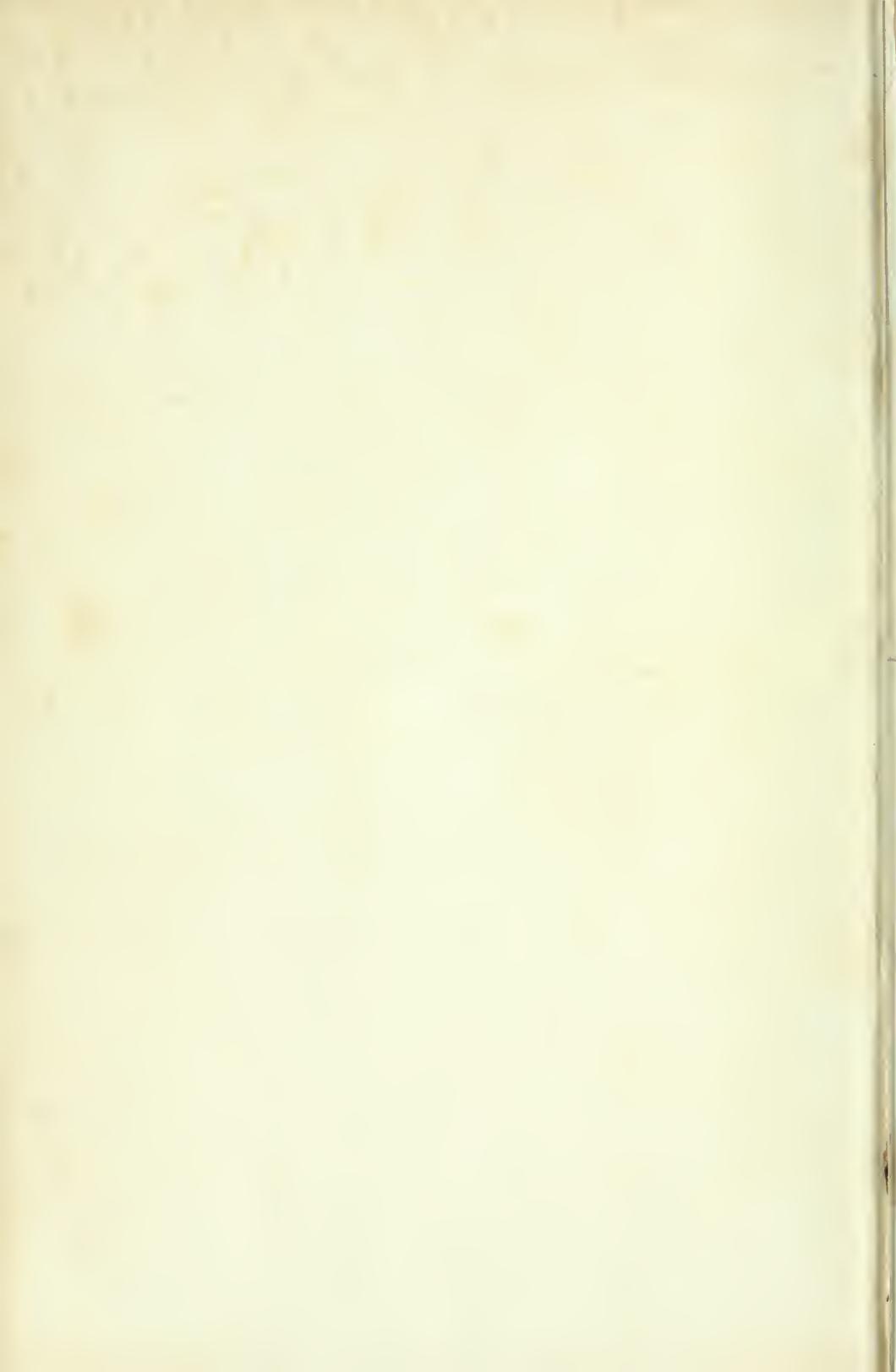


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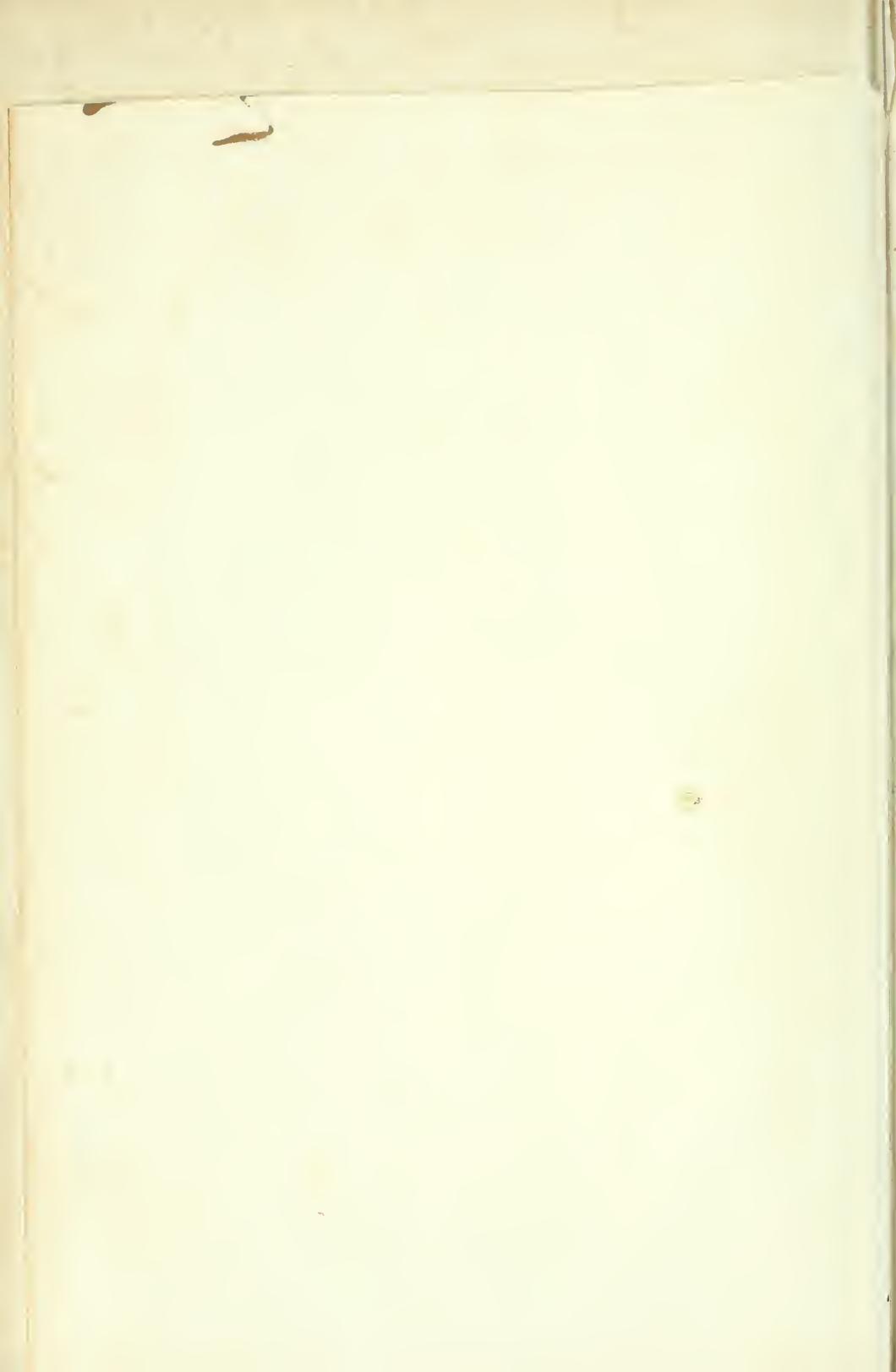
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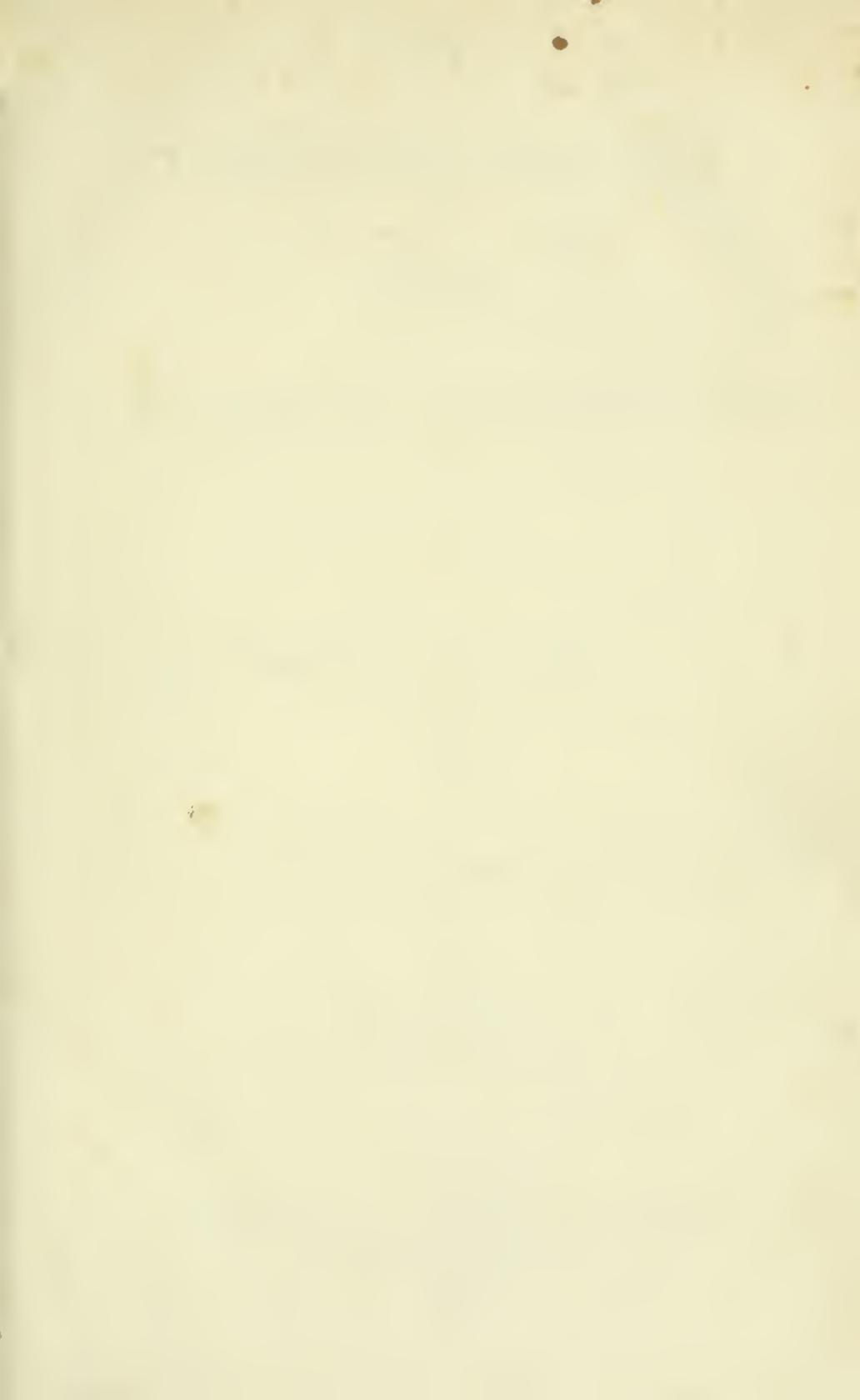
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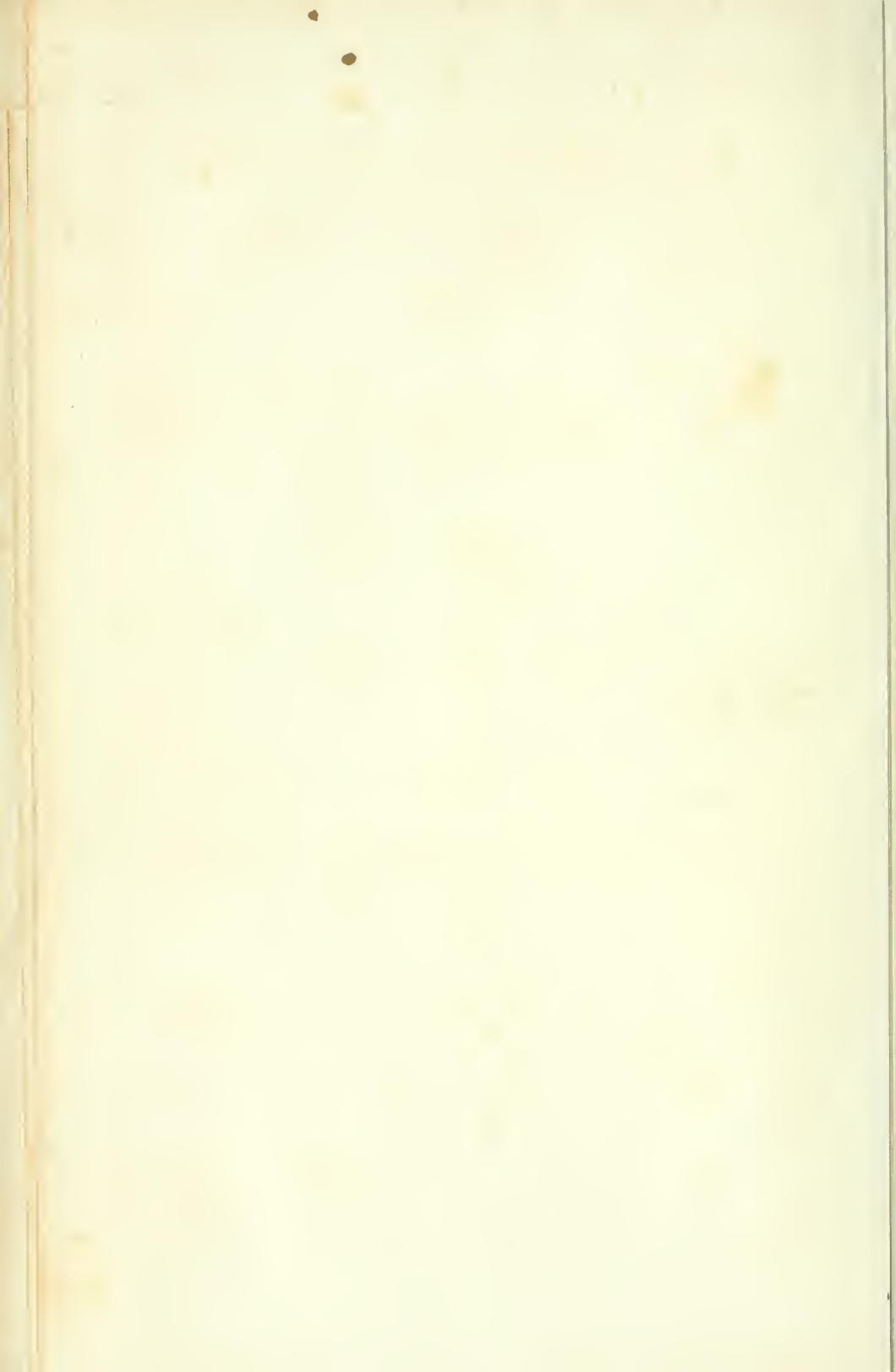
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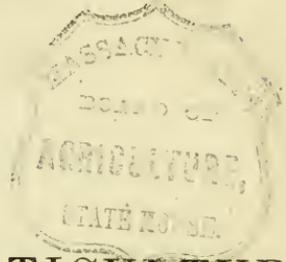




THE

FARMERS' CABINET;

DEVOTED TO



AGRICULTURE, HORTICULTURE,

AND

RURAL ECONOMY.

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

Vol. IV.—August, 1839, to July, 1840.

PHILADELPHIA:
PUBLISHED BY KIMBER & SHARPLESS,
No. 50, NORTH FOURTH STREET.

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1840.

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THE FARMERS' CABINET,

Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

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August 15, 1839.

[Whole No. 55.]

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Agricultural Ware-House and Seed Store,
NO. 87 NORTH SECOND STREET,
PHILADELPHIA.

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

Any gentleman remitting *Five Dollars* will be entitled to the Farmers' Cabinet for SEVEN YEARS, commencing with the first or any subsequent volume.—The volumes now published can be sent by mail, in paper wrappers; Postage, under 100 miles twelve cents—to any part of the United States over 100 miles from the place of publication, eighteen cents per volume.

COMMUNICATIONS.

To the Editor of the Farmers' Cabinet.

SIR—I am rejoiced to find, that through the medium of agricultural newspapers, a spirit of improvement has been excited in parts of our state, as well as in other states. That men of sterling intelligence—practical farmers—who perform well all they undertake, are waking up to an examination of the subject, I regard as an evidence, that the foul stain, so long resting on our fair state, of a total neglect of her agricultural interests, is about to be wiped away. I rejoice at this. Pennsylvania is emphatically an agricultural state, and I have often been mortified, when asked, "what are you doing, as a people, to advance the cause of agriculture?" I have been compelled to return the humiliating answer—*nothing!* The agricultural resources of our state are abundant—I might say inexhaustible. Our agricultural and mineral wealth is beyond all calculation.

The resuscitation of the Philadelphia Society for Promoting Agriculture, and the organization of the Chester and Delaware County Agricultural Society, I regard as another evidence of a proper state of feeling on this subject. I hope they may be efficiently managed, and that in a short time similar societies may be established in all the

counties of the state. This can be accomplished, if our brother farmers will but take it in hand. Every thing else, necessary, will *then follow*. The plan proposed in a former number of the Farmers' Cabinet, by W. P. KINZER, pleased me. I trust that the seed sown, from time to time, in your paper, will produce a fine and luxuriant crop.

A third reason why I think the cause of agriculture is really advancing, is, that for the last year the correspondents for your paper have been constantly increasing in number, in interest, and in spirit, I have the pleasure of an acquaintance with some of them; they are practical farmers; competent to the task.—It is truly encouraging to see men of intelligence and experience entering heartily, as some of them have, in sustaining your paper by their contributions, and personal influence. That they effect much good, I doubt not. Others, also, moving in a humbler sphere—who cultivate fewer acres, but who feel no less the importance and dignity of the art of agriculture—and who, keeping their grounds well tilled and free from weeds—obtain an independent support from Old Mother Earth—take also a lively interest in the modern improvements of the art of agriculture. The writer of this belongs to the latter class; he brings his *mite* towards the work. It is at your service. If you publish the communication, well—if not, please preserve it until called for.

The following communication is a *compilation of facts* in regard to the culture of wheat, interspersed with such remarks as the experience of the writer in its cultivation, for a series of years, and frequent conversations with eminent wheat growers, appear to justify. The works consulted have been numerous; among them Loudon's Encyclopedia,

Low's Elements of Agriculture—Le Cou-
teur's Treatise—Farmers' Assistant, &c. &c.
A FARMER.

Chester county, Pa., July 26, 1839.

Cultivation of Plants.

The plants of the description termed *cereal grasses* that are most usually grown in this country, are, wheat, rye, oats, and in a lesser degree, barley. To these we may add maize, (Indian corn, which is one of our most important crops,) and buckwheat and rice, which are very important crops, and likewise millet.

The *chemical composition* of plants has been made the subject of numerous experiments, within these few years. Some of them have been attended with very interesting results; but as the subject is too extensive to be treated of here, I give the following brief quotation from the works of a gentleman now no more, whose labors in the cause of science have thrown much light on the art of agriculture.*

"The compounds in vegetables really nutritive, are very few; *farina*, or the pure matter of starch, gluten, sugar, vegetable jelly, oil and extract. Of these the most nutritive is gluten, which approaches nearest in its nature to animal matter, and which is the substance that gives to wheat its superiority over every other grain.

"The next in order as to nourishing power is oil, then sugar, then starch, and last of all gelatinous and extractive matters. Sugar and *farina*, and starch, are however, very similar in composition, and are capable of being converted into each other by a very simple chemical process.

"All the varieties of substances found in plants, are produced from the sap, and the sap of plants is derived from water or from the fluids of the soil, and it is attended by, or combined with, principles derived from the atmosphere."

But they are subject to variations however, in quality and proportion, not only in the different kinds of grain, but also in those of the same species: the temperature of the season, the nature of the soil and manure, the degree of maturity which the crop has obtained, and the weather at harvest, all give rise to distinct degrees of quality; and this occasions grain to contain more nutritive properties in some years than others.

Seed of every kind should attain full maturity ere it be sown.—There is always risk in employing that which has not arrived at perfection, although instances may occur in which such seed has produced sound crops,

* Sir Humphrey Davy—First Lecture on Agricultural Chemistry.

when favored by soil and season. Several cases of this season's occurrence might be mentioned in illustration of the fact.

There is a particular *period at which each species of seed ought to be sown*, in order to bring the plants to a perfect state of ripeness. This, however, depends so much upon the soil and season, that it cannot be fixed by any general rule, and the farmer can only be governed by the state of the weather, and the forwardness of his work, for whatever may be his experience, his judgment may be deceived in the choice of time.

The condition of the land is, in fact, the best guide; for, if it be in a mellow state, between drought and moisture, the seed may be put in with confidence. Some kinds, however, prefer a dry and warm soil; others, that which is more humid and tenacious. Thus, barley, rye, and buckwheat, succeed best on the former; and wheat and oats on the latter. It has, indeed, been remarked that a certain state of the atmosphere—with which all farmers are well acquainted—is favorable to sowing.*

The *depth at which seed should be sown* is a matter of nicety, as well as of importance. If too deeply buried, germination is impeded, and may be altogether prevented; while, if sown too shallow, sufficient moisture is not left in the surface to afford nourishment to the roots of the plants.

The depth at which seed ought to be placed must, therefore, be regulated by the nature of the soil. If stiff, more moderate covering should be used than if light and porous; wheat, barley, and oats also require more than rye or buckwheat; but, except in a few instances, from one and a half to three inches, is in every case, the lowest to which it should be carried.

WHEAT.

Of *what country wheat is a native*, is, according to LONDON, totally unknown. It has been supposed indigenous to Asia and Africa, and unquestionably it is more likely to belong to these parts of the world than any other; but all that can be advanced on this subject is conjecture.

Wheat, with the exception of some parts of the southern coast of Africa, (where, according to the declaration of PLINY, it yielded more than an hundred fold,) is cultivated in every part of the temperate and torrid zones, and in some places as high as two thousand feet above the level of the sea.

Species and Varieties.—Botanists reckon seven species of triticum, which are or may be cultivated for their grains, besides many varieties and sub-varieties of those in common culture. The species or sub-species, are,

* Library Useful Knowledge—Farmers' Series.

- | | |
|--|---|
| 1. <i>Triticum aestivum</i> , Summer or spring wheat, (a.) | 5. <i>Triticum polonicum</i> , Polish wheat, (e.) |
| 2. " <i>hybernium</i> , winter or Lammas wheat, (b.) | 6. " <i>spelta</i> , Spelt wheat, (f.) |
| 3. " <i>compositum</i> , Egyptian wheat, (c.) | 7. " <i>monococcum</i> , one grained wheat, (g.) |
| 4. " <i>turgidum</i> , Turgid wheat, (d.) | |

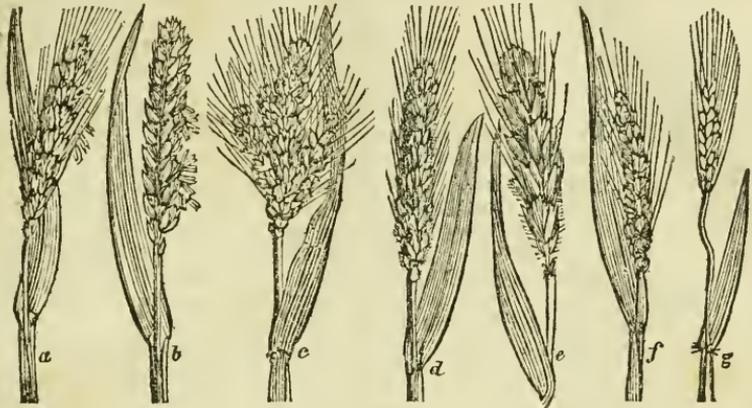


Fig. 1-7.

The first, second, fourth and fifth sorts are by many considered as only varieties, and it is doubtful whether the third and sixth may not be the same. The seventh has all the marks of a distinct species, but it is very questionable whether, if much cultivated, it would not always continue to produce one row of grains.*

Of the species which have been enumerated, greatly the most important in rural economy, is the winter wheat. The kinds of it are very numerous, and, in truth, there is scarce a limit to the difference which climate, soil, and situation may produce.

The characters which it thus acquires in the different conditions in which it is placed, are more or less permanent and important. The kinds are distinguished by a great variety of local terms, derived from their respective qualities, their places of growth, and other circumstances.

With respect to their uses in agriculture, they may be divided into two classes, distinguished by the color of their *seeds*, red and white; and these may again be distinguished by their *spikelets* being smooth or hairy, the one being termed thin or smooth-chaffed, and the other thick or woolley-chaffed.

Of these classes, the *white* are superior in the quality of their produce; the *red* are the more hardy; and in general, the thin and smooth-chaffed are preferred to the woolley and thick chaffed.

Winter wheat is sometimes termed spring wheat. This merely arises from the period of sowing. If it is sown in spring, it is termed spring wheat; if previous to winter, summer or winter wheat. This circumstance has perplexed some writers, who have evidently

drawn distinctions between the winter and spring wheat of the farmer which do not exist.

But it is a curious fact that wheat sown in spring, changes its habit with relation to the period of ripening, the produce of wheat sown in spring acquires the habit of coming much sooner to maturity, than the produce of that sown in autumn. Hence the farmer, when he sows wheat in spring, should sow the produce of that which had been already sown in spring, and not the produce of that which had been sown in autumn.

This change in the habit of ripening, though it may at first view appear somewhat singular, takes place in all the cereal grasses, and also in many other cultivated plants. The minor varieties of any species of wheat are not permanent in their character, though under given conditions they will remain unchanged for an indefinite period; under other circumstances, however, they degenerate—and hence, particular kinds that were once valued, have now ceased to be so.*

Wheat is of very general cultivation on all classes of soils; but the soils best suited to it are those which are more or less clayey. So peculiarly is wheat suited to the stiffer soils, that they are familiarly termed wheat soils. The soils of the lighter class are the least suited to wheat; and it is an error in practice to force the production of wheat on soils, and under circumstances which are better suited to the production of the other grains.

To be continued.

Without frugality, none can be rich—and with it few would be poor.

* Encyclopedia of Agriculture, p. 312.

* Professor Low, page 234.

For the Farmers' Cabinet.

Observer---No. XIX.

REMARKS ON DR. CLOUD'S ESSAY ON AGRICULTURE.

I was much pleased with the "Essay on Agriculture," in the last Cabinet, by the late Dr. Cloud, of Chester county.* A gentleman no less distinguished for his amiable disposition, than for the strength of his intellect, and the extent of his scientific acquirements. But my admiration of his worth—my approbation of his general views, are the strongest motives for endeavoring to correct any errors which may have fallen from his pen. Were he yet living, he would be the first to approve my conduct.

In attempting to explain the *modus operandi* of plaster, he seems, in some degree, to have fallen into the common error of theorists, and formed conclusions—or at least assumed certain positions, as true, and then framed his propositions to suit them. The strongest mind is liable to be biased by some preconceived opinion, and is unconsciously led to the easy adoption of such facts, and such only, as appear to sustain it. The explanation contains a beautiful series of scientific truths, harmoniously arranged in proper order, and terminating in the result intended. A result which is only an assumed hypothesis, and not an ascertained fact. I should have been captivated with the theory, if I had not previously read the propositions on which it is founded. Some of these appeared to me untenable, and if so, the explanation cannot be true. These propositions are three:

1. "That plaster does promote the growth and perfection of vegetables."
2. "That it is useless in seasons of a sufficiency of rain."
3. "That dew is more apt to be found upon grasses that have been plastered, than others."

Led by my own experience, and sustained by the testimony of many farmers, I would say that the second proposition should read *deficiency*, instead of *sufficiency*. I believe that it is only in moist seasons, or, at most, when rain succeeds the sowing of the plaster before a drought sets in, that it proves beneficial. If rain did not succeed the sowing, I have not seen such benefit during the continuance of the draught. It may be true, however, that where the soil is good, and the season wet, the producing effect of the plaster is not required, and may hardly be perceptible. On a thin, or exhausted soil, I think the effect will be in proportion to the moisture of the season.

I also object to the third proposition, that it is an assumption without proof. It is ad-

mitted, that if part of a field, similarly circumstanced throughout, be plastered, the grass on that part will have more dew upon it—just in proportion to its greater luxuriance. But if by the application of other means, the remaining part should be rendered equally luxuriant, I hold that the quantity of dew would be similar on the two parts. A plant of vigorous and rapid growth, imbibes more nourishment than it would do in a feeble, languishing state. This nourishment is taken up from the soil in a state of aqueous solution, and the excess of water separated and thrown off by exhalation from the leaves. The water, thus exhaled, is the excrementitious part of the food of vegetables, and bears a near proportion to the quantity of nourishment received.

If this view be correct, and I think few will question it, it follows that the greater quantity of dew, on plastered grass, arises from the general circumstance of its *increased luxuriance*, and not from any *specific effect* of the plaster. That it is derived immediately from the vessels of the plant, and condensed upon its surface by the cool of the night—and not attracted from the atmosphere. And thence, as the hydratic property of uncombined sulphuric acid on the leaves is not required, and, so far as appears, has never been shown to exist, the theory of its formation must fall to the ground.

The theory in question seems to limit the effects of plaster to this deposition of water, on the outside of the plant, without showing in what way it promotes the growth. I would ascribe more to its agency. To me it seems probable, that it operates within, and not upon the surface of the plants. Probably, it is a mere stimulant, or condiment, taken in with their proper food, which, by acting first upon the recipient, and afterwards upon the assimilating organs, increases their action, and enables them to receive and digest more food than they could without it. This conjecture is greatly strengthened by daily observation and experience in animals.

In remarking, thus freely, on the labors of the lamented dead, it may be proper to observe, that I delight to see intelligent minds engaged in the investigation of the phenomena of nature, with reference to the improvement of the condition of man. The attempt to explain the chemicovital operation, according to the ascertained laws of the physical sciences, may fail of its ultimate object, and yet prove of vast utility, by eliciting new and important truths. Even the most wild and fantastic theory may often lead to the same result.

If I were to admit the positions assumed by Dr. Cloud to be as correct as his theory is beautiful and scientific, I should still doubt

* Farmers' Cabinet, vol. iii, page 329.

whether any appreciable quantity of sulphuric acid could thus be produced. If he had estimated the quantity of acid thus placed at his disposal as he did of the lime, he would probably have arrived at the same conclusion—"surely all the (acid) that enters into this sulphate, spread upon the ground in the sparse manner in which gypsum is usually strown, could have but a very inconsiderable effect." This conclusion is fortified by the consideration, that this quantity of acid would not be brought, collectively, upon the surface at one time, but in small and successive portions every night for months, and even many times for years.

The foregoing remarks are submitted to the consideration of my readers, with due reference to the high authority, and "chemical research" of the gentleman who "originated" most of the opinions under discussion, and for whom I feel the highest respect.

New Garden, 7 mo. 1st, 1839.

For the Farmers' Cabinet.

Restatement.

A reconsideration of arguments in favor of investing capital in lands rather than six per cent. stocks.—A short history of the improvements made, and inducements to invest in the Hundreds of Red Lion and St. George's, in New Castle county, Delaware.

MR. EDITOR,—I was much pleased with a communication in your May number, by a "Young Farmer" of Churchville, Md., on the question "*whether stocks or land afford the most profitable investment.*"

I am of the opinion that if those who are identified with the soil, and who desire its permanent improvement, would make greater efforts to prove to our capitalists in cities and thickly settled neighborhoods, the advantages arising from a withdrawal of investments in stocks, which at all times are very uncertain, and re-invest in lands, at moderate prices, in improving neighborhoods, they would greatly promote the cause they have espoused, as well as the permanent good of the country. All that is wanting to make a "Farmer's life" *respectable*, as well as useful and independent, is the distribution of more capital and intelligence or useful knowledge among men. I therefore invite the attention of those, whose funds are invested in the manner above mentioned, to a reconsideration of the positions assumed by a "Young Farmer," in the hope that the grounds on which he has based his argument of investments in lands may influence some to abandon the over-crowded city, or too thickly settled neighborhood, and locate in situations where lands are cheap and of good quality.—His argument is this—"That the decision of the question whether stocks or land afford the most profitable investment, will depend mainly, if not entirely, upon three things, viz:—

The price at which land can be purchased; the price for which produce will sell; and the price to be paid for labor."

He admits—"that the investment of money in land which cannot be purchased for less than from \$100 to \$200 per acre may not be as profitable as six per cent.; but contends that when land equally good, naturally, can be purchased for one tenth the above sum, the price of produce equally high, and the price of labor considerably less, the investment of money in land would be much more profitable.

As a proof that the latter is a fact, he adduces the condition of the lands lying on Deer Creek, in Harford county, Md., no less gratifying than new to me, for the lands through which the rail-road runs indicate a sterile soil, and consequently impress strangers unfavorably. Hence the advantage of agricultural papers in affording a medium for a correct knowledge of the condition and improvement in progress throughout our widely extended country. "Here," he says, "latterly some small farms of prime quality, highly improved, have been sold at from \$50 to \$75 per acre. This land will produce on an average from 20 to 30 bushels of wheat per acre, and from 40 to 50 of corn. The above mentioned is the highest price at which land is held in this county. But there are many farms on Deer Creek and within three, four, and six miles of it, which can be purchased at from five to twenty-five dollars per acre. These are of course somewhat inferior to the first mentioned in quality, but with a little care, and by the application of lime, can be made to produce as good (and perhaps better) crops than the lands in Lancaster, Chester, and Philadelphia counties, which are daily sold at from \$100 to \$150 per acre. The vicinity to lime enables them to procure it quite as cheap as in those counties."

From the above premises he deduces the following supposition. "Suppose a Chester or Philadelphia county farmer should purchase here for \$15 per acre, and put on \$10 per acre in improvements, which is \$25. If he could sell out for \$100 per acre, he could purchase as much land for one-fourth the money; and if produce is equally high *here*, and he could make six per cent. *there*, he would make *twenty-four* per cent. *here*. Having now stated the arguments designed as a reply to some queries propounded by an 'Old Subscriber,' he concludes his interesting communication by inviting him to visit his section of country, saying "that if he has any idea of an agricultural life, he will be induced to sell out his six per cents, and invest the proceeds in good *twenty-four* per cent. in Harford county, Md.

I hope a "Young Farmer" will not deem

me obtrusive. If I interpose a plea, and ask of him the favor, that when an "Old Subscriber" pays him a visit, he will advise him not to invest until he has extended his reconnoitering into New Castle county, Delaware, particularly the lands in Red Lion and St. George's Hundreds, better known probably as lying in the vicinity of the Chesapeake and Delaware canal. I mistake the character of a "Young Farmer" much if he, as well as an "Old Subscriber" will not be interested in a detail of the improvements now in progress in the section of country alluded to. No longer than fifteen years ago, it may be asserted, without the fear of contradiction, that not less than three-fourths of those lands were reduced to the lowest state of exhaustion.

The land destroying system, of taking off crop after crop, without any adequate return of vegetable matter to supply the exhaustion, was the legitimate cause; and afforded to the stranger as he passed along, a panorama of comfortless buildings, dilapidated fences, and worn out fields. True, here and there might be seen a tolerably improved farm, but like the oasis in a sandy desert, "they were few and far between." It ought to be mentioned also, that one co-operating cause in consummating this disastrous condition was the unhealthiness of the neighborhood, occasioned by a large body of meadow being covered with stagnant water, the natural outlets having been obstructed during the cutting of the canal, which greatly depressed and paralyzed the energies of the citizens. After the completion of the canal, however, the health of the country began to improve, and with it the dormant energies of the proprietors of the soil were aroused. A few enterprising men, with sound judgment and ample means, by a judicious appropriation of both upon their lands soon brought them up to their former fertility, and even beyond it; for not content as my friend "A Young Farmer" with his sixty bushels of corn per acre, they demand of old mother earth, shall I say it? *One hundred bushels per acre!* In fact my next door neighbor has a field of thirty acres at this time growing, which if it does not yield per acre the above number of bushels, then must the decision of the question whether an acre of land [in this section] can be made to yield 100 bushels, be forever put to rest. [!]

As might be expected these praiseworthy examples have exercised a benign influence throughout the district. Enriching the land, and thereby increasing its fertility, has become of paramount importance. I might go so far as to say, a passion, not as evanescent as the miltaria fever must certainly be,—but more permanent and abiding.

Lands have risen in value, so much so, that in Red Lion Hundred in particular, there are

not one half dozen farms that can be purchased for less than \$50 per acre. It may be conjectured by a "Young Farmer," and others unacquainted with our location and resources, that these prices cannot be sustained. It is the opinion of many intelligent men, that they have not reached their acme, for several reasons. Our resources for enriching the soil, and convenience to market. Our soil with some exceptions is composed of a loam, based upon a yellow clay subsoil, having a very good proportion of clay and sand, the two essential ingredients in a good soil; the surface moderately undulating and free of rock-stones. Until very recently, vegetable and animal manure and lime were the principal agents in renovating the soil, the latter costing on the landings from sixteen to twenty cents per bushel.

Shell marl and green sand marl have been recently discovered of a very superior quality in inexhaustible beds in different sections in both Hundreds; and here, at the hazard of becoming prolix, it is but justice to say that the community is mainly indebted to the Agricultural Society of New Castle county in petitioning the Legislature for a Geological Survey of the State; and when their request was complied with, *then*, and not till then, was a decisive effort made on the part of the farmers to search for it; and try its fertilizing properties. True, it was known to exist some time previous, and some of it tried was found to be good, but skepticism as to its value spell-bound the community, until the anticipation of having the marls analyzed, stimulated them to renewed efforts. As an illustration of its fertilizing powers, I will state that one of my neighbors covered a field at the rate of 15 bushels per acre, 20 bushels to the load. The land was a wheat stubble and the next spring put in corn and succeeded with oats, each succeeding crop decidedly improved by the operation, clover was sown with the oats, and last summer the average yield of hay was *two tons per acre*. Let it be distinctly understood, however, that the field had no vegetable manure or lime either, for ten or fifteen years previous. It cannot be otherwise than good, else the fertilizing ingredients of soils are little understood. The shell marl has twenty per cent. of the carbonate of lime and forty per cent. of green sand. The green sand has from six to twelve per cent. of potassa.

Then as to convenience to markets, we yield the palm to no section of country. We have a daily intercourse with Philadelphia of but few hours' ride in commodious steam boats at a cheap rate, where all kinds of marketing as well as grain can be taken with much greater comfort, and about as cheap as those who reside within ten or fifteen miles of the city. We are also within six days' sail of

Boston with our corn and oats, obviating the necessity of selling to merchants, who, content with a small commission, obtain for us the highest prices. [?] The latter advantage I consider of itself enhances the value of our lands ten per cent, when a permanent residence is in anticipation. I have now enumerated some of the advantages incident to our location; and apprehensive lest I have extended this communication even now to the exclusion of much more profitable matter, I will conclude by renewing my invitation to an "Old Subscriber" to visit us and judge for himself.

JUVENUS ARATOR, A. M. H.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

ON THE SPREAD AND APPLICATION OF MANURES, &c.

Father.—This is the proper time to carry abroad the compost on the meadows which lie out of the reach of the watering system. Here is a short table showing how many loads are required to cover an acre, the heaps being dropped at given distances.

No. of heaps to a load.....	1	2	3	4	5	6	7	8
At 5 yards distance.....	193	96	64	48	38	32	27	24
At 5½ yards distance.....	160	80	53	40	32	26	23	20
At 6 yards distance.....	134	67	44	33	26	22	19	16
At 6½ yards distance.....	114	57	38	28	22	19	16	14
At 7 yards distance.....	98	49	32	24	19	16	14	12
At 7½ yards distance.....	86	43	28	21	17	14	12	10
At 8 yards distance.....	75	37	25	18	15	12	10	9

Frank.—I believe that persons are divided in opinion respecting the proper state in which stable manure should be carried on to the land. Some say it should be applied in its fresh state, others advise that it be dried to a "pinch of snuff." Who are right?

Father.—I believe, as in almost every case, so in this, extremes are equally wide of the truth. I do not consider that stable manure in its fresh state, and before fermentation, is properly the food of plants, and to carry it abroad at that time is, I conceive, to deprive it of a great part of its energy; while to dry it to a "pinch of snuff," is to dissipate a large portion of its bulk as well as energy. The best time for use is after the first fermentation; there is still sufficient remaining to cause a partial action in the soil, which communicates vigor to the seeds and plants, and they are, at the same time, supplied with a pabulum fit for their sustenance. Perhaps there might be somewhat of analogy between this kind of fermentation and that which takes place on mixing sugar with water; this mixture, you have heard, will produce spirit, or

alcohol on distillation, but that it will not do until after fermentation, and when that has subsided it soon turns to vinegar; so that, as I said, extremes are bad.

All animal and vegetable manures have a tendency to rise in the soil; this is owing to fermentation, which takes place in those substances, by which they are rendered *gaseous*, you see the steam or vapor flying off the dung-hill in the yard? that is properly gas; it follows then that when manure is carried abroad in this state it ought immediately to be turned in, but as that cannot be done upon the meadows, the dressing intended for them should undergo a more complete fermentation; indeed, I always prepare a compost, and find it more valuable for the purpose. You know that *compost* means *mixture*—this heap is *composed* of ditch and bank earth, stable dung and lime, and having been properly *mixed* by turning, I value it equal to so much stable yard manure.

You know there are several kinds of manures, animal, vegetable, and calcareous, or mineral. The first is by far the strongest, and consists of flesh, blood, hair, wool, bones, &c. and the dung obtained from slaughter-houses is, on this account, of three times the value of the best stable dung. The second is composed of peat, straw, leaves, and herbage of all kinds; and the last of limestone, chalk, marl, shells, &c., all which will effervesce in acids, and burn into lime.

Frank.—But you have not mentioned the most common of all the manures—stable dung; what ought that to be called?

Father.—It has been called *animo-vegetable*. But, come, let us go in, the dew falls heavily; I see we shall have no rain to-night.

Frank.—I have often heard you make that remark, but cannot conceive from whence you draw your conclusions.

Father.—Common observations have generally some truth; and I often amuse myself by inquiring into their origin. With regard to the one of which we are speaking, I conceive that the cause arises from what chemists call *affinity*: that is, the desire which two bodies of the same nature and density have to unite, how, during the day, the warmth of the sun draws up from the earth a vast quantity of water in the state of vapor; this ascends into the higher regions of the air, and remains in that state so long as the upper atmosphere continues warm: that which rises during the night, however, becomes condensed by the cold evening and night air, and falls back on the earth, in drops of dew or water; but when the upper atmosphere becomes colder than the lower region, there is an inclination in the vapor contained in it to condense, and then, the exhalations of the night arise through the warmer or lower re-

gion, for the purpose of meeting the falling shower, and both descend together.

Frank.—I wonder why farmers are accounted an uninformed class? It certainly is not for want of opportunity to exercise their mind and judgment. They are surrounded with wonders, and I begin to hope that every thing will not be discovered before I become a man, as I once feared would be the case.

Father.—With many persons, agriculture is a subject which must not be reasoned upon or inquired into, and this is no doubt the cause why farmers are generally considered the least cultivated class of society: but I see not why this should be—with us, it ought not to be. Another observation is, that it is colder just before sunrise, in the morning, than it has been during the night, even in the severest weather; and I have had opportunities of verifying the truth of the remark. I was once folding sheep before sunrise in the month of January; it was sufficiently light for me to see the sheep as they were lying around me, and there was nothing remarkable to call my attention; in an instant, however, and just before the rising of the sun, they became covered with hoar frost! I thought of what I had so often heard, and was certain that I *felt* as well as *saw* the truth of the observation.

Frank.—And did you endeavor to account for, what I suppose it may be called, this phenomenon?

Father.—Yes I did, at the time it was before me. At the rising of the sun, or more properly before that takes place with us, the upper region of the atmosphere becomes suddenly illuminated and warmed, which causes an immediate expansion; the lower region is thus, as it were, pressed downwards, and becomes condensed into water or hoar frost, the effect of which is sensibly felt by all who are exposed to it. The remark has often been made by the night coachmen, particularly by the driver of the Norwich mail into London, by the way of Hackney, who describes the latter part of the journey, about Cambridge Heath, as far colder than what is felt on any other part of the road; there he passes, in the coldest and shortest days, before the time of sunrise. It is also said, that on every calm morning the wind blows towards the east just at the time of sunrise, although it has blown before, and might blow afterwards, from some other point of the compass: this too I have observed, but never without emotion—it appears a sort of devotion, which creation is paying to the rising sun; and on a fine spring morning, when accompanied by the voices of animated nature, the effect is truly indescribable! This is caused by the rarefaction of the upper regions of the air, occasioned by the heat of the sun, which creates as it were a vacuum, to which the surrounding atmos-

phere rushes for the purpose of supplying the void; and at this moment might often be heard, what is generally considered a *creation of the fancy*—"the music of the spheres."—This rushing sound, fabulously supposed to proceed from the chariot wheels of the "*car of Phœbus*," I have often witnessed. The same effect, arising from the same cause, namely, the rarefaction or expansion of air, when coming in contact with heat, might be noticed while sitting around the fire on a quiet evening, when the rushing of air towards the fire, causes a sound distinctly audible.

Frank.—I shall never see the sun rise again without feeling much more interest about it than I have hitherto done. I do not wonder that many of the Heathen nations pay their adorations to the rising sun; I am sure it is, in the absence of the knowledge of *Him who made the sun*, the first object worthy their regard.

Father.—There is just one more observation which I have to make. I had often heard it said, when in England, that there was but little evening twilight in America; that the day closes almost suddenly on the departure of the sun, and thus the inhabitants are deprived of the most pleasurable part of the day: now this, it must be acknowledged is the fact; and although I have never heard the circumstance accounted for, it must be occasioned by the different circumstances and situations of the two countries. In England, the great ocean lies to the westward; the sun, sitting over it, its rays are reflected by the surface of the waters and the air is illuminated long after the sun has sunk below the horizon; while here, on the seaboard of America, the great ocean lies to the eastward, and the sun sets amidst the dense woods of the forest in the west, from whence no rays can be reflected. Now if this one theory be correct, we ought to find the difference in the twilight of the morning in both countries exactly to correspond; the morning twilight in America should be the longest and brightest.

Frank.—And so, I am sure it is! *that's fact*. Now I guess that is something new.

Father.—We shall find it necessary to take advantage of this circumstance for a few days to come, and take the top of the morning; for as we mean to plough up the four acre field while the weather is open and the land free from frost, and as the ridges of that piece are very short, in consequence of its triangular shape, we shall find a sensible difference in the length of our day's work—these *lengthening*, in proportion to the *shortening* of the land.

Frank.—But is not an acre of land an *acre*, wherever it is?

Father.—Yes, and although you must have noticed the difference of time requisite to turn an acre when the land is long, compared with the time consumed when it is short, neither you or any one else could easily believe the difference to be so great as it really is. Here is a table, showing that difference, and a most interesting one it is.

PLOUGHING.

Names of Fields.	Length of Ridges.	Breadth to give an acre.	Breadth of the fur-row slice.	No. of furrows in the acre.	Time that it takes in turning.	Time taken up in turning the soil.	No. of hours in the day's work.
	yds.		in.		h.m.	h.m.	hrs.
Short Lands.....	78	186	8 in.	279	4.39	3.21	8
Harper's Hill.....	149	98	....	147	2.27	5.33	....
South Mills.....	200	73	....	109	1.49	6.11	....
Eastbourne.....	212	69	....	103	1.43	6.17	....
Long Croft.....	274	53	....	79	1.19	6.41	....

When the ridges are no more than 78 yards long, four hours and thirty-nine minutes are spent in turnings in a journey of eight hours! whereas, when the ridges are 274 yards long, one hour and nineteen minutes are sufficient in the same length of time.

Frank.—Indeed, no one would have calculated the amazing difference, and the next time we hear of ploughing against time, I shall not fail to inquire the length of the ridges.

For the Farmers' Cabinet.

Anti-Septic Effects of Lime Water.

The Mechanics' Magazine having just arrived from England, I extract from it the following letter on the preserving of wood by lime water. The Cabinet already contains some information on this subject, but perhaps, it would be well to show that the experience in England agrees with that of our own country. The most likely way, in my opinion, to bring it into general use, would be for some industrious person to take out a patent for it, and sell out, state, county, and township, as well as individual rights, to use the process;—say charge each and every farmer five dollars for the privilege of steeping his pots in lime water, and it would soon become universal; some would pay the fee, and others would make a merit of evading the pretended

patent right. The old folks would affirm that there was nothing *new* about it, that they knew it before the patentee was born, though they had omitted to try it themselves, and the young ones would shrewdly suspect that it did not differ much in principle from the well known practice of white-washing.

Z.

Preserving Wood by Lime Water.

Sir,—I some years ago called the attention of the readers of your instructive periodical to Sir Charles Steward Menteith's, (of Closeburn, Dumfriesshire,) simple *unpatented* method of preserving timber; I think it so valuable a process that it cannot be too often published. It is as follows, after cutting the timber to the size it will be wanted, it is steeped in a pond of lime and water for a fortnight, or more or less time, according to the size of the wood. Sir Charles has now some farm buildings on his estate, the timber of the roofs of which is the common young Scotch fir, but having undergone the *lime water* process, it is as sound, after a lapse of forty years, as the day it was put up; the same timber, under ordinary circumstances, and in similar situations, would rot in from three to seven years. The carpenters find, in working the wood thus treated, that the edges of their plane-irons soon become dull, on examination, it is found that the acid contained in the wood is chrystallized by combining with the alkali of the lime.

Yours faithfully,

ARTHUR TREVELYAN.

Wallington, Newcastle, Tyne, }
7th of May, 1839. }

For the Farmers' Cabinet.

Barn-Yards and Manure.

There is no branch of agriculture so much entitled to the consideration of the farmer as that of the accumulation and preparation of the food of vegetables. All are aware that the principal source of vegetation is that of putrescent matter; consequently, their attention is naturally directed to the collection of as much vegetable and animal substances as possible. Barn-yards are appropriate recipients for such accumulation. South exposures are the most desirable locations. The direct influence of the sun greatly promotes decomposition. The bottoms of barn-yards should be level, and so enclosed that the extracts from the manure produced by rains, should be retained as much as possible. The bottom of the yard should have a covering of loose earth, of some inches, which is designed as an absorbent to retain the extractive mat-

matter, and to be removed in common with the other manures when employed for agricultural purposes. The covering of earth should always be renewed previous to the commencement of the re-accumulation of putrescent matter. When the stock of cattle and horses are to be finally removed from the barn-yard for the summer, the surface of the putrescent manure should be covered with a mixture of earth and hydrate of calcium. The effect of this covering is of much importance, as it serves to retain moisture, and to promote decomposition. The hydrate of calcium being soluble, a portion may be dissolved, and descend into the putrescent matter; there, meeting with carbonic acid, it becomes a carbonate, and consequently insoluble. The hydrate of calcium remaining on the surface, will absorb the carbonic acid formed by the putrefaction of the matter underneath. It will also obtain a considerable quantity from the atmosphere, thereby treasuring up a large amount of the food of vegetables, to be used at the discretion of the farmer, that would otherwise have been lost. Previous to removing the manure from the barn-yard, it should be well mixed, forming an excellent compost for any purpose that may be desired.

July 19, 1839.

To the Editor of the Farmers' Cabinet.

The Divining Rod.

"Felix qui potuit rerum cognoscere causas."

Sir,—I choose the somewhat hackneyed quotation given above for a motto to the present communication.

It was THOMAS JEFFERSON who said "error of opinion is seldom dangerous when reason is left free to combat it;" but there are so many errors of opinion already existent in the world, that to add to them is as unwise as it is improper and unnecessary. Error is multiform, and may exist in a thousand different shapes, while truth is a unit, and has but one mode of existence. It has often been my lot through somewhat of a long life, first to correct the errors of opinions in my own mind, and then in the minds of others.

Editors of public journals cannot be held responsible for *all* the errors that make their appearance in their pages; but as they have a controlling influence over the press, and as they are caterers for the public appetite, they should exercise a wise and discriminating influence in their selections.

These introductory remarks have been elicited by a communication in the last number of the Farmers' Cabinet, under the caption of "*The Divining Rod*," signed, too, by what I take to be a *real* name, JAMES PEDDER, who treats the subject with as much gravity as if it were absolutely true; while

in my humble opinion, it is deserving of no more attention than the long since exploded belief in astrology, necromancy, and witchcraft.

It is now about forty years since I first heard of the wonderful power of "*The Divining Rod*;" and a more egregious folly I am sure never entered the mind of mortal. A man by the name of Lewis, long since dead, was the simple subject of its operations. He was a farmer, in middling circumstances, who not satisfied by the slow gains of agriculture, was determined on taking a shorter road to wealth by finding a mine of gold by the magical operations of "*The Divining Rod*." By the plausible pretensions of a sharper, who professed to have the *power* of using the rod, he was persuaded to sell his farm, and go in quest of hidden treasures, in the bowels of the earth. The rod was described as being a forked *hazel*, in the form of the letter Y, and the peculiar manner of holding it was also described; however, I had, a short time after, an ocular and practical demonstration of the rod, and the mode of holding it. Being somewhat sceptical of its powers, I took it in my own hands and found a constant tendency in it to turn down. It must be observed that in comparing it to the letter Y, the tail is to be turned *upward*, and it is to be grasped by the hands by turning the thumb of each hand *outward*; an awkward and uneasy position of holding it, and as soon as the attention is drawn off, and the *firm grasp* relaxed, the tail, by the motion of the body in walking, necessarily turns *downward*.

Now as it regards finding water in any *particular* spot, what is there in it extraordinary? It would indeed be extraordinary to find any particular spot on this *globe* where water could *not* be found. Of the many thousand wells that I have seen dug, I never knew but *one* abandoned without finding water.

The instance in which I first saw the rod in actual use, was in Cayuga county, in the state of New York. Being on a journey in the year 1800, through that part of the country, I saw a man by the road side about something that I did not at first comprehend, but on closer inspection, I found he was using what I had heard described by Lewis as *the Divining Rod*. I stopped, entered into conversation with him, and found he was a Doctor of medicine, by the name, if I now recollect right, of COLB. A distillery had lately been erected, and as the quantity of water afforded by a spring was found to be insufficient for its operations, he was trying the rod to ascertain whether water could be found by sinking a well. I asked what were the indications, and whether he thought water

could be found. He said the rod *drew hard and pointed strong* to a particular spot, and his opinion was that water could be obtained by digging twenty-five feet. Then taking the rod in my own hands, and pretending I had the power of using it, but at the same time knowing it to be a sheer hoax, I traveled off about a hundred yards, and relaxing my grasp, let the rod turn down. Here, said I, you will find water by digging *fifteen* feet. Returning that way some months after, I found the proprietor, having more faith in my skill than in that of Dr. Cole, had sunk a well on the spot pointed out by me, and found water at the depth of about twelve feet.

Now let us return to the poor dupe Lewis. After selling his farm and getting the money, he traveled over the country, supporting the sharper who carried his rod, in search of buried treasure. Sometimes it drew for water, sometimes for lead, and at last for gold. Well, hands were employed to dig, but they soon came to a hard rock; the rod still pointed to the gold as lying underneath the rock; then they must get men to blast and blow it to pieces; the hidden treasure would ten times cover all expenses. The rock was penetrated and rent asunder. The hills reverberated with thunder-like blasts of gunpowder, and poor deluded Lewis was just on the point of seizing the iron pot of gold, placed there before the flood, when the guardian genii of the place caused it to disappear from the astonished sight of the workmen. What was now to be done? The sharper, never at a loss for stratagems while the money of Lewis lasted, said a man lived about forty miles off, who had found, in ploughing an old field, once a battle ground, a *curious glass*, which had the power of laying the evil genii of the golden treasure. Away posted our hero of golden dreams for this wonderful glass, but it was found on using it that its influence extended only to a certain depth in the earth, and the pot of gold was just two feet six inches *below* its power. The owner and operator of the glass gave a history of the manner in which it was prepared, and endowed with its power over the evil genii. The Indians, who inhabited this country before Europeans, had so far power over these genii that once in a hundred years they could kill one with an arrow dipped in a certain stream, covered with an oily substance which flowed into the Pacific ocean. When one was killed, a glass must be laid over his face as he lay in his grave, and there lay one hundred years. After that time the glass would possess power over the genii of that place as deep in the earth as it had lain for that period. The golden pot lay just two feet six inches lower than the glass

had laid, consequently it had not power over the pot of gold.

With such tales poor deluded Lewis was amused until he found his pockets empty; but still believed all true as Holy Writ, and took great pleasure in rehearsing his golden adventure of an evening after a hard day's work with his broad axe for my father; for he was obliged to take up his trade of carpenter, after having fooled away his farm.

W. L. HORTON.

Harford county, Md., June 24th, 1839.

For the Farmers' Cabinet.

Agricultural Chemistry.

The many very important facts and hints contained in Sir Humphrey Davy's Agricultural Chemistry, and the cogent arguments on many interesting subjects with which it abounds, renders it very important that it should be introduced to the farmers of this country; but the expense and difficulty of disseminating it amongst our farmers, has induced me to go over it, and cull from it various interesting matters that admitted of separation, without injury to the sense; these I have copied out and forwarded for publication in the Farmers' Cabinet, hoping they may be useful to your numerous readers.

AGRICOLA.

No manure can be taken up by the roots of plants, unless water is present; and water or its elements exist in all the products of vegetation. The germination of seeds does not take place without the presence of air or oxygen gas.

Plants are found by analysis to consist principally of charcoal and aeriform matter. They give out by distillation volatile compounds, the elements of which are pure air, inflammable air, coally matter, and azote, or the elastic substance which forms a part of the atmosphere, and which is incapable of supporting combustion. These elements they gain either by their leaves from the air, or by their roots from the soil.

All manures from organized substances contain the principles of vegetable matter, which, during putrefaction, are rendered either soluble in water or aeriform—and in these states, they are capable of being assimilated to the vegetable organs. No one principle affords the pabulum of vegetable life; it is neither charcoal nor hydrogen, nor azote, nor oxygen alone; but all of them together, in various states and various combinations.

Plants require only a certain quantity of manure; an excess may be detrimental, and cannot be useful.

Slacked lime was used by the Romans for manuring the soil in which fruit trees grew. This we are informed of by Pliny.

Nothing is more wanting in agriculture than experiments in which all the circumstances are minutely and scientifically detailed. This art will advance with rapidity in proportion as it becomes exact in its methods.

Discoveries made in the cultivation of the earth, are not merely for the time and country in which they are developed, but they may be considered as extending to future ages, and as ultimately tending to benefit the whole human race; as affording subsistence for generations yet to come; as multiplying life, and not only multiplying life, but likewise providing for its enjoyment.

Plants, being possessed of no locomotive powers, can grow only in places where they are supplied with food; and the soil is necessary to their existence, both as affording them nourishment and enabling them to fix themselves in such a manner as to obey those mechanical laws by which their radicles are kept below the surface, and their leaves exposed to the free atmosphere.

Herbs, in general, furnish four or five times, and shrubs two or three times, as much potashes as trees. The leaves produce more than the branches, and the branches more than the trunk. Vegetables burnt in a green state produce more ashes than in a dry state. The following table contains a statement of the quantity of potashes afforded by some common trees and plants.

10,000 parts of oak	furnishes	15 parts of potash.
“ “ elm	“ 39	“ “
“ “ beech	“ 12	“ “
“ “ vine	“ 53	“ “
“ “ poplar	“ 7	“ “
“ “ thistle	“ 53	“ “
“ “ fern	“ 62	“ “
“ “ cow thistle	“ 196	“ “
“ “ wormwood	“ 730	“ “
“ “ vetches	“ 275	“ “
“ “ beans	“ 200	“ “
“ “ fumitory	“ 700	“ “

The earths found in plants are pure; silica or the earth of flints, alumina, or fine clay, lime, and magnesia. They are procured by incineration. The lime is usually combined with carbonic acid. This substance and silica, are much more common in the vegetable kingdom than magnesia, and magnesia more common than alumina.

Potatoes in general afford from one-fifth to one-seventh of their weight of dry starch.

One-fourth part of the weight of the pota-

to at least may be considered as nutritive matter.

Mr. Knight says that he has found the best potatoes heavier than the inferior varieties.

Fruits, in the organization of their soft parts, approach to the nature of bulbs. They contain a certain quantity of nourishment laid up in their cells for the use of the embryo plant; mucilage, sugar, starch, are found in many of them often combined with vegetable acids.

If a solution of lime in water be exposed to the air, a pellicle will speedily form upon it, and a solid matter will gradually fall to the bottom of the water, and in a certain time the water will become tasteless; this is owing to the combination of the lime, which was dissolved in the water, with carbonic acid gas which existed in the atmosphere.

The principal consumption of the carbonic acid in the atmosphere, seems to be in affording nourishment to plants; and some of them appear to be supplied with carbon chiefly from this source. Carbonic acid gas is formed during fermentation, combustion, putrefaction, respiration, and a number of operations taking place upon the surface of the earth; and there is no other process known in nature by which it can be destroyed but by vegetation.

It is evident, that in all cases of tillage the seeds should be sown so as to be fully exposed to the influence of the air. And one cause of the unproductiveness of cold clayey adhesive soils is, that the seed is coated with matter impermeable to air.

In sandy soils the earth is always sufficiently penetrable by the atmosphere; but in clayey soils there can scarcely be too great a mechanical division of the parts in the process of tillage. Any seed not fully supplied with air, always produces a weak and diseased plant.

The great object in the application of manure should be to make it afford as much soluble matter as possible to the roots of the plant; and that in a *slow* and *gradual* manner, so that it may be *entirely* consumed in forming its sap and organized parts.

All *green succulent plants* contain saccharine mucilaginous matter, with woody fibre, and readily ferment. They cannot, therefore, if intended for manure, be used too soon after their death.

It is usual to carry straw that can be employed for no other purpose, to the dunghill, to ferment and decompose; but it is worth 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 a crop. In this case, though it would decompose much more slowly, and produce less effect at first, yet its influence would be much more lasting.

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.

By covering dead animals with five or six times their bulk of soil, mixed with one part of lime, and suffering them to remain for a few months, their decomposition would impregnate the soil with soluble matters, so as to render it an excellent manure, and by mixing a little fresh quick lime with it at the time of its removal, the disagreeable effluvia would be in a great measure destroyed; and it might be applied in the same way as any other manure to crops.

The refuse of the different manufactures of *skin* and *leather* form very useful manures; such as the shavings of the currier, furrier's chippings, and the offals of the tanyard 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 neighborhood.

[To be continued.]

For the Farmers' Cabinet.

Essays on Agriculture.---No. VI. BY JOSEPH CLOUD.

As the object of the use of calcium in agriculture is that of obtaining an increase in quantity and perfection of vegetation, which the result of long practical experience and extensive use seems to justify—the important question naturally presents itself—how does it operate to produce that effect. If this was better understood, it would reflect much light on the subject of the most judicious use as to quantity and mode of application. It has been suggested that it is probably in itself one of the essentials of the food of plants, and that by its union with carbon and other important material of vegetation they are in a state of preparation to be received as nourishment. These views of the subject will be particularly noticed in the consideration of the food and growth of plants. It is also probable that it may act as a septic and promote putrefaction. The hydrate in a state of solution, being absorbed by the putrescent matter and consequent exposure to the influence of carbonic acid, it necessarily becomes concrete particles of carbonate, which be-

ing interposed between particles of the putrescent matter, in some degree destroys their attraction of aggregation, thereby presenting the unprotected particles to the more direct influence of oxygen, the great agent in promoting putrefaction. An excess, however, of calcium, would prove an anti septic and prevent decomposition by an accumulation of the particles of insoluble carbonate of calcium, a protection would be formed preventing the access of oxygen to the putrescent matter and preventing decomposition similar to the effect produced by white washing. Calcium may also produce a considerable mechanical effect in changing the texture of soils, rendering them more or less retentive of moisture, the particles becoming carbonates and interposing between the particles of siliceous and alumine; in the first case lessening the distance, and in the other increasing it—the effect produced is necessarily the result. No chemical union taking place, the particles of carbonate remaining distinct and separate bodies possessing the power of absorbing carbonic acid until they become super carbonate. Thus, after having served to qualify the texture of the soil and treasured up a quantity of the food of plants, they become soluble in water, and in common with the other essentials of their necessary food to be taken up by the absorbing roots and conducted into the general circulation, where they are appropriated to their respective uses by the operation of the laws that govern vegetable organization.

The diversity of opinion prevailing respecting the quantity of calcium that may judiciously be used per acre, and the best mode of application renders it a subject meriting consideration. Not presuming to direct or prescribe rules for the government of others, it is however, suggested, that thirty to thirty-five bushels may probably be found sufficient for a single application. That quantity would doubtless be sufficient to receive and retain all the carbonic acid that could be presented from every source during the usual period of rotation of crops. It is believed to be desirable to retain it as much on or near the surface as possible, thereby promoting its facility in combining with carbonic acid presented by the atmosphere, and also that produced by the decomposition of the putrescent matter in the earth, which could not be so extensively effected if buried deeper than the putrescent matter, the carbonic acid by its elasticity and consequent ascension would escape the action of the calcium and be lost. Another important reason in favor of the surface is, that when it arrives at the state of soluble super carbonate, it is more directly exposed to the influence of moisture, and in closer connection with the absorbent roots of vegetables.

For the Farmers' Cabinet.

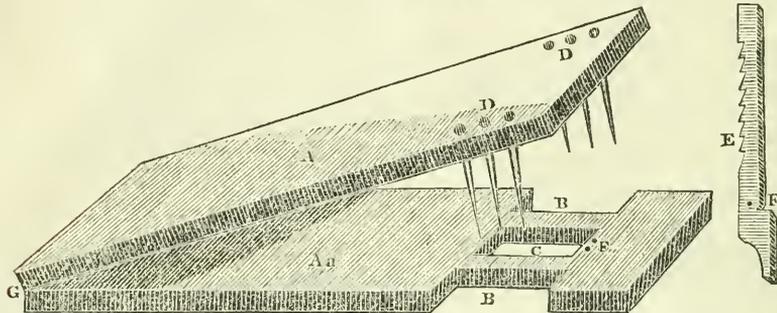
THE MOLE TRAP.

Fig. 8.

As there is nothing among the small troubles of life more provoking than to have one's garden reduced from the freshness of spring and promised luxury of teeming vegetables all summer long, "to the sere and yellow leaf" in a few days, by these little enemies to the gardener's hope; who dig and delve and plough without merey among his peas, and beans, and potatoes, and corn, and tulips, and hyacinths, and whatever else happens to have a root to his taste, I send you a rough and hasty sketch of a trap I have used five or six years, which if properly set never misses its victim. It can be made for about fifty cents.

A A are two oak boards, the upper one 2, and the lower $2\frac{1}{2}$ feet long, 6 inches wide and 1 inch thick: in A a is cut a mortise C 4 inches long, $1\frac{1}{4}$ inches wide, and the two pieces B B taken out of the sides, each $1\frac{1}{2}$ inch deep: D D are six iron teeth seven or eight inches long, well sharpened and passed through A, three-quarters of an inch asunder, so as to strike down into the ground close to the sides B B.

E is the treadle, made of good oak, 1 inch wide—drop into the mortice C and fasten by a wire staple, passed through the hole at F, and fasten by clenching underside at F in the bottom board A, so as to play freely an inch under the bottom. At G is a butt hinge fastening the two boards together. In setting the trap use the common figure 4 sticks, except the upright must be made of a piece of board and have a mortice cut to stride the treadle E as it stands on the end of A a; press down the run solid, where the treadle's end touches it, with your heel, and put a weight on the top of the trap. Yours respectfully,

MAHLON S. KIRKBRIDE.

Morrisville, 6th mo. 17th, 1839.

HENS will, it is said, be sure to furnish an extra quantity of eggs, if you deal to each about a gill of oats per day.

Vegetable Silk.

To the Editor of the Farmers' Cabinet.

SIR,—Can any of your readers give us information respecting the *vegetable silk* which is at present all the rage in Paris? It was first imported by Mons. Pary, and is said to be an excellent substitute for the animal silk, being quite equal to it in very many cases.—It is gathered in lengths from ten to fifteen feet, and four threads plaited together will sustain a weight of 40 pounds! Now, in all probability this plant would flourish in this country, and the shoots be much longer in our soil and climate—then the people might "grow silk" indeed. I. D.

Philadelphia, July 29th, 1839.

Fruit Trees.

The new method of raising fruit trees by planting the scions, is a great desideratum in the art of raising good fruit. It has many advantages over grafting, because it is more expeditious, and requires no stake nor tree.—They may be planted where they are required to stand, and the labor of one day will be sufficient to plant enough for a large orchard after the scions are obtained. The method of preparing the plant is as follows: Take the scions as for grafting, and at any time after the first of February and until the buds begin to grow considerably, and put each end of the shoot in melted pitch, wax, or tallow, and bury it in the ground, the buds uppermost, while the body lies in a horizontal position, at the depth of two or three inches. We are informed that trees obtained in this way, will bear in three or four years from the time of planting. We have no doubt of the practicability of this method of raising fruit. A gentleman in this vicinity the last season, planted about twenty scions of different kinds of pears, which appear to flourish. The composition which he used was shoemakers' wax.

Warming Rooms by Heated Air.

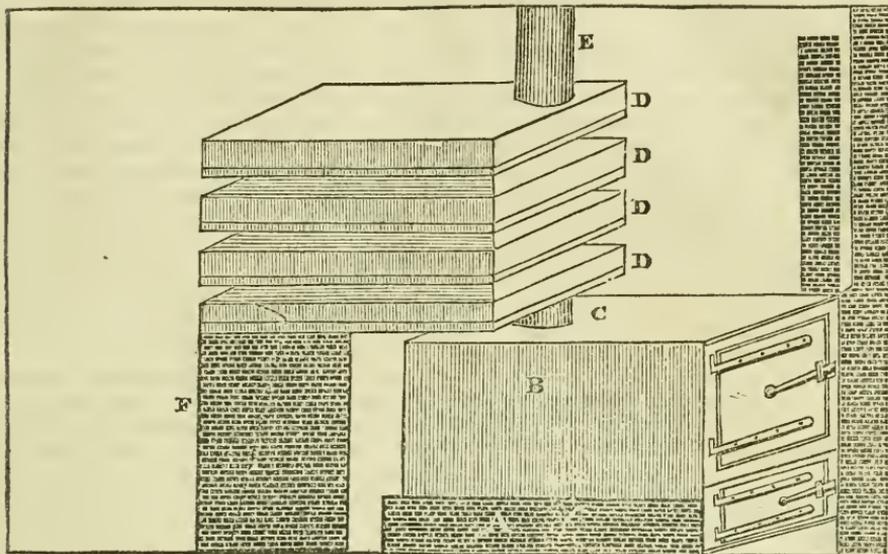


Fig. 8.

“In peace prepare for war,” is a maxim as important as it is familiar to our readers. Our present version of it is, in summer prepare for winter. This is our reason for offering at this time the following article from the Genesee Farmer on warming rooms by heated air. The subject is one of importance.

EXPLANATIONS.

A Ash-pit; B Furnace; C Flue; D Drums; E Smoke-pipe.

In the figure the ash-pit is supposed to be eight inches in height, with a door in front, in which is an aperture for the admission of air.

The furnace above it is constructed of cast iron plates. It is three feet in length, eighteen inches in height, and of the same width. A grating upholds the wood.

The flue C is eight inches in diameter, and two inches in height.

The drums D are three feet in length, eighteen inches in width, and four inches high. They are connected by flues at their alternate ends, similar to C. Their number may be profitably increased, if the height of the room will allow. The two upper ones are of sheet iron.

The smoke pipe E may be carried where most convenient. On account of the rapid accumulation of soot, however, the shorter the distance, the better.

For the purpose of cleaning the drums, a

small door is made in the back end of each. They are supported at the end opposite the furnace by a brick wall, F.

At the distance of two feet from the furnace, a brick wall is constructed around the whole. It is carried up four inches above the upper drum, and is then extended across, supported by bars of iron. Outside of this, and leaving at the sides and top a hollow space of two inches, a wall is built similar to the former.

It will be observed by reference to the figure, that the inner wall in front is carried over the furnace, and a space is necessarily left in the outer one opposite the door. On one side of the furnace four or five holes, four inches square, are left through both walls near the bottom. The air passing through these becomes strongly heated in its ascent, by the drums, wall, &c., and is conducted by pipes of tin from eight to twelve inches in diameter, set as nearly upright as possible, to the rooms above. Grates of brass or iron on a level with the floor regulate the quantity of air admitted, and consequently the heat of the room. The furnace should be set in a room in the cellar entirely devoted to the purpose, and the window left open; but if this cannot be done, an air trunk one foot square must be constructed, leading from without the building through the outer wall of the furnace; for few things are more injurious than the breathing an atmosphere loaded with the products of the fermentation of vegetables which are kept in the cellar.

In the end wall, opposite the front, a double sheet iron door is placed, sufficiently large to allow a person to go in for the purpose of cleaning the drums, &c.

The whole cost of this apparatus will not exceed one hundred dollars.

A furnace constructed similar to the one described has been used during the past winter by James C. Hathaway, of this town. It has warmed four rooms and a hall on the ground floor, and the bed-rooms above, in the most thorough and delightful manner. No inconvenience whatever has arisen from its use, but at least two-thirds the amount of time previously used in the care of those rooms is saved. Every housekeeper will readily understand this when she reflects that the words fire-place, shovel and tongs, and-irons, wood, hearth rug, &c. have become obsolete; that the fire-board is nailed up as in summer, and a truly summer feeling pervades every part of the house, by night and by day.

It will be unnecessary at present to refer to the advantages which the "hot air system" promises.

I have heard no objections made to the use of the furnace which could not be readily answered. The principal ones are—

1. On the score of health. A little examination will convince any one that it is *preferable* on this account to any other method, inasmuch as the most perfect system of ventilation is established.

2. "On account of warming feet." An eccentric friend of mine says, "I think when I go into thy house on a cold day, that I must flee to the kitchen fire, but I try to be quiet a few minutes, and behold, the trouble is over."

3. "A fire is so cheerful, so pleasant to look at." If the objector would look at a *book*, his uneasiness would leave him; besides the feeling of drowsiness occasioned by a fire is hardly perceived.

It may, perhaps, be a sufficient answer to all objections, that the "hot air" is gaining ground with all who have any knowledge of it, and that several will probably be constructed the ensuing summer.

WM. R. SMITH.

Farmington, 3d mo. 2, 1837.

CABBAGE PLANTS.—Wood ashes placed about cabbage plants will much improve their condition. Frequent hoeing will serve to keep the ground moist, and will help their growth.

The driest ground in the garden is in the thickest growth of weeds. These suck up the moisture and give it to the winds.—*Boston Cultivator*.

The Silk Business—Its Agents—Odd Times, &c.

To the Editor of the Farmers' Cabinet.

SIR,—I know not whether it is permitted to the female portion of your readers to address you in your professional capacity, but if it be not incompatible with decorum, I feel a desire to say a word or two in defence of our *rights and privileges*, as a class, whose laborious and incessant solicitude demand for us, in my estimation at least, the character of *partners*—as in the toils incidental to the profession of husbandry, so also in the more pleasing and legitimate task of good housewifery. All, however, that I require is, that we be considered by our husbands as *helpmates*, deserving their regard and kind attentions—but to the point.

You must know, that my husband has been engaged in the cultivation of the *morus multicaulis*, with the real intention of "growing silk," and more, of manufacturing it from the cocoon! thus proving that he is the *one in a thousand* who has ever thought seriously of doing, what all pretend to have in serious contemplation. Now, I should never have thought of interfering with these pursuits, had it not been for a conversation which passed yesterday at our table, by which it appears that *we* are to be considered the chief workers in the business, the real *silk worms!* for just at the point when their labor ends, and a short labor, or rather pleasure it has been to them, *ours* is to commence, and be carried through *the thread* of our existence. Our guest at table was from Philadelphia, and commenced by inquiring, "Well, how comes on the *morus?*" Ah! the making of silk must in the end prove the making of this great country; so admirably calculated for the employment of *our* redundant population; affording a profitable investment of capital to any extent; enormous profits to all those engaged in the various departments connected with it, from the growing of the trees, to the weaving silk dresses for *our* fair ones, and embroidery for *our* drawing rooms; and to none more than to the wives and daughters of *our* farmers; thus affording *our women* and their children, profitable and elegant employment at *odd times!*" At this I looked up, and beheld a youth about seventeen, "all red and white, like a pork griskin," as the song says; with hair "a la turcq," and scented to the nose—just escaped from that land-box of fashion, a dry goods' store in Market street! My cholera rose, the fire kindled, and I at length spake with my tongue—but do not suppose that I said more than a *prudent* woman should; there was no need of that, for the little creature diminished to the size of a chrysalis, and I could have rolled him into a cocoon! I merely said, "That is kind of you, Mr. —,"

to find employment for *your* women at *odd times*—the oddest thing I ever heard of—for the *industrious* wives of farmers never have any *odd times*, and I am sure the indolent are not those who will take it up as an employment at *odd times*. Besides, I am much mistaken if any good can come of an employment which requires the incessant and all-enduring patience of a whole life, proverbial for wearing out the energies of both body and mind, if it is to be taken up only at *odd times*! You say it is particularly adapted to the family of a farmer occupying a few acres of land! Now in the name of common sense, and in the name of every industrious female in the country, what is meant by this! in a country too which is spreading far and wide her arms, entreating those industrious families, who are willing to take up so unhealthy and debasing an employment at *odd times*, to come west, and cultivate the land and walk upright in the glory of nature! No, no, Mr. —, before I submit to fill up my *odd times* in this way, I will *carry* my husband where he may be able by *his* industry to enable me and my children to employ our *odd times* in a far more agreeable way, in the improvement of our minds and bodies, leaving the silk business to those countries whose wretched inhabitants (notoriously deformed in body and imbecile in mind, fit subjects for a tyrannical and monarchical government) are compelled to toil for fifteen hours for about half as many cents; and with all this misery and starvation, you see they cannot afford to sell the articles, which they fabricate at such a sacrifice of body and mind, for less than the price which they command in the market at the present time. You seem, too, to have alighted upon bad times, for you see the import duty on silk is taken off. I know that you all rely upon the enormous bounty which the states are giving for the production of these articles of doubtful good, but I can only say I am mistaken if these encouragements to speculation will remain in operation for six months longer; and when the excitement has passed away, these states will view this piece of legislation as about the height of the *morus* folly.*

* Our fair correspondent is justly indignant at the arrangement made for the filling up of her *odd times*; and she but expresses the sentiment of all high-minded and intelligent females throughout the country. The rebuke, though severe, was well merited; and none but the guilty will wince under its application. There is no design, we are assured, to reflect in the least, upon the modest, discreet young men who officiate as clerks in this city; far from it. Many of them are persons of untarnished reputation, sound judgment, and gentlemanly demeanor, who treat all with whom they have intercourse with common civility at least.—These constitute the intelligent class, and will ever command respect and esteem. There is another class, admirably described by Mrs. J. We presume its numbers are not numerous. At any rate, after the well merited castigation given above, we think they must *decline*. We hope Mrs. J. will become a regular cor-

After the young man had taken his leave, which he scarcely waited to do, I learnt that he was a stripling from one of the wholesale dry goods' stores in Market street, endeavoring to form "A Joint Stock Trading Morus Multicaulis Company, with a capital of about five hundred thousand dollars," the directors of which were to have the privilege of buying and selling their stock, of both kinds I presume, at whatever prices they might deem most advantageous to the good of the company. The president and other officers had all been chosen, to whom liberal salaries had been appropriated, and this young worthy, so anxious to find employment for *his* women at *odd times*, is to figure as treasurer!

JANET JENKINSON.

Bucks Co., July 4th, 1839.

Hussey's Mowing and Reaping Machine.

We have repeatedly called the attention of farmers—large grain growers—and there are thousands in Pennsylvania and the adjoining states—to the great advantages of this machine. It is probably the best of the kind in the United States; and we have no hesitation in pronouncing it vastly superior to any similar article. It has been tried repeatedly, and in no instance has it failed; and it invariably exceeded the expectation of those who were called together to witness its operations. The machine is described at page 198 of the second volume of the Farmers' Cabinet. A wood cut is also given, which, with the account of the inventor, will enable almost any person to form a pretty accurate idea of its mode of operation. The Philadelphia Agricultural Society appointed a committee some time in the latter part of the summer of 1838, to superintend the operations of the machine. The report, which is of the most gratifying character, may be found in the third volume of the Farmers' Cabinet, page 282. The committee say that it operates well when the grain is so much fallen or lodged as to be entirely beyond the reach of the cradle—lays it in heaps ready for binding—not a stalk is left standing, while the stubble is all of an uniform height—about seven inches. They further say "the loss by this mode of harvesting is greatly reduced," that the performance was at the rate of ten to

respondent. There are many subjects on which she might employ her pen, and fill up her *odd times* to the advantage of her fair country women.

twelve acres per day, but may be increased to double that amount—but this in a field badly lodged—the grain dead ripe, having stood two weeks longer than necessary, and yet say the committee, “*scarcely a grain could be found shattered out.*”

The advantages of this improved machine to the grain grower, are too apparent to require any notice at our hands. The price, one hundred and fifty dollars, no doubt deters many from purchasing it. But its *value* is to be taken into the account. Said a gentleman to us the other day, I lost at least one hundred dollars for the want of a similar machine—while engaged in harvesting. I had about twenty acres of the finest wheat I ever raised, beaten down by a violent storm of rain and hail. Had one of these machines been put to the work, my grain would have been out of the reach of danger. Every man who cultivates grain crops on the large scale, should furnish himself with one; and in neighborhoods where the farms are small, a number of farmers might easily join together and purchase one jointly; or an individual might procure one and mow and reap for the farmers of the neighborhood at a stipulated price per acre.

It affords us much satisfaction to say that Mr. Hussey is in a fair way of being compensated for many years of anxious toil, and labor and solicitude. His machine answers the purposes of its invention. It is not only spoken of in the highest terms by farmers in Maryland and Delaware, who have tested its merits; but they are coming into *general use* among the farmers of those states—and most cheerfully do we commend them to the attention of our Pennsylvania farmers.* We ask the attention of the reader to the following communication.

For the Farmers' Cabinet.

New Reaping Machine—Great Saving.

On the 4th of July the farmers of this neighborhood enjoyed the pleasure of seeing the Reaping Machine, invented by Mr. O. HUSSEY, of Baltimore, operate upon a field

* We would suggest to Mr. Hussey the propriety of depositing somewhere in this city a machine or model for the examination of farmers, thousands of whom visit our city every year.

of wheat. Mr. Hussey had been invited to exhibit his machine before the “*Society of St. George's and Appoquinimink for the Promotion of Agriculture,*” and the 4th July was named as the day; and true to his appointment, Mr. Hussey and his patent reaper made their appearance. Hundreds of farmers were assembled to witness it, and many were the doubts, surmises, and criticisms upon the machine, as it was viewed over and over, as it lay in readiness for trial. Some time after Mr. Hussey's arrival, the society was called to order, and the Declaration of Independence was read, while the greatest order and attention prevailed; after which the society adjourned to the dinner-table and partook of an excellent dinner, prepared for the occasion. These interesting preliminaries being despatched, and all things being in order, *the two strangers* (Mr. Hussey and his machine) were duly introduced to a field of standing grain, ripe and ready for the sickle, and in the twinkling of an eye the machine was off, clipping and cutting, and saving the grain in beautiful style. A cleaner and more even stubble could not be produced. All doubts vanished in the minds of the spectators. Every head of wheat was saved, and the machine was drawn with apparent ease by two horses, and cutting at the rate of from twelve to fifteen acres in a day. The machine was forthwith purchased by the society, and reserved for future trial, which has since confirmed them in the good opinion they had of its capabilities. All who have witnessed it express themselves satisfied, and many are intending to provide themselves with machines for the next harvest. Thus, through the influence and exertions of the agricultural society, we may expect next year to see this valuable labor saving and grain saving machine fairly introduced among our farmers. It is a difficult matter to describe the machine so as to convey a proper idea of its structure; I hope, however, that many will be induced to see for themselves, and they may rely upon having all reasonable expectations realized.

Yours, &c., N.

Middleton, Del., July 15, 1839.

We ask the attention of our friends to the suggestion of our correspondent D. A. in the following communication. These suggestions are as well timed as judicious. Arrangements have been made at the Agricultural Ware-House and Seed Store, No. 57 North Second street, a few doors above Arch street, Philadelphia, to receive for exhibition SPECIMENS OF CROPS OF ALL KINDS. And it

would afford us no little pleasure to communicate through the columns of the Cabinet whatever might be remarkable or interesting regarding their *birth-place, parentage, and education*. To this end we invite the communications of farmers and all others interested.

There are now many new and improved implements of Agriculture and Horticulture at the Ware-House, and many additions are being made. They are open for inspection at any hour of the day, and the proprietors will, with the utmost cheerfulness, give such explanation and attention as may be necessary. As a visit to the establishment will cost nothing, farmers and others interested in the promotion of agricultural science, are requested to call and examine the new and improved implements for themselves, bearing in mind, however, that the concern is still in its infancy.

Sugar Beets—To Farmers—Feeding of Ewes.

To the Editor of the Farmers' Cabinet.

SIR,—Having taken a deep interest in every thing relating to the culture and management of the sugar beet, from the time of its first introduction into this country by the Beet Sugar Society of Philadelphia, I feel very anxious of knowing what are the prospects of the crop in this, the finest season that ever shone forth from the heavens, for every species of vegetation, the *morus multicaulis* excepted. Will therefore your friends, many of whom have had the prudence to cultivate largely the present season, inform us through the pages of the Cabinet, what has been the management pursued, and what the results; and will they, at the time of taking up their crops, deposit some of the roots at the Agricultural Ware-House, No 87 North Second st., [which is also the publication office of the Cabinet,] for the inspection of their friends and the public generally. Each sample of roots should be accompanied with a notice, stating the mode adopted in the cultivation, the yield of the crop per acre, and the plan pursued for winter preservation.

And will they reserve a good portion for the purpose of *feeding their ewes at early lambing*, confining the lambs, after a few days old, to the house, and bringing the ewes to suckle them three times a day, according to the mode practised in those counties in England, which are famed for supplying the London markets with fat house lambs in win-

ter. The stall for the lambs should be clean, dry and warm, and kept well littered with straw; three or four lambs in each will be sufficient, and these should be selected according to age, size and strength. Each stall should be furnished with a manger in which dry food is to be fed to them when they are of an age to eat it, and a chalk stone should be placed in each stall; by licking it, disorders arising from acidity of the stomach are prevented, and the lambs will thus be found to thrive and fatten in a very short time. The ewes should be plentifully supplied with roots at this time, but if their teeth be good, there will be no need of cutting them. D. A.

July 29, 1839.

The preceding communication of D. A., brought to our mind a similar one received more than a year since, from our friend JAMES PEDDER. It was not published at that time, for the simple reason that we had not sufficient room for carrying out the purposes of so laudable an enterprise. We have now, as has been before observed, at the agricultural rooms, and additions are being almost daily made to the number, many *new* and improved implements. It will be perceived that Mr. PEDDER's proposition embraces a wide scope; and most cheerfully will we assist in carrying out so noble a plan by receiving all such articles as come within its legitimate range, as the public spirited farmers of the country may see fit to deposit with us. Mr. P.'s proposition is not all *theory*—he acts as well as advises, and already we have received from him several very interesting contributions: among them his beet rasp, models of drills, &c. We hope that the farmers will bestir themselves in this business—if each one would but perform his part, in a short time Philadelphia might boast of an *Agricultural Museum*. The materials are abundant.

While on this subject it may not be amiss to invite the inventors and manufacturers of new or improved implements—and also such as have received and maintained public confidence, to deposit specimens for examination. It is one of the best methods of making them generally known. But each specimen should be accompanied by a full, plain, and accurate account of the machine.

The following is Mr. PEDDER's communi-

cation. We hope he will excuse the long delay. It suits well at the present time.

To the Editor of the Farmers' Cabinet.

SIR,—Would it not be to the interest of your valuable work, if its friends were to make a depository at your office of remarkable specimens of the various articles relating to the subjects to which it is devoted, either in the way of memoranda, papers, books, drawings, documents, maps, tools, implements of husbandry and horticulture, and models of machinery; field and garden crops, fruits, flowers, and *weeds*, both in their green and dried state, for the inspection and examination of those, and the number would not be few, who would resort thither for information and instruction. I am confident it would be the means of introduction to many new subscribers, and add greatly to the popularity of your much approved periodical; and as example is better than precept, I beg to accompany this with two or three articles as a commencement. I would respectfully suggest that each article should have attached to it a descriptive notice; specimens of crops, where grown—tools, &c., where made, and by whom, and where in use; maps, books &c., where published, and how to be obtained if desired; and if your friends enter warmly into the subject, I shall expect soon to see a large and interesting collection. I am, sir, respectfully,

JAMES PEDDER.

Philadelphia, June 21, 1839.

For the Farmers' Cabinet.

Lime.

MR. EDITOR,—Believing as I do that the only proper mode to make a proficiency in agriculture or in any department of labor, is, by a due regard to and proper use of the experience of others. I cannot but express my earnest wish for the promotion and extension of a paper which furnishes so admirable a convenience for the promotion of the agricultural interest. This principle, of a recurrence to the experience of others, is of the highest importance in every thing pertaining to agriculture, and most especially so, in regard to the proper application and production of lime, a subject which has been agitated of late years. On reviewing several of the late numbers of the Farmers' Cabinet, I have seen much has been said about lime, which is of untiring interest to the farmers of the lime districts of our country, and has been expatiated upon ably by your contributors, stating its true chemical properties, and its wondrous effects as a manure upon land. But as its application as a manure is of somewhat a recent date, and many who have engaged in the ex-

tensive and laborious business have not had much experience as to the most proper modes of burning lime, it would be a subject of deep concern to them and to the agricultural interest, if more was said, if convenient, about the construction of lime kilns, the filling and burning of them. People differ much on these points, but experience will teach them which is the safest and best modes of procedure. I.

June 15, 1839.

[Our Correspondent "I" is most respectfully informed that we have the promise of one of our most esteemed and enlightened correspondents, a lime burner, as well as a practical farmer—of a communication on this subject, with suitable diagrams or cuts. The use of lime in agriculture is of great importance; we know that by its application certain effects are produced, but *how* produced has not yet been determined. In the prosecution of our work the subject of lime will receive due attention. Gentlemen who have used it on their grounds, or made it a matter of investigation are requested to communicate such facts or opinions in regard to it, as they may deem calculated to throw light on the subject.]

Culture of the Broom Corn—Salem, N. J.

To the Editor of the Farmers' Cabinet.

Your letter of the 20th July was received on the following day, asking information respecting the cultivation of broom corn, and the quantity raised on my land per acre. In answer thereto, I say that my land is a loamy soil, and in good condition, producing generally about sixty bushels of Indian corn per acre—of wheat from twenty to thirty—and of barley from thirty to fifty.

My usual method is to cart out all my manure from the barn-yard through the winter and early in the spring, so that the greater part thereof is upon the fields by the time the plough can be put into the land. The cultivation of the broom corn by Mr. Brown (the paper you say heretofore sent to you being lost, giving an account thereof) and by him attended to until the brooms manufactured by him were sent to market, amounted, according to his estimate furnished me, to \$96 50. While in conversation with him he drew from his pocket a paper containing the following words:—"Was raised on eight acres of land, the property of ROBERT G. JONNISON, broom corn that made four hundred dozen of brooms, that weighed one and a

quarter pound each. Many of the stalks measured sixteen feet six inches in length, and produced four hundred and thirty bushels of seed.

ISRAEL E. BROWN."

I would observe that I commonly manure my land at the rate of from thirty to forty loads per acre—such was the dressing the land got previous to the planting of the broom corn. The land being in high tilth, produced, from careful attention, a most luxuriant crop of stalks; I think they must have averaged from fourteen to sixteen feet in height throughout the whole field. I have not been inclined to encourage the rearing of the broom corn more than a sufficiency for family use. I consider the broom corn a much more exhausting crop to the soil than any other grain. There appears to be an oleagineous quality peculiar to it, and somewhat analogous to flax seed, which in my judgment has a tendency to produce the impoverishment of the soil. The seed makes excellent food for hogs and cattle.

Its nutritious quality may easily be discovered from the fine color and taste which it imparts to butter from the cows which are fed on it. The best way to use the grain is to grind it with a portion of oats—say about one-third of oats to two-thirds of the seed. Indeed it is so hard and flinty that it should always be ground before feeding it to any kind of stock.

Good broom corn seed weighs about fifty pounds to the bushel. Its value compared to oats may be considered as about half as much again; so that should the market price of oats be, say twenty-five cents per bushel, the broom corn seed would be worth thirty-seven and a half cents.

BROOMS.

I think there is a difference of twenty-five, if not thirty per cent. in the quality of brooms sent to market, from such as I generally use in my family. I always endeavor to procure from the manufacturer, and for which I pay him an extra price, such as are made from the stalks before the seed ripens on them. A broom made from such tops will last much longer than one made from the ripe brush. But the peculiar excellency of the broom consists in its fibres being more soft and elastic, and performing the act of brushing or sweeping, similar to the brush made of bristles, without injuring the carpet if used prudently. After the broom shall have been used in sweeping the parlor, and the finer parts worn away, it will then be as good to sweep the other parts of the house, as the best new broom made from the ripe corn. Ladies who set so deservedly such a high value upon their beautiful Turkey and Brussels carpets, should purchase none other than such as are made from the unripe brush.

The broom made from such may be easily known by the color of the straw, which is that of tea or sage; the fibre or straw is much finer and of a softer feel than that of the broom made from the ripe corn—the color of which is red, or inclining to red.

Yours very respectfully,

ROBT. G. JOHNSON.

For the Farmers' Cabinet.

Important and Useful Remedy.

The readers of the Farmers' Cabinet will no doubt be surprised at finding an article within its pages so foreign to the usual direction of your publication. Information, however, in which every individual in society may have an interest, should not be withheld, but communicated to them through the medium most likely to be generally diffused and rendered permanent. If recorded in medical books, it would rarely meet any other than the physician's eye—and publications in the newspapers of the day endure but for a moment, when read they are cast off as useless, and their contents no more remembered. We often meet with distressing accounts of the fatal effects produced by taking corrosive sublimate into the stomach, where it acts as a virulent poison, inevitably producing death unless a prompt and efficient preventive is presented that will disarm it of its destructive properties. Fortunately, infallible preventives are within the reach of every person, which require neither medical skill or experience for their administration. Corrosive sublimate is a compound of muriatic acid and mercury. The antidotes are carbonates of soda and potash. If to a solution of corrosive sublimate a solution of carbonate of soda or potash be added, an immediate change is produced; the muriatic acid unites with the soda or potash, forming a muriate of soda or potash, while the carbonic acid unites with the mercury, forming a carbonate of mercury, a harmless substance which may be removed from the stomach by any cathartic medicine. As the quantity of the carbonates necessary to be given must depend on the quantity of corrosive sublimate taken, and as there might be difficulty in ascertaining the amounts, it would in all cases be advisable to give a sufficient quantity to insure a perfect neutralization, nor is there any danger to be apprehended from a small excess.

WEALTH.—Wealth in this country may be traced back to industry and frugality: the paths which lead to it are open to all; and such is the joint operation of the law and the customs of society, that the wheel of fortune is in constant revolution, and the poor of one generation furnishes the rich of the next.

Cultivation of the Cauliflower.

To the Editor of the Farmers' Cabinet.

Sir,—Having met with unprecedented success in bringing the *Cauliflower* to the highest state of perfection, by the same simple process of cultivation as the cabbage, and with the hope of stimulating others to "go and do likewise," I am induced to lay before you an extract from my garden dairy—"Purchased the seeds of Messrs. LANDRETH, & Co., sowed it broadcast, Sept. 19th, 1838, in a bed of common garden mould; October 26th removed the plants into a cold frame of the same kind of mould; April 10th, 1839, transplanted them into the open garden; May 29th cut for the use of the family.

These noble plants stood in the open garden *undawnted*, and with their neighbors, the cabbages, *patiently* endured the "pitiless pelting of the storm."

My success is fully demonstrated by the following statement of the circumference of six HEADS of the flowers *wholly divested of their leaves*.

No.	Circumference.	Weight.
1	3 feet 1 inch,	8 lbs.
2	2 " 7 $\frac{3}{4}$ "	"
3	2 " 6 $\frac{1}{2}$ "	"
4	2 " 6 "	"
5	2 " 5 $\frac{1}{2}$ "	"
6	2 " 5 $\frac{1}{2}$ "	"

The circumference of the largest flower as it stood in the garden, and taken at the extremity of its leaves, was thirteen feet seven and a half inches.

I continued to cut abundance of fine flowers from May 29th to the middle of July.

I beg leave particularly to direct your attention to the remarks of the editor of the "United States Gazette," now enclosed.*

I am, sir,

Respectfully yours,

GREGORY LEE.

Frankford, near Philadelphia, }
July 30, 1-39. }

To the Editor of the Farmers' Cabinet.

Sir,—Having just recovered from an attack of chill and fever by the use of the *Indian Remedy*, I beg to recommend it to your readers generally, and especially to those who, like myself, are careful how they submit themselves to what is called a *regular course* of medicine, which too often causes an *irregular course* of nature for a long time after.

I found an account of this admirable, cheap and very pleasant, as well as effectual, remedy in Baron La Hontan's voyage to North America, a very old and scarce book, containing his travels into the interior, where in

* The article referred to from the United States Gazette, was not enclosed when the communication was placed in our hands—*Ed.*

many places he was the first white man that had ever appeared. The course of his travels may be seen traced on the maps of his time, and his book is extremely interesting and amusing.

J. CANSER.

Western Shore, Md., 24th July, 1839.

"In a conference I had one day with a savage, the barbarian said, with a great deal of sense, that 'good air, good water, and contentment of mind could not indeed keep a man's life from coming to an end, but that at least it must be owned that these advantages contribute, in a great measure, to make a man run through the course of his life without being sensible of much disorder or inconvenience. They make a jest of the impatience of us Europeans, who would be cured as soon as sick; they allege that our fear of death, occasioned by the invasion of the least fever, does so inflame and fortify the disease, that oftentimes we fall a sacrifice to fear itself; whereas, if we looked upon our illness as a trifle, as well as our death, and kept our bed with patience and a good heart, without offering violence to nature by cramming down drugs and medicines, the good old Dame would not fail to comfort and refresh us by degrees and in her own time."

America.

Extract of a letter from an Emigrant to his friend in England.

"Every ship comes full of emigrants—thousands of Germans, who go about two or three thousand miles into the western woods; you would be surprised to see the cars on the western rail road, they are canal boats placed on wheels, and are driven along by steam twenty miles an hour; and when they reach the canal, they are hoisted off with their loading of men and merchandise, and swung at once into the canal, and from thence again on to the rail road, without the necessity of disturbing a passenger or parcel! On board of these passage boats the passengers cook their food, and proceed day and night, scarcely knowing or feeling it, at a very cheap rate.

"Every one is busy—no complaining in our streets; plenty for every one to do, and no mention whatever of politics. Abernethy used to say, 'a man in perfect health ought not to *feel* that he *has* a stomach,'—here then, all must be healthy in the body politic, for no one *feels* that there is a government. The churches are crowded, each one pays his minister what he pleases, and they are well paid and well supported too—none are *tolerated**—all have the *right* to think and act for themselves."

D. W.

22nd May, 1839.

* *Toleration* is the height of *intoleration*.—*Llorne Tooke*.

SPIRIT OF THE AGRICULTURAL PRESS,

BOTH AT HOME AND ABROAD.

IMPORTANCE OF AGRICULTURE.

The GREAT BUSINESS of our country is AGRICULTURE. 1. Because it feeds us, and furnishes the materials for our clothing. 2. Because it gives useful employment to five-sixths of our population. 3. Because it is the primary source of our individual and national wealth. 4. Because it is the nursing mother of our manufactures and commerce; as neither would prosper or long exist without it. 5. Because it is essential to national independence. From this view, (which is undoubtedly a correct one,) it will be seen that *agriculture* is the **great** business of the American nation. That it is worthy the most liberal patronage of our governments, state and national—that it ought to be enlightened by a better (and thorough) education of the agricultural class—that it ought to be encouraged and rewarded by public bounties or rewards—that it ought to be respected from its highly salutary influence upon our republican institutions, and upon the good order of society; and, finally, that it ought to be honored, at least according to its intrinsic merits, that it may be more followed, by men who have minds, as well as hands, to accelerate its improvement.—*Cultivator*.

The use of Sulphur in preserving plants from insects, is recommended by Dr. MEASE, in the Domestic Encyclopedia. The recommendation is endorsed by the editor of the *Cultivator* in his last number. He states that dusted upon grapes, in the grape-house, they have prevented mildew upon the fruit. "It is equally efficacious in the open ground, till the sulphur is washed or blown off. For many years, we have lost most of our early cabbages by a maggot which preyed upon the stem under ground. By mixing sulphur with the grout in which the roots of the plants are dipped before planting, the evil has been wholly prevented; and if the plants are plunged deep in the grout, so as to coat the base of the leaf stems, they are protected from the grub. If scattered upon the rows of young cabbages and radishes, before or after they are up, it would probably be efficacious in protecting both the tops and bottoms."

GREEN CORN STALKS FOR FODDER.

Where soiling, that is, feeding with cut green food in summer, forms any part of farm economy, we doubt not that corn, sown broad-

cast for this purpose, may be made to form a very profitable crop, either as a main dependence, or as auxiliary to short or spare pasture. It gives the greatest burthen of green food, and of as nutrient a quality as clover, though it can hardly be made to yield a cutting before August. It might well come in after clover, as food for cows and pigs. Mr. Holt, of East Haddam, Ct. has made some experiments in raising corn in this way for soiling; and he has found that sixteen square rods of ground, sown with gourd seed corn, the 12th June, gave food and subsistence for a horse fifty days, and thirty-three days for a cow. An acre would in this way, he thinks, feed thirty cows for a month. A small patch could not fail to be serviceable on any dairy farm, to supply the deficiency of pasture in August and September.—*Ib.*

HINT ON TRANSPLANTING.

The common error in transplanting trees, is not making the holes, or pits, for their reception sufficiently broad and deep. The roots require a mellow soil to strike down and horizontally in; and if the earth under and around them is left undisturbed and hard, they cannot extend themselves for food, or but very slowly; the plant consequently grows but slowly, if it survives. The following experiment, made by M. CHALERMEAU, illustrates the importance of this hint. The hole should not be proportioned to the extent of the roots *as they are*, but to their extent *as they may be and should be*.

"Four peach trees, resembling each other as to size and vigor of growth, as much as possible, were planted. No. 1 in a hole three feet square; No. 2 in a hole two feet square; and Nos. 3 and 4 in holes eighteen inches square. The soil and exposition similar. No. 1 has every year given the most abundant crops, and the relative sizes of the trees are now as follows: the stem of No. 1, eighteen feet high and eight inches in circumference; that of No. 2, nine feet high and five and a half inches in circumference; No. 3, six feet high and three inches eight lines in circumference; and No. 4, five and a half feet high and three inches in circumference."

Showing a difference between No. 1 and No. 4—between large holes and small holes—of five inches in circumference, and twelve and a half feet in height. Apple, pear, and forest trees, generally having a larger spread of roots than the peach, require proportionally larger holes.—*Ib.*

Raising Wheat with Profit on Mountain Ground.

A few years ago Col. MOSES LEARNED purchased a considerable tract of land on Black Mountain in Piermont, at the distance of about five miles from Connecticut river: for this land he paid one dollar the acre. In the year 1835, on twenty acres newly cleared by chopping and burning, he raised 500 bushels of wheat, averaging twenty-five bushels to the acre. In 1837, on thirty-seven acres of the same kind of clearing, and about five acres of old cultivated ground, he raised 1084 bushels of wheat, averaging more than twenty-five bushels to the acre. In 1838, his crop of wheat was upwards of 700 bushels, of which was twenty-nine acres of the new ground, which averaged nineteen bushels to the acre. The present year (1839) he has growing twenty-three acres of wheat on the new ground, and five acres upon the tilled ground; and he has the trees chopped of twenty-five acres of heavy wooded land for a crop the next season.

We have ascertained, that of the golden fields which we saw in New Hampshire, from the mountains of Vermont, the most prominent, because the largest, was the clearing of Col. Learned upon the Black Mountain.—The experiment and the enterprise of this gentleman are worthy of extensive notice.—His crop of wheat in 1837 was 1084 bushels. This wheat, taking into consideration the entire expense of clearing the land, fencing the ground, furnishing the seed, reaping and conveying to the barn, the straw paying for threshing, cost precisely and no more than eighty-three cents the bushel. On this crop that year the Messrs. Learned (the father and son are joint owners of the farm) made a clear gain of eight hundred dollars. To this profit may be added the improvement of the land. The cost in its wild state was one dollar the acre. Cleared and laid down to pasture, the land is worth at least ten dollars the acre. No part of the growth on this new land was saved either for timber or fuel—the whole wood was consumed. Col. Learned paid for the clearing ten dollars the acre.—The increased value of the land, without the crop, it will be no extravagance to say, will pay for both the original cost and clearing; and this too upon mountain ground where the forest growth is of more value for the manure of its ashes on the spot than for any other use. Add the increased value of the ground, ready for further profitable use, and the gain of this operation in a single year, was nearly *twelve hundred dollars!*

Spring wheat was the kind exclusively sowed by the Messrs. Learned: no crop can be more certain than this kind of wheat on newly burnt ground. Col. L. prefers, in-

stead of the common method of chopping in the month of June when the leaves are in full growth, that the trees should be felled in the preceding fall, winter or early spring while the snow is not deep: from the longer drying he obtains a more perfect burn. The kinds of wheat he has hitherto used are, the common bearded wheat and the bald or tea wheat. The present season he has growing a portion of the Black Sea wheat.

REMEDY FOR THE SMUT.

He mentions a safe, an easy, and perfect remedy for smut, which he has successively tried. For each bushel of seed wheat, he takes two ounces of blue vitriol dissolved in two quarts of water. This generally will dry of itself when applied to the bushel of wheat, which may be sowed either the same day it is applied, or at any time within a week.—Seed wheat already smutty should be washed clean before the preparation is applied; and the quantity of two ounces of vitriol to each bushel, should be dissolved in as small a quantity of water as possible. Smutty seed thus prepared will propagate but the merest trifle of smut in the subsequent crop.

THRESHING BY HORSE POWER.

Col. Learned, as do most of the extensive farmers on Connecticut river their small grains, threshes his wheat with horse power, generally after the fall work is completed. It will be seen from the quantity of wheat he has raised, in the course of four years he has cleared on that crop the price of a valuable farm. His experience has demonstrated that wheat may be raised in the mountain region of New Hampshire with quite as large remuneration for the labor, as can be obtained in the famed wheat regions of the west.—*Farmers' M. Visitor.*

Causes of Seeds not Germinating.

Without a certain degree of moisture seeds will not germinate. On dry sandy soils, and in a dry season, it seems highly probable, then, that seeds may be deprived of the requisite degree of moisture. But the seeds may have germinated, and commenced to send out their roots and stem stalks, and yet be destroyed. If the soil is not pressed closely to the seeds, and very dry weather occurs just at this period of the process of germination, the root being too distinct from the soil, and too feeble to draw any supply of moisture, the liquid food of the plant contained in the fermented seed may be dried up, and the life thus destroyed.

If you would avoid disappointment and loss from seeds failing to grow, the preventive process is indicated by a knowledge of the causes most frequently productive of this result, which we think are those stated above.

If you sprout your seeds before putting them into the ground you will preserve them from the first cause of failure, but if you pulverize your soil thoroughly and press it in this state with hoe, spade, or roller, upon the seeds thus sprouted, the root stem will soon and surely derive sufficient moisture from the soil.

In a few instances I have found my neighbors blaming the seed as useless, particularly of onions, carrots and parsneps, when I have obtained a little of the same seed, and found it to sprout quite well. You may easily save yourself from such reflections, or from the temptation to blame others, by steeping the suspected seed in warm or tepid water from six to twenty-four hours, according to the size and hardness of the seed, and then sitting it away in a warmish place for a day or two.—If good it will sprout in this time; if kept warm in a darkish place, and it does not sprout in this time, the seed is faulty.—*Ib.*

Seed Corn.

A correspondent says—

Several circumstances incline me to the belief that corn which has been sprouted—no matter in what steep—is safe from the ravages of the red or wire-worm. It has been fashionable to steep in a strong solution of copperas, and to ascribe the safety of the seed in this state, not to the change which fermentation has produced in the germ or chit which is usually first attacked, but to the change in the taste from the copperas. We have known corn soaked in simple water—in water alone—to escape from the attacks of the worm as well as that soaked in a copperas steep. Until this matter is made more certain, however, I would hold it bad husbandry to neglect the copperas, as in addition to the change produced by heat and moisture, we have also the disagreeable taste communicated by this salt.—*Ib.*

Sow Pure Wheat—Remedy for Smut.

CHAUNCEY GOODRICH, Esq., of Burlington, Vermont, says,—“In your last number I noticed three communications on the culture of wheat; although they are all valuable, perhaps I may add a little to them. As to *smut*, I believe if clean seed is sown, the following preparation of it is an infallible remedy—also that it will soon eradicate all smut from foul seed. Soak the seed twenty-four hours in a strong brine, strong as it can be made, letting it cover the grain—drain it off and stir in fresh air slacked lime until it is dry, when it may be sown. It is still better to have the wheat spread on a floor when the lime is stirred in, and let it be until fully dry, as the lime will adhere better to the grain.—Wheat so prepared should not be passed

through a smut mill, as the brine would then be sure to destroy a part, and if soaked too long, nearly all. Another advantage of soaking in brine is, that it is so much heavier than water, that oats and all light seeds will float on the surface, and may be taken off. I have known this practised twenty years on my father's farm, and by others, and never saw any smutty wheat from clean seed so prepared, even when adjoining fields would contain so much as to almost ruin the grain.—*Ib.*

Diseases of Cattle—Its Remedy.

Numbers of cattle, during the last winter, died from over-feeding, or other obstruction of the intestines: the symptoms were a protruded size from swelling, sometimes very suddenly. A sure remedy has been found by the farmers in Bradford, Hillsborough, and some other towns in this state, by mixing a quantity of apple cider with old cheese made from the milk of the cow—say half a pound or more of cheese grated in a pint of cider. This mixture, poured down the throat of the swelled animal, has been known to effect a cure by carrying off the swelling in a few minutes.—*Ib.*

Salt for Killing White Weed.

When the white weed has not become too plenty upon the farm it can be eradicated and its spread prevented by a little care and attention, and “an ounce of prevention is worth a pound of cure.” Many who have small patches upon their farms dig up all they can find, but still some of the roots are left and spring up the next summer to the no small annoyance of the farmer who supposed that he has rid himself of the pest. Mr. L. Whitman of this town informs us that he followed the plan of digging until he was tired of it, for there would always some of the roots escape and show themselves the next year in spite of him. He then prepared a strong solution of salt in water and poured it upon spots infested with the white weed. This effected a cure. If you have any of this weed beginning to show itself on your premises *pickle* it down.—*Maine Farmer.*

Sumach for Tanning.

It is well known that the sumach which grows wild in this state is useful for tanning, but that it imparts like hemlock and oak bark, a dark color to the leather, while the species of sumach brought from Europe or Asia is used for tanning sheep skins, and as we are informed, tans the pelt without imparting any coloring, and therefore leaves it perfectly white. Is there not some other vegetable substance growing abundantly among us that

will supply the place of this foreign article? We have no doubt there is, and that if experiments should be tried with some of our plants it would end in the discovery of one that would answer every purpose. Who will look it up?—*Ib.*

Destroy your Weeds.

Every farmer should be up and doing, be active and vigilant in waging a war of extermination, against weeds of every name and nature, from the Canada thistle to the insignificant chickweed, that is such a grievous annoyance in our garden. If you have not had time to rid every part and portion of your premises, around your buildings, and the sides of the road opposite your land, from these pests of the farmer, now is your time to take your scythe or hoe and cut them down to prevent their going to seed and returning you a hundred fold more of trouble next year. A double advantage may be gained by doing this if you will take the trouble to gather them up and throw them into your hog yard. You will get the thanks of your swine in the form of a number of additional pounds of pork in your barrel next fall, and a lot of good manure into the bargain. But if you have a piece of land that is very weedy which you wish to till next year, mow them by all means, let them lay upon the ground until they get dry and then burn it over. In this way you will not only destroy the weeds, but all the eggs and larvæ of insects that may be deposited therein, and clean the piece and prepare it finely for a crop of grain.—*Ib.*

Whitewash your Cellars, Out Buildings,

Last spring we reminded our readers of the advantages of whitewashing, and as we know that some neglected it then, we would again remind them of the advantages to be derived by it. Dog days are at hand when we always have a great deal of close weather, in which diseases are more apt to be generated than at any other season of the year, and during which most insects deposit their eggs. There are also many rainy days, which cannot be employed out of doors, we therefore advise those who have not before whitewashed their cellars and those parts of their buildings which need it, to do it now. By using a wash of quicklime while hot or as soon as it is slacked for this purpose, they will destroy the eggs of insects and do much to remove the cause of infection and effectually close up many places which would otherwise be favorable depositories for the eggs of insects, and produce a sweet and healthy atmosphere around their buildings.—*Ib.*

Flies in Horses.

It is said that bots in horses are caused by a fly that deposits its eggs upon the hair of the horse, which causes an itching, and as the horse scratches himself with his teeth, the eggs adhere to the glands of the mouth, and are thence carried with the food and drink into the stomach and there hatch and become bots. It is also said if a horse be supplied with salt frequently during the fly season that the eggs which go thus into the stomach will be destroyed and pass off without producing bots. The season is now at hand when these flies make their deposits, and farmers should be employing the preventive.—*Ib.*

Accumulation of Manure.

Manure is the true source of the cultivator's wealth. Every farmer should tax his wits to the utmost with a view to the accumulation of this article. He can never have too much of it, and must fail for the want of a competent supply. The barn of course, will yield its heaps in due proportion to the stock of cattle and horses kept. Sheep, too, yarded in winter, will make considerable, and this of an excellent, quality. But the hog yard is the place to make it in any desirable quantities. It is worth one's while to keep a lot of swine, if for no other purpose than as manufactures of manure. The yard should be on a stiff subsoil, dishing in the centre.—If it is floored with stone or plank, and has a cover over it, so much the better, as then neither the salts will go downward, nor the gasses upward. The whole strength will be retained. Put into this, through the whole vernal season, every thing of a waste vegetable description that you can rake and scrape together. As fast, too, as the family makes soap suds and dish water, in with every quart of it. Let none of it go elsewhere. It is an excellent plan to consult the road side for rich soil and low places for boggy substances, which have been washed down from elevated grounds. Cart this home as so much gained, and let your hogs saturate it with urine. Every load of it will come out next spring so much excellent manure. Go out too, half a dozen times in the course of the summer, with a stout scythe, and mow down all thistles before they have blossomed or gone to seed, cut up brakes at a great rate and all unnecessary bushes. Then take your hay cart and load up. Bring the collection home and pile it up outside the yard. Every little while throw a lot of this over to the swine. If you occasionally scatter a little corn or oats in the mass, it will do the hogs no harm to root after it, and will do the collection good by producing fermentation. A great many loads of the most valuable manure may be made every year by some care and attention of this sort.

Barn yards, also, should be constructed on principles similar to those which we have mentioned for the manufacture of manure by swine. These must, we suppose, be in the open air, whereby much of the gasses will escape; still the deposit of much in those yards, made lowest in the centre, will soon become saturated and prove an excellent stimulant to the soil and food for plants.—*Maine Cultivator*.

Dutch Butter.

Large quantities of butter are annually imported into England from Holland, and some from the same country has occasionally found its way into this. It is justly celebrated for its superior quality, and its power of resisting decomposition, or its not being liable to become rancid. In the Holland dairies, every thing is conducted with a system and neatness, from the feeding of the cows to the completion of the butter, worthy of all imitation and praise. That there is any thing in the climate or pastures of Holland that renders their dairy products superior to those of the rest of Europe, or to ours, is not to be supposed; the difference is clearly in the manipulation, and were our butter and cheese in general, made with as much skill and care as in Holland, we might successfully compete with the Dutch in the West Indies and other markets, to which our butter will now barely pay the cost of transportation. According to the report of Mr. Mitchell, made to the Highland Society of Scotland, the process in the Dutch dairies is substantially as follows:—The milk, when taken from the cow, is poured into large earthen pitchers and placed in a vat of cold water, which quickly reduces the temperature. It is then placed on shelves until the cream separates, when it is taken off and placed in vessels for churning. In these it is first allowed to become a little soured, and then the churn is half filled with the cream. In the best dairies, churning is performed daily; the system being so arranged, that a supply is constantly in readiness. In winter, a little boiled water is added to the cream to give the proper temperature previous to churning; and in very warm weather, it is sometimes submitted to the cold bath to reduce the heat. The butter, when taken from the churn, is put in a shallow vessel and carefully washed with pure cold water, and then worked with a slight sprinkling of fine salt, whether intended for rolls or for barreling. The butter is considered best, when the cows have been at grass about three weeks; it is then delicious—is made into fanciful forms of animals, pyramids, &c., and stuck over with fragrant flowers, and sells as high as sixty or seventy cents per pound. When intended for packing, the butter is worked up

twice or thrice a day, with soft, fine salt, for three days, in a shallow tub; there being about two pounds of this salt used for fourteen pounds of butter. After this thorough preparatory working, the butter is then hard packed in thin layers into casks made perfectly sweet and clean. The wood preferred is oak, smoothed carefully inside. Three or four days before they are used, the casks are filled with sour whey, and this stands until they are emptied and cleansed for the packing of the butter. It is clear, from this description, that independent of the perfect neatness observed in every part of the process, the excellence of the Dutch butter, and the ease with which it is kept in its original sweetness when packed, is owing to the manner in which it is freed from the least particle of buttermilk, by the first washing and the subsequent repeated workings, as well as to the perfect incorporation of the salt by the same process. There are many of our American dairies that produce superior butter; but as a whole, that in our markets is a miserable article, destitute of that rich flavor belonging to good butter, and owing to the great amount of buttermilk left in it, utterly unfit for keeping. We believe a reform in these respects, would add materially to the profit of all those who should attempt it, as well as add greatly to the comfort of the great mass of purchasers and consumers.—*Genesee Farmer*.

Extirpation of Garlic.

THOMAS E. BOND, in the *American Farmer*, says he has wholly destroyed the wild onion, in fields which have been over-run with it, by first cultivating them in corn, and after the corn was gathered, ploughing the field again, and leaving it exposed the succeeding winter in the state the plough had left it. The same gentleman says, that *St. Johnswort*, another troublesome weed, may be killed by a single ploughing in the early part of June, when it is in blossom, provided the ploughman, by means of a heavy chain attached to the plough, covers the plant effectually. If completely covered it will die.

Short-Horned Cattle.

Never think of buying short-horned or Durham cattle, until you are prepared to keep them well. They need an abundance of fresh pasture, and therefore to be frequently changed from one pasture to another, in succession, and plenty of food and good shelters in the winter. Thus provided for, they are valuable stock. But neglected in these respects, they are little better than native cattle. *Franklin Farmer*.

Succoring Corn.

Mr. BUCKMINSTER had, a few years since, a fine looking field of corn, from which he expected to gather a hundred bushels to the acre. It grew very rank, became quite too thick—hills three feet apart each way—numerous succors shot out from the bottom, which, when the corn was from six to seven feet high, were pulled off to admit air and light more freely. These succors varied from two to three feet in height. The crop was much less than was expected—and it was the opinion of some that it was injured by being succored. Unfortunately the whole field was succored, and no portion of it left for experiment. In reasoning upon the practice, we are led to think it injurious to pluck off the succors after they have grown large. When the ear is filling, a draft is made upon all the parts of the stalk, for its surplus juices, and as there is a free communication between all the branches of the stalk, we see not why it should not be as injurious to pluck off the full grown succors before the ear is filled, as to cut off the stalks above the ear while there are any juices in them that may be drafted to make the ear full. Many experiments should be tried, at different seasons, in the growth, before we shall be able to declare positively as to the effect of plucking off the succors. We think we often err in suffering too many stalks to stand in a hill. Of the middle sized corn, two stalks in a hill are sufficient when the hills are two feet apart in the rows. If too many are allowed to stand, there will be many stalks without a single ear.—*Boston Cultivator.*

Benefactors of the World.

That man who turns a weedy desert into a fertile garden—an idle stream of water into an instrument of industry and profit—who can press the "idle winds" into his employment and make them productive—who can make the streaming exhalation of boiling water move ships through the ocean against wind and tide—who can, with the same simple power, make ten thousand wheels revolve which a million of men could not move, and with almost magic aid convert our flax into fine linen, our wool into fine cloth—and extract from the centre of the mountains their richest ores—these are the men who are the benefactors of the world.—*Yankee Farmer.*

Daily Value of Sunshine.—The Editor of the Genesee Farmer rates the agricultural products of the United States at five hundred millions of dollars annually, the perfection of which depends on the weather of four months, June, July, August and September. Without sunshine the crops would be a failure, either totally or partially, and hence we may estimate its average value at four millions of dollars daily.

Hilling Potatoes.

P. MURPHY has furnished in a late number of the *Genesee Farmer*, some interesting remarks on the *Cultivation of the Potato*, from which we take the following extract. When we take into consideration the vast amount of that article cultivated every year, we must readily come to the conclusion, that a very small saving of labor, or increase of the crop in each hill, will amount in the aggregate to a very important item. My notion of planting potatoes is simply this,—after the ground is properly prepared, place the seed in the furrow and cover it the proper depth, six or eight inches, with good mellow earth; leave the surface of the ground flat, not raised more than two or three inches above the level of the surrounding earth; keep it clear of weeds, but put no more earth over them. My reason is, that when the potatoes commence growing, and the time has arrived for the tubers to put forth, they will shoot out at the exact distance from the surface, in which they will delight to grow and continue, and to obtain the best possible supply of light or warmth, and will choose for themselves a more exact depth, more agreeable to the nature of the plant, than we short-sighted mortals can possibly choose for them. And that after the tuber has put forth, if we put on the hill five or six inches more of earth, I would ask whether the position of the tuber is not materially changed. Does it receive the same supply of light or warmth. Certainly not; for we most generally see a second growth of tubers put forth above the first, and about the same distance from the surface as the first, before the additional hilling. Perhaps some will say, the first tubers continued to grow and produced potatoes. That may be true. The additional earth might injure without entirely destroying them; for the potato is a very hardy plant, and will grow under almost any circumstances. I wish to be understood in this matter. I am in favor of a good supply of earth, but let all that is to be put on be done when the potato is planted; and the better and richer the earth, of course the better the crop; but no additions; nature is more correct than we can be in this matter. And I would observe; that a flat surface is much better adapted to obtain a supply of moisture, by admitting the rain, &c. As a general rule, I think the distance of the hills should be governed by the space occupied by the tops; for much of the nutriment of vegetables is taken from the air; consequently when the tops are too close, they cannot so readily obtain it. I have generally found this to be true in regard to vines. Give them sufficient room, and the fruit will be more perfect in quality, and greater in quantity.

Health.

The occupation of the farmer is favorable to health. Man was made for exercise—for toil—and in it he finds not only health but happiness. The use of all our faculties, both of body and mind, constitutes the sources of pleasure. Inaction and sloth confer not this treasure for which man lives and toils. The most unhappy individuals and the most miserable, imbecile nations, are those whom necessity does not compel to labor diligently for a livelihood. Therefore let not the farmer regard his occupation as a slavish one, or look with envy upon the man who toils not with his hands. He has occasion to envy no one—there are some he can *despise* or *pity* if he pleases.

But when we commenced this paragraph we intended to say a word upon the care which ought to be taken of health, and the means which should be used to preserve it—for it is much easier to retain than to gain it, and much more pleasant. The principal preservatives of health are, in the language of a cotemporary, "pure air, pure drink, plain food, exercise, cleanliness, protection, regular rest, occasional abstinence, and an active and well governed mind," and, we would add, temperance in all things. Each of these might be made the text for a sermon longer than would be interesting to our readers. We will therefore leave the texts to be preached, practically, by those most concerned.—*Cheshire Farmer.*

Remarks on the use of Lime in Agriculture.

We may now draw, says the highly intelligent author of an essay on the use of lime, a few plain and practical inferences from what has been stated, and which are sustained by thirty years practice in the use of lime.

1st, That lime operates equally well, whether applied in a *hot* or *effete* state, provided the condition of the ground upon which it is used, be such as to render a calcareous application beneficial.

2dly, That, in respect of operation, it is immaterial whether the lime be used upon grass land or summer-fallow, and that objects of conveniency ought chiefly to weigh with the farmer in ascertaining the most proper time for applying this article. Upon old grass land, it is perhaps best to plough first, and to summer-fallow in the second year, when lime can be applied. On new and clean grass land, hesitation is superfluous; it may be limed at the outset, that is, before the plough is admitted.

3dly, That to lime moorish soils is a hazardous business, unless dung is likewise bestowed; but to repeat the application upon

such soils, especially if they have been severely cropped, is almost a certain loss, and that a compost of lime and rich earth is, in such cases, the only substitute.

4thly, That strong loams and clays require a full dose to bring them into action; such soils being capable of absorbing a great quantity of calcareous matter. Lighter soils, however, require less lime to stimulate them, and may be injured by administering a quantity that would prove moderately beneficial to those of a heavy nature.

5thly, That upon fresh land, or land in a proper state for calcareous application, lime is much superior to dung. Its effects continue for a longer period: while the crops produced are of a superior kind, and less susceptible of injury from the excesses of drought and moisture. Finally, the ground, particularly if of a strong nature, is much easier wrought; and, in many instances, the saving of labor would almost tempt a judicious farmer to lime his land, were no greater benefit derived from the application, than the opportunity thereby gained of working it in a perfect manner.

It may be added, that though strong soils require to be animated with a good dose of lime, those of a light texture will do equally well with little more than half the quantity requisite on the others, especially if they are fresh, or have not already received an application of calcareous matter. In every case it is the farmer only who can judge of the quantity to be given; but, as a general principle, it is safer to exceed the proper quantity than to be below it. In the latter case the application may prove useless, and the whole expense be lost; whereas, it rarely happens, that injury is sustained from an excess, especially if more or less dung is soon after administered."—*American Farmer.*

Comparative Value of large and small Turneps.

We have frequently alluded to the fact, that the ruta бага is the only cultivated root that increases in nutritious properties as it increases in size. SINCLAIR found, on analysis, that a root of the common turnep measuring seven inches in diameter, afforded only seventy-two grains and a half of nutritious matter, while the same quantity of a root which measured only four inches, afforded eighty grains, or double what the large one gave. The largest root of the Swedish turnep afforded one hundred and ten grains, while the middle sized or smaller roots gave but ninety-nine. The Swede is stated to have grown to weigh sixty pounds, exclusive of tops and tails, in Van Dieman's Land.—*Cultivator.*

Review of the Weather for July, 1839.

Thus far we have had a most delightful summer. A healthful atmosphere, and a fruitful season for every thing pleasant to the eye, and delightful to the taste. The first nine days of the month just closed, were moderately cool, and the question was frequently asked, "Are we to have no hot weather this summer?" On the 10th the mercury ran up to 90, when the exclamation was heard, "O, how terribly hot it is!" From that date we had frequent showers during the night, succeeded by hot sunny days, with mercury ranging from 80 to 90. The warmest days, by our thermometer, were the 22d and 27th, when it rose to 91 and 93. But the aggregate heat of the month was quite moderate in comparison with the corresponding month of last year, when the mercury ranged during eighteen days, from 90 to 97 in the shade, and in no instance was it so low as 80 at 2 o'clock. The average of the whole month, at mid-day, was 90; and the average of every twenty-four hours during the month was 81. Whereas, the average of the month just passed was, at sunrise, 68; at 2 o'clock, 85; at 10 P. M. 69; and the whole month was 74; being a difference of seven degrees more in July 1833, than 1839. More or less rain fell on eighteen different days, principally during the night. The quantity during the month was two and a half inches. The wind was exceedingly variable. There were but two days when it blew from the same quarter the whole day. A more fruitful season has not occurred, perhaps, for twenty years. Our markets abound with every luxury of the season.—U. S. Gazette.

The Army Worm,

A letter from our correspondent at Quincy, Ill., advises us, is making great ravages in that section of the country. We can neither give the history of this new enemy, nor prescribe a mode of destroying them. They are in a measure unknown east of the Alleghany mountains. Yet, while penning this notice, our friend Robt. White, jr., of Shrewsbury, N. J. has called upon us, and informs that the army worm appeared in his neighborhood last season, and that this season its ravages have been alarming. When it enters a field, it sweeps vegetation almost clean, eating the leaves and even the beards of wheat, without disturbing the grain, and divesting the corn wholly of its foliage. Every attempt to check its progress, as trenches, &c. had proved abortive.—Cultivator.

In business, the keeping close to the matter procureth despatch; and true despatch is a rich thing.

Agricultural Exhibition.

The Philadelphia Society for Promoting Agriculture having resolved to hold an Exhibition and Sale of live stock, agricultural implements, &c. this season, the committee of arrangement have selected Parrot's Tavern, Rising Sun Village, on the Germantown turnpike, as a convenient and suitable location. The Exhibition will take place on Tuesday and Wednesday, the 22d and 23d of October next, and the Sale on Wednesday the 23d, conducted by Mr. CHARLES J. WOLBERT, a member of the society.

The following PREMIUMS will be awarded, subject to the rules and restrictions named below.

HORSES.

For the best stud horse,.....	\$10 00
For the 2d best do.	6 00
For the 3d best do.	4 00
For the best brood mare.....	10 00
For the 2d best do.	6 00
For the 3d best do.	4 00
For the best colt between 2 and 3 years old.....	6 00
For the 2d best do. do.	4 00
For the best do. under 2 years old.....	5 00
For the 2d best do. do.	3 00

In judging of horses, particular regard will be had to their adaptation to general use on the farm and road; combining strength, speed, symmetry, and beauty of form and action.

NEAT CATTLE.

OVER TWO YEARS OLD.

For the best imported bull, Durham,.....	\$10 00
For the 2d best do. do.	5 00
For the best do. of other breed.....	10 00
For the 2d best do. do.	5 00
For the best do. cow, Durham.....	10 00
For the 2d best do. do.	5 00
For the best do. of other breed.....	10 00
For the 2d best do. do.	5 00
For the best native bull, Durham,.....	10 00
For the 2d best do. do.	5 00
For the best do. of other breed.....	10 00
For the 2d best do. do.	5 00
For the best do. cow, Durham.....	10 00
For the 2d best do. do.	5 00
For the best do. of other breed.....	10 00
For the 2d best do. do. do.	5 00

BETWEEN ONE AND TWO YEARS OLD.

For the best bull, Durham.....	\$6 00
For the 2d best do. do.	4 00
For the best bull of other breed.....	6 00
For the 2d best do. do.	4 00
For the best heifer, Durham.....	6 00
For the 2d best do. do.	4 00
For the best heifer of other breed.....	6 00
For the 2d best do. do.	4 00

UNDER ONE YEAR OLD.

For the best bull calf, Durham,.....	\$5 00
For the 2d best do. do.	3 00
For the best do. of other breed.....	5 00
For the 2d best do. do.	3 00
For the best heifer calf, Durham.....	5 00
For the 2d best do. do.	3 00
For the best do. of other breed.....	5 00
For the 2d best do. do.	3 00

For the best ox or steer raised in Pennsylvania and fitted for slaughter.....	10 00
For the 2d best ox or steer raised in Pennsylvania, and fitted for slaughter.....	5 00
An account of the manner and expense of feeding to be furnished.	
For the best yoke of working oxen.....	\$10 00
For the 2d best do.....	5 00

NOTE.—No animal of less than three-quarters blood will be classed as Durham.

SHEEP.

For the best Leicester or Lincoln buck.....	\$4 00
For the 2d best do. do.....	2 00
For the best Southdown buck.....	4 00
For the 2d best do. do.....	2 00
For the four best Leicester or Lincoln ewes.....	5 00
For the four 2d best do. do.....	3 00
For the four best Southdown ewes.....	4 00
For the four 2d best do. do.....	3 00
For the four best Leicester or Lincoln lambs.....	5 00
For the four 2d best do. do.....	3 00
For the four best Southdown lambs.....	5 00
For the four 2d best do. do.....	3 00

HOGS.

For the best boar.....	\$5 00
For the 2d best boar.....	3 00
For the best sow.....	5 00
For the 2d best sow.....	3 00
For the best brood of pigs, not less than six.....	5 00
For the 2d best do. do.....	3 00

AGRICULTURAL IMPLEMENTS.

For the best plough.....	\$5 00
For the 2d best do. do.....	3 00
For the best drilling machine.....	4 00
For the 2d do. do.....	2 00
For the best grain or grass sowing machine.....	5 00
For the 2d do. do. do.....	3 00
For the best mowing or reaping do. do.....	5 00
For the 2d best do. do. do.....	3 00
For the best display of agricultural implements.....	10 00
For the 2d best do. do. do.....	6 00
For the 3d best do. do. do.....	3 00
For the best do. agricultural produce.....	10 00
For the 2d best do. do. do.....	6 00
For the 3d best do. do. do.....	3 00

Any newly invented agricultural implements or apparatus, will be entitled to appropriate premiums.

The judges are authorized to withhold premiums where none of a class is entitled in their opinion to distinction. And where there is but one of a kind exhibited, or no competition, they will award the premium of the class or quality to which they think it entitled.

No animal or article that has before obtained a "first" or "best" premium, will be entitled to compete in the same class.

It is particularly recommended that those who intend contributing to the exhibition, send their stock, implements, &c. on Monday afternoon, the 21st of October, when the Committee will be in attendance to arrange and classify them.

KENDERTON SMITH,
Chairman.

ALGERNON S. ROBERTS,
Sec. of Com. of Arrangement.

Philad. June 22d, 1859.

Exhibition of Fruits and Flowers.

THE PENNSYLVANIA HORTICULTURAL SOCIETY will hold its Eleventh Exhibition in the Grand Saloon of the PHILADELPHIA MUSEUM, corner of Ninth and George streets, on WEDNESDAY, THURSDAY, and FRIDAY, the 18th, 19th, and 20th, of September. The Committee charged with the preparatory arrangements, solicit contributions in FRUITS, FLOWERS, or CULINARY VEGETABLES; and specimens of either, of a quality meriting distinction, will be thankfully received and publicly acknowledged. When transmitted from a distance, by public conveyance, the Society will cheerfully defray the cost of transportation. They may be addressed to MESSRS. D. LANDRETH & CO., at their Seed Warehouse, No. 63 Chestnut street.

PREMIUMS for the following FRUITS, &c. to be competed for, on that occasion, will be awarded at nine o'clock, A. M. on the second day, (19th) of the exhibition, viz:

For the best Grapes, native, not less than six bunches.....	\$5 00
" next best do. do. do. do.....	4 00
" next best do. do. do. do.....	3 00
" best do. foreign, raised in the open air, not less than four bunches.....	5 00
" next best do. do. do. do.....	4 00
" next best do. do. do. do.....	3 00
" best do. raised under glass, do.....	5 00
" next best do. do. do. do.....	4 00
" best peaches, not less than one peck.....	5 00
" next best do. do. do. do.....	3 00
" best dozen Peaches.....	3 00
" best bushel of do. do.....	10 00
" next best do. do. do. do.....	5 00
" best seckel Pears, not less than one peck.....	5 00
" " butter Pears do. do.....	5 00
" " Pears of any other variety, not less than one peck.....	5 00
" " Apples, not less than one peck.....	3 00
" next best do. do. do. do.....	2 00
" best bushel of Apples, do.....	5 00
" next best do. do. do. do.....	3 00
" best Quinces, not less than half a peck.....	3 00
" Nectarines, not less than one dozen.....	3 00
" Water Melons, not less than three.....	5 00
" next best do. do. do. do.....	3 00
" best Water Melons, raised in Pennsylvania, not less than three.....	3 00
" " Nutmeg Melons, or variety thereof.....	3 00
" " Potatoes, not less than half a bushel.....	3 00
" " Sweet Potatoes, do. do.....	3 00
" " Onions, not less than four dozen.....	3 00
" " Cabbage, not less than six heads.....	3 00
" " next best do. do. do. do.....	2 00
" best Red Cabbage, do. do.....	3 00
" " Carrots, field culture, two dozen.....	3 00
" " Lettuce, not less than six heads.....	3 00
" " Endive, blanched, do. do.....	3 00
" " Salsify, not less than two dozen.....	3 00
" " twelve varieties of Dahlias.....	5 00
" next best do. do. do. do.....	3 00
" best American Seedling, Parti-colored Dahlia.....	3 00
" " do. do. Self-colored do.....	3 00
" " Pyramid, or other figure formed of cut flowers.....	15 00
" next best do. do. do. do.....	10 00
" best Boquet.....	5 00

To prevent confusion it will be necessary that all contributions be presented on the Monday and Tuesday previous to the Exhibition. Bouquets on the morning of each day.

JOHN B. SMITH,
PETER MCKENZIE,
PETER K. GORGAS,
THOS. P. JAMES,
ROBERT KILVINGTON,
Committee of Arrangement.

State of the Markets.—Aug. 7.

FLOUR AND MEAL.—There has been a fair demand for flour this week, ending August 7, both for export and home use. Owing to the small stock on sale, holders are asking 12½ to 25 cents per barrel, advance. Sales of old stock for export at \$5 25 a 5 37½, and fresh ground at \$5 50 a \$6—at the latter price made from old and new wheat. Sales of old stock, for city use, at \$5 25 a \$5 37½, and fresh ground at \$5 50 per bbl.—extra \$5 75 a \$6. *Rye Flour* has been taken at \$3 37½.

GRAIN.—*Wheat* is steady, and the receipts quite limited. Small sales of Pennsylvania from store, at \$1 27 a \$1 32 for old crop; some fair Southern at \$1 23 a \$1 25. *Rye*—A lot of new Southern, sold at 75 cents. *Corn*—Southern has been at 70 a 76 cents for flat yellow, mostly at 78 a 80. *Oats*—At 31 a 35 cents per bushel. Sales of 20 a 22,000 bushels.

PROVISIONS.—Small sales of mess pork at \$16 a \$16 50, cash and time; prime \$15 per bbl. *Bacon*—Sales at 10 a 12 cents for common to prime Hams; 9½ a 10 for sides, and 7 a 8½ cents for shoulders; canvassed hams, 12 a 12½ cents. *Lard*—Sales have been made at 11½ a 12½ cents per lb. for Western.

WOOL.—Operations rather limited—no essential variation in prices.

CATTLE MARKET.—The offerings of *Beef Cattle* were 63 head. Sales at from \$7 25 a \$9 25 per 100 lbs., for inferior to prime quality, being a further decline. *Cows and Calves* were taken at 28 to 36, and extra 42 each. *Hogs* sold at \$7 75 a \$8 75. *Sheep and Lambs*—Supply 2400, about 1800 of which were taken at \$2 50 a \$4 50 for the former, and \$1 50 a \$2 50 for the latter.

Quantity of rain which has fallen in each month since January 1, 1839. Inches.

1st month,.....	5.63
2d month,.....	3.42
3d month,.....	1.50
4th month,.....	1.50
5th month,.....	6.07
6th month,.....	3.92
7th month,.....	2.51

Philadelphia Hospital, 7th mo., 1st, 1839.

IMPROVED STOCK.

The Subscriber would inform those desirous of purchasing improved Stock, that after much pains and great care he is able to offer breeding stock of as fine a quality as is to be found in the country. The "Earl of Jersey" and "Duke of Gloucester" (likenesses of which may be found in the Farmers' Cabinet, Vol. II. page 365) are fine samples. Persons desirous of purchasing, or further information, can address the subscriber, Clarkesboro', Gloucester County, N. J.

June 15, 1839.—2t.

EDMUND TONKINS.

MORUS MULTICAULIS TREES.

The Subscriber is now prepared to contract for the delivery of 50,000 *Morus Multicaulis Trees*, in the fall, on liberal terms, in lots to suit purchasers.

P. R. FREAS,

Office of the Telegraph, Germantown.

J. D. Emes's Patent Cast Iron Threshing Machine.

An establishment for the manufacture of the above machines, will be put into operation in this city, of which due notice will be given. They are now constructed by Stevens & Hutchinson, at the Mechanics' and Farmers' Depository, Boston, Massachusetts.

J. D. Emes's Patent Cast Iron Threshing Machine, without any disparagement to other valuable improvements, warranted equal, if not superior, to the best in any country, for threshing all kinds of small grain, rice and small seeds, from wheat to herdgrass seeds.

This machine is less than three feet square, strong, simple and plain, and not liable to get out of order. One quarter the expense of flail strings will keep it in repair to thresh the same number of bushels.

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THE FARMERS' CABINET,

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COMMUNICATIONS.

Cultivation of Plants.

[WHEAT.—Continued from page 11.]

Good wheat land, ought, therefore, always to possess a certain degree of consistence, for although light soils composed chiefly of sand and gravel, will often produce wheat of good quality, yet rich heavy loams and strong clays, with a proper portion of sand, always yield that which is the weightiest in the bushel and the most productive in the crop.

If along with a small quantity of sand, it have about fifteen per cent. of lime, it may be classed among soils of the best quality for the production of the crop—provided it also contains a sufficient portion of nutritive *humus*, or mould. Soils of this description are generally of a dark brown color, and work freely, in consequence of the mixture of lime, which prevents them from being too adhesive.

A general rule, applicable to all cases in which wheat is sown, is, that the land shall be in the best condition that circumstances allow, with respect to tillage, cleanness and fertility. As wheat is the most valuable of the cereal grasses, so it requires greater care than the others to produce it. It is an error in practice to sow with a grain crop any land which is out of order—but this error is greater

and more hurtful in the case of wheat than of almost any other grain crop.

As the wheat crop generally receives no further culture after it is committed to the earth, the soil intended for its reception should be brought into as fine condition as possible. To accomplish this, manuring and thorough culture are indispensable. If this is attended to, the soil will be in a loose, mellow and fertile state, and possessing such a depth of tilth as will have a tendency to preserve it in good condition.

Most crops require high manuring and a rich soil, and it is scarcely possible to carry this to excess, especially in the case of corn. But with wheat the case is otherwise. Land, naturally very rich or very highly manured, is apt to cause during the hot season of summer a too rapid growth of straw, at the expense of the seed; and rust, lodging, and ultimate failure is frequently the consequence.*

In modern tillage, wheat more generally follows clover than any other crop, years of practice having confirmed the opinion entertained by many intelligent farmers, that clover is the best preparation for a crop of wheat. The practice is as follows: The clover field having been mowed, or fed off, is generally turned up the *second* year of its having been

[*Note.*—It is an established law in vegetable economy that an extraordinary growth of the straw and leaves is always at the expense of the fruit or seed. Hence fruit trees very rarely bear while in a very thrifty state, but require first to be checked in their growth before they can produce fruit.]

[*Note.*—Now, as it is during the heat of summer, a season when vegetation advances most rapidly, that wheat matures its seed; it is more liable, on this account, to suffer from too vigorous a growth, than other plants which ripen their seed later in the season, such as Indian corn.]

* Genesee Farmer, vol. v. page 273.

laid down to grass. In this case, all "farmers who work it right, give but one ploughing, and harrow in the seed by passing the harrow twice in a place the same way with the furrows."

If the clover sod is completely subverted by the furrow slice being turned flat, whereby all the vegetable matter is completely shut in, or buried; the sward thus turned in will begin to decompose, according to the favorable state of the weather and other circumstances, in from ten to fifteen days. This, by many, is considered as the proper time for putting in the wheat.

This process is what is called sowing or putting in wheat upon a clover ley, and is considered as one of the great improvements in modern agriculture. It has been adopted for years past in New England, with great advantage. Even in the Middle States in pursuance with this practice, together with the use of plaster and lime, the face of the country in many places has been entirely renovated.

Much diversity of opinion prevails even among practical farmers, in regard to the proper period for sowing wheat on a clover ley. Some contending that the operations of ploughing, harrowing and seeding should immediately follow each other: Mr. BORDLEY, in his valuable work on husbandry, advocates this system. The practice, however, does not generally prevail.

On the other hand, Mr. MACRO, an eminent English farmer, says: "From upwards of twenty years' experience, I am of opinion that the best way of sowing clover lands with wheat, is to plough the land ten or fourteen days before you sow it, that it may have time to get dry and after rain to make it dress well. I have often tried both ways, on the same lands, and always found that ploughing several days before seeding answered best."

Both modes give crops superior to what are produced on fallow: Farmers may therefore try both methods for determining which to prefer; that is, as well immediate sowing, on ploughing in the clover, as the method of sowing not till ten or fourteen days, after having ploughed in the clover—suppose a half each way.

WEBB HALL, in his Prize Essay on the growth of wheat, says that the ley should be broken up at least a month before the seeding of the ground—both, that time should be allowed for the decomposition of the sward; and, chiefly, that the land may be allowed to settle.

If it be desirable to sow wheat after a fallow crop of peas, barley, rye, oats, &c., the land should be immediately ploughed or thoroughly harrowed after it is cleared, that the scattered grains may have sufficient time to vegetate—then one good ploughing with suf-

ficient harrowing is a good preparation for the seed.

Seed-wheat should be selected from the earliest and most perfect growth of the preceding year, and thoroughly cleansed from rye, cockle, imperfect or shrivelled grains, weeds, extraneous substances, &c. Too much attention cannot be bestowed on this part of the operation if you wish to harvest a clean crop, as every kind of seed will produce its like. Too much care cannot be observed in the selection of seed.

It has been satisfactorily ascertained by repeated experiments of distinguished agriculturists, that steeping seed wheat about twelve hours in weak lye, brine, or common lime water, will prevent smut, and destroy the larvæ of insects, and the germ of smut and other diseases to which it is subject. If immediately rolled in plaster, or a mixture of lime and plaster, the crop will be sufficiently increased to pay three times the expense.*

This process should never be omitted, because, besides detecting the shrunk and shrivelled grains, and many seeds of other plants, which will float on the surface of the water, it entirely removes the dust of smut and rust, and thus prevents their propagation. This practice is fully sustained by the experience of eminent English farmers, as detailed in the "Farmers' Series of the Library of Useful Knowledge."

A practice of steeping, very general in England, and to some extent practised in the United States, is thus described by Professor LOW. Let a tub be provided, and partly filled with urine, and let a quantity of wheat, as a bushel, be put in at a time. Let the wheat be well stirred, and all the lighter grains which come to the top skimmed carefully off and thrown aside as useless. The wheat should remain from five to ten minutes, but never more than ten minutes, in the pickle.

The successive portions of wheat thus pickled, are to be allowed to drain a little, and then to be laid upon the barn-floor in layers, hot lime being at the same time sifted upon each layer. The purpose of spreading the lime is to dry the grain, which should then be carried immediately to the fields and sown.

The Professor does not mention the quantity of lime. Half a peck must be amply sufficient for a bushel of wheat, and it should be carefully stirred, that every grain may receive a portion. Quick-lime fresh from the kiln, which has been recently slaked, with some of the liquor used for the steep, is to be preferred. Some caution is requisite in the use of lime—for if not properly slaked, so great a degree of heat might be raised as to destroy the vegetative power of the seed.

*A Practical Farmer, in Gen. Far. vol. v. p. 261.

A very strong pickle of salt dissolved in water may be used instead of urine; but salt brine is not quite so secure a mean of destroying the infection of the disease as urine. That of urine ought to be preferred as being the most efficient; but it should be neither too *fresh* nor too *stale*; for it is ineffectual in one case, and injurious in the other. Its strength also differs according to the nature of the food from which it is extracted; and is more powerful when produced by human beings than animals. There are many other steepes known to our farmers, some of which are valuable and much used.

We will here repeat, that we wish every grain grower to bear constantly in mind that wheat, after being pickled, must not remain long unsown, otherwise its vegetative powers may be injured or destroyed. No more should be pickled at a time than can be then sown. When, from any cause, as from rain intervening, it is not practicable to sow the wheat for a day or two, it should be spread thinly upon the floor, but never kept in sacks, in which it would soon ferment.

The wheat, when, pickled, then, is to be carried directly to the field. It may be sown either by the hand or the broadcast sowing-machine, in the manner already described, or in rows by the drill machine.

To guard against worms and grubs in the soil, a mixture of slaked lime and ashes, at the rate of from three to eight bushels to the acre, harrowed in at the time of sowing, is the best preventive, and will act at the same time as a valuable manure, if the land has been previously exhausted by too frequent cropping.

Grain for seed should be selected from the cleanest and most thrifty parts of the field—a constant attention to this will cause a permanent improvement in the kind. By gathering single heads, remarkable for their early maturity, size, &c., and propagating from them, improved varieties may be gradually obtained.

The most experienced farmers prefer a *change of seed* to that grown by themselves. In order that they may be enabled to judge correctly of the sample by which they purchase, it should be retained a minute or two in the closed hand, and then passed gently through it to ascertain if the grain be plump, hard, dry, and smooth, with a certain sense of mellow fullness in the feel; for, if it handles rough, and does not slip readily through the fingers, it will be found thick skinned, damp, and unprofitable to the miller.

The time of *sowing winter wheat* must depend upon the condition of the land, as well as the season, and it is not always in the farmer's power to choose the moment which he would prefer; for if the wheat be sown

after another crop, that crop must first be removed, and even if it be sown upon a fallow, the operations of a late harvest, or the state of the weather may interfere.

In regard to the *time*, there is a difference of opinion—many give a preference to early, others to late sowing. By early sowing the roots of the grain have sufficient time to establish themselves before the frosts of winter set in. It has also been ascertained that grain sown early, will throw up a greater number of lateral stems and branches, than that which is sown late. We have also the authority of Mr. NICHOLSON, author of the *Farmers' Assistant*, for stating that late sowing requires one-third more grain to the acre, than if put in early. Early sown, a bushel is sufficient—late, a bushel and a half, to the acre, and sometimes more, may be necessary.

The quantity of seed per acre varies according to circumstances. It should vary with the time of sowing, and with the size of the grain. Late, requires more than early sowing; and large and full seed should be in greater quantity than that which is small, in order to compensate for the less number contained in a bushel. Much, therefore, must be left to the discretion of the farmer, who will take into consideration the time of sowing, the quality and preparation of the soil, as well as the plumpness or the shrivelled state of the seed wheat.

The best period of sowing wheat, it has been said, is from about the middle, to the end of September. The early part of October, however, is well suited to the sowing of wheat, and it may be continued until the middle of November. Such is the great diversity of climate and soil in this country, together with the changes of weather and other circumstances, that it is impossible to designate a fixed period, or lay down any general rule—but on the whole, early sowing is to be recommended.

The proper time for sowing must not in any case be neglected; an error of a few days on this point, will not unfrequently diminish, but in some instances prove ruinous to the crop. But, as a large crop cannot be sowed in a few days, it is better to sow a fortnight too early than a week too late.

Wheat, and all the cerealia, have the common property of sending out numerous shoots from the roots during their growth. This natural process is termed tillering, and is familiar to all farmers.

It is to be observed, too, that often the roots of the grasses are partially raised above ground, in which case the plant becomes feeble and perishes. This accident sometimes occurs from too thick sowing, and too rapid growth in that state. But it is more frequently produced by the sudden contraction

and expansion of the soil by alternate frosts and thaws in winter; and in this case, the wheat is said to be thrown out.

To promote the process of tillering, and sometimes to prevent the throwing out of the plants, it is found to be beneficial to give a certain tillage to the growing wheat in spring, by means of the hoe, the harrow, or the roller. When wheat is sown in rows this is done by the hoe; when broad-cast, by means of the harrow; and in either case the roller may be also used.

But this tillage is given to it incidentally, in the course of another operation to be described—the sowing of the seeds of clovers and the cultivated grasses—a system very prevalent in the grain regions of Europe; and to some considerable extent known to American practice. Like all other systems it has its advocates and opponents; but so far as we are able to judge from experience and the testimony of others, the mass of evidence is decidedly favorable to the practice.

The seeds of these plants are sown as early as the state of the weather and other circumstances will justify, in the spring, upon the surface of land on which the grain crops have been previously sown. They grow up under the shade of the latter, and in the following season they are fit for use.

When the crops of grain with which they are to be sown, are sown in spring, they are generally put in the ground together. But when the crop, as of wheat, has been sown in the previous autumn, the grass seeds are sown among the growing plants, and covered by being harrowed or rolled.

The minute seeds of those plants, consisting of the clovers and rye grass, and other grasses, are, previously to being sowed, carefully mixed together; sown by the hand, or what is better by the broad-cast sowing machine. In either case, the harrow follows, giving a double turn along the ridges, and the roller may also follow, crossing the ridges, and going over the ground once. In some cases the roller alone is used to cover the seeds.

The clovers and grasses thus sown, rarely flower in the first year. They grow under shelter of the stems of the larger crop, and they are seen in the autumn among the stubble covering the surface. They continue to grow, shoot vigorously forth in the spring, and are in their greatest luxuriance in the following summer, when they are frequently termed new or one year's old grass.

The grass seeds being sown, no further culture can be given to the wheat, during its growth, nor any weeding, except pulling up or cutting over above ground the larger weeds, such as docks, thistles, cockle and the like.

Wheat sometimes becomes too luxuriant

in the spring, especially when sown early, and then it is apt to be lodged, and run to straw more than to produce grain. In this case it may be pastured in the early part of spring with sheep.

The produce of this crop varies greatly with the seasons, the nature of the soil, the character of the seed, and the mode of cultivation. A fair good crop may be held to be thirty bushels per acre. The average produce of the United States will not probably exceed twenty bushels to the acre. The weight of the straw is reckoned to be about double that of the grain. An acre, therefore, yielding twenty-five bushels of grain, at the rate of sixty pounds per bushel, would yield about three thousand pounds of straw.

The straw of wheat is applied to various purposes of rural economy and the arts. Its intrinsic value must vary, however, according to its feeding properties—the quantity of manure into which it may be converted when used as a litter—its fitness to be employed as thatch, for which purpose, from its long and rigid stems, it is generally well suitable—or its use in manufactures. Its price depends upon its vicinity to large towns, where it is wanted for litter.

The Leghorn manufacture of wheat straw into the well known Leghorn or Tuscany hats, has lately been inquired into, and detailed in several publications.—The variety of wheat cultivated in Tuscany for this purpose, is known as the *grano marzuola*, a variety of summer wheat with long bearded ears. It is cultivated on the sandy hills on both sides of the Arno. The seed is sown in March, very thick, and pulled when the ear is fully shot, but before the grain is formed. It is then eighteen inches high, if the crop is good—it is bleached as we do flax, and afterwards tied up in bundles in the same manner, and carried home, to have the part between the ear and the first fruit [joint?] in the stalk selected, that being the only part used.—*British Gard. Mag.* vol. v. p. 70.

[To be continued.]

For the Farmers' Cabinet.

Dialogue between a Father and Son.
ON THE VALUE OF LIME—ON BURNING LIME—
ON DOING GOOD.

Frank.—I observe, Father, that in all your compost heaps, you use large quantities of lime.

Father.—Yes, I consider that mode of expending it, the best and most economical that can be adopted, as it is enabled to act in its fourfold capacity to the greatest advantage. 1st, as a corrector of acidity; 2nd, as a stimulant; 3rd, as a *sweetener*—according to the beautiful simile of the Preacher, who observed, “Lime to a stubborn, sour soil, is like the grace of God to a wicked man’s heart;” and 4th, as a destroyer of all weeds, with their seeds, and all noxious insects, with their eggs and progeny.

1st. Our compost heaps consist chiefly of the openings of ditches, the scrapings of

roads, and large clods cut from the sides of the high ways, and from the margins of rivers and woods, all which, if applied immediately as a dressing to the soil, would be injurious rather than otherwise, in consequence of the acidity which they contain: lime is a corrector of that evil.

2nd. And the heat which is engendered at the time of its slaking, adds exceedingly to its power in this respect, expanding and dividing the hardest clods in a surprising manner, and breaking up and pulverising the most compact masses in an incredibly short space of time; they in their turn, imbibing and preventing the vapor, which arises during the process, from flying off and being dissipated.

3rd. And here the effect is truly astonishing, rendering that which was before stubborn, inert and unyielding, mild and generous; what was before injurious to vegetation, fit for the support of the most delicate herbs and flowers, and rendering the soil with which it is mixed light and friable, warmer in winter and cooler in summer.

Frank.—Warmer in winter and cooler in summer?

Father.—Yes—the soil made lighter and consequently more porous by the action of the lime, permits the superabundance of moisture in the winter to pass off; while its absorbent qualities retain the moisture in hot weather; and the whiteness of color which it communicates to the soil, mitigates the power of the sun's rays—put your hand on this dark-colored door, now the sun is shining on it—

Frank.—Why it is burning hot!

Father.—Now place it on the door frame, which is painted white.

Frank.—I declare it is quite cool!

Father.—The dark color absorbs the rays of the sun; the white color throws them off. It is a pretty, but common experiment, to place two pieces of cloth, one black and the other white, on the snow when the sun shines—the black cloth soon sinks into the snow, which is melted by the rays of the sun passing through it; the snow under the white cloth is not affected in the least.

Frank.—Then now I understand why you keep the outside of the dairy, even the shingles on the roof, so nicely white-washed—it is to throw off the rays of the sun, by which the house is kept so cool, even in the hottest weather, as to draw the notice of every one who enters it.

Father.—Just so—in short, lime acting like leaven, purifies the whole lump. And

4th, The violent degree of heat evolved during the operation of slaking, is destructive to the weeds and their seeds, of which these sods are full, the deposits and seed-

ings of many years; as also to worms, slugs, bugs, and other vermin and insects, *roasting their eggs*, and turning them into valuable manure. But you must have observed, and I have been expecting that you would notice the circumstance, that I do not mix the manure with the lime and sods on the first formation of the heaps, but delay doing so until the time of turning them.

Frank.—I have observed that, and ought to have noticed it, but my head was so full of the idea of cooking the vermin and roasting their eggs, with the probability of furnishing a dish of stewed onions for the treat, that I let slip the proper opportunity, but I should have remembered it presently I know. But do tell me why you delay mixing the dung with the lime and sods until the time of turning the heaps.

Father.—There are two reasons which weigh with me, and which I will mention. 1st. I conceive that the dung would be injured by the heat of the lime, and a great portion of the most valuable part of it would be driven off and dissipated by its violent action while in the process of slaking. 2nd, Because I think it very probable that, should the dung come in contact with the lime while in such large and unmixed masses, it might operate as an antiseptic (you know the meaning of that term) or a preventive of decomposition, rather than as a sceptic, or agent of dissolution—just as we see that a small quantity of salt will bring on or hasten fermentation, while a large quantity will prevent it altogether. Our object is, you know, to dissolve or decompose the mass; so when the violent heat and action of the lime has subsided, and the clods are well broken up and mixed, I then add the dung, which soon becomes so decomposed as to form with it a pulverised compost, peculiarly fitted for a top dressing to the young clovers, stimulating their growth, and bringing the crop to the scythe so early as to leave sufficient time to bring a second crop of hay, or a crop of seed to full maturity, wheat always following.

Frank.—But it would be inconvenient for you to use so much lime, if you did not burn it for yourself. I have thought that if you would describe your very convenient lime-burning establishment, and publish the account in the Farmers' Cabinet, it might prove of great service to many who are so situated as to be able to take advantage of your experience.

Father.—This is very probable; suppose then, we describe our lime-kiln, and the situation in which it is placed, as also the mode of working it; as you say, some persons may be benefited by it, and that should be an inducement with us, to communicate what we know. Our kiln, then, is situated

at the entrance of the wood, and adjoining the public road, from whence a way leads to the top of the kiln, on a gradual ascent. It is placed in a bank, excavated to receive it; this facilitates the ascent, and by this road the lime-stones and fuel are conducted to the top, without much labor. It is built of the common stones of the country, the largest being selected and roughly dressed or squared for the purpose, the walls being two feet thick. It is egg-shaped, and the dimensions are—shall we make a drawing of it?

Frank.—O yes, pray do.

Father.—Well, then, there it is.—Fig. 10.

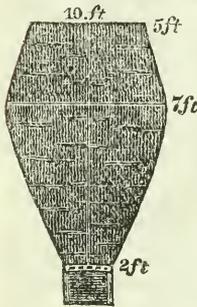


Fig. 10

Ten feet deep; seven feet diameter in centre; five feet diameter at top; two feet diameter at bottom. A smaller kiln might be built, but the proportions should be the same. Fig. 11, is a fly or cone, to be placed in the centre before commencing the erection; the lower end going into a hole bored in a block of wood fixed in the ground, the upper end turning in a hole bored in a cross beam, so that it is thus kept perpendicular, turning easily as the building of the kiln advances; thus the wall is formed internally of a regular sweep, without difficulty or trouble. The drawing hole is two feet square, and the black dots denote the holes through which iron bars are to be thrust at the time the kiln is charged, to prevent the fuel and lime-stones from dropping down, before the latter are properly calcined; these are removed as soon as the lime is sufficiently burnt at the bottom of the kiln, and it is afterwards permitted to fall, as portions are removed, the drawing being perpetual. In charging the kiln, the drawing hole is filled with brush-wood; then the bars are placed, and upon them are piled billets of wood cross-wise, and upon that, coal, if that is used; then lime-stones, about the size of one's fist, then more coal, and then the fire is lighted, and as soon as it penetrates the mass, coal and limestones are thrown in alternately, un-

til the kiln is full; before which, however, a portion of lime can be drawn periodically, as it becomes thoroughly calcined. If it be found that the fire draws more on one side of the kiln than at the other, place sharpened stakes of wood in those places where you wish the fire to rise; they will soon ignite, and the fire will then follow them to the surface.*

The advantage of burning one's own lime is great, as you know I have burnt hundreds of bushels with the clearings of my wood land; and peat, and bushes, and chips might be used, the ashes intermingling with the lime, and adding much to its value. If it be thought that the erection of a kiln is too expensive for an individual, a partnership might be formed amongst neighbors; but it would be a difficult thing to decide who first shall have the privilege of burning, as all would often require the lime at the same time: I therefore determined to incur the whole expense, and make the best of it.

Frank.—And there is our advantage, or pleasure, which you have not mentioned.

Father.—What is that?

Frank.—In being able to lend your kiln to your neighbors, when not using it yourself.

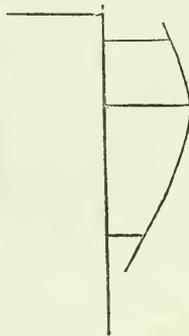
Father.—That's good—it is fulfilling scripture you know, "It is more blessed to give than to receive."

Frank.—And that reminds me of the singular circumstance which took place when Farmer Garnett came to offer to hire the kiln of you, after he had treated you in the dishonest way he did, and after trying to injure you by breaking down your fences. You remember he refused to have the use of the kiln unless you would take money for it, and that you refused him the kiln unless he would have it without pay, and what a struggle for the mastery there was! At last he became melted by your kindness, and with tears, confessed that he had wronged you—now was not this, dear Father, "heaping coals of fire on his head," according to the true meaning of scripture? melting him by kindness.

Father.—You have delighted me, Frank! And you know how often our neighbors have offered to rent it, after I have refused to take money, "splitting the difference," as they term it, by proposing to keep it in repair for me; but I know the value of a good action too well to part with it for so paltry a consideration as a few dollars a year! to me the

* This kind of kiln is called a *running kiln*, for as often as a portion of the calcined stone, or lime, is drawn from the bottom, alternate layers of coal and limestones are added at the top, so that the drawing is perpetual. If the kiln works well, one bushel of coal will burn about four bushels of limestones. In stormy weather it will be necessary to erect a temporary shelter to windward on the top of the kiln, else the wind will press on the surface of the kiln, and prevent the air from entering at the bottom, and thus retard the work.

Fig. 11.



opportunity of doing them service is worth more than the sum the kiln cost in building, and I cannot part with it so cheaply: remember, "If ye do good to them that do good to you, what thank have ye!" I knew a close-fisted old farmer, of whom his neighbor asked the favor of passing one of his upper fields with his crop, which would shorten the distance to his barn; the old fellow hesitated so long, that at last, suspecting his neighbor would think him unwilling to grant his request, he replied, "certainly, I will give you permission, but I have been considering whether there is not some way in which you can serve me; but as nothing strikes me at present, remember that you owe me a kindness." I have heard also of a lady, whose husband said to her, "My dear, I know you value yourself upon the close and saving manner in which you steer through life; but I know, likewise, that your neighbors and tradesmen do not respect you for it—now, for ten dollars a year, I will purchase for you one of the best characters in the town; that, I calculate, is about the sum which you save by extra management." I knew, too, a noble-minded old gentleman, whose son, his partner, wishing to overcharge an article in business, met from his father this memorable rebuke, "My son, don't sell your birth-right to heaven for a paltry dollar!"

Frank.—Now I wonder if ever I shall be rich enough to be *very generous*!

Father.—Oh! my boy, don't stay till you are rich before you are generous; a generous disposition is worth all the riches in the world, for it will find the means of *gratifying its propensities*, as all other dispositions will. We have known many men who all their lives were accumulating riches for the purpose of endowing some magnificent charity at their death: such men have been justly charged with holding on to their wealth as long as they could, and then bestowing it, after it was no longer in their power to keep it, in a way to perpetuate their own memory—selfish to the end! While others there are, some of whom, blessed be God! are still living amongst us, whose meat and drink it has been through life, to "go about, doing good:" who

"Do good by stealth, and blush to find it fame!"

Never let the difference in their dispositions be forgotten, or the very different reception that awaits them at that bar of account which we are taught to believe awaits us all in another world. Only just fancy one of these self-loving charitable characters approaching it, after death, when the question might be asked, "what name?" Answer, "A. B." "We have no entries on the credit side against that name." "Oh! but I have be-

queathed two hundred thousand dollars for charitable purposes." "Well, then, you must wait until we see how these charities are managed, and you will be held accountable for all the misuse that is made of your wealth; while fifty per cent. will be deducted from the *good* that is done by it, as belonging to those who have the labor of seeing your bestowment properly appropriated—so you must wait, and be held accountable. You ought to have managed *yourself* the talents committed to your trust, and been generous and benevolent during your life, laying up treasures in heaven, and not upon the earth: but you are not the only one who has mistaken charitable endowments after death for generosity and benevolence."

Now compare this reception with that which awaits *him* whose life has been one continued series of generous and beneficent actions, and to whose ancestor we are indebted even for the pleasant shade of our streets—who has *literally* "gone about doing good," until the body is all but sublimed, but whose soul, like the setting sun, seems larger as it declines! And that blessed *Saint*, whose noble nature has placed her in the first rank of society, and to whom the daughters, once of affluence, raise their streaming eyes, in acknowledgment of all the kind and generous support extended to them in this, the time of their altered estate! Oh! what strains of joy will resound through the courts above, when such spirits are welcomed with the heavenly salutation, "Come, ye blessed of my Father!"

Frank.—Well, here are heavenly portraits! but how indescribable the difference between them and the endower of "a long row of alms houses!" I will be generous first, and then I will try to get rich, that I might be able to *indulge my propensities*.

Father.—Our conversation has taken a singular turn, but it has been occasioned, I suppose, *by the mild and sweetening influence of the article which forms so large a portion of our compost heaps!* you see it has *leavened the whole lump!* We will close by repeating those beautiful verses of Merrick's, which are ever present in my thoughts.

Best, who with gen'rous pity glows,
Who learns to feel another's woes,
Bows to the poor man's wants his ear,
And wipes the helpless orphan's tear!

In ev'ry want, in ev'ry woe,
Himself thy pity, Lord, shall know;
Thy love his life shall guard, thy hand
Give to his lot the chosen land.

When languid with disease and pain,
Thou, Lord, his spirit will sustain;
Prop with thine arm his sinking head,
And turn with tend'rest care his bed!

Visit to an English Farmer.

To the Editor of the Farmers' Cabinet.

SIR,—Will you indulge me with a page of your interesting periodical in which to give an account of a visit which I paid to a Farmer in the old country, just before I quitted it for this, "the land of my adoption," a step which I have never regretted; and I often wish that I could have induced him and a few others of my agricultural friends to take the same, for such men would be an honor to any country.

I called upon him for the purpose of examining a very superior breed of large *black hogs*, for which, as for many other things, he was famous. After dinner, he took me to the pig-gery, and in the way, we looked into his *tool house*, where he showed me a magnificent scuffler, with which he always works over the surfaces of his lands before ploughing, calculating that by this operation he saves about a third of all his ploughing and harrowing on the farm. It was a noble instrument; very large and heavy, and calculated for four horses; and when propelled by four of his fine "*critters*," it must walk into the weeds at a pace by no means slow. I found six very fine black hogs in the fattening pen, which he told me would average twenty-six scores apiece, and that he had killed one which weighed thirty-two scores. They were "as beautiful as paint," and showed a remarkable aptitude to fatten; his mode of doing which was to begin with steamed potatoes mixed with the skimmed milk of the dairy, and a *very small portion* of ground meal consisting of a mixture of barley and oats. As they increased in fatness, he added to the proportion of meal, but the chief business was done by steamed potatoes, they having eaten but a very small quantity of meal when I saw them, although they would then have nearly averaged as above stated. I inquired of him if they were not then fit for the butcher? He answered "not yet, and if I were to kill them before they are quite ripe, I should lose a profit; they are now paying me good money for their keep, as they are increasing in size as well as fatness, but if they are kept after they are ripe, I shall lose—do you know how to judge of the *ripeness of a pig*?" "No," said I. "Then I will tell you; you see that they now void their excrements in a *round shape*; when they are ripe, these will be of a shape as though they had been forced through a compressed or flattened tube—then is the time to kill them."

I then accompanied him to a field of fine turneps, in the centre of which was a single land, or ridge, to appearance a total failure in the crop. "This," said he, "is my experimental ridge. I generally leave one in the middle of every field for this purpose; you

see the turneps growing on it are not larger than walnuts, but they are all that ever grew upon it: the land was prepared and has been cultivated exactly in the way that the other parts of the field have been, and all the difference was, the remainder of the field being drilled with bone dust mixed with the seed; this ridge had none." There was as near one hundred per cent. difference in the crop as could well be imagined.

"But now," said he, "I will tell you of my grand experiment—having always noticed that if a few plants of wheat or any other grain come up accidentally in any other crop, there is an immediate strife for the mastery (I used to think it was for the love of opposition, or if you had rather, a hatred of persecution—persecution is a fine thing you know, the blood of the martyrs was the seed of the church) and I always found that these plants grew and yielded prodigiously, so I quietly made the experiment by mixing barley and oats, and sowed my middle ridge at the time of sowing the remainder of the field with oats; the result more than answered my hopes, and I have ever since continued to sow one field with this mixture, expressly for the purpose of feeding my hogs; the yield is always greater than it otherwise would be, often astonishingly so, and the grain so mixed is, I conceive, preferable as food for fattening hogs, being of a less heating nature than beans or barley." "But," said I, "you have broken the Jewish law, (Leviticus xix. and 19) "Thou shalt not sow thy field with mingled seed."—"Ah!" said he, "but I am a Christian you see!"

This man was about the best manager I ever knew. He was always before hand with the seasons, although he used pleasantly to observe he calculated that the lazy farmer was right about once in fourteen years. His activity enabled him to indulge in what he termed a luxury, an opportunity to assist his neighbors in a time of need; and for many days after his own harvest has been housed, have I known his men and horses busily engaged in that delightful employment. I shall never forget the fervor with which he used to repeat those beautiful lines of Dr. DRENNAN'S, and with them I shall close this long, and to me, very pleasant reminiscence:—

O! sweeter than the fragrant flower,

At ev'ning's dewy close,

The will, united with the power,

To succour human woes!

And softer than the softest strain

Of music to the ear,

That placid joy we give and gain,

By gratitude sincere!

Your Subscriber,

JOHN ARBUCKLE.

New Jersey, Aug. 25, 1839.

For the Farmers' Cabinet.
The Divining Rod—again.*

MR. EDITOR,—If your correspondent at p. 18 of your number for last month had turned to p. 355 of the second vol. of the Cabinet, he would have seen that “the sentiments of a JEFFERSON” had already been appropriated: now that’s a great pity, for two such antagonists must find it awkward to fight under the same shield. To be sure he has added to his defence the Sampsonian weapon—a latin quotation,—but if I had known him to be in want of protection, I could have furnished a suit of light armor which would have fitted him exactly. It is from COWPER’S poem on “Conversation,” and as it appears that he has had for many years the pleasant business of setting others right after correcting himself, (he is a schoolmaster, I presume,) it might be of future service, and therefore copy it for his use.—

A great retailer of this curious ware,
Having unloaded, and made others stare—
“Can this be true?” an arch observer cries,
“Yes,” rather mov’d, “I saw it with these eyes!”
“Sir, I believe it on that ground alone,
I could not, had I seen it with my own!”

Now for this, I guess your correspondent owes me a kindness—but you must allow me to add, from the same inimitable piece, a few lines in my defence.—

Not that all freedom of dissent I blame,
No—there I grant the privilege I claim;
But still, remember, if you wish to please,
To press your point with modesty and ease.

I forgive him the rudeness of his attack, and suppose *you* must do so too; it is the privilege of much learning, but according to a remark in one of your pages, such persons hurt more with their manner than they benefit with their knowledge; and again, “To deny the existence of any thing 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

*The subject of the Divining Rod was introduced to the pages of the Cabinet in the hope that some of its very numerous readers might be endowed with the faculty of using it for the purpose of discovering springs of water in the earth, and bearing testimony to its virtues: and in no country in the world would this invaluable property be of so much importance as in this, where thousands of newly planted establishments are springing up in every direction, to all of which a ready and plentiful supply of water at all times is of vital necessity, both to man and beast. It was hoped, therefore, that a subject of so much consequence, especially to the agriculturist, would be taken up and discussed with a calmness and seriousness worthy the object in view. That there is some truth in the pretension, even the testimony of remote ages bears witness, although it must be admitted, the instances upon record are “few and far between.” All that the subject demands is investigation, bearing in mind that a negative does not admit of proof.

subjects to which we can either affirm or deny.” “This positive manner might be useful in a political contest, where the merits of a cause depends upon its success, or in a polemical controversy, where the dictum of authority supercedes 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 parade of information where all are equally ignorant, all inquirers, all learners.”

Your correspondent is right in supposing that I wrote under a *real name*—I did so, because I wished to lay before your readers the simple facts for their examination, in the hope that some one would set himself *soberly* to account for what I confess appeared to me very mysterious, and I am sure I had no reason to expect that any respectable person would go out of his way to attack me; but, according to Cowper again,

A modest, sensible, and well-bred man
Will not offend me, and no other can.

But how stands the case? I suppose that I am compelled to believe what I have reported, for although I might have refused my assent, had I only “seen it with these eyes.”—How shall I escape the dilemma that awaits me, according to the old adage, “seeing is believing, but feeling is the naked truth.” I not only saw the rod turn, but *felt* it turn in my hands, at a time too when I did all in my power to prevent it: and my attention was never drawn off, as your correspondent oddly expresses it, “until the tail, by the motion of the body in walking, necessarily turns down,”—a most unlikely thing to happen at a time of such interest and excitement. But does it not appear to us, simple persons, that your correspondent must be near akin to the man who cheated Lewis “by the plausible pretence of a sharper, who professed to have the power of using the rod,” when we find him saying, “Then, taking the rod in my own hands and pretending I had the power of using it, but at the same time knowing it to be a sheer hoax.”*

On reading my article to a friend, he re-

*It is not our intention to suffer the Cabinet to be the vehicle of useless controversy. The object of all communications should be to elicit facts. This was Mr. PENNER’S design in his first communication on the Divining Rod, by calling the attention of the people to the subject. As we published the reply of Dr. HORTON, which we confess is unusually severe, we owe it as a matter of justice to Mr. P. to give equal publicity to his rejoinder. If the art of finding water is possessed by certain individuals, it certainly is of the greatest importance to the whole community, the agricultural class more especially, that it should be known. “It does not look reasonable,”—we grant it; but who dare affirm that the power as described by Mr. PENNER does not exist? That it may be abused, and the weak minded deceived, is very likely. Let those who doubt ask them-

plied, "But you will never succeed in drawing the attention of the public to an occurrence, as common now as for one soldier to steal from another!" Only see then how doctors will differ!

A few days after the publication of my article in the Cabinet, a person put into my hand a part of a newspaper without date, containing an account of the same phenomenon, detailed in terms as clear as those which I used, except with regard to real names of persons concerned, and as it corresponds so closely with almost all that I said, I beg to copy it for insertion in the Cabinet. You will remark, it is there asserted, that the twig turned so sharply down when just over the spring, as to break near the fingers. This occurrence I myself have witnessed, for on leaving Mr. Ingouville, my friend took me to another person who was said to possess the power, and he practised with a twig cut from an apple tree, showing the very singular manner in which it would turn while going *around* a spring, and this he did, until it literally broke in his hands: on examination I found it had broken at a knot in the twig, but still, the power exerted must have been very great.—This trial was made at a *running spring*, and is an instance, as is also the circumstance mentioned while searching for a spring on the estate of Bagatelle, that it might be found at the bottom of the well, that go to prove that the observation "no effect is produced at a well, or where the earth does not intervene between the twig and the water," is not always correct. I will take the opportunity of saying, the only inaccuracy I find in my former communication on the divining rod, is in the number of wells said to have been pointed out by Mr. Ingouville; it should be two hundred instead of two thousand.

In conclusion, I would say, I fear that your correspondent and the sharper who duped Lewis, are not the only persons who have "pretended to have the power," but at the same time "knowing it to be a sheer hoax" on their part, and that this dishonesty has tended to bring the thing into disrepute: all I ask for it is a fearless investigation.

JAMES PEDDER.

August 20th, 1839.

(COPY.)

"The employment of the Divining Rod to discover ore or metal was associated with many superstitious

seels how long it is since SIR WALTER SCOTT ridiculed the lighting of cities with gas, pronounced it *impossible*, (an absurdity) and declared to a public company of the great men of Britain, after an interview with one of its advocates, that he had seen a genuine fool. And again, how long is it since the great Dr. LARDNER, now in the zenith of his glory, *demonstrated* the impossibility of crossing the Atlantic by steam. We say nothing of our steamboats and a thousand other things we might mention. But we leave the skeptic to make his own comments, and to draw his own inferences.

observances. The fact, however, of the discovery of water having been effected with it, when held in the hand of certain persons, seems indubitable. The following narrative, which has been communicated to us by a friend residing in Norfolk, (England,) puts the subject in the clearest point of view, and we shall simply state that the parties, whose names are well known to many of our readers, are *utterly incapable either of deceiving others, or of being deceived themselves.*

January 1st, 1838. "It is just fifty years since Lady N.'s attention was first called to this subject: she was then sixteen years old, and was on a visit with her family at a Chateau in Provence, the owner of which wanted to find a spring to supply his house, and for that purpose had sent for a Peasant who could do so with a twig. The English party ridiculed the idea, but still agreed to accompany the man, who, after walking some way, announced that he had arrived at the object of his search, and they accordingly dug, and found him correct. He was quite an uneducated man, and could give no account of the faculty in him, or of the means which he employed, but many others, he said, could do the same. The English party now tried for themselves, but all in vain, till it came to the turn of Lady N., when, to her amazement and alarm, she found the same faculty was in her as in the Peasant; and on her return to England she often exercised it, though in studious concealment; she was afraid lest she should be ridiculed, or perhaps get the name of a witch, and in either case she thought that she should never get a husband. Of late years her scruples began to wear away, and when Dr. Hutton published Ozannum's Researches in 1803, where the effect of the divining rod is treated as absurd. (vol. iv. p. 290) she wrote a long letter to him, signed X Y Z, stating the facts which she knew. The Doctor answered it, begging further information. Lady N. wrote again, and he in a second letter, requested the name of his correspondent; that, Lady N. also gave him. A few years afterwards, she went, at Dr. Hutton's particular request, to see him at Woolwich, and she then showed him the experiment, and discovered a spring in a field which he had lately bought, near the new college, then building; the same field he has since sold to the college, and for a larger price in consequence of the spring. Lady N. this morning showed the experiment to Lord G., Mr. I., and me, in the Park at W.; she took a thin forked hazel twig, about fifteen inches long, and held it by the ends—the joint pointing downwards. When she came to the place where water was under ground, the twig immediately bent, and the motion was more or less rapid as she approached or withdrew from the spring. When just over it, the twig turned so sharp as to snap, breaking near her fingers, when by pressing, they were indented, and heated and blistered; a degree of agitation was also visible in her face. When she first made the experiment, she says *this agitation was great*, and to this hour she cannot wholly divest herself of it, though it gradually decreases. She repeated the trial several times in the Park, and her statements were always accurate. Among those persons in England who have the same faculty, she never knew it so strong as in Sir C. H. and Miss F. It is extraordinary, that no effect is produced at a well or ditch, or where the earth does not interpose between the twig and the water. The exercise of this faculty is independent of any volition."

So far our narrator, in whom, we repeat, the most implicit confidence may be placed. The faculty, so inherent in certain persons, is evidently the same with that of the Spanish Zehories, though the latter did not employ the hazel twig.—*Quarterly Review.*

Buckminster's Corn Planter.

To the Editor of the Farmers' Cabinet.

SIR,—Although I highly approve the *principle* of the corn planter lately invented by Mr. Buckminster, and have witnessed its working with considerable satisfaction, will he permit me, with much deference, to suggest an alteration in its structure, which would, I conceive, add greatly to its usefulness and capacity. In its present size and shape,

I find it too light, short and low, with the handles too high and crooked, and not of length sufficient to give the means of guiding it steadily; but there is another objection of still greater moment—as a single planter, the horse is made to walk exactly on the track in which the drill is to work, and the seed to be dropped, and on stiff land in a wet season, I should fear that the injury done in this way would be irremediable.

Now, I would propose that it be made to form a double drill or planter, with the beams more elevated, the roller-wheels of course larger in diameter, and the handles lower, longer, and straighter: the whole machine larger and heavier than at present, planting two rows instead of one, and these at any required distance, the capacity for which might be given by the means of sliding cross bars, secured at their proper distance by screw pins in the usual manner. Then the horse would walk in the space between the rows, and thus all injury from treading be prevented: a double quantity of land might be planted in the same time, and the work be much better performed.

Would Mr. Buckminster do us the favor to notice the above suggestion in the pages of the Cabinet, and oblige us with his opinion thereupon. W. B.

Montgomery County, Aug. 12, 1839.

P. S. Machines of the present form and size might still be constructed for those who prefer them on so small a scale, but for a large business, I conceive the alteration above suggested, would prove of much value, and secure for it that general demand which its very great merits deserve.

For the Farmers' Cabinet.

Essays on Agriculture.—No. VII.

BY JOSEPH CLOUD.

Food and Growth of Plants.

With a due sense of self-insufficiency, I approach the consideration of this profound and mysterious subject, which appears in some degree to have escaped the grasp of the human mind, or perhaps it has not been considered of sufficient importance to claim the attention of philosophers. Whatever may have been the cause, there is no question as to the effects, and that we are still in much darkness on many subjects connected with it. Enough, however, for the most important practical uses is perhaps sufficiently understood. The more abstruse and less essential parts will be left for further development, more as matters of science than of utility. If, in the course of my remarks, an additional ray of light should be furnished to the knowledge already possessed, it will be considered

as more than a compensation for the labor of communication.

Plants, after they have germinated, do not remain stationary, but are continually increasing in size. It is evident from the increase that a great deal of fresh additional matter is acquired by the plants—and they must necessarily receive it by some channel, and from some source or other. Plants, then, require food as well as animals—now what is this food, and whence do they derive it? These questions can only be answered by an attentive survey of the substances which are contained in vegetables, and an examination and comparison with those substances which appear to be necessary for their vegetation. If we could succeed completely in this enquiry, it would throw a great deal of light upon the nature of soils, and of manures, and on some of the most important questions in agriculture. The substances entering into the composition of vegetables, as far as has been ascertained by chemical analysis, appears to be carbon, hydrogen, oxygen, and nitrogen, with earthy and saline substances—of which carbon, hydrogen, oxygen, nitrogen, calcium (lime) potash and soda may be considered as essential ingredients of the food of plants—potash being found in all vegetables except such as grow in connection with sea water, where soda takes the place of potash. Carbon, which forms the principal mass of vegetable matter, is considered a simple substance, and when pure it appears in the form of diamond—carbon combines freely with oxygen either by combustion or putrefaction, their union forming carbonic acid, which in the gaseous state pervades the atmosphere; it is absorbed by water, and very powerfully by calcium, potash and soda forming carbonates of these substances, in which state they will hereafter be considered, when treating of the manner in which food is furnished to plants. Carbon also combines with hydrogen in the production of carburated hydrogen-gas, which on decomposition by a union with oxygen, results in the production of water and carbonic acid. Oxygen then is that important constituent of the atmosphere, which, by entering into combination with carbon, forms carbonic acid, and with hydrogen it forms water. Without the agency of oxygen-gas and water, no putrefaction of vegetable or animal matter could take place, consequently no carbonic acid or other preparation of the food of plants produced. Oxygen-gas is also the supporter of vegetable respiration. Having thus taken a brief view of some of the characters of the substances essentially entering into the composition of vegetables, and of the effects produced by their combination; hence it is understood of what substances vegetables are composed, consequent-

ly such as enter into the composition of their food, as none other than such as are found in the plant, can be considered as applicable to that purpose. It necessarily follows that the atmosphere, water and the earth are sources from which the food of plants is drawn.

That atmospheric air is necessary for vegetation has been satisfactorily explained, and that a considerable quantity of carbon is absorbed from it. Four articles which furnish nourishment to plants, are supplied by the atmosphere, namely, carbonic acid, oxygen, nitrogen, and moisture. It has been doubted how far plants are capable of absorbing carbonic acid from the atmosphere, without the assistance of the soil on which they usually vegetate. Plants when they grow in water are capable of obtaining nourishment from the atmosphere, which is evident from their increase in size. But as plants in this situation cannot produce perfect seed, and as they gradually decay and cease to vegetate, it is obvious that water and air alone are not sufficient to furnish nourishment.

The third and only remaining source from which plants can draw their food is the soil on which they grow; now this soil consists of two parts, namely, pure earths which constitute its basis, and the remains of animals and vegetables applied as manures. The use of the earthy parts of the soil is to furnish a support and matrix for the plants to vegetate in, and to administer the proper quantity of water to promote the putrefaction of the putrescent matter, and to serve as a solvent to prepare the food properly qualified for its reception by vegetables.

To the Editor of the Farmers' Cabinet.

SIR,—The handsome manner in which you noticed my first communication, emboldens me again to address you on a subject which is, I conceive, peculiarly within my province, I mean,—

The Management of the Dairy.

I have heard, that in many of the English dairies, the use of large leaden pans, for the reception of the milk for creaming, has been introduced, very much to the convenience of those engaged in that branch of husbandry; and the present communication is, to enquire if any of your readers are sufficiently acquainted with the mode of management, and the structure of the pans, to be enabled to describe them, for the benefit of those immediately concerned.

I understand they are sometimes made large enough to contain the whole milking of the dairy: are dish-shaped, and set on a stout frame of wood, sufficiently high to admit a pail being placed under the centre of the bottom, by which the *milk* is drawn off

by means of a tap, without disturbing the cream; so that, after the milk has passed off, the cream remains in the lead, to be removed in the most convenient and economical way imaginable. Now, to appearance, this is a most valuable improvement over the present tiresome and unsatisfactory process of skimming, and if two or three objections, which at present strike me, can be removed, I think the introduction of these pans into general use, would be of all things most desirable.

In the first place, is it not to be expected that the lead, especially if the milk be left to become sour, as is often the case, would communicate to the milk a decidedly poisonous quality; and would not this property be increased in the hands of filthy and careless persons? In the next place, would there not be a danger, that a portion of the cream would pass away with the milk through the tap, at the time of drawing off! and would it be easy to know at what point to stop, when all the *milk* and none of the *cream* had been drawn off! And again, would not the use of the lead pans deprive us of the opportunity of setting the milk contained in the receivers into streams of water in the spring-house, as is customary in very many cases, for the purpose of keeping the vessels cool in hot weather? Now these are the difficulties which at present strike me. I only hope that some of your readers and numerous friends will be able entirely to remove them, and add such a list of advantages to be derived from their general introduction, as will not leave even the most careless and indifferent amongst us, a single argument in favor of the present very inconvenient and tiresome method of skimming, which has always appeared to me about the most fatiguing part of my labors, to say nothing of the great loss of cream attending it in the hands of careless persons, and on the other hand, of injury to the butter, when a portion of the milk is removed with the cream, in the endeavor to *skim close*.

JANET JENKINSON.

Bucks co. Penn. August 28, 1839.

P. S. I have the pleasure to inform you my husband has done "*cooning*," and will henceforth devote all his energies to the raising sugar beet for the use of the dairy, and has calculated that we can keep *three* times the number of cows, and make *six* times the quantity of butter that we now do, on the same number of acres. A neighbor has thirty tons of these roots per acre this season; if his do the same, *leads* or some other contrivance will be necessary to contain the increased quantity of milk which will be obtained.

It is better to exercise the judgment, than to overload the memory.

Farmers' Work for September.

BY E. P. ROBERTS.

It may not be amiss to remind the farmer, who may not have gotten out his small grain, that a just economy would point to his doing so at the earliest possible period; for he may rest assured that in nine times out of ten he will find his interest promoted by being in a situation to avail himself promptly of any favorable change in the markets that may occur, as opportunities frequently present themselves wherein even a few days make a material difference in the price of agricultural commodities. With this brief suggestion, we will proceed to the detail of those labors which are of urgent necessity.

WHEAT.

Although it be too early to seed this grain, it is not too early to begin to flush up the ground, and to make the other preliminary arrangements. Wherever clover-leys or grass-swards are to be turned in, the farmer should by all means, if the ground has not been previously dressed with them, provide himself with a light covering of lime, marl, or other calcareous matter, for it is a truth which cannot be controverted, that wheat thrives best on soils which have been thus dosed, and that they derive from such treatment increased ability to resist winter frosts.

Preparation of the Seed.—No wheat, however clean or beautiful, should be sown without being soaked in a pickle of strong ley, brine, strong enough to float an egg, or lime water, and after being drained, should be rolled in powdered lime.

Quantity to the acre.—This is a vexed question, and one which every farmer takes the liberty of settling according to his own views of propriety. Amidst such diversity of opinion and practice, it is difficult to prescribe; but still we may approximate something like a proper quantity by comparing the practice of our own and other countries. Some persons in this country sow as small a quantity as one bushel to the acre, while others put in five and six pecks. In England, however, where the statute acre is of the same measure of our own, from two to three bushels to the acre are sown on an acre. If this large quantity be necessary there—if they derive good crops under such thick sowing, it strikes us as being obviously plain, that too little seed is often given to the earth in this country, where, from the intensity of our winters, and from the sudden alternations of the weather, much grain is thrown out of the ground. Should we not make an allowance for such casualties? We know that an opinion prevails, those owing to the inferiority of our lands to that of England, they will not bear as heavy seeding as

those of that country. On the other hand, it is a well ascertained fact that rich, warm and generous soils *retain* the plants better through the winter than poor lands, and we would here ask, should not an allowance be made on that account for the losses thus sustained on poor lands? If wheat stands *thin* on the ground, the vacant places are invariably filled with noxious weeds, whose room had better be occupied with wheat plants. Viewing the subject in these lights, with the aid of our best judgment, we have come to the conclusion, that *two bushels of seed* to the acre of winter wheat, is not too much, and that less than six or seven pecks should never be sown.

By sowing too thin, the growth of weeds is encouraged to the great detriment of the growing crop and the loss of the owner. To guard against this, the English husbandman very properly fills up his ground with plants of wheat, increases its yield, and excludes the growth of weeds and grass.

RYE.

It is a custom with many good farmers to sow their rye even as early as August; with most to put it in during this month, while others defer it until October. The question of which is the best time, though often mooted, has never yet been settled. It perhaps, would be safest to get it in as early this month as possible, in order that the plants might have time to be well rooted before the rigor of winter sets in.

Quantity of Seed.—We think that less than six pecks to the acre should not be sown.

Preparation of the seed.—Subject your seed to the same preparation as recommended for wheat.

GATHERING OF WEEDS.

Great benefit would result from a careful collection of all weeds, which should be put upon your manure heap and covered over. Weeds thus treated will make about one-third their bulk of good manure when decomposed, and indeed if one cart load of good mould or earth were placed over every three loads of weeds, the proportion would be greater, as the exhalations from the latter while undergoing the process of decomposition, would become incorporated with the mould or earth, and make it as valuable as any other portion of your dung pile.

PULLING FODDER AND CUTTING TOPS.

These operations must be performed this month, and we need not tell you that the less the fodder and tops be subjected to the weather after being dry, the more valuable they will prove as provender for your stock.

RAG-WEED.

If you have a field on which there is a full crop of this weed, have it cut down and dry the weed for hay. As soon as dried stack it away, and sprinkle salt between each layer, in about the proportion of one peck to the ton. This weed when thus cured makes a most acceptable and nutritious food for cattle and sheep, and greatly contributes towards the saving of more valuable provender.

GRASSES.

During the early part of this month sow your *Timothy*, *Burnet* and *Rye* grass seed.

Quantity of seed.—*Timothy*, one peck to the acre: *Burnet*, from sixteen to twenty quarts to the acre: *Rye* grass, two bushels to the acre.

MANURE.

As manure is the farmer's gold-mine, be careful in adding to, and economising yours. Gather all your early potato tops, weeds of every description, turf, loam, and indeed every kind of vegetable offal; let these be thrown into your hog pen, where they will not only contribute to the support of your swine, but the latter will prepare them for your dung pile, where, after undergoing the process of manipulation by your hogs, they should be placed once a week, taking the precaution of covering them carefully over with earth of some kind several inches deep. By attention to this, you will increase the quantity and quality of your manure to a great extent, and in like proportion add to your means of improving your soil the next year.

For the Farmers' Cabinet.

A Source of Comfort.

"It comes home to every man's business and bosom, sticking closer to him than a brother, and is an article which no good farmer should be without." "Ah," said his friend, "I see, you mean a good wife!" "No," said the farmer, "I mean *flannel next the skin!*—the next best thing to a good wife—that is an affair of the heart, and is not, we see, affected by any out outward circumstances; but all things else, I conceive, are governed to a very great extent, by the general influence of *flannel next the skin*. It keeps up a state of insensible perspiration, without which, the doctors will tell you, there can be no health, and without health, there can be but little happiness. In this remarkably changeable climate, with the thermometer making such plunges as almost to endanger the quicksilver tube, how necessary is it that an animal so exposed to its influence as man—exposure sufficient to kill a horse—should be protected by some means from the fearful consequences; and in

flannel, he has exactly that protection which he needs! In very hot weather, a very thin texture formed of this singular substance, adds very little to the heat, but forms an impenetrable shield against the cold chills which are often experienced even at the moment we are complaining of the hot blasts which are raging round us; while in the severest cold of winter, when a man would not turn *a dog out of doors*, as the saying is, he walks forth under about a dozen folds of this *blessing*, in the form of under-shirt, waistcoat, *defensibles*, under-coat, upper-coat, cap and overalls, grinning at the north wind, and defying the tempest!

It is a most remarkable property of flannel, that although it prevents the ingress of cold, it seems, in a measure, to facilitate the egress of heat, and is on this account admirably calculated to form the clothing of that animal, on whom alone it might be said to be found, and which, without this wise ordination of "*Him who doeth all things well*," would be totally unable to move or exist in hot weather under a covering from four to nine inches thick, of a substance which, of the texture even of gauze, will enable a man to defy the elements! It is truly a wonderful ordination of nature, which ought to call forth, every day of our lives, the sacrifice of a grateful heart! but the blessings of life, coming in the humble guise of a *flannel shirt*, are very apt to be overlooked—so true is it, that our greatest blessings are of every day occurrence, and so common that, like the air we breathe, we might be said to *respire them*—too often with careless and unthankful hearts!"

Thus far my friend, an adjoining farmer—need I add, he is the best husband, father, friend and manager in the neighborhood!

J. A. C.

Kingston, Ulster co. N. Y., Aug. 29, 1839.

To the Editor of the Farmers' Cabinet.

SIR,—A person from the country has informed me, that he has a peach tree which for some time had exhibited symptoms of decay; by digging round it, and applying lime, it has become healthy and fruitful, although he said nothing about having searched for and destroyed the worms at the root. A neighbor remarked, he had found ashes good for the same purpose, but the person above alluded to replied, "There is nothing like lime."

SUBSCRIBER.

Philada., August 28, 1839.

Useful.—It is said that the calamus or sweet flag root, cut into thin slices and scattered among woollen cloths, will effectually prevent the moths from getting among them.

The following highly interesting article we commend to the attentive perusal of every farmer, as every farmer has an interest, not imaginary, but real, in the subject. It is from the pen of E. PINNEY, Esq., one of the most successful and scientific farmers in the old Bay State. We have on file, and may possibly serve it up to our readers in our next, as a rich treat, an account of a recent visit to Mr. Pinney's farm, his mode of culture, &c. &c. The following article is from the Boston Courier, for which paper it was furnished by request.

Ploughing and Ploughs.

Ploughing is considered by all farmers as the most important agricultural operation, either as it regards the immediate crop, or the future and permanent improvement of the soil. The farmer, who so manages his field, as to produce, in the main, the greatest reward for the labor and expense bestowed, will undoubtedly be considered as acting with a sounder discretion, than he whose sole object is a present crop, without regarding the permanent improvement of his fields. To deepen the soil, by bringing to the surface at each successive ploughing, a portion of the poorer sub-soil, and thereby exposing it to the enriching influence of the atmosphere, and to cover up and preserve from washing rains, and wasting winds, the light vegetable matter upon the surface, as well as to facilitate the subsequent operations of the husbandman, are the only important uses of the plough.

Our old fields are rapidly approaching to a state of utter sterility. At each successive rotation of crops the vegetable mould is becoming thinner, and the product less; and the plough, in the hands of most farmers, so far from deepening the soil, and increasing its powers of producing, is really exhausting it of all its natural fertility; and will soon render it, as has already been done in some parts of our country by the same means, an unproductive waste, unfit for cultivation. The rich treasure, which our forefathers found upon the surface, which had been accumulating for centuries, has been squandered with a prodigal hand. The apparently inexhaustible deposit of vegetable food, which covered the land, has, by an improvident use of the plough, been given to the four winds of Heaven, or washed away into the ocean. They have ploughed, cross ploughed, and harrowed, till their descendants have little else left than a mere *caput mortuum*.

I have known rich swells of land in Maine,

which, thirty years ago, were covered with thick forests, and what would have seemed an exhaustless store of food for vegetation, by means of the plough robbed of every particle of vegetable sustenance, and now absolutely abandoned by the occupant as worthless.

Strange as the assertion may seem, it is nevertheless true, that farmers generally plough too much. The poorer sub-soil, which is turned up by the first ploughing, instead of being kept upon the surface, till it has become enriched by culture and exposure to the air, is by cross ploughing immediately turned back again into its cold and lifeless bed; and the light vegetable mould, instead of being kept beneath, for the benefit of the crop, is, by the same process of cross ploughing, brought again to the surface, and blown away by winds, or washed away by rains.

The manner of ploughing, and kind of plough, which is used by most farmers, have also a tendency to diminish the natural or acquired fertility of the soil. With ploughs but little differing in construction from common wedges, the ground is not turned over, but crowded into ridges, or the furrows lapped upon each other in such a manner as to expose much of its best properties to waste. The writer has ascertained from actual experiment, that an acre of land yielding not more than a ton of hay to the acre, at the usual season of ploughing greensward, say the tenth of May, contains more than twelve tons of vegetable matter, consisting of the roots and tops of grass, and other vegetable remains upon the surface. Such a method of ploughing then as will be best calculated to secure for the benefit of the crop, this mass of enriching substance, the farmer should not hesitate to adopt. By completely inverting the sward, and laying it as flat and smooth as the nature of the ground will admit, and then cultivating the crops without disturbing the sod, with the application of a light dressing of compost, land may not only be kept in heart, but wonderfully improved. With one ploughing in this way, and spreading on one top dressing of compost manure, of about twenty cart loads to the acre, and mixing it finely with the poor earth at the surface, I have raised two crops of grain or roots, and laid the land to grass. In the ordinary way of cultivating, four ploughings, as many times harrowing, and two dressings of manure, are considered necessary. I have then saved three ploughings, and as many harrowings, one dressing of manure, and at the same time have deepened, and permanently improved the soil, and more than doubled my crops. Ten years ago, I was upon the point of abandoning some of my old fields in despair. They had been cultivated in the usual mode

of ploughing, cross ploughing and cropping, alternately under the plough, and in grass, and had become so impoverished, that the products were insufficient to cover the expense of cultivation. The same piece of land, which gave me one ton of hay, will now, at the same distance of time, after laying to grass, give me three.

In the cultivation of land, which has been a year or more under the plough, nearly the same course is to be pursued, especially when it is intended to sow wheat or rye, plough your land so as to turn under the rich mould, bring to the surface a portion of the fresh earth that has never before been disturbed by the plough, and mix this well, (if the preceding crops have not been well manured) with a light dressing of well-rotted compost, and from twenty to fifty bushels of slaked lime to the acre, and I am confident you will never require a Legislative bounty, as an inducement to cultivate wheat.

Good ploughing cannot be effected without ploughs suitably adapted to the purpose. In this all important agricultural implement, I venture the assertion, without fear of contradiction, that the Americans have made greater, and more useful improvements in its adaptation and fitness for the designed purpose, within the last twenty years, than have been made in Great Britain for a century. From a conviction of the indispensable necessity of good ploughing to a successful tillage, near twenty years ago I persuaded the person, who occupied the farm I now own, to send to England for an improved Scotch plough, (I think Small's) which was highly recommended in the agricultural publications of that time. This was before the introduction of the cast iron plough into this part of the country. The plough came, and I must confess I was greatly astonished at the first sight of it, and as much disappointed when I witnessed its operations. A huge, misshapen combination of wood and iron, it was the laughing-stock of my neighbors, who at once denounced me as a "book farmer." The plough was laid aside, and has been kept for show, and in construction and workmanship, when compared with American ploughs, furnishes a striking illustration of the superior skill and ingenuity of our own mechanics, over those of Europe. I can now do twice as much work, and do it infinitely better, with Prouty & Mears' improved plough, with one horse, and a single hand, than a yoke of oxen and a horse, and one additional hand to drive, could do with the famous Scotch plough.

Public attention was first awakened to the subject of improvements upon the old-fashioned, wedge-like plough, by the writings of Mr. Jefferson, who, in 1792, published his new theory of the construction of the mould

board, formed upon mathematical and philosophical principles. It was in consequence of a suggestion from him, that Robert Smith, of Pennsylvania, in 1803, substituted the cast iron for the wooden mould board, for which he obtained a patent. This was the commencement of a series of improvements which have resulted in the substitution of cast iron for all parts of the plough, except the beam and handles, and such has been the progress in reducing this implement to a fitness for the purposes designed, that the American cast iron plough, as now constructed, may in truth be considered, as it has been denominated, the most important instrument known to man. About fifteen years since the cast iron share came into general use in this part of the country, Wood's, Tyce's, Hitchcock's, Howard's, and last of all Prouty & Mears', have each had their share of public favor. I have particularly attended to the operation of all these, and noticed the defects and excellencies of each. About twelve years ago, Hitchcock's plough, then in general use, and highly approved by the farmers of New York, was introduced into this State by Mr. Prouty, who was well acquainted with the practical use, as well as the construction, of the plough. His science in agriculture, aided by his mechanical skill, from time to time, suggested to him various and important alterations and improvements in this plough, and about two years since, Prouty & Mears obtained from the government a patent for their "improved cast iron plough."

The prevailing difficulty with all ploughs, with the exception of the last named, is, that the force necessary in the draught, is not applied directly to the centre of resistance. Writers on this subject, as well as practical farmers, have erred in their notion, that the beam should be placed directly over the land side of the plough, and that the cut of the coulter, or the position of the standard, should be square, or at a right angle with the cut of the share, thinking that if the share and coulter make an acute angle on the land side, the plough will incline to fall to the right. This would be the tendency, unless the other parts of the plough are so constructed as to resist and overcome this inclination. By so placing the coulter as to form an acute angle with the plane of the share, on the land side, the beam is brought more directly over the centre of the plough, as is the case with Prouty and Mears' improved plough, and thereby the power necessary to move it, is applied more directly to the centre of resistance, and the force required to move it, and overcome this resistance, is of course less than when applied on one side. I cannot better make myself understood, than by supposing the land, or left hand side of a har-

row, to be kept on a straight line with the line of draught. It will readily be perceived that the force necessary to draw it, when so placed, will be greater than if drawn in the usual way, by applying the draught to the centre. This is decidedly one of the most valuable improvements in the construction of the plough, that has been made in modern times, and for which the public are indebted to the ingenuity and skill of Messrs. Prouty & Mears. A greater ease of draught is not the only advantage resulting from this improvement. Another and perhaps greater benefit is its perfect adaptation to the end designed, by leaving the ground in the best possible condition. The acute angle, which is made in the land side of the furrow slice, by the peculiar construction of this plough, enables the ploughman to lay the furrows together, like feather-edged boards. This, in greensward, is very desirable, as the grass is thereby prevented from springing up between the furrow slices much more effectually, than when the furrows are cut at right angles. The grass is completely shut in, and will not rise to injure the crop, or increase the labor of cultivation. Not only in greensward, but in old ground, the superior manner in which the work is done by this plough is very perceptible. There is no tendency to crowd the ground into ridges; the soil is taken up, as it were, and turned over, and left loose, and in the best state to derive vegetable aliment from the air, and to enable the roots of plants to penetrate, and strike down in search of food.

Another advantage attending the peculiar construction of Messrs. Prouty & Mears' plough, is its durability. When the resistance is all upon one side of the beam, there must be a constant tendency of the plough to the left, or land side; the friction is thereby increased in this part, and the wear, of course, is greater: but when the beam is placed more over the centre of the plough, and the resistance which it has to encounter, is upon both sides of the beam, its movement is more regular, and the friction equal in all parts. These are some of the peculiar properties of this plough, which give it a decided preference to any other now in use. On conferring with some of my neighbors, relative to the work of Prouty & Mears' plough, it is believed, that in ploughing a field of ten acres, the amount of labor saved, added to the amount gained in consequence of the improved tilth, when compared with the work of any other plough, is fully equal to the price paid for it. E. P.

Lexington, March, 1833.

Thou shalt govern many, if reason govern thee.

On improving the Quality and increasing the Quantity of Manure.

TO THE FARMERS OF NEW JERSEY.

On account of your position, soil, resources, markets, &c., I have addressed this paper to your notice; still the objects it has in view, are of a character interesting to general agriculture. The process here introduced to your notice, is founded on elementary chemical principles, and valuable in proportion to the worth of your garden and farm productions, and the facilities of procuring the materials to be operated on.

The agriculture of New Jersey is favored as regards markets; having on the eastern boundary its share of the consumption of two hundred thousand people who inhabit New York, and on the west side one hundred and fifty thousand who live in Philadelphia.* Within your state the resources for manure are limited, while the crops of vegetables, early garden stuffs, and the ordinary productions of the farm, on your warm, open, and in many places sandy soil, require rather active manure and those frequently applied.

On this occasion it is our purpose to point out to you what may be done, and how you can advantageously bring into your service materials that are most useful in agriculture, but heretofore rejected, on account of your not being acquainted with an economical mode of bringing them into operation, and on account of their cost: by their combined action on each other it is intended to render useful matter that has heretofore been allowed to go to waste, and so to reduce the expense that the profits of your business will be greatly increased.

Permit me to call your attention to the study of the elements of science; a knowledge of mathematics has become essential to every mechanic, who has any thing to do with power: if this science and chemistry were better understood by those to whom the management of steam engines are entrusted, you would rarely hear of those terrible explosions that destroy so many of your fellow creatures. In the absence of scientific knowledge, we would be less comfortably lodged, clad and fed. The dyer, spinner, sugar refiner, &c. &c., would each in his way produce articles much inferior to what you are in the habit of using every day, and from habit their goodness escapes the notice of yourselves and your families: in fact, among the tradesmen of Birmingham, Glasgow or Manchester, there are at this time more well informed chemists than would be found in all Europe at the commencement of the American Revolution; and chemistry is as much connected

* The population of these cities is underrated.—New York contains 300,000 inhabitants.—Ed.

with the operations of the farmer, as those of a tanner, or any other profession. Here there are reasons why farmers should be acquainted with the sciences and the laws by which nature controls every thing that they do. This is our apology for requesting you to make yourselves acquainted with the sciences.

We shall now present to you a process involving the principles of chemistry, that if judiciously carried out, we think, will prove very favorable to your prospects.

There is no better established agricultural truth, than that the alkalies, potash and soda, are useful manures. Every one knows that where wood ashes are sowed on grass land, the crop is improved; but the impossibility of getting as much wood ash, which you know contains potash, as would manure a large portion of land, and at a price that the produce would warrant, is impossible. In the next place the caustic nature of potash and soda as manure is so great that it is necessary to seek out some safe and economical way of applying them, by forming combinations with other substances applicable to manure, and thereby provide a safe and wholesome nutriment for vegetable life.

For this purpose we recommend to your attention the use of soda, an alkali that can be procured from *various substances, and in great quantities*, and as the demand increases there is a probability that, by improved process, the price will be reduced. At present it can be got at from three dollars and fifty cents to four dollars per 100 lbs.

By mixing soda with a portion of fresh burnt lime it is rendered caustic, and by boiling in the ley that is taken from this mixture of fresh lime and soda, all kinds of garbage, flesh, fish, hair, woollen rags, &c., these substances will be reduced to a saponaceous matter; all the fatty matter that is in bones will be brought out of them and converted into soap, and the whitened bone be prepared to be ground up for manure, or used in some branch of manufacture. By mixing this soap with straw, grass, every kind of vegetable matter, marsh earth, and all other decomposable substances, the quantity and quality of manure can be increased to an astonishing amount. There are applicable to this purpose many things that are now lost; such as the sturgeon that abounds in the Hudson and Delaware rivers, that now, when taken by the shad and herring fisheries, are thrown away to stink on the shore; all the garbage that is produced by the fishers, the blood and garbage of the butchers' shambles, in short all the offal that now is thrown on the dung heap, where ninety per cent. passes off in *vapor*, or the whole is thrown into and carried away by the river.

By combining the decaying elements we have been speaking of, with soda or potash, their volatility is prevented, while at the same time their decomposition is promoted, and they are brought into the state that fits them for supporting vegetable life. In many points there exist between vegetable and animal organization striking similarities in their functions, and in some points they are the same. The fine fibres, of the roots of plants and the absorbent organs of animals both take up from decomposed substances the nourishment that the animal or vegetable requires; but these two modifications of life differ in their preparatory powers; animals being endowed with the power of digestion, they decompose in their stomachs the substances from which they are to extract their nutriment; vegetables, on the other hand, depend for their support on matter that has undergone decomposition by processes entirely uninfluenced by themselves; and what in the one is performed by the stomach, is for the other done in the rot heap, and our object is to have this decomposing process performed in the most expeditious manner, under circumstances calculated to retain as far as possible the elements that form the food of vegetables, and to render as much matter as possible available for vegetable nutriment, for the purpose of feeding those plants which are necessary to supply the wants of man.

This is an important subject and merits the attention of men of the highest acquirements in science and philosophy: powers which we have not the fortune to be gifted with, but we must earnestly hope the subject will be taken up by some master mind.

Before closing, permit us to remark, that if the practice we are calling your attention to is carried into extensive effect, it would not only benefit agriculture, but afford the means of improving other branches of business.

In putting up salmon, herring and all kinds of fish, the heads and fins might be cut off and employed with the other offals in making agricultural soap, and thus a barrel of fish so treated would contain more valuable food, with a saving of expense on the barrel, cost of transportation. The waste made at the cod and other fisheries might be turned to valuable account, and the preparations of this agricultural soap would form employment for regular establishments, and make a new, useful and valuable branch of business. J. R. —*Ledger*.

Notes.—Soda is manufactured by Messrs. Dupont, of Brandywine, Delaware.

Soda, for the purpose proposed in this essay, would not require to be refined.

There is a variety of soda called "soda ash," that is an impure article, that might answer for this agricultural purpose.

For the Farmers' Cabinet.

Hickling's Prolific Wheat.

An agricultural friend has presented us with a sample of a new variety of grain, greatly celebrated in England, under the name of *Hickling's Prolific Wheat*. The seed was originally imported in 1837, by our respected and public-spirited fellow-citizen, James Ronaldson. It was sown late in the autumn of the year mentioned, and retaining the habits of its native country, where the harvest is nearly two months after ours in the middle States, did not begin to head before the commencement of the memorable hot spell by which we were visited in the summer of 1833. The consequence was a very poor crop, the straw and head appearing dried up. The product was, however, sown again in the autumn, and although the ground was by no means strong, the result has been a very fine crop, the quantity of which cannot be ascertained until it is threshed out. What is highly interesting, the grain seems to have become almost acclimated, and though last year, nearly a fortnight later, was this season ready for the scythe only about three or four days after the common red bearded wheat of the country. It has never, as yet, received the least injury from the fly, or any disease to which wheat is subject.

We find the following notice of the origin and characteristics of Hickling's Prolific Wheat in the Edinburgh Quarterly Journal of Agriculture, vol. vii., page 471.

"Mr. Samuel Hickling, of Cawston, near Aylesham, in Norfolk, (England) observed in 1830, three heads of wheat, remarkable from the rest, apparently from one root, which he plucked and rubbed out, and found to contain two hundred and ninety-three kernels. Having preserved and sown them and their produce for four successive years, the seed in the fourth year covered eighteen acres of ground, and the return was six and a half quarters per imperial acre, (about sixty bushels.) Hence the name of Hickling's Prolific Wheat.

"The properties of this wheat are,—straw long, stout at the bottom, and tapering to the head; head short, thick, close and heavy; kernels four in the row across the ear, and red in color, with the chaff white; in sample the wheat is short, plump, thin-skinned, and looks as if it would flour well; color, dark orange-red. It has been tried for two seasons in Scotland, where it is said to have produced nine quarters per Scotch acre." G. E.

[The enterprising gentleman from whom we received the above communication has left with us a sample of the wheat therein described, which can be seen at our office. He

has some ten or fifteen bushels, which he liberally offers to furnish any farmer who has land properly prepared for wheat; he will furnish the seed, guarantee a common crop, and pay the market price for the same when harvested.

From the appearance of this wheat in the *head* and *kernel*, we are of the opinion that it is a very valuable variety, and its introduction will prove a lasting benefit to the grain growing interests.

We hope some of the farmers will embrace the above liberal offer. If so, they can obtain any desirable information on the subject on application to the Agricultural Warehouse, No. 87 N. Second street, Philadelphia.]

September 2, 1839.

For the Farmers' Cabinet.

Fruit Trees.

Shame be to him who planteth not fruit trees.

Those who love good fruit should annually devote a small portion of their time to producing and perpetuating the trees that produce it. The apathy of many to this very interesting subject can scarcely be accounted for on any other principle than that of excessive laziness or extreme stupidity. Where the male portion of a family can't muster courage or industry enough to give reasonable attention to this important matter, it is hoped the *females* will look to it, and then the trees will soon begin to blossom and bring forth fruit, for I have seldom seen an intelligent, active female undertake any thing useful, without the fruits of her labors soon becoming apparent. I saw the present season a number of flourishing young fruit trees which were engrafted by the wife of the "good man" of the farm, reflecting great credit on her for her industry, perseverance, and skill as a cultivator of fruit trees.

The stones of peaches and plumbs, and the seeds of apples or other fruits should be planted either in drills, or in the places they are designed permanently to occupy before they become dry; they vegetate better and more certainly than when kept over winter to be planted in the spring. The right season to plant the stones or seeds is when the fruit is ripe, and it will be found they will more certainly vegetate and acquire a larger growth the first season.

Plant a few stocks each year, be careful to engraft or inoculate them when of proper size with the best varieties, protect them from the cows and horses till they grow out of their reach, and you will not have to complain of a lack of good

FRUIT.

For the Farmers' Cabinet.

Lime.

Experience teaches wisdom.

A farmer who has been applying lime to his land for the last seven years, informs that he has just finished hauling out his stable manure on to the field that he intends sowing with wheat, and that he has a surplus which he has applied to another field. He stated that his stable manure had increased to about double the quantity since he commenced using lime. He now grows much more grass, can keep more stock, and consequently enriches the soil more rapidly, and raises an increased quantity of grain. This farmer years back found it hard scuffling to get along with a large family, and make both ends meet, and he then thought he could hardly afford to lime. But experience has opened his eyes full wide, and he now thinks he could not well afford to omit the application of that grand panacea, lime, which has been the grand agent of his prosperity.

Those who have not made an experiment with lime would do well to try it this autumn on their stubble fields, that are intended to be mown next season, and if they do not find their interest essentially promoted by it, the result will differ from that of numerous farmers who have often adopted this plan of application with the greatest advantage.

A.

Maple Sugar in the State of Maine.

Few of our readers, says the Boston Gazette, perhaps, are aware what a noble tree the sugar maple is, to begin with, in the ornamental way we mean. It has always grieved us to see them cut down, and burnt down, as they are, *en masse*, and without mercy. We quite agree with Dr. JACKSON, (in his last Geological Report) that although it is difficult to spare any forest trees, "in clearing a farm by fire, groves in which they abound might be spared from the unrelenting axe of the woodman. Maple trees may also be cultivated, and will become productive in twenty or thirty years; and it would certainly be one of our most beautiful pledges of regard for posterity to plant groups of maples in convenient situations upon our lands, and to line our road sides with them. I am sure that such a plan, if carried into effect, would please public taste, in more ways than one, and we might be in part disfranchised from dependence on the cane plantations of the West Indies."

But the economical view of the Maple, after all, is the main thing, not the ornamental:—that is, with a good many people,—and we can't say they are much to be blamed. Show the Yankees how money is to be made, and

they are "up a tree," any tree, in the twinkling of an eye. We appeal to his acquisitiveness, than "the badge of all our tribe." A few items from the report above cited, will serve as an example of the products of the sugar maple, "and it will also be noted that the whole work of making maple sugar is completed in *three or four weeks* from the commencement of operations."

Pounds of Sugar.	
At the Forks of the Kennebec twelve persons made.....	2,659
On No. 1, 2d Range, one man and boy made,...	1,069
In Fairmington, Mr. Titcombe " ..	1,500
In Moscow, thirty families " ..	10,500
In Bingham, twenty-five families " ..	9,000
In Concord, thirty families " ..	11,000
Pounds of Sugar,..... 36,659	

This, at 12½ cents a pound, would be worth \$4,581.

[The hint to spare the maple when clearing a tract of land, if possible, ought to be attended to in Pennsylvania, where the destruction of those trees has been long going on in the most wanton manner.]

Fly-proof Wheat and culture of the Beet.

To the Editor of the Farmers' Cabinet.

I believe the failure of the wheat crop in our middle states has generally been owing to the ravages of the Hessian fly, and the severity of the winters. If, therefore, any variety of good wheat can be found, which the fly cannot or will not interfere with, it must be a desideratum to the husbandman, and indeed to the whole country.

I have raised this year a few acres of a kind called "Mediterranean Wheat," which I was induced to make trial of, from assurances that it had invariably succeeded during the four previous years it had been grown in this country. It has rather a short straw and strong, white chaff bearded, grain rather dark, weighs usually 65 lbs. per bushel, this year 66 lbs, and worth to the miller the same as the red chaff bearded. I sowed five acres with six and a half bushels of seed, viz: two acres on the 6th of the ninth month, (September) after Dutton corn had been removed from the ground, and three acres on an open fallow on the 15th of the same month. By the side of the first, on the same day and all other circumstances alike, I sowed a half bushel of the common red chaff bearded, and again by the side of this on the 20th of same month one and a half bushels more of the latter, for comparison. The result has been, that the last was much injured by the fly, while the half bushel sowing was totally ruined by the same cause. The Mediterranean was, however, found at harvest standing erect,

thick on the ground and beautiful; yielding as follows:

Three acres open fallow, 114 bushels, measures 33 bushels per acre, which at 65 lbs. per bushel is 41 bushels per acre, millers' weight.

Two acres corn ground, 63 bushels, measures 31 bushels per acre, which at 65 lbs. per bushel is 37 bushels per acre, millers' weight.

It was found a hardier winter plant than the red chaff bearded by its side, of more rapid growth, and harvested a week earlier. The three acres became so strong that I was induced immediately after the breaking of winter to pasture it off close by cattle and sheep.

The safety from fly enables us to seed it early enough to obtain a strong root before winter, which it consequently endures better, while its early maturity has heretofore, and will generally save it from rust or mildew.

This grain is also grown in the southwest of this county, and near New-Hope, in Bucks, and is as it should be, rapidly extending. My crop will all be seeded by myself and neighbors.

Mistake in the culture of the Beet.

I am one of the root raisers—growing sugar beet, mangel-wurtzel, ruta-baga, and potato for feeding stock. And as farmers may, in my opinion be as useful to each other by reporting their mistakes and failures, as their success, I will mention that my beets were flourishing, and the admiration of the public passing by them as late as the first week in the seventh month (July.) But the weather becoming hot and dry, and the ground harder than I liked, concluded to run the cultivator through them and loosen up the soil. The consequence was, instead of improvement, the leaves began immediately to wilt, curl, and the edges of them to die—the mangel-wurtzel worse than the sugar beet; but all declined from that period until the late rains; at the present the original top is nearly all dead, and a new one formed, which bids fair to rival the first if left to stand long enough. But it is supposed the root, although a pretty good size, has lost much in growth by the decay of the first top, and its maturity protracted, if indeed the crop be not much diminished. My inference is, that late culture, even if the weather be seasonable, may be injurious by destroying the fibrous side roots, which seem to be indispensable to the plant during its latter stage—and that consequently the earth should be kept in good tilth while it is young, and afterwards left alone.

The best crop of beets I have raised was in 1837, alternated between rows of corn; a full crop of the latter was obtained, (as was

believed) and three hundred bushels of beets per acre besides; those in open patch along side did not do so well; the shade of the corn seemed to be useful during the dry weather. I intend repeating this plan next year.

J. JENKINS.

Chester county Valley,
West Whiteland, 8 mo. 31, 1839. }

For the Farmers' Cabinet.

Fire.

"Fire is a good servant, but a bad master."

Notwithstanding the cheapness of insurance against loss by fire, and the many severe losses which occur annually in our extended country for want of it, yet it seems likely that the great mass of our agricultural population will continue to move along in the *old way*, and stand their own insurers, or in other words not to be insured at all. I was much pleased and instructed by reading an essay in a former number of the Cabinet on the subject of spontaneous combustion, which has, no doubt, been useful to your numerous readers, and hope that it has incited to more care and circumspection in preventing that most terrible of calamities, fire, from being communicated to buildings. The writer once witnessed the burning of a barn and all its contents and out buildings, from a careless person smoking tobacco; and in another case he saw a very valuable house set on fire by a young man shooting a pigeon that was perched on the roof; and a recent case has occurred of a noble dwelling-house having been reduced to ashes by the carelessness of a young person in making a fire to boil the tea-kettle, setting fire to some shavings that ultimately consumed the house. About twenty years since, a farmer in a neighboring county had a person engaged in dressing of flax, and coming near to the combustible material with a cigar in his mouth, the flax dresser requested him to "keep further off," and avoid the danger, but his employer told him a cigar would not set it on fire, and in order to prove the truth of his opinion he applied the cigar to the flax, when contrary to his philosophy the whole was inflamed, and his barn was burnt with all its contents. His benevolent neighbors made a collection to repair his severe loss, but he refused to accept it, although he was not well to do in the world, considering it a just punishment for his folly.

Many instances have occurred of buildings being consumed for want of a bucket of water in the incipient stage of a fire. Every farmer should have one or more buckets of water placed in a convenient place every evening before retiring to bed, if they should not be needed to prevent the house from burning down, they can be made availa-

ble the succeeding day for other less exciting purposes.

Those who have water to draw from a well, or some distance to carry it from a spring, can readily appreciate the value of a bucket of water near at hand in case of fire. There have been many cases of accident from fire where a single bucket of water early applied would have saved thousands of dollars.

Domestics and children should be early and constantly instructed both, by precept and *example*, to use the utmost caution and circumspection in all cases where fire is concerned. In the use of candles and lamps by thoughtless or careless persons, many families are almost daily put in jeopardy; in many instances the snuff of a partially extinguished candle or lamp has been the cause of much loss, and in every case the smell arising from it is disagreeable and unwholesome,—and therefore every farmer's wife and daughters should *peremptorily* insist on the purchase of an *extinguisher* for each room in the house, where they should be constantly kept for the use of the family, and for those who may become your guests or visitors, and by no means put a *friend or stranger* to lodge in a chamber that lacks so essential, yet apparently insignificant, an article of furniture as an *extinguisher*, which costs but a few cents. Z.

Rock Wheat—A new Variety.

The Charlestown (Va.) Press says that "a new kind of wheat of superior quality, and which yields much more abundantly than any hitherto raised in that county, has been cut the present harvest on the farm of Mr. John WYSONG, near Shepherdstown. Mr. W. obtained the seed from Mr. STONEBRAKER, of Maryland, who became in possession of a small quantity by accident, two or three years since. From three bushels and three pecks sown by Mr. W., on ground not the most favorable part of his farm for wheat, he will, it is thought, have a yield of at least 125 bushels, some competent judges say 150 bushels. The heads are very large, and contain many more grains than the heads of wheat now generally grown in Jefferson county. It attracts much attention, and is evidently a new and very superior kind of wheat, well worthy the attention of farmers. In a favorable season, and land not unfavorable to the production of wheat, it is believed it will always yield from forty to fifty bushels per acre."

THE ROCK WHEAT.—Since the foregoing article was in type, we have received some additional particulars respecting this new kind of wheat. It is called the rock wheat, from the circumstance that some two or three years ago a single head of wheat, of peculiarly large size, and product, was seen grow-

ing by itself from the crevice of a rock in a wheat field. The head was carefully preserved and the grain sown, and from it have been produced the few parcels which were sown last year by different gentlemen. Two of these parcels found their way to Baltimore, and on account of their remarkably fine quality, and the accompanying assurance of their productive character, were bought for seed at the rate of three dollars per bushel. They were sown in the vicinity of our city early in October last, and we are now enabled to state the result of the experiment as made by one of the gentlemen, Mr. JOEL VICKERS.—Three and a half acres of rich, well prepared ground, have been found to produce at the rate of forty-seven bushels to the acre. The quality of the grain is excellent, and many of the heads were found to contain forty-five grains of wheat. Although it is admitted that, when the character of the land and favorableness of the season are considered, ordinary grain would have produced a full yield, yet the extraordinary product just stated in the case of Mr. Vickers, as well as that quoted from the Charlestown Press, proves that the rock wheat is a valuable species, and well merits the notice of wheat growers.—*Baltimore American.*

Cheap Manuring.

Many farmers in this state of late years have adopted the practice of manuring the land for wheat the ensuing season, by turning in green crops. For instance, take a field when the grass upon it is about fully grown, say the first of July, and turn it nicely over with the plough. Then barrow and sow with buckwheat. In four or five weeks, that is by the middle of August, this crop will have attained its growth. Turn this under with the plough as you did the grass before.—These two green crops thus ploughed under, bring to the soil much manure from the green haulm acquired from the atmosphere. They create an active fermentation, make the soil light and pliable, and manure it more than if the same had been cut in the form of hay or fodder and given to horses and cattle in the barn. It is on the whole an excellent mode of enriching soils, which will ordinarily produce good wheat the next season.

Not far from two centuries ago, the Scottish Legislature enacted that "a good and sufficient school shall be erected and maintained in every parish." To these five little words "a good and sufficient school," introduced into an Act of Parliament, not longer than a man's thumb, is Scotland indebted at this day, for nearly every solid glory she possesses.

SPIRIT OF THE AGRICULTURAL PRESS,

BOTH AT HOME AND ABROAD.

Saving Clover Seed.

The difficulties of saving the seed are imaginary; the process is simple and easy. After the clover field has been cut or grazed, let the second growth come on. When about two-thirds of the heads have turned brown, cut with a cradle, throwing the grass into double swarths, and cure. When cured, rake up in the morning while the dew is on, into convenient parcels for loading with a pitchfork, and, as soon as all danger from heating is obviated, get it under shelter, either in the barn, or protected in the field. Be careful not to put it away while any moisture remains in the plants; and on the other hand, don't handle it rudely when very dry, where you don't want the seeds to fall, for in that condition the heads spend freely. Having sheltered it, you may wait, if you choose, till winter affords leisure for threshing or treading out. Sow in the chaff, as it is more certain than the cleaned seed. A bushel in the chaff will abundantly seed an acre; but we would advise the mixture of blue grass, timothy and orchard grass with it. We shall say more of sowing, however, at more seasonable date.

The second crop produces more seed than the first, and hence the economy of first cutting or grazing the field; though from that cut for hay, a prudent, careful husbandman might easily save enough seed for his own use. It is believed that more seed may be saved by mowing when about two-thirds of the heads have turned brown than at any other period, because, if cut sooner, too many seeds are unripe, and if later, too many shatter out of the heads in cradling and handling. If the heads break off and fall through the fingers in cradling, cover with cotton or linen cloth. Every farmer may easily save his own seed. There is abundant time for clover to make good heads, well filled with seed, after the hogs have been turned upon the rye, or after the first crop of hay has been taken, and it would surely be economical to preserve a small portion of a field for saving seed. If all who raise clover would save the seed from their own fields, we estimate it would be an annual saving of \$200,000 to this State—a pretty round sum expended abroad in one item which we can save for ourselves, with less labor and vexation, we verily believe, than we had last year finding it, for sale, and carrying it home. One man can cut enough in one day to seed twenty acres.—*Franklin Farmer.*

Preserving Potatoes.

Wherever practicable, potatoes should be dug during dry weather, as the earth is then less liable to adhere to them, and they soon become dry. They should be exposed as short a time as possible to the light, as it always injures their quality for whatever use they are intended. Hence a coarse blanket or boards should be employed to cover them in the heap or wagon, during the time that they necessarily remain in the field. Exposure to the light for any length of time, even in a cellar, greatly injures potatoes the bins therefore in which they are kept, should be so constructed as to exclude it entirely; in short, they should be kept in a state similar to that before they are dug,—that is, secure from air and light, with a slight degree of moisture to prevent withering, and a temperature so low as to keep them from vegetating. The difference in the quality caused by good and bad keeping is very rarely appreciated.

One of the best methods of keeping them in cellars, is to construct a bin, put sand in the bottom, line the sides and ends with smooth and handsomely cut sods, and when the potatoes are put in, cover them with sods and beat them down closely. In this way, all the above requisites may be obtained. Potatoes intended for constant family use, may be kept temporarily in barrels, and covered with sand.

When they are buried in the field, a dry piece of ground should be selected, which shall be at all times entirely free from surface water. They are to be covered, first, thickly with straw, and afterwards with several inches of compact earth. A second *thick* coat of straw, and another of earth, is then to be applied. The straw for the other, or second coat, should be long and straight, such as has been thrashed with a flail, and placed in a position so as to throw the moisture and wet from the peak down the side, like the thatching of a roof. This keeps the inner coat of earth dry, and effectually prevents the water from penetrating the heap. The earth for the outer coat, should be fine and compact, so as to throw off the rain. If these directions are carefully attended to, there will be no danger of losing potatoes by freezing and rotting, and they will keep in the best condition till spring.—*Genesee Farmer.*

First understand what you have to do, and then fall to work.

Pruning.

A great variety of experiments made in Europe by KNIGHT, VAN MONS, and THAER, and in this country by BUEL, KENRICK, and others, have been made on the subject of pruning trees, though the results did not perfectly agree on all points, yet they seem to fully justify the general conclusion that the best time for pruning trees is that period in midsummer in which there appears a cessation of the sap's ascent, and which lasts some three or four weeks. Those who have paid attention to the growth of trees must have remarked that the period of increase is divided into two seasons, during the first of which, or the one most active, the shoots that form fruit, flower, or seed buds are formed; and the other or later summer's growth is confined to the shoots that produce wood buds only. "After the second growth is completed, the effects of the descending sap in the formation of new bark, is apparent in the healing up of new wounds, in parts of the stem or branches, which now proceeds with more activity than during any other season of the year. Branches pruned off smooth at the stem, though the latter be young, healthy, and containing a perfect pitch, before or shortly after the completion of the mid-summer's growth, do not produce shoots from the edge of the wounds caused by their removal, which always happens more or less, when pruning is performed on free growing trees after the fall of the leaf, and before the full development of the spring shoots and leaves. It is to be observed, however, that the reproduction of branches from the edge of the wound is greatly assisted by leaving a portion of the branch or shoot on the parent branch or stem."—[*Treatise on Planting.*]

The end desired to be attained by the operation of pruning must be kept steadily in view, or injury instead of benefit may be the result. If the tree is intended for timber, the leaves and buds that elaborate the sap, and increase the trunk by the formation of an annual circle of new wood, should be kept as far from the root as possible, as in this way only can the greatest quantity of timber be produced. In this case, the trunk should be kept free from branches, the leading shoots should carefully be preserved, and the top kept in a crown like form. Nature must be followed in this respect, and the tall beautiful trunks of our native forest trees will be the result. For fruit, a low branching top, spread and exposed to the sun as widely as can be, is to be preferred; and hence the leading shoot when the tree is at a proper height must be carefully cut out, and the lateral branches cut and pruned with direct reference to this effect. Fruit trees must be

pruned frequently, or their tops become woody, close, and the fruit will necessarily prove inferior.—*Genesee Farmer.*

Planting Potatoes.

A writer in the *Farmers' Register*, on the subject of Vegetable Physiology, after describing the structure and functions of the roots of plants, proceeds as follows:—"With these remarks, I will venture to propose what I should consider the best plan for cultivating potatoes. Let the ground be prepared in the ordinary way; lay the potatoes in the bottom of the furrow, and cover them to the depth of three or four inches, with coarse manure or leaves, and then with two or three inches of earth. After the stalks are six or eight inches above ground, cover all except their ends under in the same manner; and perhaps this process may be advantageously repeated a third time; after which they should be suffered to go to seed. The first covering should, unless the land be very rich, consist in part of manure, in order to furnish nourishment to the plant; the second and third may consist of straw or leaves, as the principal object is to keep the earth loose, and protect the tubers from the action of the sun."

The Mercers not Mercers, but Gilkies.

Gilkies ought to be the name of the favorite potatoes. They are commonly called, in the Philadelphia market, *Mercers*—frequently also *Neshannoeks*; and sometimes, by corruption, *Shannoeks*. I perceive also the name *Chenangoes* (Shenangoes) applied in some of the eastern papers.

All men regret that Columbus was robbed of the honor of giving name to the world he bestowed upon civilized man; and a correspondent regret actuates the writer in reference to one of its chief products. It is now too late to do honor due to the illustrious Genoese navigator; perhaps the agricultural press might yet perform an act of posthumous justice to the memory of John Gilky. This seems the more desirable, because his blood has ceased and must forever cease to flow in the direct line—not a drop of it "flows in human veins."

John Gilky was educated for the Roman Catholic ministry, but missed his way and became one of the early settlers of Mercer county, Penn. He lived a hermit, I think, nearly forty years, in a cabin on the bank of Neshannock creek, about five miles above its junction with the Shenango, at Neweastle. The writer remembers him in 1806, then an old man. A few years after that he produced from seed the justly celebrated Mercer potato. It spread in the neighborhood and a few

were carried by the father of Bevan Pearson, Esq. of Mercer, an grandfather of the Hon. John Pearson, at present Senator from that county, to his residence at Darby, near Philadelphia. Thence it spread over the United States. It has proved a blessing to millions and has added millions to the wealth of the nation. This poor solitary exile from the Emerald Isle has done more to benefit mankind, than many a hero of a hundred battles. Shall his name perish! Or will the friends of agricultural improvement and the lovers of justice, of honest men and good potatoes, agree to immortalize it by calling them henceforth GILKIES!—*The Educator.*

Fences.

There is scarcely any department of farming of more immediate consequence than that of fencing; and there is none that, as a whole, is more neglected or badly managed. If the proportion of crops that are annually lost in this country, from the use of such apologies for fences as are frequently seen, could be correctly ascertained, and added to the sum which must be deducted from the value of the horses and cattle thus taught vicious and unruly habits, and the whole presented at once to the eye of the farmer, or landholder, it can scarcely be doubted he would be surprised at the result, or that he would at once awaken to the importance of having good fences.

In a paper in the *New England Farmer* a few years since, Mr. SHURLEFF estimated the cost of several kinds of fences, (and they were taken from his own experience) as follows:

White cedar fence made of posts and rails, five rails in height, three lengths to two rods nearly, cost 91 cents a rod.

White pine rails sawed two inches by eight, and chesnut posts, four rails high, three lengths to two rods nearly, cost 64 cents a rod. In both these instances the cost was exclusive of the setting.

Good four and a half feet stone wall varied from \$1 to \$2.50 the rod, according to the ease with which the stone could be procured, and the manner in which it was laid, whether by trenching or otherwise.

Hedge fence, made of Virginia thorn plants, (*Cratægus cordata*), set twenty-one to a rod, cost at the end of the fourth year, including planting, trimming, &c. 40 cents a rod; and this agrees very well with the estimate made by Mr. KIRK, of Brandywine, Delaware, who has had more experience in the making hedge fence than almost any other man in the United States.

We have found by experience that in making fence of posts and rails, or posts for bars

or gates, there is nothing gained by making the posts too small. Perhaps there is no timber in which the difference of durability between large and small posts is more striking than in that of the common white cedar or cypress of our swamps. Mr. Shurtleff found his cedar fence to last about fifteen years, the posts rotting off in that time; and perhaps fifteen years may be set down as about the ordinary duration of a wood fence, let the method of construction be what it may. This single fact should cause farmers and land owners to pause, and ask, where their fences are to come from, when their present, and perhaps already half decayed, worn fences are rotten and gone! We are convinced, that ere many years, want of fence will be one of the most serious evils the farmer will be called to encounter.—*Gen. Farmer.*

Look to your Weeds.

There are few farms in the country, and pity it is that this can be said with truth, on which there are more or less weeds that do not require close attention to prevent their seeding, or otherwise spreading in the course of the summer. There is the *thistle*, which should be repeatedly mowed, if in pasture land, or if among hoed crops, cut it with the hoe as often as it makes its appearance. There is the *Johnswort*, crowding out the valuable grasses, poisoning sheep, and giving horses chapped noses and legs, if they are so unlucky as to be white; be careful not to let this go to seed. There is the sweet elder, that is becoming far too common; we do not require it for distillation or to color wines, and if we allow the seeds to ripen we are preparing tribulation for ourselves and neighbors. There is the life everlasting, a worthless intruder, that occupies the ground exclusively where it spreads, and that is rapidly, when it is once allowed a foothold. See that this weed is effectually demolished wherever it appears. Look on your spring sown grain, and if it is full of yellow blossoms, you will probably find that charlock is in your fields, and if it is not pulled promptly and completely, you may find business for years in attempting vainly its extirpation. The crowfoot of your meadows, or the daisy of the pastures, must be looked to, else lean cattle may be expected when fat beasts should be looked for. In short allow nothing to be in your fields that usurps the place of more valuable plants, lessens the amount of your crops, or renders your fields a place in which pests are multiplied to reduce your own profits, or vex the souls of your neighbors.—*Id.*

Numberless are the roads to ruin—avoid them all.

Rhubarb.

This excellent plant which should have a place in every garden, is very easily raised, requiring nothing more than a rich loamy situation. It is an orchard in miniature, the stems of its leaves affording a substance which is an excellent substitute for apples, to make sauce or pies. The sauce made from it, is very wholesome and palatable, and will be a good preventive of bowel complaints. It is said that by stewing it with sugar and preparing it in the same manner as for the table, it may be bottled and corked up tight and preserved till winter. Indeed, we cannot see why it may not be kept as long as apple sauce, or any of the berries that are preserved in this way, without being bottled up. Some of our good housewives, had better try the experiment.—*Maine Farmer.*

Thoughts on Farming.

I have based the following estimates on the supposition that each acre of best parts of our soil should be made to produce at least half its greatest or maximum product; that whether we cultivate more or less it is the truest economy to cultivate it well. What the maximum product of particular spots in a particular town or village, may be, I do not, of course, undertake to determine; but the real maximum product, so far as I know, in Europe or America, is 150 bushels of corn, and 1000 bushels potatoes, to the acre.

I have supposed, I say, that each arable acre of New England soil ought to be made to produce at least half its maximum product; and that each tenth acre of land among us ought to be cultivated with these. Each tenth acre, therefore, among us, ought to be made to produce 75 bushels of corn or 500 bushels of potatoes. This being premised, I make the following references and conclusions.

If one-tenth of each square mile in this country were cultivated as it ought to be with corn or potatoes, the produce—admitting the remaining nine-tenths to be sufficient for pasturage and other purposes—would sustain an immense population.

One-tenth of a square mile is 16 acres. Now the produce of half of this in corn and half in potatoes at the rate per acre I have assumed above would be 1609 bushels of corn and 16,000 bushels potatoes. Now ten bushels of corn or forty of potatoes, properly cooked, is an abundant supply of food to an individual, upon the average, for a single year. Yet at this rate each square mile should sustain a population of 560 souls, and the whole state of Massachusetts estimated as it is to contain 4,644,000 acres of land, a population of 4,063,360. And if the United States contain within their territorial limits 2,000,000 square

miles of land—and they probably do more than this—one-tenth of it ought to be made to sustain 1,200,000,000 inhabitants, or a population much greater than that of the whole world at the present time. Not even China or Hindostan, taking the whole country together, sustain a population one-fourth as great.—*Dedham Pat.*

Hoing Corn late will frequently protect it from the Frost.

A correspondent of the *Maine Cultivator* writes, that it has been his custom when, in the fall, there were indications of frost, and his corn was in danger, not being ripe, to stir the earth about one inch deep, with the hoe, about the roots of the corn; thus loosening the surface, and thereby causing it the more readily to absorb the rays of the sun, and produce more heat than it would produce if left undisturbed. He once had a piece of corn, he says, of about three acres, nearly surrounded with woods, and much exposed to the frost. Before the corn was ripe there was an appearance of frost, and he hoed it. Upon that day and the following the sun shone clearly upon it, and during the succeeding night there was a very severe frost. On going to examine his corn, next morning, he found it to be not at all injured, but covered with a heavy dew, while the corn of his neighbor, which had not been hoed, was stiff, and consequently dead; and the fields and fences all round whitened by the frost. By this process he obtained a good crop, whilst his neighbor's corn was entirely cut off. The editor of the *Cultivator* adds, "There is a practical philosophy for the reason of it. Stirring the earth opens the pores; the consequence is, a greater collection of moisture upon the plants, which withstands frost."

SAINFOIN.

We see it stated as an evidence of the efficacy of this grass, in the improvement of the soil, that in the counties of Norfolk and Suffolk, England, it is found that poor sandy soils, unfit for other culture, will, in sainfoin, produce, after the first year, about two tons of excellent hay, per acre, for several years. A great diversity of opinion prevails as to the expediency of cultivating this grass extensively.

SEA-WEED.

For the improvement of all lands in the vicinity of tide-water, where it is washed ashore, this is not only an inexhaustible, but a most efficient source of improvement to the soil. In Europe, where it is more highly charged with saline matter than in most situations with us, its efficacy has been made most manifest, and especially on light sandy land. Any where, however, it would prove a salutary agent of melioration.

MANAGEMENT OF SANDY LOAMS.

Mr. *Duckett*, of *Surry*, England, a most accomplished and successful farmer, ascribed the luxuriance of his crops to three principles, which he laid down for his guidance, and strictly adhered to. He relied upon

1. *Deep ploughing*, by means of which the roots of his plants were permitted to penetrate the earth to a depth where they found a uniform moisture, by which they were preserved in a healthful and flourishing condition, while those of his neighbors, who were *shallow* ploughers, in seasons of drought were measurably destroyed.

In *Flanders*, in the *Peys de Waes*, where the soil was originally a barren white sand, by a sure process has been brought to a state of fertility which entitles it to be called a fruitful loam. At first it was barely scratched, being ploughed not more than ten inches deep; it was subsequently gradually deepened, as it was enriched,—and it is now stated that this barren sand has been so fertilized that it bears to be trenched to the depth of fifteen to eighteen inches. This operation is performed every seven years.

CLAY SOILS.

All clay soils intended for spring culture should be turned up in the fall to receive the benefit of the action of the winter's frost, which mellows and reduces it infinitely better than any treatment which man is susceptible of giving it. If very *tenacious*, its condition may be greatly improved, by simply adding sand to it, after the ploughing, and so harrowing it as thoroughly to mix the two together. Instances of the success of this practice are numerous in Europe, and are said to have been so decidedly striking as to excite surprise. In numerous cases the advantages have been equally great as if the clay had been heavily manured.

REPRODUCTION OF FRUIT.

It is said that apples, pears, peaches, and various other fruits, will not produce their *like* from the *seed*. May not this arise from the fact of various kinds of each sort being planted together, the *farina* of the one is carried by the industrious bee to the other, and a hybrid produced? Would it not be worthy of a trial, to take for instance the stone of a peach remotely situated from any other of the species, and see whether it would not produce its like?—We believe it would, and if so, many diseases which proceed from grafting and budding might be avoided. This will, we are sure, be unpopular doctrine with many, but believing it correct, we hesitate not to advance it.

IMPLEMENTS OF HUSBANDRY.

That farmer best consults his interest who is well provided with a sufficient number of good implements and tools, and that interest is further promoted by always keeping them in good order.

MILCH COWS.

These animals should always, if possible, be kept where they can have free access to good water, whether ranging in the pasture, or confined in the barn-yard. From experience, we hesitate not to say that having water always at hand will make a difference of 25 per cent. in favor of their yield. In winter no man should pretend to keep a cow to the pail who does not provide her twice a day with either good rich slops, pumpkins or roots. How in the name of *St. George* can it be expected that a cow fed upon dry hay, fodder or tops, from November till April, can secrete any considerable quantity of milk; we know that there is a large quantity of nutritive matter in each of these kinds of provender; but to replenish the udder, it is necessary that some such liquids, or succulent pabulum named, be daily given. No one should keep a cow to the pail who does not keep her well; humanity as well as true economy are both consulted in so doing.

PASTURES.

Fields of clover, or other artificial grass, in which cattle are grazed, should be *small*, for it has been accurately ascertained that a much less number of acres will answer where they are so, than when they are always kept in one large field. The withdrawal of cattle from one field to another gives the grass a chance of growing, and that which has been trampled down, is thus enabled to assume its upright position. So far, however, as the saving and economy of green provender are concerned, *soiling* is incomparably the best plan of feeding. *Two* animals thus served can be fed from the product of one acre, whereas it requires one acre for each where they are permitted to graze on the field.

DRAINING.

The cultivator would find his profit in draining all his wet arable land; blind ditches, which are easily constructed, can be so arranged as not at all to interfere with the cultivation of the surface. Any common farm hand can be taught to make them in a few hours.

MARL.

The meliorating effect of marl has been known in Europe for a long time, and clay, stone and shell marl have been severally used with decided advantage, and as our tide wa-

ter regions are well supplied with each of those varieties of calcareous matter, we trust, as a *beginning* has been made, that wherever obtainable, our farmers will freely use it. Of this they may be certain, that nothing like permanent improvement can be effected without the use of calcareous manure of some kind. With the aid of lime, or marl in some one of its forms, with the addition of grass-leys or green crops of some kind turned in, almost any soil may be pushed beyond even its primitive state of fertility.

MANAGEMENT OF YOUNG CATTLE.

If you desire to have fine sized animals you must feed your calves well through the first winter: stretch their skins the first season, and growing will become a habit with them.

ACCUMULATION OF MANURES.

The scrapings of the road, the lanes, leaves collected from the woods, weeds from fence corners and any where else, marsh mud, fresh or salt, and indeed all vegetable or animal offal, if spread on the surface of your cow-yard, becomes in a few months as good manure as stable or cow-dung, for in addition to their own specific virtues, they sponge up and retain great portions of rich liquids which would otherwise be lost. All cow-yards should be basin-like in form so as to prevent the escape of such liquids.

CHEAP COMPOST.

The farmer who could spare a boy, and horse and cart for that purpose, would very much increase his stock of manure, if he would employ a cart the year round in gathering leaves, mould, weeds, and offals of all kinds, whether animal or vegetable, and as brought home spreading them on his dung heap. In the course of the season decomposition would take place, and in the spring of the year, all would form a most excellent bed of manure.

DEAD ANIMALS.

All animals which die on a farm, should be covered with mould, or earth of any kind. Each dead horse or other animal thus treated, would throw out gas enough to impregnate five load of earth with its fertilizing properties. To promote the speedy decomposition of animal bodies, a few bushels of lime should be thrown on them previously to being covered with earth or mould. After the decomposition of their flesh, the bones should be broken up and placed in the soil, where they prove both an efficient and lasting manure.

IRRIGATION.

The occasional letting water on meadows has a most wonderful effect in forwarding the

growth of the grass, and thereby adding to the quantity of product.

FENCING.

Around each post there should be a small mound of earth formed so as to carry off the water. If this precaution were taken, posts would last as long again as they now do. Charring the end of the post which goes in the ground to at least four inches above the earth would greatly prolong its endurance.—*Farmer and Gardner.*

Apple Molasses.

There is many a good housewife, who has more faith in her own experience, than in the science of chemistry, that knows not the value of Apple Molasses; but still believes it to be the same kind of tart, smoky, worthless stuff, that has from time immemorial, been made by boiling down cider. It is not within my province, at this time, to attempt to convince such that there is a chemical difference, though it might easily be shown, that they are almost as different as sugar and vinegar. I would, however, invite them to lay aside their cider this year, and try the plan of boiling down the juice of the apple that has not been exposed to the air by grinding and pressing.

Last autumn, I placed a number of bushels of Wetherill's sweetening apples in two large brass kettles, with water just sufficient to steam them; when they boiled soft, I turned them into a new splinter basket, containing some straw, and placed on them a barrel head, and a heavy weight. The juice was caught in a tub. This was repeated until I had juice enough to fill the kettles, when I commenced boiling it down, and attended to it strictly, frequently skimming it, till it became of the consistency of cane molasses. The native acids of the fruit imparted a peculiar flavor, otherwise it could hardly be distinguished from the syrup of the cane. It was used in my family for making sweetmeats, for sweetening pies, for dressing on puddings and griddle cakes, and a variety of other purposes. The cost of making it is very trifling, and the means are within the reach of every farmer.—*Ohio Farmer.*

Mix Straw with Clover.

Farmers who have straw or coarse old hay, will find a great advantage in mixing them in layers, with hay that is not thoroughly made; the dry stuff will prevent the clover from injuring by moisture, and it imbibes sweetness so that the cattle will eat it with a good relish.—*Yankee Farmer.*

Crimson Clover.

The following notice of the *Trifolium Incarnatum* is taken from the Code of Agriculture, and as this grass is getting into favor, it will not be unacceptable to see it so highly spoken of abroad: "It is a subject of astonishment that this valuable plant, (*Trifolium Incarnatum*) should not have been long ago introduced into this country, and cultivated on an extensive scale. If sown in autumn, after a crop of potatoes or other roots, it produces next spring a crop fit to be cut for soiling cattle, eight days earlier than lucerne, and a fortnight before red clover. Care, however, must be taken to have good seed, and not to sow it too deep. It produces two excellent crops in one year, the first of which should be cut as soon as it comes into flower, and the second will produce a considerable quantity of seed. From its early growth in spring, when other articles for feeding stock with advantage are so difficult to be obtained, it is likely to become a valuable acquisition to British husbandry." If the clover—the seed of which is, we believe, to be had in considerable quantity of the seed merchants in this country—be sown in spring, it is considered that it will produce a full crop in Scotland in the months of July or August, and must be of great value to those on whose lands the common red clover does not succeed, or where the crop may have partially failed. It is proper to remark that this is an annual plant, and therefore should only be employed in partial husbandry.—*Balt. Far.*

The Wheat Fly,

Is an animal that has never attacked my grain. It has so happened that my neighbor's wheat and mine were in adjoining fields, separated only by a fence; that his wheat was nearly destroyed by the fly, and not one in mine. The only *solution* I can give to it, is as follows: My wheat *uniformly* is sowed late—never until there has been a hard frost, sufficiently so to kill insects of that kind. I cause a strong solution of salt and water to be made—strong enough to bear an egg, and my wheat is soaked about twenty-four hours in it, and then rolled in lime on the barn floor. When that rule has been followed, my crops have been about as good as my neighbor's when their wheat was not afflicted with the fly. Care should be taken not to soak the wheat more than about twenty-four hours, and then it should be rolled in lime, else the germinating quality of the wheat may be destroyed or injured.

A. DEY.

N. York, July 23, 1839.

[Poughkeepsie Tel.

Use your own rights so as not to injure others.

Italian Rye Grass.

In the year 1836 I purchased one bushel of Italian rye grass, from Mr. T. P. Wilson, of Burgh Quay, Dublin, and sowed it on one Cunningham acre of excellent land, after drilled potatoes, the ground having been sown with black Tartarian oats the preceding day,—this occurred in the third week in April,—the field of oats turned out the most luxuriant and productive that had been seen in this country, three Cunningham acres and a half having produced 440 Winchester bushels of oats: the crop was removed on the 27th of September, when the Italian rye grass was seen to rise like a crop of oats about to shoot into ear. The winter of 1836-7 was not severe, and the Italian (rest of the field was laid down with Pacey's perennial) had a most beautiful appearance at the latter end of July 1837; the crop was cut for seed at that time six feet long, the produce in cleaned seed forty-eight bushels; there was a great bulk of hay, and had it been saved without regard to the sale of seed would have produced from three to four tons on the acre, of sweet, rich, juicy flavor, adapted for black cattle and horses for slow work, admirable for cutting as chaff from the number of joints; it was very full of saccharine matter and substance, but much softer than Pacey's; the second crop was also reserved for seed, and cut in September; it produced about one ton of hay not more than two feet and a half long, with thirty-two bushels of seed superior to the first crop in quality, making in the whole eighty bushels of seed, sold at 10s. per bushel, the original having cost 17s. 6d.; the field was ploughed for wheat, one ridge was left for experiment,—the grass on it in November would have cut a third time, being two feet long,—the winter of 1837-8 was very severe, the grass melted away, and in my opinion, dissolved and rotted at the root. I was very deep in the Italian rye grass, the acre above mentioned having been so profitable, had induced me to lay out eight acres with it, and having observed that the soil thickened and spread by being cropped, I had turned my calves into the fields after the grain was removed; to this circumstance I attribute the great success of my crops in 1838, as some of my neighbors who had not taken this precaution, lost their grass in the same way that my ridge disappeared. Calves are the best stock for this purpose, their teeth are sharp, and they take the top off. For soiling, no grass answers better, it grows so quickly,—half a bushel Italian rye grass, 10 lbs. of red clover, and 4 lbs. of trefoil; if the land is stiff, more seed will be required; it is delicate at first in heavy soils, but when rooted, seems to thrive well. Half a bushel of Italian, half ditto cocks-foot, 7 lbs. of white clover, 5 lbs. trefoil, with 2 lbs. of yarrow, make a beautiful soil

for pasture, and these succeed each other in bloom, which causes the field to have a varied and beautiful appearance. I have always sowed with spring corn, Tartarian oats is the best crop to lay out grass with, it stands up so well, but both the grass and oats must have rich ground. I have never known the grass to injure the grain crop, it grows up thin, and it is not until the crop is reaped, that you can judge whether you have sufficient roots or not, it spreads so amazingly. Certainly the Italian is a biennial, and in an irrigated meadow thrives well, and for so far, appears a triennial, and is a most valuable productive grass much relished by cattle. After three years cultivation my objections are, 1st. The difficulty to save as hay from its nature, and in a wet season a second crop rises so rapidly, that the ground is always damp,—the hay is of a soft nature. 2nd. In strong lands if dry weather sets in, it sometimes misses and is delicate until it takes root; my plan is to roll the ground, then sow, accompanied by a harrow, which followed immediately and serves as a guide, then the roller when the season permitted this, (which does not always happen in this climate.) I never was disappointed.—*Mark Lane (English) Express.*

The trial of this article for four seasons proves it far superior to every other grass for winter herbage, and much the earliest for feed of any grass in the spring; but what renders it still more valuable as a feeding grass is, that it is preferred by cattle to any of the common sorts—a fact which has been proved by numerous experiments in various parts of the country; and the rapidity with which it again shoots forth after having been either mown or fed off, renders it particularly advantageous for light soils, as the common rye-grass never sends forth a second crop, either for feed or seed of any consequence. In poor land it may be safely sown with clover (as it has been with success in France) to the great increase of the crop and benefit of the quality of the hay. These results fully show it to be well deserving the attention of agriculturists, possessing as it does, greater hardness, and uniting in itself all the good qualities sought for in rye-grass. Sown together with *Trifolium incarnatum* it has answered admirably in the neighborhood of London; and the *Trifolium incarnatum* when sown by itself has produced near Plymouth, upwards of four tons per acre.—*British Farmers' Magazine.*

Cotton Statistics.

It was stated in a former paper that the foreign exports of cotton in the world, was 550 millions of pounds. The entire growth of cotton in the world, is set down at one billion of pounds. Of this, 550 millions are supposed to be grown in the United States—30

in Brazil—8 in the West Indies—27 in Egypt—36 in the west of Africa—190 in the west of Asia—35 in Mexico and South America, except Brazil—and 14 millions elsewhere.

Thus, at ten cents per pound, a price below which it has rarely ever fallen, this crop is worth \$100,000,000. For the last fifty years, however, the value (though often fluctuating suddenly and widely) has averaged 19½. At this price, the present growth of the world is worth \$192,500,000.

Of this, about 350 millions of pounds are consumed and manufactured in England—about 150 millions in the United States—80 in France—250 in China and India—35 in South America and Mexico, including Brazil—35 in Germany—45 in Turkey and Africa—10 in Spain—20 in Prussia—and the remainder elsewhere.

The value of cotton manufactures in England, is believed to be annually about 170 millions of dollars—in France, 70 millions—in the United States, 60 millions.

The capital employed in manufacturing by machinery, is estimated, in England, at 200 millions of dollars—in France, at 120 millions—in the United States, at 110 millions.

The consumption in manufactures of raw cotton in all Europe, in 1803, was estimated at only 60 millions of pounds. (Dic. of Span. Com.) The whole consumption in Europe, in 1830, was about 387 millions of pounds.—In 1838, it is believed to be nearly 500 millions of pounds.

South Carolina and Georgia were the first States in this Union to grow cotton to any considerable extent. In 1791, two millions of pounds were grown in the Union—1½ millions of which grew in South Carolina, and half a million in Georgia.

In 1801, forty millions was the crop of the United States—of which, twenty millions grew in South Carolina, ten in Georgia, five in Virginia, four in North Carolina, and one in Tennessee.

In 1811, the crop of the United States had reached eighty millions—of which, forty grew in South Carolina, twenty in Georgia, eight in Virginia, seven in North Carolina, three in Tennessee, and two in Louisiana.

In 1821, one hundred and seventy millions of pounds were grown in the Union—as follows: fifty millions in South Carolina, forty-five in Georgia, twenty in Tennessee, twenty-five in Alabama, twelve in Virginia, ten in North Carolina, ten in Louisiana, and ten in Mississippi.

In 1826, the whole crop of the Union was 348½ millions. Of this, Georgia grew 75 millions, South Carolina 70, Tennessee 45, Alabama 45, Louisiana 38, Mississippi 20, Virginia 25, North Carolina 18, Florida two, and Arkansas one quarter of a million.

In 1833, the crop of the Union had increased to 437½ millions. Of this, 83 millions grew in Georgia, 73 in South Carolina, 70 in Mississippi, 65 in Alabama, 55 in Louisiana, 50 in Tennessee, 15 in Florida, 13 in Virginia, 10 in North Carolina, and three quarters in Arkansas.

The next year, (1834,) the crop had increased to 457½ millions, and was grown as follows: 85 in Mississippi, 85 in Alabama, 75 in Georgia, 65½ in South Carolina, 62 in Louisiana, 45 in Tennessee, 20 in Florida, 10 in Virginia, 9½ in North Carolina, and half a million in Arkansas. Subsequently, no certain data are in our possession; but the estimate at this time is 550 millions as the whole crop of the Union.

Thus it will be seen, from 1791 to 1826, South Carolina was the most abundant cotton growing State in the Union. In 1826, Georgia took the lead, and held it till 1834, when Alabama and Mississippi took the front rank. At this time, Mississippi is perhaps the most extensive cotton growing State in the Union. South Carolina and Alabama are next. North Alabama is beginning to deteriorate as a cotton country; while the worn lands in Middle Tennessee are thought to improve for this culture—maturity, the vital desideratum, not being so easily attainable in the rank luxuriance of the fresher soils.—*Southern Cultivator.*

Rules for Selecting Neat Cattle.

The rules for selecting for good stock are principally these:—Deep wide shoulders, wide and deep hips, short and straight back bones, round bodies and well ribbed back, short shin bones, short strong necks, small short heads, small pointed noses.* If these rules were observed from generation to generation, by our farmers, the neatest breed of cattle that were ever seen would soon become first rate. A very large creature of any kind, is not so profitable to the farmer, as a good middling size. The main thing is shape.—And no farmer should ever sell, at any price, his best and finest shaped animals, if he intends to keep up a good and profitable kind. A gentleman told me lately that he began farming about twenty years ago. He then took a good deal of pains to find and purchase

* These rules are correct—by wide shoulders the writer means the shoulder blades we presume—not thickness of the shoulder—we doubt about the *depth* of the shoulder for the cow if he mean from the withers to the brisket. In general the good milch cow will be altogether *light before*, getting deeper and more bulky as you go back to the *milk region* of the body. If by short *strong neck* he mean a thick neck, he is wrong—the neck and head of the cow cannot be too light—the chops and muzzle cannot be too neat and clean—a dew lap is odious. The fact is and it may be laid down as a plain general rule, that the more valuable the particular part in question—the more we want of it, and *vice versa*.

a superior kind of sheep. He could find none on an average better than his own which were mean. He adopted the practice of selecting his best lambs every year, for stock. In a few years he had first rate sheep. The same course will produce the same effects in every kind of animal.

The Farmer.

A SONG—BY J. J. BARKER, OF PHILADELPHIA.
Sung at a Meeting of the Agricultural Society at New Brunswick.

A farmer's life is the life for me,
I own I love it dearly;
And every season full of glee,
I take its labors cheerly—
To plough or sow,
To reap or mow,
Or in the barn to thresh, sir—
All's one to me,
I plainly see,
'Twill bring me health and cash, sir.

The lawyer leads a harrass'd life,
Much like that of a hunted otter,
And 'tween his own and others' strife,
He's always in hot water—
For foe or friend,
A cause defend,
However wrong must be, sir—
In reason's spite,
Maintain 'tis right—
And dearly earn his fee, sir.

The doctor's styl'd a gentleman,
But this I hold but humming;
For, like a tavern-waiting man,
To every call "he's coming"—
Now here, now there,
Must he repair,
Or starve, sir, by denying;
Like death himself,
Unhappy elf,
He lives by others' dying.

A farmer's life, then, let me live,
Obtaining, while I lead it,
Enough for self, and some to give
To such poor souls as need it.
I'll drain and fence,
Nor grudge expense,
To give my land good dressing—
I'll plough and sow,
Or drill in row,
And hope from Heaven a blessing.

CHARCOAL HAMS.—A writer in the American Farmer recommends to pack hams, after they have been smoked, in pounded charcoal. It keeps out the flies, and prevents the fetid smell and unpleasant taste too often found in hams exposed for sale.

Quantity of rain which has fallen in each month since January 1, 1839.

Month	Inches.
1st month,.....	5.63
2d month,.....	3.42
3d month,.....	1.50
4th month,.....	1.50
5th month,.....	6.07
6th month,.....	3.92
7th month,.....	2.51
8th month,.....	4.64*

* It rained on seventeen different days.

Philadelphia Hospital, 9th mo., 1st, 1839.

State of the Market—Sept. 7, 1839.

FLOUR AND MEAL.—Supplies come in slowly, and prices are maintained. Sales of superfine *Wheat* at \$6 a \$6 25 per barrel. *Rye meal* is scarce; demand moderate; sales made at \$1. *Corn meal* in request; stock light; sales by the barrel at \$4; puncheons, \$17, a \$18 50.

GRAIN.—Great caution pervades the grain market; supplies of *Wheat* are limited; price Penn. \$1 30 a \$1 33 per bushel; Delaware wheat \$1 30 a \$1 31; Southern, \$1 25 a \$1 30. *Rye*—\$2 a 84 cents, being a decline. *Corn*—76 to 81, according to quality. *Oats*—36 to 38.

PROVISIONS.—Prices are nearly stationary; no change of consequence since our last.

WOOL.—Prices have declined a shade or two. Sales have been made to some extent; prices generally unknown. Full blooded, choice, 55—58.

CATTLE MARKET.—At market 480 Beeves; 50 Cows and Calves; 500 Hogs, and 2,500 sheep. *Beef Cattle*—The demand was moderate, and the sales ranged from \$7 to \$5 75 per 100 lbs. for common to prime quality. About 80 head remain unsold. *Cows and Calves*—Owing to the small number offered, prices advanced to \$30 a \$40, and extra \$43 a \$45 each. *Hogs* continue dull of sale, at \$7 a \$4 per 100 lbs. for inferior to prime quality. 150 remain unsold. *Sheep and Lambs*—There was an active demand, and nearly the whole offering was taken at \$2 25 a \$4 25 for Sheep, and \$1 25 a \$2 50 each for Lambs, as in quality.

HAY MARKET.—There were 222 loads brought in this week, and sold at 85 a 90 cents for *Timothy*; 70 a 80 cents for *Clover* and *Timothy* mixed. There is some enquiry for *Wheat Straw*, but no supplies have been brought forward lately, farmers not being disposed to sell at the rates offered. *Rye Straw* sells freely at 5 a 6 cents.

Several interesting communications on hand.—Correspondents are earnestly requested to send in their favors as early as possible.

Buckwheat Straw.

A correspondent wishes information as to the best method of preparing this valuable straw for dry fodder. Will the late Editor of the Farmer and Gardener be so obliging as to furnish us with the information desired.

J. D. Emes's Patent Cast Iron Threshing Machine.



An establishment for the manufacture of the above machines, will be put into operation in this city, of which due notice will be given. They are now constructed by Stevens & Hutchinson, at the Mechanics' and Farmers' Depository, Boston, Massachusetts.

J. D. Emes's Patent Cast Iron Threshing Machine, without any disparagement to other valuable improvements, warranted equal, if not superior, to the best in any country, for threshing all kinds of small grain, rice and small seeds, from wheat to herdgrass seeds.

This machine is less than three feet square, strong simple and plain, and not liable to get out of order. One quarter the expense of flail strings will keep it in repair to thresh the same number of bushels.

To thresh one hundred bushels with this machine is considered a day's work; it will, however, do as much more, as the feeder can handle straw to make; and always at a saving of at least ten per cent. in extra grain, above that threshed by flail, or any other ordinary method ever yet introduced.

If durability, expedition, convenience, economy and profit, be an object, then this truly valuable and useful machine will commend itself, above all others, to the use of every grain raising farmer; being warranted in every respect.

Southern Rice growers are respectfully requested to examine the machine as a superior article for threshing Rice. An interest in the patent can be obtained on reasonable terms.

CURTIS BRUCE and HUDSON BURR have become interested with the patentee, in the States of Pennsylvania, New Jersey, and Delaware. Any person wishing to see the above machine, or become interested in it, will receive all necessary information by calling on the subscribers, at Burr's Hotel, No. 2 South Wharves, lower side of Market street, Philadelphia.

J. D. EMES,
CURTIS BRUCE,
HUDSON BURR.

THE FARMERS' CABINET

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Any gentleman remitting *Five Dollars* will be entitled to the Farmers' Cabinet for SEVEN YEARS, commencing with the first or any subsequent volume.—The volumes now published can be sent by mail, in paper wrappers; Postage, under 100 miles twelve cents—to any part of the United States over 100 miles from the place of publication, eighteen cents per volume.

COMMUNICATIONS.

Artificial Divisions of the Farm.

FENCES in rural economy comprehend in general, every sort of enclosure that is employed for shelter—or designed for the protection of the lands thus enclosed, from the intrusion of cattle. They are of different kinds, depending on the various circumstances of soil, situation, the kinds of materials at hand most suitable for the purpose, and the convenience with which they may be obtained. Where a country is entirely in tillage, it is of less importance that farms be divided by artificial barriers; but wherever live stock is kept, this is essential to the proper keeping of the animals, and to the profitable occupation of the grounds; and besides the purpose of retaining and separating animals of different kinds from one another.* Every person about to erect a fence should have special regard to three essential points,—durability, economy, and neatness of appearance.

“Poor fences are of incalculable mischief to the farmer.” They are frequently the means of disturbing that good neighborhood, which would, in many places, otherwise exist without interruption, if each farmer would attend to having his fences well and substantially made, and kept constantly in good order

and repair. Unless fences are made sufficiently high and strong, there can be no safety to the crops—the cattle, selecting the weakest points are apt to break over them, and thereby imbibe vicious habits.

The descriptions of fences and the method of their construction, depend wholly upon the soil, the various kinds of materials at hand or most readily obtained. There are a variety of kinds of fences or enclosures used; the log fence, the post and rail, the worm or zig-zag, and the stone—which, when the materials are on the ground, and the fence is properly built, is by all means the most durable, economical, and secure,—the ditch, the paling, and the live hedge. But in whatever manner, and of whatever materials they may be constructed, they should be frequently surveyed with a critical eye, and all defects rectified without the least delay.

The growing and alarming scarcity of timber in the United States, renders the enclosure of farms a very expensive item. It therefore is the interest of the farmer to preserve his fences, now in good condition, as long as possible in that state—and, in the construction of new ones to exercise economy, by having them erected, of whatever materials, in a most substantial and durable manner. The saving of a few dollars in the outlay, is only apparent, not real. We must not be understood as advocating extravagance in this or any other department of rural affairs—but we do maintain that what is worth doing at all, is worth doing well, and that, therefore, in the erection of fences, the best and most durable materials should be selected; and the whole put together in a solid, substantial, and workmanlike manner.

Almost every individual has an idea that he fully understands the process of *making*

* Low's Elements.

rail-fence, which is a simple process, and yet, perhaps, not more than one in twenty has any established system or fixed rules, by which their operations are to be controlled in this essential and important department of farm-labor. A writer in the *Genesee Farmer*, says that no sight is to him more pleasing, than a well made rail-fence. His system of construction is briefly as follows:

"To ascertain when a sufficient number of rails have been drawn for a given distance of fence. 1.—If the fence is to be seven rails high, and twelve feet long, place them in piles of ten each, in a continuous line, touching each other. 2.—Place, in range, stakes or poles at intervals to designate the line—prepare a pole seven or eight feet long, well sharpened at one end; (the end ought by all means to be pointed with iron.) At about eighteen inches from the pointed end, fasten a rod at right angles with the pole, and extending thence from three feet, two, four, or six inches, according as the fence is exposed to winds. Put down this pole in a range with the poles designating the line, and the end of the rod will show the place for the corner.—Place then, for a foundation, a good sized flat stone, and you are ready to commence operations. 3.—The bottom rail should be straight—place the largest end forward on the stone, and the other end crossing the preceding rail at the end of the rod of the ranging pole, so that the corners on each side be in exact line. 4.—Let the five following rails be placed the smallest end forward, and notched, if necessary, to make them lie steadily. 5.—Let the top rail be heavy and well notched, the largest end placed forward, which completes the work, leaving your fence level, and of equal height throughout."

Various substitutes have been proposed for the common post and rail fence, the most prominent of which will be hereafter noticed. Notwithstanding the great scarcity of timber in the Atlantic states, which is a matter of great solicitude, in view of obtaining in future a supply of timber suitable for fencing alone—the system of post and rail fences—with proper management on the part of farmers may be easily and advantageously perpetuated.

JAMES WORTH, Esq., of Sharon, near Newton, Bucks county, Pennsylvania—a gentleman who has devoted much of his time, talents, and fortune, in promoting the general interests of agriculture—after a minute and careful examination of the claims of all the varieties of fences used and recommended throughout the country, came to the conclusion that the post and rail, and the stone fence, (wherever the materials for its construction abound) was best adapted to the country and the interests of the farmer.—

Having determined in favor of the post with five rails, for general purposes, he says:—

"I turn my attention to that particular kind, and will proceed to provide for its future supply. Plant an acre of ground with chestnut and locust seeds, five-sixths of it with chestnut for rails, and one-sixth with locust for posts. Four trees will grow on a perch, making six hundred and forty on the acre. I suppose that forty of them will fail, leaving six hundred trees, each of which will produce in thirty years, and every twenty to twenty-five years afterwards, twenty rails or posts, which will yield at each cutting twelve thousand posts and rails, or two thousand pannels. Then say the acre of land is worth eighty dollars, it will reduce the materials to four cents per pannel, which with making and putting up will not exceed twenty-five cents. In point of durability I am persuaded that it will be exceeded by none, except the stone, and it will have an advantage over that, by being moveable when necessary."

Mr. WORTH'S reasons for preferring the locust post and chestnut rails are thus stated. It occupies less ground than any other—the borders of the fields are easily kept clean—the great durability of the materials—the ease with which they may be obtained by every farmer, as the trees flourish in a tolerably good soil in every part of our country.—One acre thus appropriated is sufficient for a farm of five hundred acres—and consequently, a quarter of an acre will be abundant for a farm of one hundred acres. To what better or more profitable purpose can so small a portion of the best land on the farm be appropriated? The only objection is, that there is no immediate availability—that from twenty-five to thirty years must elapse before the trees can be made into rails. This objection is as unsatisfactory as it is unsound. There are thousands who, if they were *now* to appropriate sufficient ground, according to the size of their farms, and plant it as proposed, may with the blessing of Providence, live to enjoy its advantages for years. What! not plant an orchard, or a grove of locust, or a cluster of maple, because we may not live to enjoy the benefits thereof! Such sentiments should never find an abiding place in the bosom of an American farmer; for every intelligent man knows full well, that every measure of this kind tends not merely to adorn and beautify his plantation, but also greatly to increase its prospective value. Every farmer should see without delay to having his grounds suitably stocked with trees.

It is estimated that a fence of locust posts and chestnut rails, with very little repair, will last for at least sixty years, so that the necessities of the farm would require only the third cutting of the timber—the two intermediate

cuttings, yielding thirty thousand posts and rails, are ready for a market, which would be readily found, and which at the low rate of five dollars a hundred, would give the owner of the farm an average gain of twenty dollars, for each and every year the acre of land was thus appropriated—in addition to furnishing all necessary fencing for the farm. This, dating from the commencement, is a handsome profit.

Cedar post and rail fence.—JAMES GARNETT, Esq., a name familiar to the reading farmer, says: "I can affirm, from my own experience, that a cedar post and rail fence, without any ditch, the materials for which, grow spontaneously over a large portion of Virginia, and will grow by planting almost any where in the United States, will last, without the slightest repair, from thirteen to fourteen years; and may be made to last six or eight years longer, by a few occasional supplies of rails and posts. I also know from my own experience, that either cedar, chestnut, or locust, the last of which is more durable than either, will in fourteen years grow sufficiently large to make the fence anew, if planted by the side of it one or two to each pannel."—*Mr. Garnett's Address before the Fredericksburg, Va., Agricultural Society.*

A great diversity of opinion has prevailed among many persons, as to the *best time for cutting timber*, so as to insure its greatest durability. Some recommend the summer season, some the fall, others the winter when the sap has generally descended; while others again who have entered into a careful investigation of the subject, have come to the conclusion that the most suitable period for felling timber, is in the spring while the sap flows freely. This will no doubt be considered as rank heresy by many of those who cannot regard with complacency, what they deem innovations on the old and favorite systems. But this opinion is gaining ground; from the simple circumstance that it is well sustained by incontrovertible facts.

An old and observing friend, Capt. COOPER, of the Navy, furnished for publication some time since in an agricultural work, a variety of facts, touching this important matter; from which it clearly appears, that spring, that is, while the sap is flowing freely, is the best time for cutting timber.* The late JOSEPH COOPER,

* Farmers' Cabinet, vol. iii. p. 29.—One fact we give. "J. C. (JOSEPH COOPER, Esq.) informed me that a detachment of British troops crossed from Philadelphia on the 1st day of May, in 1777, and on the 2d commenced cutting down his woods for the supply of the army, and at the same time to burn up his fencing, which they completely accomplished. "But," said he, "they taught me the proper time to cut timber to make it last. After they marched off, I found many trees that were not cut into cord wood; those I split into rails, believing at the same time they would soon decay, from their being cut in the spring—but I have been

Esq., warmly advocated this system. In the same paper, page 4, is a communication recommending the month of August, within one day of the time when the moon is full, as the best period for cutting all kinds of oak. But it is urged, in order to *guard* it from decay, to immerse the wood, immediately after it is cut and split to the dimensions required, in lime and water, in which it is to remain a year, affording time for the particles of lime to penetrate the pores of the wood. This lime water is to be frequently agitated. This process requires a vat, which may be sunk in the ground at little expense. The water and lime should be of the consistence of white wash. If the durability of the timber is promoted by this process, it is evidently owing to the antiseptic quality of the lime-water, with which it is saturated, and *not* to the mere circumstance of cutting the timber in the month of August.

The editor of the Genesee Farmer, and a host of his correspondents recommend cutting timber in the winter, as its durability depends upon its being cut when free from sap. JOSUA HOWARD says, that from twenty years experience in the preservation of timber, the best time to cut it to insure durability, is when the tree is in its greatest vigor—which, in the latitude of his residence, Dearbornville, N. Y., is about the middle of June. He cites a case in which a man was convinced against his will. A farmer in North Carolina wishing to fence a certain lot, went to work according to the old theory, and cut his rail timber during the full of the moon in February. When he came in May to put up his fence he was deficient about forty pannels—he went into the woods, cut the requisite quantity, and put it up as the only alternative. Ten or twelve years afterward on examining his fence, he was exceedingly surprised to find that the rails cut and split in May were infinitely more sound than those cut and prepared in February. There are thousands of similar cases.

A great variety of plans have been proposed for the preservation of timber. The late SAMUEL PRESTON, of Stockport, Pa., was satisfied from experience, that posts set with the top part in the ground will last from three to four times as long as when they are set with the butt-end down. DANIEL LONGSTRETH says, that penstocks and other timbers exposed to wet or dampness near the water wheel, are placed by many mill-wrights with the top end downwards, as they are found to be more durable than when placed in a different position. *Charring posts* has been strongly recommended and extensively practised, with-

agreeably disappointed,—most of them are as sound now as when made into fence." This he related five-and-twenty or thirty years after the peace of '63.

out, however, answering fully the expectation of its advocates. *Wood tar* has been recommended as a preservative of timber. A correspondent of the Farmers' (Va.) Register, cites several very interesting cases, which go to prove that posts cut, and put in the ground *green*, will remain perfectly sound many years after well seasoned posts, in the same line of fence, in the same soil, and put in at the same time, have entirely decayed. We need, however, further experiments on all these points.

[We omit the account given by our correspondent of the manner of constructing stone fences, that subject having been noticed at length in the second and third volumes of the Farmers' Cabinet. We agree with the writer as to the great value of this kind of fence, and recommend it in preference to any other, wherever the materials for its construction abound, or may be readily obtained. But whoever builds a stone fence—to derive benefit from it—must have it built well and substantial—the foundation sunk below the reach of frost, and the whole well and compactly laid together—well capped with good stone pillars at the several openings for bars or gates; the latter we recommend.]

LIVE FENCES OR HEDGES.

For many years past, great efforts have been made to introduce live hedges or fences, in place of those of timber and stone. Partial success, has in some instances, for a while, flattered the hopes of the persevering experimenter—but in general, the efforts have resulted in failure. The introduction of the English Thorn, has long been a favorite object with many gentlemen,* and we cannot conceive why, with proper management, it would not attain the same degree of perfection and usefulness in the southern states as in England. It is not adapted to our upland regions. In the choice of plants for a hedge, the influence of soil and climate should be particularly considered, as upon these, and right management, more than any thing else, will depend the success or failure. We should, therefore, rely more upon *native* than *foreign* plants.

That we have a variety of plants, in almost every section of our country, well adapted to all the purposes of hedging, no doubt can be entertained. Years ago,—when a few individuals, bursting the shackles of prejudice,—set themselves earnestly to work, to improve and advance the agriculture of the country generally—this was one of the first subjects that claimed their attention. Numerous experiments were made in Pennsylvania, Dela-

* Mr. Garnett is still opposed, as he ever has been, to the introduction of live hedges. His zeal in the cause of agriculture has increased with years. His efforts indicate all the vigor of youth.

ware, Maryland, and more especially in Virginia. Fences of native, as well as of foreign plants, were set out—and so far as I have been able to gain information, the advantage, as regards durability and use, was in favor of the native plant, portions of which are now standing.

The question which will naturally arise in the mind of the reader, taking the statement to be correct, will be, “why is it that these fences do not abound over the whole country—I never saw one!” The answer is simple—it is to be found in the character and spirit of our countrymen. Almost every thing of importance that has been accomplished in this great country, has been on the “high-pressure principle.” The early advocates of agricultural improvement, among whom we find a WASHINGTON, a JEFFERSON, a PETERS, a LIVINGSTON, a PICKERER, a LINCOLN, a TAYLOR, a GARNETT, a COOPER, a BORDLEY, a LORRAIN, a WORTH, and many other illustrious men, were not sustained by the great mass of the people—for whose benefit, and not their own—they labored. In this case, those farmers we presume, who were induced, or perhaps, *persuaded* by its friends to turn their attention to this subject, did not expect *too great*, but *too IMMEDIATE RESULTS*. This is the rock on which thousands fail. Lacking persevering patience, they become lukewarm in an enterprise—lose their interest, after which total neglect, if not absolute disgust, ensues.

Among the variety of *native plants*, the *Red Cedar* was the most conspicuous, as it was probably the most valuable. The late Col. JOHN TAYLOR, of Caroline, Virginia, recommended it as answering every desirable purpose. With proper care and attention, a hedge of great beauty, strength and durability, may be formed of the cedar in about seven years from the period of planting.

“For the purpose of raising a *nursery* of *cedar plants*, let the berries be gathered in November and December, and having detached the resinous substance in which the seeds are enveloped, as far as practicable, which may be done by rubbing—mix them with unslacked ashes, in which let them remain two weeks—then plant them in drills after the manner of planting peas, and if good, they will vegetate and come up the following spring. With good nursing, they will be fit for removal into a hedge in two years. The trenches in which they are to be placed, should be prepared with light, rich earth. The first of March is the proper time for planting them. When the plants have attained the height of three feet, the trimming should commence; the best time for which is, the middle of summer. The more thoroughly the seeds are cleansed, and the earlier the

plants are set out in the spring the better."—*Farmer's Guide*.

"*Col. Taylor's method of planting the Cedar Hedge*.—From December to the middle of March, the smallest plants are to be taken up in a sod of a square, conformable to the size of the spade used, as deep as possible, which sod is to be deposited unbroken in a hole as deep, made by a similar spade, the earth being used to fill up the crevices between the sod and the hole for its reception. I plant these cedars on the out and inside of a straight fence, on the ridge of a ditch, the plants in each row being two feet apart, both in the direction of and across this ridge, but so that the plants on one side of the fence will be opposite to the centre of the vacancies between those on the other. They should be topped at a foot high, and not suffered to gain more than four inches yearly in height, such boughs or branches excepted, as can be worked into the fence at the ground. Of these great use may be made in thickening the hedge, by bending them to the ground and covering them well with earth in the middle, leaving them growing to the stem and their extremities exposed—thus they invariably take root, and fill up gaps. If properly cultivated, and the land is strong, they will form an elegant live ever-green fence, in a shorter time than is necessary to raise a thorn fence in England by the book.—*Taylor's Arator*, third ed. page 174. Several years after the above was written and published, Mr. Taylor says, in a note on the subject—'My experiments in cedar-hedging have become two or three years older, and have removed every doubt of its cheapness, practicability and importance.'

When speaking of *live-hedge*, the *English thorn*, *hawthorn*, or as it is sometimes called *quick*, is generally understood. We have already adverted to its introduction in this country, and can only refer in brief terms to its management. A *proper choice of plants* is of vast importance. The hawthorn is readily produced from the seeds of its fruits; is best raised in the nursery, and in two years transplanted from the seed bed, in the line of the fence. *The preparation of the soil* is a point of the first importance; as it will constitute in many cases the difference between success and failure. The ground on the line of the fence should undergo a complete preparation by deep and effectual ploughing, or trenching with the spade, and by a thorough manuring. Where a quantity of vegetable matter is present in the soil, lime may be used—but where the soil is poor, both lime and dung should be applied.

"The line of fence being determined, it is laid off by means of poles, like the ridges of a field, and marked upon the ground. The

line of the side of the ditch along which the thorns are to be set being marked out by the rod and line, and notched by the spade, the workman takes off a part of the earth from the surface of the intended ditch and lays it along the future line of thorn, about six inches back of the notched line. This forms what is called a *scarcement*. He then beats down the earth or rods thus laid with his spade, so that the outer surface shall be in the line of the future mound, sloping a little backward. It is upon the row of earth or rods thus placed, technically called the *thorn-bed*, that the thorns to be planted are laid. A further portion of the surface of the ditch is then stripped off and thrown behind the thorn-bed. The plants, the stems of which are generally eight inches high, exclusive of the root, are to be placed firmly upon the thorn-bed, so that, when the mound is made, they may project a very little beyond the surface, or rather just reach it. The distance at which they may be planted from one another is about eight inches, while one or more persons are engaged in laying the thorns, another is to shovel up from the ditch the loose mould immediately next the surface, and place it upon the stems of the plants. This earth being compressed by the foot, the plants will be firmly fixed in their position. The ditch is cleared out to its full depth, and the earth thrown upon the bank. The mound is then to be rounded at the top, and beat all around by the shovel; and this process completes the formation of the hedge and ditch. The ditch should be narrowed to a spade's breadth at bottom, and so laid out as to permit the regular descent of water. The sides may be made to slope at an angle of 45°. The proper time for planting is from October to the beginning of March, or while vegetation is inert."—*Professor Low's Elements*.

In the *after-culture of the hedge*, which must be rigidly attended to, for the first four or five years especially, the application of new and rich earth to the roots, thorough weeding and loosing the earth of the mound, which is apt to become baked and hard, must not be overlooked—neglect in this case would prove fatal. Obstructions should also, whenever they present themselves, be immediately removed, so that the passage of water may not be interrupted. The value and beauty of the hedge, depends in a great degree upon the management of it while in its young and tender state. The greatest possible care and judgment is to be exercised in pruning.—*Loudon* says, that from the first year of planting, till the hedge has risen to five or six feet in height, the main stems ought to be left untouched, and the pruning confined solely to the side branches, leaving those next the root pretty long, and gradually tapering towards the top,

We have now described the elementary species of the live or hedge fence, which is the base or foundation of all the others. There are also *compound fences*, the principal and most efficient of which is the stone wall and live fence combined. But as it is not likely to be of much practical service, the description is omitted, as well as the description of palings and ornamental fences.

J. M.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

PART I.

Supposed Conversation between a Provident and Improvident Farmer, and their respective crops and stocks, &c.

Frank.—Father, which is the most profitable breed of sheep for the farmer? I should suppose the largest, as a sheep is a sheep you know, and a large one is of more value than a small one.

Father.—A prudent man will advise with his land on that subject.

Frank.—But can his land advise with *him*?

Father.—Yes, and the lessons which a farmer is taught by his land, are not soon forgotten, as, according to the old adage, "*bought wit is best.*" I sometimes fancy that my crops converse with me, when I visit them of an evening, and if I could do justice to those fancied dialogues which I seem to hear, and could commit them to paper, they would, I think, make a pleasant addition to your book.

Frank.—O, do try, "*nothing is impossible to a willing mind,*" you know.

Father.—Most opportunely quoted the text—now for the SERMON.

We will suppose then, that a slovenly *procrastinator* is visiting his fields on just such a glorious evening as the present, in just such a fruitful season as we are now blest with.—He goes up to the field, No. 1, which is wheat, and begins—

Grabb.—Good evening; fine weather this: but I don't think you look quite so well as you did the last time I visited you.

Wheat.—I wonder how I should—do you not see how I am choked with weeds? how the thistles are goading me with their spikes, and the rag weeds are taking the food out of my mouth, while the bind weeds are dragging me down to the earth; and how that I am smothered with evils innumerable?

Grabb.—But I allowed you a fallow and plenty of manure; you ought at least to have been able to cope with the weeds.

Wheat.—You forget that "the earth is own mother to the weeds, while she is only mother-in-law to the crops that are planted in her bosom:" besides, you talk of a fallow—why this great thistle on my right, and which

has one of his spikes fixed in my side, has just informed me that he is one of the progeny which was reared in this same fallow of yours,—his parent being the identical thistle under which the farmer sat on horseback and escaped a drenching, while his neighbors were wet to the skin! You seem to have forgotten that "*one year's seeding is seven years' weeding.*"

Grabb.—Ah well! I'll get these weeds pulled.

Wheat.—As you said a month ago, and will say again, and never do it!

Frank.—Excellent! But you never fallow or dung for wheat.

Father.—Nor have I ever such fine thistles. I always dung for green crops, and insure two things at the same time—more food for the cattle, and of course, larger dunghills. My object is, to retard the growth of the wheat, that it might be strong in the stalk, and I therefore do not encourage its lavish growth by manure and fallow. Now for No. 2

2. Corn. *Grabb.*—Why you look very sickly; I thought you would do better, judging from the appearance you put on at first coming up—how's this!

Corn.—Ask yourself! You thought you were cheating me, when you sowed without manure—a favor you always promised me; I relied upon that promise and came up, with the expectation that I should find it when I needed it; but after sending my roots below in search for it, I find your promises are false—you complain of my sickly look! I can only say, if you had no more to feed upon than I have, you would not have shelled the three lower buttons on your waistcoat! *Grabb* tucked the shucks into the holes, and walked on.

Frank.—I now find that crops can advise, and admonish too: but could not the farmer still do something in the way of top dressing to remedy a part of the evil?

Father.—Yes; but he had no manure.

3. Barley. *Grabb.*—Ah! you'll come to nothing.

Barley.—I thank you, and return the compliment. But what did you expect when you sowed me after once ploughing, on a stiff and wet soil? "Nothing venture, nothing have." I only wish that you had to work so hard as I have for a living. You would then feel for me.

4. Oats. *Grabb.*—Well, I think you might do a little better than you do, if you would try; why, I shall not get the value of the seed back—that's too bad!

Oats.—Now, that's thrice bad of you!—You know that you have had six grain crops in succession from the land on which I am sown, with not a spadeful of manure of any kind for the last six years! Why, even the weeds have been starved out, and you have

put in practice the lazy farmer's recipe for ridding his land of weeds—"make it so poor that they will not grow!" Now that's practical farming without theory.

Grabb.—But what shall I do for want of the straw which I depended upon as fodder for the cattle during next winter?

Oats.—Is that all your dependence for the next winter? Why your cattle will be ready to eat *you!* and you will have to practise the other part of the recipe, "to prevent cattle from dying of starvation—kill them." But I give you warning; neither they or you must expect any thing from me; if I can hold my own, 'twill be as much as I shall do.

No. 5. Clover. *Grabb.*—Why you look healthy and well, but how is it that you have made so little progress in height? There's Farmer Sykes' clover as high as my knees, and will be soon fit for the scythe! but I am unfortunate in every thing!

Clover.—That's a true word, although it is not spoken in jest. Why you seem to forget that as soon as I had made a little progress in growth, you turned in all your starving cattle, horses and sheep, which not only eat up the branch, but also the root!

Grabb.—Ah! that I was compelled to do to keep them from starving—but you had all the benefit of their manure while they were feeding you.

Clover.—You call that manure! why it was, the greatest part, nothing but worms and bots—and the little good that remained was soon carried off by the grasshoppers and bugs, which were about as much in want of it as I! My fear is, that the hot weather, which seems now to be setting in, will scorch the land, so unprotected by foliage, and dry up the scanty crop which is left, before it is high enough for the scythe—and then, what do you think your horses will say to you? If you had done as Farmer Sykes did, you would have deserved his success; you must remember, how, that instead of feeding off his young crop, he top dressed it with a compost of lime and earth and dung, which had been carefully prepared in the winter, and well pulverized; by which, not only his present crop is doubly benefited, but it is also preparatory to an autumn sowing of wheat on the lay. Now put this and that together, and calculate the result. First, two tons of hay per acre, the first cutting; one ton per acre the second, with a capital aftermath for his dairy; and if wheat is sown by the 29th of September, a yield of forty bushels per acre might be expected at next year's harvest; and this is not all—for after the wheat is carried, the land will be turned, and the clover stubble, perfectly rotted, will form an excellent seed bed for buckwheat, with the expectation of a heavy crop. Now I will leave you to calculate the value of my *second*

crop, (remember, you have already had the *first cutting*, and a severe *cutting* it was) and of course you do not expect much at the third; while seventeen bushels of wheat per acre next harvest, will be quite as much as you have any right to expect; and common justice will not allow you to sow buckwheat after.

Grabb.—Why, you are one of Job's comforters!

Clover.—But I cannot see that you have any claim to the character of Job—for "In all this, Job sinned not," remember.

No. 6. Potatoes. *Grabb.*—Well, I don't know how it is, but while others are digging new potatoes, it does not appear that I shall ever have any to dig! I think I may as well leave you to your fate, for you'll certainly never be worth the labor of cleaning.

Potatoes.—Now you cannot be ignorant of the fact, that for two months after the crops of others were up, you were only *talking* of planting your's; and all the while the weeds were growing on, what you called your fallow, until some of them were as high as your head and full of seed; we were then tumbled in all together, and have ever since been striving for the mastery; but you have now sealed our fate, and must take the consequences. 'Twas fortunate for you, was it not! that your father lived before you, *for he would find it difficult to live after you!*

No. 7. The Cows in pasture. *Grabb.*—Well, *you* have more grass than you can eat, however, *you* can't grumble—that's one comfort.

Cows.—*Grass*, do you call it?

Grabb.—Yes I do;—and what do you call it?

Cows.—Why, we were just saying, it would puzzle a Philadelphia lawyer to say what it is; but judging by the smell as well as the taste, it might be called garlic, without offending against the statute of truth.

Grabb.—Well, you are all alike! Did'nt I let you feed off the crop of clover, almost before it was out of the ground?

Cows.—That's fact! Indeed we were at last obliged to dig for it, and you will feel the effects next winter, or we are no conjurers.

Grabb.—Ah, I had need be a conjurer to know how to satisfy you all; but what have you done with the sheep?

Cows.—What, these large bodied, long woolled animals, for which you gave in exchange, your small breed, which, *even they*, could only just keep body and soul together, by picking the short herbage of the pasture? Oh! we have done nothing with them, but they have at last been able to *do something for themselves*, for finding it impossible to subsist on such short commons, and that they were *growing less* every day, they sought for a hole in the fence, and by waiting until

they were reduced so much in size as to be able to creep through, they at length passed into your wheat, with the intention of returning after they had filled themselves, but this they could not do *then*, and it is not probable that they have attempted it since, so you had better look for them, for ere this, they have cost you as much as they are worth, in the damage they have done to the wheat crop.

Grabb.—Well, 'tis no use to try to do any thing more, and so I'll go straight home—no, not straight, for if I do, I shall get amongst the porkers, and they are grumblers by profession.

9. *Pigs.*—*Porkers*, did you call us! 'Twill be long before we have any pork about us, with our present mode of living—call us *grunters*, for so we are, and with reason; we wonder you are not afraid to meet us after dark, for we are but the ghosts of things that have been. There is this consolation in it, however—our lives will be spared, for we shall never be worth the trouble of killing; indeed, that in a little time would be “no murder,” as it would be like one of your neighbors, who killed his pigs to save their lives!

10. *Grabb.*—Ah! well, here come the Horses, they are the only generous animals upon a farm: but where are ye all going, in such a hurry?

Horses.—We have come at last to the resolution of no longer starving quietly, so we are going in a body to break over the fence into Farmer Clement's clover; we know where the weak place is, for we have heard you promise for the last three months to get it mended, and *of course* it is not done yet. We do not intend to break into your own clover, as that would be punishing ourselves the next winter, for we calculate there will not be more food than enough for us all, if we eat stock and block of the whole farm.

By this time the farmer had reached his house, and going in, said to himself, there is no comfort out of doors, let us see if we can get a little within—wife, bring the rum bottle and a pipe. Talk of the independence of a farmer's life indeed! 'tis all a hum—here am I, with the best intentions in the world—

Wife.—Not the value of a cent! all your *intentions* never grow into *actions*! Now just sit down, and I'll sum up the thousand and one promises that you have made me to do the necessary repairs about the house—and to begin with the roof of the dairy, which was stripped off by that storm last autumn, and there it remains in the same state to this day—

Grabb.—Take care, *let me get to bed*, out of the way!

Frank.—Oh! thank you; but now, to make a perfect picture, we should visit his fields with a good farmer and husbandman.

Father.—That indeed would be much more agreeable, and some day we may do so: but it is now late—*let us get to bed*, as Grabb said, but not for the same reason, blessed be God!

PART II.

Frank.—Well, Father, you see the book is right—“nothing is impossible.” When shall you be ready to give us the other side of that picture which you yesterday drew for farmer Grabb!

Father.—The twin brother of the above proverb is, “nothing like time present”—by means of both, we may perform prodigies; so let us try at once. We will take our neighbor Sykes for the converse of the picture, and suppose him going into his fields to “meditate at eventide.”

No. 1. *Wheat.*—Ah, Farmer, I am glad to see you; 'tis not often that you are absent for two evenings, I was afraid you were sick.

Sykes.—Why, you see I had promised my wife to attend to some little alterations about the house, and that has prevented me from seeing you as usual—we must take care of the women, you know; or they will not care for us—but *you* look well.

Wheat.—Yes, thanks to your bounty. I am now feeding on that magnificent coat of manure which you gave to the young clover last spring, and just at the time too, when it is needed, for if you will examine the plants on your left, you will find that the ear is already formed in the blade, and that they are all *five chesters* too.

Sykes.—That's capital! Now that comes of being kind to the soil.

Wheat.—And now, will you cast your eye over the ridges, and say if you see any piece of wheat in the county so uniform and regular in its growth? The color of the plants on the sides of the ridge, is, if any thing, of a deeper green than are those on the top or crown of the ridge—a sure prognostic, at this season of the year, of a heavy crop. The field just below is wheat, sown after a whole year's fallow, with dung; but there the order is reversed, for the plants which are near the furrows on the sides of the ridges, are weak and yellow. And only trace the rows of green spots, in straight lines right across the fields! they were occasioned by the heaps of dung, which remained unspread for weeks, until they were overgrown with weeds, upon what was termed a fallow! The weeds now are sturdy witnesses that the cultivation and dung have done much more for them than for the wheat, and yet it is probable that Farmer Grabb expects to reap a profit from his crop!

Sykes.—I do not think that he will have either a reap or a profit. Your present appearance warrants an early harvest, by the blessing of a good season, and I am delighted

with the prospect. Can I do any thing more for you?

Whcat.—No, but there is something that you must do for yourself—you must increase the size of your stack yard—I go for nothing less than forty bushels per acre.

2. Corn. *Sykes.*—Well, I am glad to see you looking so much better; your first appearance was very weak and sickly, and my neighbors wanted to persuade me it was because I sowed the seed with Buckminster's drill, but I knew that could not be the cause, for I never saw any machine operate better; I only wish the handles were a little longer and lower.

Corn.—My sickly appearance was owing to your own good management.

Sykes.—Why, how could that be?

Corn.—You know that you are in the habit of ploughing a *leette* deeper every time, and thus a small portion of the sterile subsoil was brought to the surface, and in this the seeds were sown; and the roller of the drill passing over (a capital invention) pressed them so closely into the clay, and rain falling immediately after, and following the track of the roller, the surface became so hard and dry, it was with difficulty that I could penetrate it, and for a few days I know I looked miserably: I however soon got to the manure below, which you had so bountifully supplied, and now I feel as though I could mount to the height of ten feet. If the season should be favorable, you may put me down for 110 bushels per acre. I am in no fear of the weeds which I see springing up around me, you'll take care of them, I know.

No. 3. Sugar Beets. *Sykes.*—Ah! Mons. Sugar Beets, how do you do? How you like our country and climate? How you like the exchange?

Beets.—Ah! Mons. Farmer, I like your country! I like your fine, light and sunny days—they make *saccharine*; I like the exchange too, 'tis all in favor of America. But what for you not make sugar? make plenty sugar—more than in France; great remuneration! sweet recompense—no trouble, all pleasure, all profit.

Sykes.—I am not prepared to make sugar this year, next year I will do it, without any fear for the result. In the mean time, unlike most other speculations, the growth of the sugar beet is about the most profitable crop which a farmer can grow for winter food: horses, cattle, sheep, hogs, and poultry, all are fond of it; and better than all, it contributes, in a surprising degree, to the farmer's comfort during the dreary time of winter, as it enables him to meet his animals without reproach, and gives him the means of fattening his stock at a time that others are starving; and he can rear house lamb, which

about Christmas, would bring a fine price in the market. In the introduction of this crop to notice, there has been no mistake, and in substituting it for a crop of barley, I have relieved the land of an exhausting crop, and adopted one that is ameliorating; requiring neither fallow or dung, when the land is in good heart—so farewell, Mons. S. Beet.

S. Beet.—Adieu Mons. Farmer, "vive la Republic America!"

4. Potatoes. *Sykes.*—Well, the progress which you have made in growth during the last two days surprises me! But never, for a moment, have I doubted the fulfilment of my most sanguine expectations respecting this, my favorite crop.

Potatoes.—But you have left us nothing to do but to grow: your labors began last autumn, when you ploughed the land deep, and laid it high and dry for the winter; and before others could get on their land in the spring, you had planted your crop. Then again, your judicious management in not moulding us up—we have only to go on to maturity, while the crops of those who keep moulding, never know where to be, or what to be at; for just as they have discovered the height at which to form the bulbs, comes the hoe, and buries them so deep as to ruin them: they are therefore compelled to begin to form their bulbs higher, to be within the influence of the sun, leaving their first formed bulbs to their fate; but, exhausted in a degree by the double exertion, they are weakened, so as not to be able to bring the higher crop, any more than the lower, to perfection, and so both are much reduced, both in quantity and quality, having many small and useless bulbs; happy, however, if they escape a third, or even a fourth moulding. Men are very silly to suppose that potatoes don't know their own business best; their fear, that without moulding, they would form their crops on the surface, is very childish; why, *even they* themselves would not be guilty of any thing so thoughtless; their desire is, only to find the spot where they shall be within the reach of the sun's rays, and men need not fear that they will get above it. All the crops that are not moulded up, are free from those half-formed bulbs, or warty excrescences, which are so apt to deform those which have been nursed into the rickets; and there are very few small bulbs, for the root is not anxious to form more than it knows it can bring to perfection. By your excellent management, you will secure a harvest ten days earlier than your neighbors, a crop larger in quantity, and superior in quality, and which will command an extra price in the market—put us down for 750 bushels per acre.

5. Clover. *Sykes.*—Well, this is the finest crop of clover in the country, and will soon be fit for the scythe.

Clover.—And no thanks to me, for you made me what I am, by that magnificent covering of compost, by which I was literally buried alive. If the season remains favorable, I can promise you two tons of hay per acre the first crop, one ton per acre the second, and a capital aftermath for your dairy, and if that won't yield you a profit, why then quit, and go a fishing!

6. Cows in Pasture. *Sykes.*—Well, Fanny, Kitty and Judy, what have you done with Bill?

Cows.—Oh! he lies under yonder hedge, complaining it is easier to lie down than to rise, and thinks it hard to have to accompany us twice to the yard when we go to be milked—indeed he will soon be too fat to be healthy.

Sykes.—Well, I think you all live in clover, and the return which you make of ten pounds of butter each per week, is a proof of your gratitude for good treatment.

Cows.—We are very happy, and the proverb says, “without comfort you can't make butter.” But our happiness is owing to your excellent care of us, especially in dividing our pasture into three compartments, and changing us often—if men were but sensible of the advantage this is to the dairy, their cows would not be compelled to lie in the same pasture until the very atmosphere is contaminated with their filth; the milk would keep longer, and the butter would not be so soft in hot weather, to say nothing of the trifling circumstance of about two pounds of butter a week from each cow, in favor of your plan.

Sykes.—Well, I never heard cows talk so reasonably before! and I wish you would read Grabb a lecture upon Dairying; but unless he is the merest idiot alive, he must sometimes have heard and read, and felt the reproachful looks and low murmurings of his poor half-starved animals in the garlicky meadow below: but he is sunk so low that it must be up-hill work for him, I know.

7. Sheep. *Sykes.*—It is remarkable, that just as I had determined to dispose of my Leicesters, and purchase sheep of a smaller breed, more suitable for short pastures, that Farmer Grabb should decide upon parting with his Southdowns, on the principle, that “as a sheep is a sheep, you know, (glancing his eye at Frank,) a large one must be more valuable than a small one”—(Frank.) (That's a capital hit at me! I shall never forget the lesson which I have been taught) so our exchange was no robbery.

Sheep.—To us it was “all 'tother way,” as Farmer Ashfield says, but Grabb's sheep declare it was robbery, rank robbery; for they have been robbed of the means of existence.

Sykes.—To me it has been advantageous, and has proved the truth of the calculation on

proportioning sheep stock to land: “The same land which carried indifferently, forty-five long woolled sheep, maintained in good plight one hundred and fifty Rylands.” I am therefore satisfied with the exchange.

8. But here come the Horses.—Well, my beauties! why, where are ye going in that frolicsome mood!

Horses.—Oh, we have eaten our supper, and are now going to rest in the upper pasture; we say to rest—Farmer Grabb's horses go to labor, for as they get no food in the stable after their day's work, they are compelled to gather their supper before they eat it, and hard work it is, with a bite so short: and after laboring at the plough all day, and all night at a short bite, 'tis no wonder that it costs him more in whips than in corn. We shall therefore be ready by break of day for whatever you will put us to, for “with horses who are kept above their work, their labor is play.”

Sykes.—Well, but take care now, and if you meet Grabb's horses down the road, don't go to play with them, for they have something more serious to think of. Halloo! where did that groan come from! “And yet another, and another,” as the man says in the play. Oh! 'tis only the hogs, who have overeaten themselves again; this is butter-making day, and they are always a little uneasy after that.

Hogs.—And so would you be, if you had swilled as much as we have; but you men have no feeling for poor dumb brutes!

By this time Sykes had reached his house, and entered, singing the last verse of that fine old song, “No glory I covet;” it runs thus—

“How vainly through infinite struggle and strife,
The many their labors employ!
Since all that is truly delightful in life,
Is what all, if they will, may enjoy.”

Sykes.—Well, wife, your elegant supper table looks very inviting!

Wife.—Frank, get your Father's slippers.

Sykes.—And my bittermost “Bleuse,”* I mean now to “rest and be thankful.” And Frank, after supper, and while your mother and sister are “plying their needles,” you shall read to us “The Yellow Shoestrings,” which I read when I was a boy; and to the golden rule contained in that little book, “Nothing is impossible to a willing mind,” I owe the chief blessing of my life, don't I, wife!

Wife.—Well, I confess that if it had not been for your perseverance, the difficulties which opposed our union would never have been surmounted, and that, I guess, would have been unfortunate for both of us.

* The French Frock, a most convenient and suitable dress for farmers.

Sykes.—Well, after that, I think we may go to supper!

Frank.—Thank you, Father, these stories will make a beautiful pair of portraits, and shall be preserved by me with gratitude; together with those beautiful lines which you gave me yesterday, and which have since been continually in my thoughts—

For every evil under the sun,
There is a remedy, or there is none;
If there be one, try to find it,
If there be none—never mind it.

For the Farmers' Cabinet.

Wheat.—Diseases in Wheat.

[Concluded from page 44.]

Wheat is subject to various *accidents* and *diseases*, some of them peculiar to itself. The most dreaded and destructive of the diseases to which it is liable, is *blight*, so termed from its effects upon the ear, or *milddew* from its supposed cause, namely *mel-dew*, from an old opinion that it was produced by honey-dew falling from the air.

In many of the wheat growing sections of the Union, these diseases are denominated *rust* and *smut*; under the term rust, blight and mildew are included. But these diseases, if they are really distinct, are nevertheless so nearly allied, that for all practical purposes they may be considered as one.

It may be assumed as a principle, that the immediate cause of every distemper which attacks the plants of wheat, may be ascribed to the state of the season, combined with the circumstances of soil, situation and seed. It is indeed not necessary to class them; but the great body of farmers consider them as distinct disorders, arising solely from the influence of the atmosphere.

Milddew they regard as a disease which affects the ear, though, in general, it is apparently more injurious to the straw, and is produced by causes somewhat similar to those which occasion blight, though at a more advanced period of the season. It usually first attacks the leaf, and then the straw, just at the time the grain is blooming; and when it comes on immediately after the first appearance of the ear, the straw will also be affected; but if the grain be fully formed, then it is but slightly discolored.

There are many causes which probably contribute to the production of this disease. It is most likely induced by the peculiar state of the atmosphere, during the periods of flowing and ripening. This opinion appears to be correct; so far as we are yet able to judge of the peculiar cause.

The Rev. HENRY COLMAN, an eminent agriculturist, and a careful observer of all things connected with agriculture, and those branches of science to which it is allied, has

furnished the public, through some of the early volumes of the *New England Farmer*, a number of able and highly instructive essays on the culture of wheat; and after many experiments, and careful and patient observation, he came to the conclusion (without, however, assuming to decide the question) that the disease was "atmospheric—occurring at a particular state of the plant, which rendered it peculiarly liable to blight or mildew."

One experiment detailed by Mr. Colman, and which, no doubt, had considerable weight in bringing him to the conclusion to which he has arrived, that the cause was most probably atmospheric, is too interesting to be passed over. The following is Mr. Colman's account, as detailed in the "*Complete Farmer*," for 1835, page 125.

Three acres of winter wheat was sown on some of the best land in the Deerfield, Mass. meadows; the green sward was turned up in the fall, rolled and harrowed, seed well soaked in brine, limed, and sown on the 27th of October, at the rate of two bushels and a half to the acre. One-half the field was highly manured—to the remainder no manure was applied. The seed came up finely, and nothing could exceed the beauty and luxuriance of the growth, most of the field averaging more than five feet in height.

Above half the field, including an equal portion of the manured and that not manured, was passed over twice in the spring, after the grain had got to be six inches in height, with a light harrow, drawn by one yoke of oxen, and three weeks after was subject to the same process.

The effect of this was to destroy very few of the plants, and to render the growth of what remained much more luxuriant, producing such an increase of the stem, and such an extension of the heads, as to attract the notice of the most casual observer, and to induce several persons who were ignorant of the process to which it had been subjected, to inquire for the cause of the difference in the two parts of the field, and to ask if a different kind of seed had been used.

After all, however, to my extreme disappointment, the whole field has been blasted, and I shall hardly get back the amount of the seed sown, and that in a small shrivelled grain. The crop is housed, but will scarcely repay the expense of threshing.

Now that this result was not owing to the use of stable dung is obvious, because none was used. In that part of the field where the blight appeared to commence, and to make most rapid progress, no manure whatever was used.

It was not owing to the want of the *specific property* in the soil, as far as that is to be

found in lime and slaughter-house manure, for both of these were employed. The seed was limed, and the above manure copiously applied.

It is not to be attributed to the *luxuriance* of the crop, for several pieces in the neighborhood have suffered equally, and from the same cause, when the cultivation was by no means so high.

It is not a time of universal *failure*. A good deal in this vicinity is perfectly healthy and sound; and I have already reaped on the same farm a small piece of wheat, say half an acre, on higher land, which was healthy and fair, though from the condition of the land it gave but a small product. This, however, though sown at the same time, was ready for the sickle more than a week sooner than the other, from the drier and poorer quality of the soil.

As the wheat was filling fast, we had frequent showers, and much of what we Yankees call muggy weather. One day in particular the air was sultry, the heat intense, and the showers frequent, with intervals of sunshine; and the earth was steaming most profusely.

An intelligent farmer in my employ, accustomed to the cultivation of this grain in one of the best wheat districts in New York, remarked to me that this was very severe weather for my wheat, and that he feared I should lose it. The rust in fact appeared for the first time the next day, and rapidly extended itself over the whole field, presenting no difference either in the manured, and in the parts not manured, and of course less luxuriant.

Had my wheat been sown *earlier*, so as to have been farther advanced, it would probably have escaped; had it been sown *later*, so as not to have been so far advanced as it was, perhaps I should have been as fortunate. But the occurrence of such a peculiar state of the atmosphere being wholly accidental, at least as far as we are concerned, it is impossible to make any certain calculations about it."

The remedies against rust, mildew or blight, as laid down in the "Code of Agriculture," by Sir JOHN SINCLAIR, are as follows: Cultivating hardy sorts of wheat—early sowing—raising of early varieties—thick sowing—frequent changes of seed—consolidating the soil—using saline manures—improving the course of crops—extirpating all plants, that are receptacles of rust, and by protecting the ears and roots of wheat by rye and other crops.

In the present state of botanical knowledge, as regards the diseases of grain, it is out of our power to offer any remedy for injuries arising from such various and uncertain causes. But as they seem to be chiefly occasioned by a close state of the atmosphere,

they may, probably, be partially guarded against, by preserving as free a circulation as possible of air among the plants, by keeping the fences as low as the security of the crop will permit; and especially by drilling the grain instead of sowing it broad cast.*

Smut is a disease almost peculiar to the grain of wheat. It differs from rust and mildew in this, that the means of prevention are generally within our power. The remedies are numerous and simple,—such as are calculated to destroy any noxious quality, adhering to the seed grain, be it the seeds of minute parasitic plants or of animalculæ.

A European farmer,† after repeated experiments, gives it as his opinion that the best preventive is to steep the seed in strong lime water, which, it is presumed destroys the vitality of the seed of the smut. It is a general opinion in this country, founded on experience—that the steeping and liming of seed wheat, is a certain remedy against smut.

The use of fresh burnt lime is almost indispensable; as lime, exposed for any length of time to the action of the atmosphere, will, in a great measure lose its causticity. By absorbing carbonic acid it is restored to the state of limestone or chalk, and its alkaline qualities are completely neutralized.

One of the most eminent of American agriculturists,‡ whose opinion on these matters is always received as good authority, says, that he is surprised to learn that smut is still permitted to adulterate and diminish our grain crops, when it is a fact amply and satisfactorily established, that steeping the seed grain twelve hours in brine, and rolling it in fresh slaked lime, before sowing, will prevent the evil.

The *pepper-brand* and *dust-brand*, the two species of smut, are parasitic plants, the minute seeds of which attach to the grain, and are propelled through the sap vessels of the plant, to the germs of the young grain. The salt and lime destroy the vitality of these seeds.

Of all the injuries to which wheat is liable, there are perhaps none which are more to be dreaded than those arising from *insects* and *worms*, which invariably commit great devastation, and in some seasons spread their ravages to a very alarming extent.

Of these, the various tribes of predatory insects, those known under the names of wheat fly—hessian fly—or weevil, or any of their numerous varieties, are the most dangerous; and although treated of by naturalists, they have furnished no means of either a radical prevention or cure. The wheat fly generally

* British Husbandry, vol. ii., page 139.

† F. BANER.

‡ JUDGE BUEL, Esq., of Albany, N. Y., conductor of the Cultivator.

makes its appearance about the middle of June, and its operations, it is asserted by some, cover a period of from thirty-seven to thirty-nine days.

A late American work on agriculture,* says that the Hessian fly deposits its eggs in the winter wheat, in which state it remains until the plant has acquired some growth; the grub then feeds upon it, and the plant having its nourishment intercepted, sickens.

In the spring it assumes the perfect form, as soon as the weather is moderately warm, and immediately proceeds to deposit its eggs in the wheat.† Wheat grown on highly cultivated land is not generally much injured by this fly.

No individual, probably, has done more to investigate this subject, and find a remedy for the evil than JAMES WORTH, Esq., of Newton, Bucks county, Penn. The Memoirs of the Pennsylvania Society for the year 1823 contains several communications, giving in detail, the results of his indefatigable and valuable researches.

He recommends a change in the course of crops as the most effectual remedy, viz: Break up for wheat, follow with corn, and then oats and grass seed, *ploughing and harrowing the stubble immediately after harvest*, and a SECOND TIME BEFORE MAY, by which means great numbers of insects will be destroyed in the pupa state.

The best remedies seem to consist of a good tith— a rich but not wet soil—late sowing—ploughing in the stubble immediately after harvest—and perhaps feeding off the crop in the spring with sheep.

There is a case cited in the Memoirs of the Board of Agriculture of New York, in which two bushels of lime were sown upon an acre of wheat infested by the fly, while there was a heavy dew upon the ground. Two adjoining acres, same quality of ground, on which wheat, of the same kind, was sowed at the same time, were not treated with lime. The result was that the limed wheat gave a good crop, the other not half of an average crop.

SAMUEL TALLANT, of Canterbury, N. H., states that on the first of July, 1838, a few flies known as the weevil or grain worm appeared upon his wheat, and excited his notice. He examined them from day to day, and found that they increased with such rapidity as to threaten destruction to his crop. He scattered, by way of experiment, a bushel of slaked lime on about half an acre of the wheat, while it was wet with dew.

The ensuing morning he visited this piece of wheat, and after a careful examination, he

found but a solitary fly or worm among it, while in all the other parts of the field, he found the fly had vastly increased in number. He commenced immediately liming the whole field, but his lime falling short, and the case being one admitting of no delay, he had recourse to ashes, which he bountifully applied. The worm or fly disappeared immediately; and the field gave a very fair crop of good sound wheat.*

Visit to the Farm of Elias Phinney, Esq., Lexington, Mass.—By Jos. Breck.

BOOK FARMING.

We have in the farm of this gentleman substantial proof of the efficacy of "book farming." He assured us that his interest in agriculture was first awakened by reading the N. E. Farmer. Having received a classical education, he has to be sure, the advantage of our farmers in general, for whom so little has been done by education,—we were prepared, therefore, in viewing his premises, to witness something a little extra, from what may be seen on well cultivated farms in general: but we found that our expectations had not been raised sufficiently high: we were in fact delighted and astonished to be made acquainted with the wonderful improvements which have been effected on this place since he began to cultivate it fourteen or fifteen years since. It was then a poor worn out farm, covered with rocks, whortleberry bushes, and scrub oaks; while the lowlands were inaccessible quagmires and alder swamps of the most unpromising description—the whole farm, consisting of one hundred and sixty acres, not affording more than eight or ten tons of hay, and all other crops in the same proportion,—the fences out of repair; the fruit of an inferior quality, fit only for cider; and every thing upon the place at sixes and sevens, as the saying is. It does not seem hardly possible that so much could have been achieved in so short a time. It shows what can be done by untiring diligence directed by science. It is a complete triumph of "book farming" over the old course of husbandry, handed down from father to son. Mr. Phinney has had the boldness to strike out of the old path, and in some instances pursue a course of his own invention.

IMPROVEMENTS.

His improvements may be divided as follows:—

- 1st. In planting upon the green sward without disturbing the sod.
- 2d. In clearing and draining his waste

* The Practical Farmer, by an American, N. York, 1839—Evo.

† See very interesting papers on the Wheat Fly, by *Observer*, in Farmers' Cabinet, vol. I., page 299—also page 273 and 306.

* For Mr. Tallant's account in full, see N. H. Farmers' Monthly Visitor, vol. I., page 51. Also Farmers' Cabinet, vol. III., page 314.—*Editor*.

swamps and quagmires, and converting them into the most productive grass and cornfields.

3d. In clearing his uplands of rocks and laying them into walls of the most durable and massive description—sublying the bushes in the unproductive pastures, and bringing them into fertile fields.

4th. In his orchard of apple trees, which for beauty, thrift, and produce, can hardly be excelled.

5th. In his choice collection of fruits of every desirable variety.

6th. In his improved breed of swine.

7th. His barns and accommodations for cattle, swine, poultry, &c.

To which may be added many other improvements of minor importance, but which add to the interest, beauty, and profit of the place.

PLANTING ON THE GREEN SWARD.

The idea of planting upon the green sward without disturbing the soil, has been ridiculed by a writer in the *N. E. Farmer*, vol. 17, page 317—as being impracticable, especially in the potato crop. We saw an example of this operation, and one too of a most perfect kind, which we should suppose sufficient to convince the most sceptical. It was in a lot of three acres of potatoes. On the 20th of June there was a heavy crop of grass upon the ground, in addition to which twenty loads of compost to the acre was spread on, and at that time turned over; after ploughing, it was rolled with a heavy roller, (an implement by the way which should be in the possession of every one who calls himself a farmer.) The potatoes were planted in drills—had been hoed but once; yet hardly a weed was to be seen, not a spear of grass daring to show itself, and sufficient earth, about the plants, with every prospect of an abundant harvest. In the spring this ground will be in fine order to lay down again to grass, and that too without disturbing the soil; or if advisable, planted with corn or any other crop.

VEGETABLE MATTER.

Allowing the vegetable matter turned in equal to twenty loads of compost per acre, we have with that spread what is equivalent to forty loads per acre. No wonder then that by following this process continually, he should be able to cut from $2\frac{1}{2}$ to $3\frac{1}{2}$ tons of hay per acre, which he actually does from his grass lands. He has another idea which we think important for a good crop of grass; that is, to sow an abundance of seed. His rule is twenty pounds of clover seed per acre, together with a liberal allowance of herds grass and red top to boot. This will astonish most of our farmers, who can afford only from four to ten pounds per acre.

CORN.

We saw a field of six acres of corn, from which a crop of eighty bushels to the acre is estimated, and provided we have warm weather sufficient to ripen any corn, we should judge the estimate not too high; the cold weather a few days past, is however against the corn crop. The variety of corn planted is called the Phinney—a fine long eared, twelve rowed variety, and earlier than the Dutton Corn, to which it has some resemblance. In another lot on his peat meadow, we saw a smaller field, on which the corn was more luxuriant and promising than on the one just named, and if that produces eighty bushels, we should not be surprised if this produced one hundred bushels to the acre. Think of this you that own unreclaimed peat meadows, and are longing for the fertile prairies of the west; before you sacrifice your farms and bid adieu to the institutions and hills of New England, make an effort and bring them into subjection: it will prove an antidote to the western fever, or we are much mistaken.

WHEAT FIELD.

We noticed a fine field of wheat of eight acres, which the laborers were gathering into the granary. It appeared well filled out; the produce estimated at twenty bushels per acre: it was of the variety called the Black Sea, which we find succeeds best in the vicinity of Boston and most generally cultivated.—We were informed that about thirty acres were under the plough the present season. Besides Indian corn, potatoes and English grain, Mr. Phinney cultivates the root crop extensively. His ruta бага, mangel wurtzels, sugar beets and carrots looked very promising, and will afford an abundance of food for his numerous family of swine, and other stock.

DRAINING.

In draining his low lands, Mr. Phinney first cuts off all springs from the surrounding hills by a deep cut at the margin or outer edge of the piece, which is converted into a blind ditch: from this most important cut, the drains are made to the centre ditch. Where there is an abundance of stones as in this case, all the drains may be filled and covered over, so that the operations of the plough, &c., may not be impeded. We were shown one piece over which it was dangerous for his cattle to pass, and in which they sometimes got mired, before he commenced the draining process; here his first essay on draining had been made, in which, through inexperience, he only cut the centre and cross drains, but with all he did, it would produce nothing but skunk's cabbage, hellebore, brakes, &c., and it seemed that all his labor had been lost, un-

til he learned the importance of the ditch around the margin, which produced the desired effect, and now it ranks among his most productive grass lots, and a loaded team may be driven without difficulty over it.

DIGGING PEAT.

We were pleased with his system of digging peat, of which he has an ample supply. Where peat is generally dug, the grounds are left in the roughest state, and present an unpleasant and unsightly appearance, and remain an unproductive waste: but it is his rule to have the top split, a depth of ten inches or a foot, (the portion unfit for the fire,) thrown over and levelled as the work of digging proceeds: in this way it soon becomes covered with grass which answers very well for stock hay.

STONE FENCE.

One peculiar feature of this farm is the massive stone walls by which it is enclosed and divided. It would seem a Herculean task to build the wall that has been put up under the care of the intelligent proprietor. In the measurement of the length of wall upon the farm, we may safely say there are miles of it,—we know not how much there may be; on this subject we are not informed; one piece of considerable length is ten or eleven feet thick, seven feet high, and covered with grapes, which have been set out on the south side of it: a fine native variety, found on the place. The vines were loaded with fruit, and bring by the quantity from eight to ten cents per pound: we should judge there might be a ton of them. All the other walls are double, from five to ten feet thick and five to six feet high, and must have consumed an enormous quantity of stone. We noticed grapes upon many other portions of the wall.

ORCHARD.

The orchard on this farm is equal if not superior to any we have seen. It contains from four to five hundred trees, principally Baldwins, Russets, and Rhode Island Greenings. It produced a very abundant crop last year, but this year there is scarcely an apple upon it. It was planted somewhere about fourteen or fifteen years since. The soil is generally a light rich loam, upon a gravelly, and in some places a rocky foundation. The trees were taken from the nursery in autumn, and placed in trenches until the following spring. They were planted near the surface, and in many instances, upon the surface, without digging any holes, and the dirt placed upon the roots. The orchard is situated on a side hill, having a south and south-east exposure. Many of the trees were severely injured by the hard winter of 1835 and '36, which caused the destruction of some of them. Their places have since been sup-

plied with young trees. The mice injured some of the trees a number of years since, by gnawing the bark, so that in some cases the trees were completely girdled, and to all appearance lost. An ingenious method was devised to save them. Having prepared some large scions, five or six of them were inserted in each tree below the wounds in the bark, and then connected with bark above by the common operation of side grafting: in this way the sap was conducted from the roots to the top, and the trees saved. We saw some of the trees thus operated upon; the scions had increased to the diameter of three or four inches, and had nearly come in contact with each other: we should doubt, however, whether the trees would be long lived, as the old wood must be unsound, and an early decay must be the consequence. The trees appeared now as vigorous as any of their neighbors.—The orchard has never been laid down to grass, but kept in constant cultivation. The trees are finely shaped, having been pruned with a skilful hand, and just high enough from the ground to work under without inconvenience: the trees are about two rods apart: in some places they nearly cover the ground.—We do not remember how many barrels were gathered for the market last year, but the quantity was great. Beside this orchard there is another that has been set out only two or three years, of two or three hundred trees, all of which are sweet apples, designed expressly for swine. All the refuse apples are fed to the hogs, and considered much more valuable for that use than for cider.

VARIOUS FRUITS.

The farm is abundantly stocked with pears, plums, peaches, grapes, &c. There are more than two thousand fruit trees of various sorts upon the place, and all have been reared and pruned by the hand of the proprietor himself. One of the most pleasant sights is a trellis, thirty rods in length, covered with the Isabella grape, from which was gathered last year two tons of grapes, which found a ready sale in Boston market at ten to twelve cents per pound. The crop was said not to be so heavy this year, but to us it appeared very great. There is also a small house where the more delicious foreign grapes are grown. The plums had suffered severely from the curculio, and most of the trees had lost their fruit. There is a disease upon the currant bush, which we have noticed in many other places as well as on this. The bush loses its leaves prematurely, and the fruit becomes withered and worthless. We have in vain sought for the cause. Can any of our readers inform us, and prescribe a remedy? The vegetable garden is large and well stocked with every variety: what is not consumed in the family is marketed or fed to the swine.

SWINE.

Mr. Phinney has taken great pains to improve his breed of swine, and probably there are none superior in the state. As we have a promise from him of a description of his pigs and piggery, for the N. E. Farmer, we shall not enlarge upon this subject. He prefers a cross of the Berkshire and Mackey to any other, and most of his pigs for slaughter are of this description. He has the full blooded Berkshire, Mackey, and other breeds, and mixes to suit himself. We noticed a sow lately imported from England, called the Essex half black: the hinder part of the animal is jet black, and the forward half white.—There are some good points about her, and she may prove a valuable acquisition to his stock; not having recovered from her sea voyage, she does not appear now as she will after a few weeks of good keeping. There is an old sow here, quite an object of curiosity, (we do not recollect the breed,) that weighs nine hundred pounds, a monstrous overgrown animal: she had been turned out of her pen to enjoy her liberty a little, which she did not, however, seem to appreciate much, as all the room she wanted appeared to be enough to turn round and lie down upon. She looks as though she might be the parent of a most numerous offspring, but we understood she was without issue, having apparently no inclination to form an intimacy with the other sex. The number of swine is about one hundred and forty, the care of which employs one man constantly.

BARN—OUT BUILDINGS.

The barns and other buildings for the accommodation of stock are convenient and comfortable, with sufficient room for the hay and grain produced on the farm. About one hundred tons of hay are cut annually, part of which is sold. For every ton of hay sold, one cord of manure is purchased. To improve the land and keep it in high tilth, it is necessary of course to manufacture a large amount of manure. This is done first by the hogs. The man who has the care of them is constantly employed at odd hours in furnishing them materials, such as meadow mud, peat, weeds, &c.: second, by sheep: in autumn one hundred and fifty or two hundred wethers are purchased from the droves, and fed through the winter: by March they are in good flesh and bring a high price, and pay well for their keeping; their yards being furnished with a plenty of mud and litter, when mixed by their excrements makes a rich compost: third—by the other stock and the manure purchased, which is carefully mixed with twice the quantity of meadow manure. One cord of this composition is considered about equal to one cord of stable manure alone.

In making our observations upon this place, we feel as if it was not in our power to do it justice, as we spent but a few hours upon it. Every part of it shows, that by science, industry and skill, it has been rendered worthy of being ranked among the first of well cultivated farms in New England, and its proprietor worthy of all praise for the laudable example he has set for the imitation of his agricultural brethren.—*N. E. Farmer.*

For the Farmers' Cabinet.

Essays on Agriculture.—No. VIII.

BY JOSEPH CLOUD.

A brief notice having been taken of the different substances entering into the composition of vegetables; we are still, however, at a loss to comprehend the multiplicity and diversity of operations, continually going on in vegetation, at the same time producing the vast variety of combinations, possessing different properties all formed out of the same ingredients. When we consider the unerring and mysterious laws that govern the vegetable economy, we are struck with astonishment at the order and regularity with which every object is obtained, and every thing is prepared for its intended purpose. It is too wonderful to escape observation, that a few simple substances, possessing individual inherent laws for their government, which, by their diversity of combinations, should produce all the phenomena of the vegetable kingdom, when we contemplate the laws that govern the ultimate particles of the matter entering into the composition of vegetables, which disposes them to unite, in different definite proportions, with similar and dissimilar particles of matter in the form of vegetable organization,* every change in the proportion necessarily producing a different effect in the organic mass. One particle more or less of any variety of matter may produce the cabbage or deadly nightshade, when an increase or diminution of the same variety of matter may produce plants possessed of very different properties. From the circumstance of the combination of every other variety of matter operating in a similar way, by pursuing the effects naturally resulting from the various combinations of the same causes, it is easy to conceive how the whole vegetable pheno-

* It is to be understood that whenever ultimate particles of different kinds of matter, uniting chemically, and forming solids, they may be with propriety considered as organizations, and consequently become governed by a new law resulting from the co-operation of the individual laws inherent in the particles of matter forming the organized mass. It is an inamutable principle in the operations of matter, that the same causes in the same proportions, and under similar circumstances, will produce similar effects, and that by a variation in the proportions of any of the causes, different effects are produced.

na is produced. Indeed, it is surprising that the quantity and variety of plants should be confined to so limited a space. But when we consider the controlling powers of the laws governing the particles of matter, and confining their union in organization to certain definite proportions, every difficulty on that subject naturally vanishes. As all plants grow from seeds or buds, it necessarily follows that the seed or bud is a perfect *germ* or *nucleus* of organization, governed in its formation by the same prevailing laws that perfected the parent stock during its production—consequently, the seeds or buds of every variety of plant will, in all cases, produce similar plants, although the nourishment, when taken into the general vegetable circulation, may be similar in all cases. The peculiar assimilating power inherent in each variety of plants must invariably control, in the preparation and arrangement of the particles, the proportions necessary to enable them to assume the form of organization peculiar to the plant. If the *buds* or *germs* of organization of one variety of plant be *inoculated* into a different variety of plant, vegetation continues in such bud as freely as it would have done on the parent stock, and all accessions to the growth of such bud, and the fruit produced, will be precisely what it would have been if it had remained on the original stock; hence it is usual to gather different varieties of fruit from the same tree.

Mr. Phinney's Pigs and Piggery.

J. BRECK, ESQ.—Dear Sir—In compliance with your request, I cheerfully devote a few moments to giving you an account of my piggery. I will premise, by the way, that the writer of an article which appeared some months since in the Yankee Farmer, and which I regret should have found its way into many other papers, has greatly exaggerated the profits of my establishment. I have often stated, and now repeat, that the manure from my hog pens will pay for all the food which I *purchase* for them: the residue of their feed, by far the greater part, being the produce of my own farm.

When the average price of corn is one dollar per bushel and potatoes thirty-three cents, and pork will bring twelve and a half cents per pound, I have no hesitation in saying that there is a handsome profit in raising pork for the market, *provided* the hogs be of the best breeds. With such breeds I have always found that four quarts of Indian or barley meal, with an equal quantity of apples, pumpkins, potatoes or other roots well cooked, will give two pounds of pork. At this rate it will be perceived that there is a profit on the pork at the above price, exclusive of the manure

the hogs make, which is of great value to the farmer, but by no means equal to the whole nor even half the expense of feeding.

My breeds are principally of the Berkshire full bloods, and a cross of this breed with the Mackey breed. This cross I have found decidedly preferable to the full bloods of either. I have an imported sow of the "Essex half blacks," being a descendant of the Berkshire, and highly spoken of by English breeders. The Mackey pigs were imported into this country from England some fifteen or twenty years ago, by Capt. Mackey, of Boston, and till within a few years were decidedly the best stock in New England, and perhaps in America. When first imported, Captain Mackey, on his farm at Weston, not unfrequently brought them up to six hundred pounds, at the age of eighteen months. In all the essential points, such as maturing early, lightness of offal, greater weight in the more profitable parts, thinness of skin, &c., they greatly exceeded the Berkshire breed. But by breeding *in and in*, as it is termed, they had greatly degenerated, and become weak and feeble in constitution, small in size, ill-shaped, and in some instances deformed. With the exception of the human species, no animal degenerates so rapidly by this practice of breeding *in and in*, as the hog. Judicious crossing is the only way by which a good breed of swine can be kept up and preserved. By proper attention to this principle, all good and valuable qualities of a breed may be preserved and the bad rejected;—without it the best breeds will soon become worthless.—With a view of restoring some of the good properties of the Mackey, I tried crossing them with various breeds, and with none have succeeded so well as with the Berkshire. The produce of this cross possesses all the good and valuable points of the Mackey, united to the health, vigor and size, without any of the coarseness of the Berkshire. The best pigs, however, that I have ever raised, and I can say without hesitation, the best I have ever seen, were produced by putting a full blood Berkshire boar to a sow which was a cross of the Mackey with a "Mocko," a New York breed, the progeny being half Berkshire, a quarter Mackey, and a quarter Mocko.

My stock of fattening swine usually consists of about one hundred, besides about fifty stores. My time for slaughtering is in February and March, when half my pigs are at the age of fifteen and sixteen months, being the fall and winter litters of the previous year, the other half being the pigs of the spring next previous to killing, and are at the age of nine and ten months. The former in years past have weighed from three hundred and fifty to four hundred pounds, and in some instances as high as five hundred pounds.

The latter from two hundred and fifty to three hundred and fifty pounds.

An inquiry is often made as to the best time of killing, or at what age it is most profitable to slaughter them. On a large farm where much green herbage is produced and where the value of the manure is taken into the account, I consider the pigs killed at the age of fifteen and sixteen months as giving the greatest profit. When it is intended to kill them at this age, they may be kept on more ordinary and cheaper food for the first ten or twelve months, or till within four or five months of the time of killing. The manure they make and the extra weight of pork more than pay the expense incurred in keeping them the longer time; but the spring pigs which are to be killed the ensuing winter and spring, must be kept upon the best of food from the time they are taken from the sow until they are slaughtered.

The older class of pigs for the first ten or twelve months, are kept principally upon brewers' grains, with a small quantity of Indian or barley meal, or rice, ruta бага, sugar beet, &c., and in the season of clover, peas, oats, cornstalks, weeds, &c., they are cut green and thrown into the pens; the next four or five months before killing, they have as much Indian meal, barley meal or rice, with an equal quantity of potatoes, apples or pumpkins as they will eat, the whole being well cooked and salted, and given to them about blood warm. During the season of fattening, an ear or two of hard corn is every day given to each pig. This small quantity they will digest well, and of course there is no waste. Shelled corn soaked in water made as salt as the water of the ocean, for forty-eight hours, with a quart of wood ashes added to each bushel, and given to them in small quantities, greatly promotes their health and growth. Their health and appetite is also greatly promoted by throwing a handful of charcoal once or twice a week into each of their pens. Their principal food should, however, be cooked as thoroughly and as nicely as if intended for table use. From long practice and repeated experiments, I am convinced that two dollars worth of material well cooked, will make as much pork as three dollars worth of the same material given in a raw state.

Pigs when first taken from the sow should be treated with great care, to prevent scouring and from becoming stunted; when either of these happen, it will require many days and sometimes weeks, to put them again into a healthy, growing condition. When first deprived of the maternal food, a little new or skim milk, boiled and slightly salted, and given to them often and in small quantities, will prevent scouring and greatly promote

their growth. If intended for killing at the age of nine or ten months, they should be full fed all the time and kept as fat as possible. If on the other hand they are intended for killing at the age of fifteen or eighteen months, they should not be full fed, nor be made very fat for the first ten or twelve months.

To satisfy myself of the benefit of this course, I took six of my best pigs eight weeks old, all of the same litter, and shut them in two pens, three in each. Three of these I fed very high and kept them as fat all the time as they could be made. The other three were fed sparingly, upon coarse food, but kept in a healthy growing condition, till within four or five months of the time of killing, when they were fed as high as the others. They were all slaughtered at the same time, being then sixteen months old. At the age of nine months the full fed pigs were much the heaviest, but at the time of killing, the pigs fed sparingly for the first ten or twelve months, weighed, upon an average, fifty pounds each more than the others. Besides this additional weight of pork, the three "lean kine" added much more than the others to my manure heap. These results would seem very obvious to any one who has noticed the habits of the animal. In consequence of short feeding they were much more active and industrious in the manufacture of compost, and this activity at the same time caused the muscles to enlarge and the frame to spread, while the very fat pigs became inactive, and, like indolent bipeds, they neither worked for their own benefit nor for that of others.

For the purpose of increasing my manure heap, my pens are kept constantly supplied with peat or swamp mud, about three hundred loads of which are annually thrown into my styes. This, with the manure from my horse stable, which is daily thrown in, and the weeds and coarse herbage which are gathered from the farm, give me about five hundred cart loads of manure in a year.

On regular and systematic feeding and clean and dry bedding, the success of raising and fattening swine very much depends. A faithful feeder, also, who has some skill and taste, and withal a little pride of vocation, is indispensable. Homer informs us that much of the success of Ulysses in rearing his fine hogs, was to be attributed to his faithful Umeus, whom the old soldier styled (*δῖος σολῆτης*) god-like swine-feeder.

The annexed is a rough plan, which may serve to give you an idea of the compact manner in which my hogs are kept. It is intended for a plan of the upper story and one end. The lower story corresponds with the upper, except that the promenade is extended

out about six feet from the line of the upper outside promenade line.

PLAN OF THE FLOOR OF THE UPPER STORY.

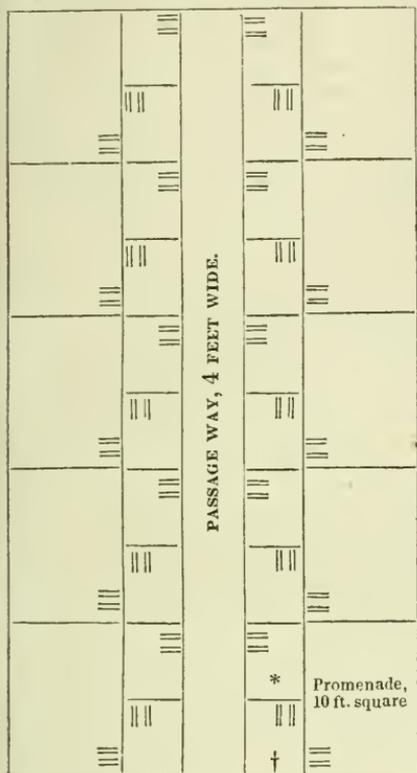


Fig. 12.

END VIEW.

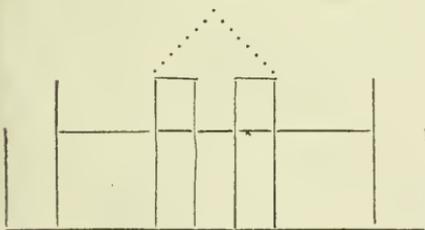


Fig. 13.

The roof covers the passage way and eating and sleeping apartments on each side, and made sufficiently high to enable the feeder to pass between the pens. The floors of the eating and sleeping apartments are made perfectly tight—the floor of the promenade in the upper story is laid with narrow plank, placed about one inch apart, so that whatever is dropped by the pigs, falls through on the compost beneath. † The promenade of the

* Dormitory 5 ft. sqr.

† Eating apartment 5 ft. sqr.

lower story has 10 floor. The only passage for passing the pigs out and in, is by a slide door between each dormitory and the main passage way. The pen being on ground which is a little higher at the end where the boilers are placed than at the other, the floor of the boiler room is on a level with the passage way of the upper story, where the pigs kept in this part of the building are taken in and out. At the other end of the building, the floor of the passage way in the lower story is on a level with the natural surface of the ground, and by a door at that end of the passage way, the hogs in the lower story are taken in and out. You will perceive that a pen one hundred feet long and thirty-four wide, with three in a pen, will furnish ample accommodations for one hundred and twenty hogs. A passage way for the feeder is made from the cooking room to the passage way in the lower story.

Very respectfully, yours,
N. E. Farmer. E. PHINNEY.

To the Editor of the Farmers' Cabinet.

SIR,—In reply to your correspondent, Mrs. JENKINSON, page 52 of the Cabinet, I beg to say, I have no doubt the use of lead pans for the dairy is highly objectionable, particularly, as she intimates, "in the hands of filthy and careless persons." In many places, however, zinc pans have been substituted with perfect success; and an addition has been made to them which facilitates the operations of the dairy, and seems to embrace all that can be desired in that department of rural economy. For the information of those of your readers, who have not seen or heard of this invention, I beg to offer, for insertion in your valuable pages, a particular account of their structure, together with the mode of using them, and remarks on their introduction to general use. One of these pans has been made in this country, and is now in use; the result of the experiment might form the subject of a future communication to the Cabinet.

Your Subscriber, J. P.

September 20, 1839.

Double Milk Pans,

For the use of large or small Dairies.

These pans, made of zinc, prepared after a peculiar process, possess many and great advantages over those in general use, and are recommended as far superior to any ever

adopted, for the purpose of raising the cream and facilitating the labors of the dairy.

1. They are peculiarly strong in their construction; not liable to get out of order; and most convenient in their form, and take but little room in the milk house.

2. They communicate no unpleasant flavor to the milk; are most easily kept clean by means of hot water, a brush and soap; requiring not a tenth part of the labor necessary to keep others sweet, and are suitable for every season and situation.

3. They are made of different sizes to suit large or small dairies, the largest being sufficiently capacious to contain the milk of half a dozen cows, it having been found advantageous, both to the quantity and quality of the butter, to mix together the milk of different cows at the time of setting it to cream.

4. At the time of skimming, the labor of collecting the cream from these pans not being a twentieth part of that necessary where pans of any other construction are used, while *all* the cream and *none* of the milk is obtained, with the greatest precision and without trouble.

5. The business of churning is much facilitated, the butter coming very quickly; and this takes place in a regular way, uninfluenced by seasons or circumstances.

6. The butter is uniform in quality, and of a marrowy consistence; never hard and flinty in winter, and in summer it only requires the usual care to preserve it firm and cool; while it is remarkable in the property of keeping sweet for any reasonable length of time, and being of a superior color to that made from the same cream in the usual way. A calculation has been made, that a pound of butter can be made per week from each cow more by this process, than by any other.

DESCRIPTION OF THE PANS, AND MODE OF USING THEM.

Each pan is placed on a strong wooden frame of the most convenient height; is dish-shaped, either square or oblong; the largest being about five feet six inches long by thirty inches wide; smaller pans can be made to order. They are *double*, the pan for the milk being firmly joined to another of the same shape, but somewhat larger, which forms a casing around it; the space between them being from two to three inches deep, is for the purpose of containing hot water, thus forming a bath around the milk. In the centre of the upper or milk pan, which dips regularly towards the middle, is a fine strainer; and to this is attached a short pipe, which descends through the bottom of the casing pan, of which, however, it is independent; it is furnished with a brass tap, its purpose being to let off the milk contained in the

upper pan, at the end of the process. The casing, or bottom pan, is furnished with two pipes; one perforates a corner of the upper or milk pan, and through this, boiling water is poured by means of a funnel at the proper time, so as completely to fill the space between the pans—thus, as has been said, forming a hot bath around the milk. By the other pipe, furnished also with a tap, the water is let off at the proper season. Thus the pans, although firmly joined together, are independent of each other, the union, however, strengthening each in a remarkable manner.

At the time of milking, the taps are closed, and the upper pan is to be filled with the milk as it comes from the cows; after standing twelve hours, the tap is partially unclosed, and a small portion of the milk is drawn away; this, on examination, will be found to contain the impurities of the milk, which have subsided; (the peculiar formation of the pan having induced the sediment to form exactly on the strainer) and this economy is of much consequence to the quality of the butter. The casing, or bottom pan, is then to be filled with *boiling* water,* by means of the pipe which perforates the upper pan, which is then to be closed; and the water is permitted to stand twelve hours, when it is to be drawn off by the tap below, opening first the pipe above, to give vent. After this, the milk is to be drawn off, by placing a vessel to receive it, and opening the tap; every particle of the cream having risen to the surface.—Thus the milk will be found to drain away, leaving the cream in the pan, from whence it can be removed with the greatest ease and facility; very little practice in this part of the process will make perfect. As soon, however, as the cream is removed, the pan should be well washed with hot water and soap, which will neutralize any acidity there might be; and a careful rinsing after, fits it for an immediate re-filling without removal or labor.

The cream might now be transferred to the churn, where it will soon become butter of the finest quality; or it might be “brought” by merely stirring with the hand in a pan, after the Devonshire method; either way, which is thought most convenient.

REMARKS.

This is a new, and most interesting and convenient process of butter making, the advantages of which can scarcely be sufficiently appreciated, but which cannot be fully carried out without the use of double pans. Every housekeeper is fully aware of the advantage of scalding or “cooking” the milk which

*The heat of the water which is first poured into the pan will be considerably reduced, by coming in contact with the cold pans; this therefore should be let off after standing some time, and be replaced by other, boiling hot.

is to be kept until the following day, and by the means above described, this process is conducted in the simplest manner, without labor or inconvenience, and with the greatest precision, the mode being an improvement on that which is practised in Devonshire, which is, to take every pan of milk to a hot plate at the end of twelve hours, where it must remain "a given time," to be ascertained by unwearied watchfulness, and then be taken back to its former place; after which, however, it is often found to have acquired a burnt or smoky flavor, from over-cooking, sufficient to spoil the quality of the butter; while milk that has been submitted to the heat of boiling water, will be found to have deposited every particle of cream on the surface, without acquiring any bad flavor; and this is equally the case with the milk of those cows which, without this process, is found never to separate its cream; and to this circumstance is to be attributed, in a great measure, the extra quantity of butter which is obtained by this management. The cream remains a much longer time sweet, and acquires an aptitude to "butter," which is truly surprising, rendering unnecessary that incessant beating into foam for twenty-four hours, as every dairyman has wofully experienced, by which the butter is rendered hot and rancid, even before it is taken from the churn.

But perhaps, one of the greatest and most perceptible advantages of these pans is, the owner of the dairy is no longer at the mercy of careless and unprincipled servants, who, in the hurry of skimming, are often known to sacrifice a great portion of the cream to the hog-tub, a loss which soon amounts to a large consideration: here, these servants have only to set the milk pans running, and they will skim themselves, requiring only a small portion of care to stop them when the milk has passed away: while another very great injury is prevented, which arises from the *opposite vice*—that of over-skimming, by which the butter is deteriorated by the stale milk which is thus taken and mixed with the cream, for if the strainer be of the proper size and fineness, the milk will *all* pass, and the cream will *all* remain.

To a nice observer, however, the means of drawing off the impurities of the milk at the bottom of the pan before adding the boiling water, will not be lightly considered; a close examination of this portion of the milk will convince any one, by smell as well as taste, that "nothing is so disgusting as animal putricity." The skim-milk from this process is sweet, and very superior for the making of cheese.

Never pretend to tell what you do not know.

Remarks on Harvesting Corn.

BY REV. H. COLMAN.

The season for harvesting our corn crops will soon be upon us. The extremely hot weather which we have had for a fortnight past, prior to the late storm, has placed much of the crop out of the reach of frost; and the yield almost universally promises to be abundant. This may be pronounced the great crop of New-England. If we have corn enough, we shall have beef, pork, and poultry enough. We do not believe there is any grain which, considered in all its aspects and uses, is so valuable.

There are several modes of managing the crop, the fodder and the grain; but they are not equally eligible.

The first is to top the stalks after the ear has become perfectly formed and slightly glazed. There is great danger of performing this operation too early. When done before the corn is generally hardened, the exact experiments of William Clark, Esq., of Northampton; of John Lorain, of Pennsylvania, and others, have demonstrated that the loss upon the crop may amount to a quarter or a fifth of what the crop would otherwise be. The topping of the stalks is, we believe, an unnecessary, useless, and often a pernicious labor, and therefore not to be advised.

The second method is to leave the crop untouched until it is perfectly ripened, and then to cut it up at bottom and carry it all into the barn and husk it. Some gather it in the field and then cut the fodder. In either case, the corn being thus left, is always exposed to suffer from frost before it is perfectly ripened; and the fodder, it is believed, loses much of its succulence and nutriment.

The third process is, after the ear is glazed and the corn has passed beyond the boiling or roasting state, to cut it up at bottom and let it dry in the shock. In this way it is early taken out of the way of the frost; the corn if properly managed ripens perfectly and weighs more by the bushel than if perfectly dried, as by the second method described, and the corn fodder is dried with all its juices retained in it; it has a richness and freshness which render it particularly palatable to cattle, and as nutritious for beef or milk stock as any dry feed which can be given to them. This operation should be executed with care. Let a hill occasionally be left standing for a support of the shock against the wind. Bring as many armfuls of the corn cut up as are sufficient to make a good sized shock around the standing hill—set the bottoms well out and tie them all at the top with a wisp of straw, turning the head down. But do not first, as is often practised, tie the corn in small bundles. In this way the corn and fodder will

cure perfectly. When it is time to carry it in, slip a knife under and cut the standing hill; pitch the whole shock into the cart; and being loose and easily handled, by bringing the top of the shock into your lap, it will be easily husked. A great deal of trouble will be saved, in this way. Do not, as is often done, carry out your corn and make your shocks upon the grass land, as in this case the air will not circulate freely under the shock, and therefore neither the corn nor the fodder will dry perfectly. The most intelligent farmers in the state estimate generally the value of the corn fodder on an acre of corn yielding forty bushels to the acre, well cured and saved, as equivalent for the feeding of any stock, to a ton of English hay. Not a few rate it even higher than this.—*New-England Farmer*.

On the Manufacture of Sugar from the Beet.

To the Editor of the Farmers' Cabinet.

SIR,—The time has at length arrived for the resuscitation of the Beet Sugar cause, and it only requires the energies of some strong-minded individual to call it back to life and vigor—not that it has ever shown a *symptom* of decay—it has only *slumbered*, to recover from the effects of that over-excitement, which it experienced on its first introduction to public notice; and a period of three years has been requisite to enable it to recover its natural state of equilibrium. It has now only to hope that it might go forth on its own merits, under the management of some one competent to draw forth its energies; with a capital sufficient to sustain it, and time allowed to carry out the operations, beginning with the cultivation of the root, and ending with the manufacture of the sugar therefrom. The way is plain, the success certain; it only deprecates over-nursing, and a too hasty expectation of final results; courting, in the mean time, the closest scrutiny, and rigid examination on scientific principles.

The time which has elapsed, has afforded ample opportunities for experiments, and these have strengthened the hypothesis, that sugar, equal to that from the cane, can be made from the beet, not only to profit, but with manifest advantage to the agriculture and husbandry of the country; as also, to the system of feeding cattle and sheep for slaughter; while, for the dairy, it is universally admitted that the sugar beet is a crop, superior to every other, both as to quantity and quality; many of the crops, the present year, averaging thirty tons per acre; the value being superior to corn, as food for cows.

As this is the proper season to commence operations in earnest, permit me to sketch a plan, which only requires to be acted upon

with vigor, to prove a source of great profit, to those who have sufficient capital to invest in the undertaking.

1. Not less than from one to three hundred acres of beets to be cultivated the next season, in a light and suitable soil near the city, from whence manure can be obtained in quantity, with short carriage. The land should immediately be ploughed very deep, and left so to lie until the spring; and during winter, the dung should be carted to the land, and be placed in large heaps, preparatory for use in the spring; and as soon as the season will permit, the land should again be ploughed, and prepared for an early spring sowing, March and April being the best months; and while growing, the crop should be well attended and kept clean.

2. During the winter and next summer, there will be time sufficient for the preparation of machinery, and the erection of suitable buildings, both for the sugar house and fattening establishments, and also for fixing the different apparatus, so as to be in the most perfect order by early autumn, when the crushing might be commenced in September, and be continued through the winter: and as soon as the land is cleared of the crop, it should be ploughed very deep and be thrown into high ridges, with plenty of water furrows; and on the same land, beets should again be sown in the spring, after proper stirring and working. This system might be pursued for any length of time, with the certainty of obtaining larger crops, with one half the trouble of cleaning, for the beet is a meliorating crop, and may be sown many years in succession on the same soil, with less and less labor in the cultivation; the land having become clear of weeds, and a greater depth of staple being added to it, by deep ploughing before winter. In the report, published by the "Beet Sugar Society of Philadelphia," there is an account of a field, which was preparing for a sixteenth crop of beets in succession; several of these crops had been grown for seed, but for these *only* had manure been applied; and yet, the fertility of that field had ever been on the increase.

3. I would strenuously urge, that the business be taken up as one of *profit and loss*, and not as an experiment; and that it be entered upon with resources, such as are considered sufficient for establishing any other concern of equal magnitude. Every one knows and admits, that the making of sugar is a business that can never fail—that must be carried on—the appetite for it is still increasing, "growing with our growth and strengthening with our strength," and the consumption will keep pace with the production, until the end of time, for every one is a consumer of sugar, in some shape or other;

and, generally speaking, it is profitable to all concerned in the fabrication—in the hands of competent persons, decidedly so.

The cultivation of the beet, and the rearing and fattening of stock, are legitimate objects connected with the sugar house; and *united*, they form a suitable employment for the man of cultivated mind, whose education and pursuits have unfitted him for “dashing into the far west, with his broad-axe upon his shoulder,” or the daily toil of growing his vegetables and exposing them for sale in the market in his own wagon. Sugar growing, then, is destined to become a resource to those who, from reading, study and observation, have become “enamoured of rural affairs;” by it is embraced all that has ever “charmed the eye, the ear, or the heart of the modern agriculturist;”—here, he indulges his taste for machinery, chemistry and the arts, and fabricates a tropical luxury in his own mild and healthful region, by means, too, which do not deprive him of his nightly slumbers, or inflict upon him the pain of urging his *servants* to exertions, endangering health and even life, lest a change of season should mar his prospects for a whole year.

Is he fond of rearing fine stock, and particularly that noblest of all animals, the horse? If I could take him to the magnificent establishment of Mons. Hamoir, near Valenciennes, in the heart of the Sugar District of France, and introduce him to that generous family within the house, and to those perfect and beautiful specimens in the stable and barn-yard,—where I saw thirty oxen, of the Durham breed, fattening on the refuse of the sugar house, and the dairy cows of the same breed feeding on the same—fifty plough horses in one stable, of the largest Flemish breed; seven saddle and carriage horses, reared from the mares of these plough teams, by a cross with the stout English blood horse; five three year old colts, for the carriage, and hunters, of the same breed; and four of one year old—all beautiful in their form, and of superlative strength, and all feeding on the refuse of the sugar-house,—I am sure he would be, as I was, *enamoured with the beet sugar business!* while to the philanthropist, in such a country as France, as Mons. H. observed, the reflection that “the introduction of the growth of the beet root has added immeasurably to the moral and physical strength of the country,” must be grateful indeed! Here I saw one hundred men and women digging the land for the cultivation of the beet, with fifty horses ploughing in the same field, for the same purpose; but I never saw a new house going up in France, except in the neighborhood of the beet sugar establishments! I remember, while walking over his fields with Mons. Hamoir, that he left me for an instant,

to step into a fine piece of clover, to pull up a tall weed which he saw growing there, apologising for the weedy state of the land, as he had not yet time to thoroughly clean it, being busily engaged in beet sowing!—is it any wonder, that he obtained an extra price for his sugar, at the refinery, amounting to one dollar and forty cents per hundred pounds, above his neighbors?

The conjecture, that larger crops, and more rich in saccharine, can be grown in this country than in France, has been fully verified; but even there, the yield in both has been surprising, in the estimation, too, of a large sugar planter at New Orleans, who observed, “if you will insure me seven per cent. of sugar from the Beet, I will cultivate them, and make a profit of 150,000 a year,” and I cannot resist the opportunity, to mention a conversation which I had with the late lamented Mr. George Walker, of Holmesburg, who said, distinctly, “There are three things which I can promise you in this country—larger crops, more rich in saccharine, and a ready sale for all the sugar you can make;” and I am confident, that the quantity and quality of the crop is increased, by continued cultivation; the land becoming more suitable to its growth by deep ploughing, and thorough cleaning; a deep, clean, and well pulverized soil being essential to both.

In the report above mentioned, the average yield of sugar &c. per acre is as follows, estimating the crop at 40,000 lbs. per acre, and six per cent. of sugar.

Sugar, 1st and 2d quality.....	2400 lbs.
Melasses, 2 per cent.,.....	800
Cakes, 15 per cent.,.....	6000

9200 lbs. per acre.

But at *nine* per cent. of sugar, which is obtained, and a crop of 60,000—the quantity which *can be raised* in this country—the account will stand thus:—

Sugar, 9 per cent.,.....	5,400 lbs.
Melasses, 2 per cent.,.....	1,200
Cakes, 15 per cent.,.....	9,000

15,600 lbs. per acre.

Now, compare this yield with that from the sugar cane, even in some parts of the West Indies, and the difference will appear striking indeed. The following account is copied from Major Moody's Report of the estimate of the produce and expenses of a sugar estate in Tortola, which may be relied upon, he having been appointed, by the court of chancery, receiver, to take charge of the plantation.

Sugar grounds,—135 acres.*	
Yield of sugar, 80 hds. @ 1,500 lbs.—	120,000 lbs.—
888 lbs. per acre.	
Melasses distilled—	400 gallons of rum.
Negroes employed—	83.

* The produce on 135 acres of beets, at 60,000 lbs.

This was in the island of Tortola—the report contains another account, of a crop in the well cultivated island of Barbadoes.

Sugar grounds.—66 acres.
Yield of sugar, 116 hhds. @ 1000 lbs.—185,000 lbs.—
2-12 lbs. per acre.
Melasses distilled—5216 gallons of rum.
Negroes employed—120, and 30 children.

These estimates were published, to show the difference between productive and unproductive estates; the second pays nearly nine per cent. profit upon capital invested, the first paying $2\frac{1}{2}$ per cent. only; the difference in favor of good management being $6\frac{1}{2}$ per cent. profit. But compare even No. 2 with the best crops of beet, united to the best management, and the difference is very greatly in favor of the latter. Melasses given to the cattle, horses, sheep and hogs, will pay a profit five times as great as that to be obtained from rum in the West Indies; rendering even the refuse of the crops, when cut up and soaked for twenty-four hours, the most nutritious and palatable food. But at the *lowest calculation*, the profit upon the culture and manufacture of the beet is most ample; while the advantages to the cause of agriculture, husbandry, and the *mechanical arts* of the country, are *incalculable*.

It is not, however, my intention to recommend the manufacture of sugar from the beet to the agricultural part of the community generally—this is neither expedient or desirable. In the first place, the necessary outlay for improved machinery, without which no good results can be obtained, would operate as an interdiction, in very many instances; while the employment would be foreign to the habits and feelings of such persons generally, and would lead away their attention from the more important and legitimate objects of their calling. But I would recommend every farmer to cultivate the sugar beet as winter food for animals of every description; and should they at any time have more than they require for this purpose, a ready sale might be made at the sugar-houses, at a price which would often bring about three times the value of the land upon which they grew. The real value of this inestimable crop will not be fully known, until it is cultivated to the full extent of the wants of the country. The system of fattening cattle and sheep *in the winter*, is attended with great profit; they are purchased lean, at that part of the year when they are cheapest, in

consequence of the approach of winter; and a friend has just reminded me of a mode, which he once adopted in the expenditure of a crop of sugar beets, which proved very profitable. He purchased cows and calves, at the commencement of the season for taking up the crop, which he fed in stalls, in the first instance with the leaves or tops, as they were cut off; permitting the calves to take all the milk; after the tops were expended, he commenced on the roots, allowing each cow two oil cakes a day. In the spring, the calves were sold to the butcher, very large and fat, and about six months old, at astonishing prices: the cows were then permitted to go dry, and in six weeks they were also sold fat, for large prices, at a season when beef was scarce and dear. One little cow, which he purchased for seventeen dollars, brought a calf which he sold for forty dollars, after which the cow was fattened the same season. This plan, he conceived, paid him better than any other of his labors; and, which was of immense importance, furnished a mountain of the richest manure, for future crops, which would have been dropped and dissipated in the fields, if these cattle had been pasture-fed in the summer. He remarked, "Sugar beets against all the world, for the fattening of cattle."

There is yet another mode of expending the sugar beet, which is not generally known; and although it might be considered by some persons as liable to objection, it may be substituted for corn and grain in the distillery, with the greatest advantage, rendering a spirit incomparably more pure and wholesome, and taking the place of enormous quantities of these articles, which are now distilled, to be expended in the *destruction of life*, instead of the *support* of it. I was present at the crushing of the first beet root in the island of Jersey, for the purpose of making *French brandy*: the establishment was conducted by men from the wine countries in France, and the spirit was exported to England, where it commanded the best prices in the market, without a suspicion that it had been drawn from the beet! its character being equal to the best old French brandies; and the business was a most lucrative one, until it was interdicted by an order in council from the British government—just as it is said they now prevent the manufacture of sugar from the beet in England—they have clashing interests, and cannot afford to allow their people to act as they think best for their own interests.

It is said, an extensive establishment is going up in an Eastern state, for the purpose of manufacturing sugar from the Beet, and that an agent has been despatched to France, to examine into the present state of the business, and to construct machinery for the same

per acre, and a yield of nine per cent. of sugar, would be—

Roots,—8,100,000 lbs.	lbs.
Sugar.....	729,000
Melasses.....	162,000
Cakes.....	1,215,000
	2,106,000

purpose in this country. Success is certain—but the greatest advantage to be obtained by such a step is, this person will see the process, conducted with the utmost facility, without difficulty or fear for the result; and to a profit which will, when taken together, astonish him: the *only* fear is, that a sufficient quantity of beets will not be obtained the present year, for the full employment of the works; and just as they are about to test the final results, their operations might be paralyzed, and the business be again doomed to abeyance. This consideration urges me again to press upon the *consideration* of those, who intend seriously to go into the concern, the expediency of not attempting more the coming season, than to grow very large quantities of roots, and erect a perfect establishment, for conducting the operations with improved machinery—a work, quite sufficient to occupy the time until next September, and fully too.

Other establishments are preparing to operate on a few acres of roots only—these are too much like experiments, and will be deprecated by all who have the ability to see that time and capital only, are required to insure the most perfect success. Would any one think, for a moment, of going into the cultivation of the cane, with the intention of establishing a sugar house, with any, but very ample means, and with time sufficient to construct and erect the necessary buildings, machinery and apparatus? Just so ought it to be with the beet sugar business—a business of far more real importance in its results, and with equal magnitude of enterprise; for a plantation of four hundred acres might be made to produce twenty-four millions of pounds of roots; two millions, one hundred and sixty thousand pounds of sugar—upwards of fourteen hundred hogsheads—forty-eight thousand pounds of molasses, and three millions eight hundred and forty thousand pounds of cakes—the two last articles, sufficient to fatten about eight thousand sheep!—a concern extensive enough to employ many hands, and of such importance as to demand a careful and circumspect distribution of the means adopted to call forth all its energies.

On the advantage of importing machinery from France, I confess I am somewhat skeptical—while engaged on my mission to that country, as agent to the “Beet Sugar Society of Philadelphia,” it was my business to examine all the establishments which lay in my route, and to which I had the most unlimited means of access, by letters of introduction, furnished by some of the first men of this country and of England; and I am sure my excellent and intelligent friends in France will permit me to say—and I do it not in disparagement—their machinery is far inferior to that with which I have been engaged, since

the time that I returned from that mission, an event which was the means of an introduction to Jos. S. Lovering, Esq., a gentleman to whose generous and unreserved communications in the business of refining, I am indebted for information and experience of the highest order, and which I could not elsewhere have obtained; and which enables me to form an opinion on the subject of machinery, which is, I confess, unfavorable to that at present in use in France. I repeat, however, the stimulus which will accrue to the undertaking, from the circumstance of their agent *seeing and feeling* the facility with which sugar is made from the beet, will be of the greatest importance; insuring to it—if it be commenced with a sufficient capital, with an abundant supply of roots, and perfect machinery—the most *perfect success*.

From three years experience, in a situation unexampled in the means of information, and where my attention has been led to the consideration of improved machinery for the manufacture of beet sugar, as well as for the cultivation of the crop, I have been enabled to construct models of the different apparatus necessary, which will, I conceive, facilitate the business, and cost much less in the fabrication, than do those in general use, where the improved modes of working have been adopted—an important object in a country where the high price of machinery compels purchasers to go to foreign countries for their supplies. The models are

1. A set of three Harrows, on a new construction.
2. A Drill, for sowing the beet and other seeds.
3. A Barrow Hoe, for cleaning the crops.
4. A Hand Hoe, French pattern.
5. A Root Cutter.
6. A Self-Skimming Double Milk Pan.

FOR THE SUGAR HOUSE.

7. A Rasp, for crushing roots.
8. Clais and cloths for pressing.
9. A Stand and Bags for sediment and scums.
10. A Press, on a most convenient principle.
11. A pair of Defecating Pans, new construction.
12. French Tap, for drawing off clear.
13. Apparatus for washing animal carbon.
14. Do. for drying and re-calcining do.
15. Mechanical Filter, new construction.
16. Chemical Filter.
17. Steam Generator, Boiling Pan, and Evaporator, united.
18. Machine for evaporating from 70° to 210°.
19. Steam Generator, and Boiling Pan, united.
20. Smoke-consuming fire places.
21. A Beet cutter, for the desiccating process.

*To a person of capital and enterprise,

* The business of sugar making from the beet—unlike many other businesses—may be taken up and pursued to the end; or if difficulties arise, so as to prevent the *accomplishment* of the undertaking, all is not lost—in many cases nothing need be lost—for if the possibility of such an event be kept in view at the time of the erection of the buildings, they might be made to take a form which will permit them to be turned to other purposes; and a great portion of them will be required for the housing and feeding of the cattle and sheep with the crops, with space for steaming

wishing to enter business, and casting about for a suitable employment, I would say, where will you find one more healthy, interesting, or profitable? An untrodden field is open before you, with no fear of too many competitors—no cause for alarm, lest your neighbor, whose place of business might be better situated than your own, might draw away your customers, or that the adjoining premises might be taken by some one, whose interests will clash with yours—no dread, that the present fashions might change, and leave you with a heavy stock on your hands, or that a new one might spring up, and call for fresh purchases, which cannot, perhaps, be made without sacrificing at auction the profits of years. In the beet sugar business, every neighbor is a friend; and I have never seen the observation verified in a more striking manner, than amongst those engaged in that employment in France; they form a distinct class of agriculturists; many among them are men of the highest attainments, and in the service of the government, and of the first standing in society. The success which now attends the manufacture of sugar in France, where considerably more than half the supply of the whole country is made from the beet, is to be attributed to the untiring perseverance of the present Mons. Crespel Delisse, of Arras, and Marshal Marmont, Duke of Ragusa—but for these noble and scientific men, the business would have sunk; they, however, determined to pursue it, through evil and through good report; and the result has justified their highest expectations. To the former of these gentlemen, I owe a debt of gratitude, for the kind and liberal manner in which he instructed me in his mode of working, at his fine establishment at Arras; a mode which was considered, by a committee sent from Prussia to examine the different methods pursued throughout the sugar districts, superior to all others, and by which he has accumulated large property.

The great diversity of employments, connected with the business of *sugar growing*, renders it very delightful—first, there is the agriculturist, with his improved machinery, ploughs, harrows, sciffles, cultivators, drills,

their food and other purposes, as also for protecting the roots for winter feeding.

I once knew a gentleman who, in erecting a long row of warehouses, placed blank windows and doors in every story, and arranged the internal parts so that, in the event of the failure of the business in which at that time he was engaged, they might readily be converted into dwelling houses—the result justified his prudence and foresight, for a war put an end to his importations; but the income which he now derives from the rents of those houses makes ample amends for his disappointment—just so might it be with the culture of the beet for the purpose of manufacturing sugar; if the *event* be relinquished, the expanding of the root in the rearing and fattening of stock, will prove a source of ample profit and pleasure to all who are engaged in it.

J. P.

&c., vieing with his neighbors, *who* shall grow the largest and the cleanest crops—then the dairy-man, with his improved Durhams, competing with *all the world* for quantity and quality of milk, and fat veal and rich butter—then the cattle feeder, with oxen of seventy score; and the feeder of sheep, and *the maker of house lamb*, without the risk of rot or scab; with his flock under his eye, and managed with the greatest ease and regularity—and his stud of horses and brood mares, “beautiful to look upon!” and lastly, the sugar house, with its machinery and well appointed apparatus, as true as clock work; calling into requisition his chemical science, as well as his mechanical skill—and all occupied in the preparation of an article for which there is as regular a demand as for bread, and which will always obtain as ready a sale in the market, maugre all the changes of fashion, by which many traders might be prostrated—and all conducted without hurry or confusion—no fear lest a premature frost might put a period to his labors before half the work is done (as is often the case in the cane districts in this country) or, that the same evil might assail his next spring crops, blasting at once his hopes for the whole year—for of all the crops that are cultivated, perhaps the sugar beet is the most secure in this respect, as the time of sowing might be delayed, if the season is unpropitious, and the time of harvesting be expedited in bad seasons, without essential injury to the crop, or, with less evil than would accrue to any other.

At the same time, as has already been observed, the business of sugar making ought not to be taken up by agriculturists generally; there must be many consumers to one producer, or there will be no purchasers—and if this law of reason were observed and reflected upon, there would be fewer cases of *mania*. All, however, can indulge in the cultivation of the beet, but it is those only of capital and enterprise, who should engage in the manufacture of sugar therefrom; and not even then, until due provision has been made, and the business placed in the hands of some person who is competent to conduct the different operations to their final results—then it must succeed, and better perhaps in this country than in any other in the world.

* The puerile idea, so sedulously propagated at the first introduction of the sugar beet to notice, that “every occupier of a six-

* I remember a plain Farmer called upon me and said, “I want, Mister, to make my own sugar—people talk about the good of the country, and this and that, all which I don’t pretend to know any thing about—but *I want to make sugar*—so if you’ll come up and put us in the way on’t, I’ll pay you for’t. I got a quarter acre of fine beets, and my wife got plenty of pots and kettles and pans and buckets—as many I guess as you’ll want; but if you want any thing else, why you can bring it up with you: *I want to make sugar*.”—J. P.

teenth part of an acre of land could grow his own sugar and kill his own mutton," has brought the subject into utter contempt; and it will not be able to rise to the consideration which it merits, until it is taken up in the way here recommended. What man *has* done, man *may* do—and it will not be readily believed that what is done in France, not only without difficulty but with the greatest facility, cannot be done in this country, where nature and the arts have done so much to distinguish it above all others.

JAMES PEDDER.

Philadelphia, Sept. 20, 1839.

The above, in manuscript, was submitted to JOSEPH S. LOVERING, Esq., for his approval. It was returned with the following testimonial, which, *from such a source*, speaks volumes in favor of the enterprize.

Philadelphia, Sept. 21, 1839.

MR. JAMES PEDDER:

Dear Sir,—I have read your paper on the subject of beet sugar with pleasure, and agree with you in opinion, that an establishment, such as you contemplate, properly conducted, would not only prove a highly interesting one to all connected with it, but would also yield an abundant return to the capitalist; and had I not already enough for one man to attend to, I should rejoice to be among the first to enter the field.

As regards the mention of my name in your paper, the flattering terms in which you have placed it there, forbid me to object; although, as a general rule, I am averse to having my name in public print in any shape.

I am, dear sir, your's truly,

JOSEPH S. LOVERING.

Virginia Thorn Hedge.

To the Editor of the Farmers' Cabinet.

The enclosed communication from D. P. SCHNELLER, of Bethlehem, on a subject of much importance to the farming interest, may be considered sufficiently interesting for general perusal. The hedge referred to, is so far superior to the ordinary attempts at live-fencing, that the intelligent cultivator, at my request, drew up a particular description of his method of cultivation.

It is now, after having been planted about seven years, of an average and nearly uniform height of six feet, and is an effectual protection to a flourishing vineyard, of which there are several in the vicinity of Bethlehem.

It is mentioned in remark No. 4, by D. P. SCHNELLER, that he filled a small trench with lime on each side of the hedge, to protect it from the mice. It may be considered certain, that this lime has operated an important effect not only in protecting the hedge from various descriptions of depredators—but, being taken up into the circulation, has added materially to the health and vigor of the plants.

With great regard, I remain,

Your friend,

MORRIS LONGSTRETH.

(Valley Green,) Montgomery co., Pa.

Bethlehem, Aug. 6, 1839.

MORRIS LONGSTRETH, Esq.

SIR,—In answer to your request for information as to the method of planting and training my live hedge, I have to state, that the first preparation was a trench made in the fall of 1831—one foot deep, and one foot wide, as far as it was intended to plant the hedge; the upper and lower earth was thrown together on one side. After the trench was finished, the earth was thrown in again, mixing it as well as possible, and adding some well rotted manure; thus it remained till March, 1832. In December, 1831, fifteen hundred quicks, or plants, of the "*Crasægus populifolia*, maple leaved Washington or Virginia thorn," were procured from the MESSRS. LANDRETH, of Philadelphia, for which they charged us six dollars and twenty-five cents, though they now advertise them at five dollars per thousand in their catalogue or plants. These were kept in a cellar till March, 1832, when they were planted. Before planting they were prepared as follows: Every plant was trimmed of every side root, and the main roots were cut off in the length of six inches, and the top of two inches.—They were then planted at the distance of eight inches one from the other in the rows with a dibble, that is, with a piece of pointed wood, as cabbage plants are usually planted. They were planted the first time in the spring of 1834, which might have been done a year sooner, if the field mice had not done so much damage by gnawing them off in the ground, making gaps and forcing me to plant young plants for two successive years, before I was able to plant them the first time. The first plaiting is to be done as close to the ground as possible. They will throw out a number of shoots close together along the whole line; these are to be headed down the next spring in the following manner; the strongest shoots are to be left about fifteen inches long; the next about one-third shorter, and the weakest the shortest; the reason of heading

down the shoots of different heights is, that the hedge may be close and thick between the different plaitings. I have taken notice that they seldom throw out shoots at the sides of the stems, but mostly at the top; therefore if all the shoots were headed down of an equal height, the hedge would not be so close between the different plaitings, but by heading them down at different heights, it will be full and close from the bottom to the top.— Before the second and every other plaiting, the strong side shoots are cut off to three or four inches, and if there should be too many upright strong shoots for plaiting, some of them are cut out, which makes the plaiting easier. After the second and every other plaiting the sides of the hedge are trimmed with a pair of garden shears, but only in the spring; after the hedge is finished, it is to be sheared twice a year, that is, in spring and summer.

REMARKS.

1. I call this method the American method, as I have neither heard nor read of its being practised elsewhere.
2. What I call plaiting, is twisting the shoots together in a continuous line. Where they do not keep well together, they should be tied with willows. The longer the shoots are, the easier they are plaited.
3. The person that plait the hedge ought to have a pair of good thick leather gloves or mittens, and must also take care not to bend the shoots too short, as they would be apt to break.
4. To protect the plants against the mice, different methods were tried—first, I made a trench on each side of the hedge about four inches deep, and filled it with unslacked lime—then pieces of woollen rags were dipped in turpentine and put in their holes—and thirdly, I made small balls of dough, made up of flour mixed with arsenic and sugar, and rolled in lard, which were strewed about the hedge before winter. Which of the three methods preserved the hedge most I know not; at all events after some years it grew too strong for the mice.
5. If, notwithstanding all care, holes or gaps should happen between the plaitings, these may be closed up with side shoots, in which case the strongest should be left in such places, and not cut off before plaiting.
6. The hedge does not grow well under the shade of large trees.
7. I am inclined to think that a hedge planted and trained in this way may be finished in six or eight years.

I remain, most respectfully,

Your ob't servant,

DAVID PETER SCHNELLER.

Mould for Printing Butter.

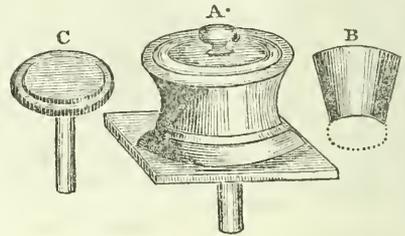


Fig. 14.

To the Editor of the Farmers' Cabinet.

SIR,—I herewith send you for examination, an article, which, I think, should be in the hands of every farmer—certainly of every dairyman—and as I notice a communication in your last number (August) suggesting the propriety of making the office of the Farmers' Cabinet a "Depository of Models and Improved Implements," &c., I would most respectfully tender the small article above figured. It is called a "Butter Mould or Stamp"—is very simple in construction, and can be had for a mere trifle. It is not generally known or manufactured, but any mechanic can easily make one. It will last a long time, and needs no repair.

Description.—The butter stamp consists of a small round box, fastened to a square piece of deal, through the bottom of which is a hole for the introduction of the handle of a second box, which fits within the first. The second box is similar to the first, except it is detached from the bottom, and consists of three pieces of wood hollowed out and made to shut close to each other. When the handle with the bottom attached is drawn down, the pieces fall into a groove running around the bottom of the second box. The butter is weighed and placed in the box, the handle being down. The stamp is then placed on the top of the butter, and forced down hard, giving it the proper shape and print—after which the butter is turned out complete by forcing the bottom up, by means of the handle seen in the figure, which causes the second box to fall apart, as it were, and thus releases the butter. This is a very expeditious way of printing and moulding butter.

Fig. A represents the article with the butter in it—the stamp on and all ready to force out. B the part or one of the sides of the three sided inner box. C the bottom with handle.

W.

New Castle co., Del., Sept. 24, 1839.

This article may be obtained at No. 87, North Second street.

Reply to an Address to Jersey Farmers.

To the Editor of the Farmers' Cabinet.

SIR,—Although I am but a plain man, and get my bread by *more* than the sweat of my brow, yet, as I do my duty in keeping down the weeds and *rearing the Cabinet*, I may, I hope, be allowed to give an opinion on a learned dissertation which appears at page 57 of the Cabinet, as copied from the Ledger, in which the writer has displayed great solicitude for the Jersey Farmers, and has taken much pains to bring them acquainted with a manufacture, which he considers well adapted to fill up their “odd times,” as Mrs. Jenkinson says. Now, there is not an article in the Cabinet which I do not repeatedly read over before the next number arrives, but after perusing the paper above mentioned half a dozen times, I must confess I do not yet quite understand it—in consequence, of course, of my own short sightedness—but so it is.

In the first place, he tells us, the “resources for manure in our state are limited.” Now I should suppose it rather the reverse, for, lying, as he remarks, within reach of two of the largest and best markets in the union—and in this respect he has justly called us “favored”—we have the means of obtaining from thence inexhaustible supplies of manure, in many instances as back carriage, and in others, by water conveyance, to any extent. But it seems to me a paradox, to hear that “our warm, open, and in many places sandy soils, require rather active manure.” Why, I should say, these manures are expressly calculated for soils of an opposite nature!

He then goes on to press upon us “the study of the sciences,” and concludes the paragraph, by reiterating the request, that we would “make ourselves acquainted with the sciences.” Now all this is, I dare say, according to the book, and very good; but if he were himself a farmer, he would see that this is, to us *hard workers*, quite out of place.—He then tells us, that it is impossible to procure as much *wood ash*, “which we know contains potash,” as would manure a large portion of land, and therefore recommends to our notice, the use of *soda*,—“an alkali that can be procured from various substances, and in great quantities;” and that at present it can be procured, at *one* place on the Brandywine, Delaware, for four dollars per hundred pounds. He before observes, “the caustic nature of potash and soda as manure, is so great, that it is necessary to seek out some safe and economical way of applying them, by forming combinations with other substances.” Now he does not seem to know—that in the leached ashes, which may be purchased on the wharves of the cities in almost any quantity, is contained the potash and

soda, already combined with substances exactly fit for immediate use; and I again remark, these may be obtained in any quantity.

But, all that he has said, is introductory to his plan for “finding employment for regular establishments, and making a new and useful branch of business.” Now all this is very well, but much more applicable to those who are seeking for such employment, than for us *Jersey Farmers*, who have more than sufficient to employ us, did we only devote ourselves to our more immediate concerns, and leave to others the making of “agricultural soap!” A person who trades in “salted salmon, herrings, and all kinds of fish,” smiled at the idea of cutting off heads and fins for making “agricultural soap,” for the sake of saving in the expense of the barrel and cost of transportation. He thought it the most ridiculous idea imaginable, and said, “ask the gentleman to calculate the value of these articles contained in a barrel, and which now sell for the price of the fish, and strike the balance in favor of converting them into agricultural soap!”

But the writer seems entirely to have overlooked our inexhaustible beds of marl, which the geologists tell us contain twelve per cent. of potash, combined too with a substance peculiarly adapted to “our warm, open, and in many places sandy soils,” giving them tenacity, and adding, or rather *creating* a staple to our sands, which enables them to produce and carry crops, equal to almost any in the union. Our resources for manure limited? Why, they are inexhaustible! and although I do not wish to discourage “the study of the sciences,” amongst those for whose use such a study is best calculated, yet I cannot help thinking that a Jersey farmer might be excused, on the score of having something much more necessary to attend to than “to become acquainted with the laws by which nature controls every thing that they do.” I beg once more not to be considered as objecting to the “study of the sciences”—that is a subject which merits the attention of men of high attainments in science and philosophy, and who are more likely to do justice to it; I only deprecate the idea, that it is necessary, or even desirable, for the employment of the husbandman, whose daily labor is only sufficient to obtain for his family their daily bread.

I must add, I have known the most egregious follies perpetrated under the sanction of “science,” that ever entered the head of mortal, and I consider the proposal contained in the article on page 64 of the Cabinet, the *ne plus ultra*. It is from the Farmer's Register, and the production of a writer on the subject of “Vegetable Physiology.” To be sure, he modestly *ventures to propose*,

what he considers the best plan for cultivating potatoes, but they must be physiological potatoes to bear to have "their branches, all but the tops, covered up three times," before they are allowed to go to seed! Now after this, if any one will turn to the 36th page of the Cabinet, and peruse the article "on hilling potatoes," written evidently by a practical man, he will, I think, be capable of forming a correct judgment of the value of a theoretical "study of the elements of science."

A JERSEY FARMER.

Rancocus Creek, Sept. 24th, 1839.

For the Farmers' Cabinet.
Agricultural Chemistry.—By Davy.

[Continued from page 21.]

It is a common practice amongst farmers to suffer the farm-yard dung to ferment till the fibrous texture of the vegetable matter is entirely broken down, and till the manure becomes perfectly cold, and so soft as to be easily cut by the spade.

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 show 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, are capable of becoming an useful nourishment of plants.

In the writings of scientific agriculturists, a great mass of facts may be found in favor of the application of farm-yard dung in a recent state. Mr. Young, in the essays on manures, adduces a number of excellent authorities in support of the plan. Many who doubted have been lately convinced; and perhaps there is no subject of investigation in which there is such a union of theoretical and practical evidence. I have myself within the last ten years witnessed a number of distinct proofs on the subject. I shall content myself with quoting that which ought to have, and which I am sure will have, the greatest weight amongst agriculturists. Within the last seven years Mr. Coke has entirely given up the system formerly adopted on his farm of applying fermented dung; and he informs me that his crops have been since, as good as they ever were, and that his manure goes nearly twice as far.

In cases where 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 as much as possible 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 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 dung-hill on the north side of a wall. The floor or which the dung is heaped, should have an inclination to the centre, and 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 dung-hill, so as to be entirely lost to the farm.

In America, plaster of paris, or gypsum, is employed with signal success; but in most counties of England it has failed, though tried in various ways, and upon different crops.

Very discordant notions have been formed as to the mode of operation of gypsum. It has been supposed by some persons to act by its power of attracting moisture from the air; but this agency must be comparatively insignificant. When combined with water, it retains that fluid too powerfully to yield it to the roots of the plant, and its adhesive attraction for moisture is inconsiderable; the small quantity in which it is used, likewise is a circumstance hostile to this idea.

It has been said that gypsum assists the putrefaction of animal substances, and the decomposition of manure. I have tried some experiments on this subject, which are contradictory to the notion. I mixed some minced veal with about one-hundredth part of its weight of gypsum, and exposed some veal without gypsum under the same circumstances; there was no difference in the time in which they began to putrefy, and the process was most rapid in the case in which there was no gypsum present. I made other similar mixtures, employing in some cases large and in some cases smaller quantities of gypsum; and I used pigeon's dung in one instance instead of flesh, and with precisely similar results. It certainly in no case increased the rapidity of putrefaction. The Berkshire and the Wiltshire peat ashes, which are used as a top-dressing for cultivated grasses, particularly sainfoin and clover, contain a considerable portion of gypsum. In the Newberry peat ashes, I have found from one-fourth to

one-third of gypsum; and a larger quantity in some peat ashes, from the neighborhood of Stockbridge. In examining the ashes of sainfoin, clover and rye grass, I found that they afforded considerable quantities of gypsum; and this substance, probably, is intimately combined as a necessary part of this woody fibre. If this be allowed, it is easy to explain the reason why it operates in such small quantities; for the whole of a clover crop, or sainfoin crop, on an acre, according to my estimation, would afford by incineration only three or four bushels of gypsum. The reason why gypsum is not always efficacious, is probably because most cultivated soils contain it in sufficient quantities for the use of the grasses.

In the common course of cultivation, gypsum is furnished in the manure; for it is contained in stable dung, and in the dung of all cattle fed on grass; and it is not taken up in grain crops, or crops of peas and beans.—Lord Dundas informs me, that he tried gypsum without any benefit on two of his estates; he was induced to have the soil examined for gypsum, and this substance was found in both the soils.

Should these statements be confirmed by future inquiries, a practical inference of some value may be derived from them.

When common salt acts as a manure, it is probably by entering into the composition of the plant in the same manner as gypsum, phosphate of lime, and the alkalis.

Common salt is offensive to insects.

When water used in irrigation has flowed over a calcareous country, it is generally found impregnated with carbonate of lime; and in this state it tends, in many instances, to meliorate the soil, and, I may add, to counteract the effect of rain-water, to dissolve and remove the carbonate of lime from the soil.—In Malta, where irrigation is much employed, the water containing carbonate of lime, I have found no deficiency of this compound in the soil of the irrigated lands; but in this country, (England) even in chalk districts, the superficial soil is often entirely destitute of carbonate of lime; it has been removed in process of time, supposing that it previously existed in the soil, by the solvent power of rain-water.

Land, when it is not employed in preparing food for animals, should be applied to the purpose of the preparation of manure for plants; and this is effected by means of green crops, in consequence of the absorption of carbonaceous matter in the carbonic acid of the atmosphere. In a summer's fallow a period is always lost in which vegetables may be raised, either as food for animals, or as nourishment for the next crop; and the texture of the soil is not so much improved by its exposure, as in winter, when the expansive powers of ice,

the gradual dissolution of snows, and the alterations from wet to dry, tend to pulverize it and to mix its different parts together.

Communicated for the Farmers' Cabinet.

Extract from the *Courier Agricole*, Paris, 1839.

The Chestnut grafted on the Oak.

M. GABRIEL SIMONS, nurseryman at Metz, is said to have succeeded in *grafting a chestnut on the oak*, and M. d'HOMBRE FIRMAS, member of the Academy of Gard, has published in the *Bulletin*, of the Agr. Society of Nimes, that he, some years since, successfully grafted the chestnut on the cork oak tree, and that his maternal great-grand-mother, more than one hundred years since, had a number of oak trees grafted with different kinds of chestnuts, in her property of Sauvage. Three of these oaks still exist, which he shows to visitors, and it is a remarkable circumstance that having been grafted high up, their upper branches yield chestnuts of the kind called Pe'te'grines, whilst the body of the tree below throws out oaken branches.

N. B. The *Courier Agricole*, is published in numbers, monthly, at Paris, under that title, with the addition: "Journal d'Annouces—Agricole Horticoles—and d'economie Rural." Three francs for twelve numbers of eight pages each. Address, post-paid, A Mons. Cosson, Director of the *Courier*, Rue Taranne, No. 12, Paris.

Berkshire Pigs.—An Inquiry.

To the Editor of the Farmers' Cabinet.

MR. EDITOR,—If information can be had through the medium of the Farmers' Cabinet, where Berkshire pigs can be bought, and at what price, with an account of their character, as to the best age for fattening them—what they are susceptible of weighing at various ages—when full grown, &c., no doubt but it will confer a favor upon many of the readers of your very valuable paper, and particularly upon myself, as I should like to purchase a male pig of that breed; being fully convinced, both from experience and observation, that there is double the profit in rearing pigs of a good breed, than there is in rearing those of an inferior breed,—also believing, from the various accounts I have seen in several agricultural papers, that the Berkshire is preferable to any other breed of pigs. A SUBSCRIBER.

Frederica, Kent co., Del., June 6, 1839.

The above note, bearing date June 6, 1839, did not reach the hands of the Editor until after the Cabinet for September had been put to press. The delay is to be regretted;—but we nevertheless hope, that any gentleman or gentlemen possessing the information sought for, will avail themselves of the earliest opportunity of communicating it to the public through the medium of the Cabinet. Our highly esteemed and worthy fellow citizen, J. C. WOLBERT, Esq., has lately added, by importation, to his already valuable stock—several Berkshires of pure blood. We have not seen them, but learn that they are very superior animals. We presume that Mr. Wolbert will, if he has not at present, soon have pigs of the pure Berkshire breed to dispose of.

No food, no cattle—no cattle, no dung—no dung, no grain, is a maxim that ought to be firmly fixed in every farmer's mind.

Quantity of rain which has fallen in each month since January 1, 1839. Inches.

1st month,.....	5.03
2d month,.....	3.42
3d month,.....	1.50
4th month,.....	1.50
5th month,.....	6.07
6th month,.....	3.92
7th month,.....	2.51
8th month,.....	4.64*
9th month,.....	2.92

* It rained on seventeen different days.

Philadelphia Hospital, 10th mo., 1st, 1839.

State of the Market—Oct. 7, 1839.

FLOUR.—The flour market has become quite animated—Pennsylvania and Brandywine \$5 @ \$5.50 per barrel; Baltimore and Ohio \$5.25 @ \$5.36; middlings \$4.50.—*Rye*, \$3.75.—*Corn Meal*, \$3.75.

GRAIN.—Is scarce, holders keep back.—*Wheat*, Penn. and Ohio, \$1.08 @ \$1.13 per bushel; Southern \$1.07 @ \$1.12.—*Rye*, 70 @ 71.—*Corn*, 70 @ 73.—*Oats*, 31 @ 33.
Peas, \$1.75 @ \$2. White Beans \$1.50.

PROVISIONS.—No essential change;—operations limited.

PLASTER.—Sales at \$3.75 per ton.

WOOL.—The market has undergone no further variations in prices, and the operations noted during the last three weeks have considerably reduced the stocks, which were only moderate.

CATTLE MARKET.—The supplies brought forward consisted of 600 beeves, 220 *Cows* and *Calves*, 550 Swine, and 2,000 Sheep. *Beef Cattle*—sales of 550 head at from \$7 @ \$8.75 per 100 lbs. for common to good quality. Cows were dull at \$25 to \$35 per head, and 50 were left over; Calves sold at \$5.75 @ \$6 per 100 lbs. *Swine*—Sales of 420 head at \$7.25 @ \$8.50, and extra \$8.75 per 100 lbs. *Sheep*—Sales to a fair extent at \$1.25 @ \$2.50 for lambs, and \$2.50 to \$4.50 for sheep, according to quality.

Citron Pumpkin.—Our friend, DAVID COMFORT, Esq., of Byberry, has left at this office, for the examination of all interested in such matters, a *Citron Pumpkin*, or *Valparaiso Squash*, weighing eighty-four pounds!—Friend Comfort and Byberry have certainly taken the lead this season.

Several interesting communications on hand will be disposed of as soon as possible.

J. D. Emes's Patent Cast Iron Threshing Machine.



An establishment for the manufacture of the above machines, will be put into operation in this city, of which due notice will be given. They are now constructed by Stevens & Hutchinson, at the Mechanics' and Farmers' Depository, Boston, Massachusetts.

J. D. Emes's Patent Cast Iron Threshing Machine, without any disparagement to other valuable improvements, warranted equal, if not superior, to the best in any country, for threshing all kinds of small grain, rice and small seeds, from wheat to herdgrass seeds.

This machine is less than three feet square, strong, simple and plain, and not liable to get out of order. One quarter the expense of flail strings will keep it in repair to thresh the same number of bushels.

To thresh one hundred bushels with this machine is considered a day's work; it will, however, do as much more, as the feeder can handle straw to make; and always at a saving of at least ten per cent. in extra grain, above that threshed by flail, or any other ordinary method ever yet introduced.

If durability, expedition, convenience, economy and profit, be an object, then this truly valuable and useful machine will commend itself, above all others, to the use of every grain raising farmer; being warranted in every respect.

Southern Rice growers are respectfully requested to examine the machine as a superior article for threshing Rice. An interest in the patent can be obtained on reasonable terms.

CURTIS BRUCE and HUDSON BURR have become interested with the patentee, in the States of Pennsylvania, New Jersey, and Delaware. Any person wishing to see the above machine, or become interested in it, will receive all necessary information by calling on the subscribers, at Burr's Hotel, No. 2 South Wharves, lower side of Market street, Philadelphia.

J. D. EMES,
CURTIS BRUCE,
HUDSON BURR.

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Any gentleman remitting *Five Dollars* will be entitled to the Farmers' Cabinet for SEVEN YEARS, commencing with the first or any subsequent volume.—The volumes now published can be sent by mail, in paper wrappers; Postage, under 100 miles twelve cents—to any part of the United States over 100 miles from the place of publication, eighteen cents per volume.

On Promoting Vegetation.

AN INQUIRY CONCERNING THE PRINCIPLES OF VEGETATION; WITH A VIEW TO ASCERTAIN THE MOST CERTAIN MEANS OF PROMOTING ITS IMPROVEMENT AND GENERAL EXTENSION THROUGHOUT THE COUNTRY.

BY JOSEPH WIMPEY.

THE subject of this inquiry has been an object of pursuit in every age, and of every civilized country; not uniformly, and uninterruptedly, indeed, but in proportion to the peace and tranquility of respective states and times. *Rome*, once the mistress of the world, did not shine more in the arts of government and civil polity, than in the cultivation of her lands; and we find the same patriotic statesmen, who rendered themselves immortal by their unremitting efforts to support and maintain liberty, were not less eminent for their patriotic ardor to promote and encourage the beneficial culture of its soil.

Wars, intestine commotions, and civil broils, have ever been found unfriendly to science and the arts; but to none more so, than to agriculture; for when the condition of the farmer is rendered precarious by civil discord, or threatened or actual invasion, he has little inclination and less encouragement to attempt improvement, and still less to plough and sow,

it being uncertain who may reap; indeed, whether there will be any thing to reap; it having in times past too commonly happened, that whole countries have been ravaged and become desolate by the desperate frenzy of hostile and bloody contenders, who too frequently are deaf and blind to the remonstrances of humanity.

Some writers of great ability have supposed, that the advance of commodities in price is rather apparent and nominal, than real. Things are not so much, if at all, advanced in price, say they, as is imagined. The precious metals are exceedingly increased in quantity, and proportionably fallen in value.* Possibly there may be some truth in this observation, if we go back some hundred years, and if taken upon a scale that comprehends all commercial and manufacturing countries; but for the term of twenty, or fifty, or even from the time Mr. LOCKE wrote to the present hour, there is little difference in the value of silver or gold; an ounce of either being of much the same value now as then.† The fro-

* It is an undeniable fact, that the specie of the country has more than doubled in amount, within the last ten years, by actual importation, after deducting the amount exported—and this does not include the immense sums introduced by emigrants, nor the receipts from our domestic mines, the latter of which will exceed the annual abrasion, as three hundred and fifty to one. Notwithstanding this, and the abundant evidence of national prosperity, and returning confidence, and in a time of profound peace, too, the banks of Philadelphia have been compelled to suspend specie payments—or in other words, they are either unable or unwilling to meet their engagements with the people.—The Baltimore, and some other banks, have followed suite. The consequence is, that the farmer, the mechanic, and the laborer, bear the burden of suffering. By this means specie has acquired a fictitious value.—We hope that in this emergency the farmers, and mechanics, and tradesmen, will assert their rights, and not be humbugged by countenancing the fraudulent and destructive system of *shin plaster* currency. In this most deplorable state of things it becomes the people to observe the laws—they are all sufficient for this emergency. If the banks see fit to violate the laws and break the ir plighted faith, so be it—but let the people beware of imitating their example.—Oct. 18.

† It is a fact. The act of Congress of 1835, regulating the value of coin, but slightly affected its value.

quent and sudden changes that take place in the price of grain and other commodities, which sometimes are nearly double the price one year they were the foregoing, must be owing to some other cause than that above-mentioned, which operates slowly, if at all, and is not perceivable in less time than a century.*

If the quantity of grain and provisions at market always bore the same proportion to the demand there is for them, the price would be always invariably and unchangeably the same. The variation of prices, therefore, is governed by the variation of the said proportion. [As a general rule this is correct—but we should bear in mind that there are exceptions to all general rules.] If the demand be greater, and the quantity the same, or the demand the same, and the quantity less, the price must necessarily advance: and *vice versa*, if the quantity should increase, and the demand continue the same, the price must as necessarily fall; and it is not in the power of man to make it otherwise. But though this immutable relation is beyond our power to alter, we can by art and industry increase the quantity, and thereby lower the price; cheapness being the infallible consequence of plenty, which is the direct object and effect of an improving cultivation. This is a matter of great consequence to the laborer, the manufacturer and merchant; and no disadvantage to the grower; because what he would lose by the fall of price, he would gain with interest by an increase of quantity.†

It is not easy to conceive how many and how great the improvements are, which have been made in this most important of all arts, within the last sixty years. A patriotic spirit of uncommon ardor hath gone forth, and our best men, like the Senators of Rome, have set, as it were, their hands to the plough, and excited their neighbors to practices of which they had no idea before. Yea, they have done more; they have instituted societies, and made them the receptacles and distributors of useful knowledge; they have raised subscriptions, and added marks of honor, and pe-

* Speculation—the bane of our country—has unfortunately very frequently raised the price of the necessaries of life, to the direct and manifest injury of the laboring classes of the people—and the ultimate disadvantage of the farmer. Speculators, we know, have been in the practice, in some parts of the country, of contracting with farmers for all their produce of grain at a fair price—a number operating in this manner monopolize the grain market, and when the grain is converted into flour, they demand their own extortionate price, and hold on to it until it is obtained, or the prospect of a bountiful harvest, like the mildew, blights their expectations, and brings down the staff of life to its regular grade in the scale of prices.

† This is not always the case. Of two profits *nominaly equal*, that is to be preferred which is obtained with the *least expense of labor*. That which arises from an *increase of quantity*, is clogged with the *greatest*, and much more care and trouble.

culinary advantages, to the rewards which naturally result from the attention and industry of the ingenious artist. Surely the greatest respect is due to the members of all those institutions, whose motives are—*public good and universal usefulness*.

But it must be allowed, that, although much has been done, there still remains much more to do. Experimenters have not always (perhaps but seldom) entered into the views, and ably seconded the intentions of those valuable institutions. Animated with the hope of obtaining the premiums held out, by dint of extraordinary exertions, expensive manures, and a concurrence of fortunate circumstances, more the effect of chance than of design, they often have been the successful adventurers, though at the same time entirely ignorant to what causes they owed their success. We too often indeed ascribe effects to causes which are no way connected with them. The practice of such men is more like the nostrums of quacks, than the receipts of a regular physician. The medicine may be good, but being ignorant of principles, they know not how to accommodate it as different circumstances may require.

How vegetation may be carried to the greatest degree of perfection, by means easily practicable, and at the same time the most advantageous to the husbandman, is one of the most important inquiries that the human understanding can be employed in the pursuit of. Some ingenious men, however, have made the following the previous question,—“What is that substance, matter, or thing, which is the true and only proper food of plants; which enters into the vessels appointed by nature to receive it, is assimilated by, and becomes constituent parts of them, augmenting their magnitude, extension and weight, from an almost imperceptible atom to the weight of many tons, and to a body of inconceivable dimensions?”

This seems, to me, much more curious than useful, and is perhaps of very little consequence to the husbandman. The philosopher may amuse himself by inquiring after first principles, and the elementary parts of bodies, but the farmer should never be diverted from a profitable practice, until one more so is recommended by the success of repeated experiments.

Various are the opinions of the learned concerning this matter. Some suppose the food of plants to be water; some earth; others air, nitrous salts, oil, &c. &c., perhaps all of them wide enough of the mark. It must be confessed, we know nothing of the *essence* of things. We are not endued with faculties equal to the curious research. Things are known to us by their *properties* only. But what are their properties, by which they are

known to us, but certain powers to affect us in a particular manner, and to impress different sensations and perceptions on our bodily organs? These different perceptions, indeed, enable us to distinguish, accurately enough, one thing from another; but we are totally ignorant of the nature of those powers, and equally so of the essence or substratum in which they inhere, and by which they are supported.*

The great system of the universe is governed by general laws, which, so far as our knowledge extends, obtain universally. Gravitation, attraction, repulsion, cohesion, and perhaps many other principles, affect every portion of matter that comes within our knowledge; but what supports those powers, in what their energy consists, or from whence they are derived, we are by no means able to apprehend or conceive. Vegetation also obtains universally on this globe. Wherever there is earth, vegetation takes place: therefore the principle (or principles) of vegetation, whatsoever it be, or in whatsoever it consists, must be universal; and all that is necessary for the husbandman to do, is to prepare his ground effectually, put in his seed or plants at the proper season, and vegetation will most assuredly follow. Indeed, so prolific is nature as to clothe the face of the globe with herbs and plants in every region, without the intervention or assistance of man. The fund or magazine, then, which furnishes the pabulum or food of plants, is established and supplied by the economy of nature, seeing it obtains at all times and every where, unassisted by art. But how and in what manner nature is to be assisted, how and by what means vegetation is to be promoted, and carried to its utmost and most beneficial degree of perfection, is the grand *desideratum*, the great and important object of our inquiry.

The principles of vegetation, and the means by which it may be promoted in the most successful and beneficial manner, may be fitly divided into three general heads, and distinguished by the terms *mechanical*, *chemical*, and *nutritive*. The *Mechanical* includes every operation which tends to break, divide, and pulverize the soil; whether it be by ploughing and harrowing, digging and hoeing, or by any other means whatever; that being the most eligible which most effectually performs the operation at the least expense.

Pulverizing the soil may be truly considered as the first step towards an improving vegetation; not as *producing* the food or nourishment of plants, but of putting the soil into a fit condition for *receiving* it, from whatever source it may be derived, and giving easy ac-

cess to the roots and fibres which extend themselves every way in quest of the same.

Chemical principles produce much the same effects, but in a way we cannot so easily, nor so perfectly, comprehend. The *mechanical* powers are subservient to our will, and we can continue the use of them until the desired end is obtained; but the effects of *chemical* operations are not so certain in this business, as a certain concurrence of circumstances, not always in our power to procure, is necessary to produce the hoped-for success. Much depends upon the temperature of the seasons, the state of the air, and many other things not in the power of man to foresee or to govern. Fermentation seems to be the principal agent in promoting vegetation by *chemical* powers. This divides, attenuates, and subtilizes, by means of an internal motion of the parts, which we cannot clearly conceive. Probably it is on this principle that marl, chalk, shells, and every kind of calcareous earth, are fertilizers of land. Not by any matter or substance inherent in them, as constituent parts of the same, but as absorbent bodies, which attract much more powerfully the principles of vegetation than earth alone could do.

We come next to inquire concerning *Nutritive* principles. And here we have a field to range in as capacious at least as the earth we inhabit, together with its atmosphere; perhaps much more, even not less than the solar system, as that immense body of fire, which is the centre thereof, gives life and energy to the whole creation; and annually revives, reanimates, and bestows rejuvenescency on the whole animal and vegetable world.

But before we proceed on this inquiry, it may be proper to make a few observations, the truth of which is self-evident, and consonant to the common sense of mankind. By common sense, the writer does not mean common *opinion*; for nothing is more vague and liable to error than that; but those ideas which are the same in all men, as proceeding from identical or similar sensations and perceptions involuntarily impressed upon them. This is the true and only defensible meaning of the term common sense, though it is frequently made to stand for, and express, principles which are supposed to be innate in the mind, but in fact have nothing common or identical in them, but are as infinitely diversified in different men as are their features.

There seems to be a natural relation, connexion, and dependence, between the animal and vegetable kingdoms. No part of the terraqueous globe that we know of, that is occupied by living creatures of any kind, but is replete with vegetables proper for their sustenance and support; and it is equally certain, that wherever vegetables grow and flourish,

* We think that the application of science to the pursuits of agriculture, by Sir H. DAVY, A. YOUNG, and others, has tended in a great degree to raise the veil.

it is stocked with animals in proportion thereto.

It is sufficiently obvious, that the animal kingdom is maintained and supported by the vegetable; for though carnivorous animals eat little or no vegetable food, yet they live upon those which are entirely supported by it; for they never eat each other, unless in cases of famine or great distress. It is very possible the vegetable kingdom may no less depend upon the animal for its sustenance and support, than the animal doth upon it; and if the writer is not much mistaken, pretty clear and strong evidence may be had, that this is really the case; so that they reciprocally subsist on and are supported by each other.

It is not many years since, that a surprising discovery was made by that very celebrated investigator of nature, Dr. PRIESTLY, who clearly proved by experiment, that common air, when become feculent and putrid by animal respiration and perspiration, so as to be unfit for the common purposes of life, is readily purified and made wholesome by the vegetable kingdom, which imbibes and absorbs those putrid streams that are so deadly noxious to animal life. But what is most surprising, instead of growing sickly in so impure an air, as he expected, he found the plants were invigorated and their growth promoted thereby; so that they were more fresh, green, and healthy, than those which grew in common wholesome respirable air.

This wonderful economy of nature loudly proclaims the wisdom and goodness of Providence; for how great soever might be the fund of common air necessary to the purposes of life, such is its continual waste and consumption, that the whole stock must soon have been exhausted, and animal life become extinct, if no provision had been made to purify and render wholesome the original stock, as daily use might require.

But not to insist on a particular instance which may be thought too curious to establish a general principle, let us inquire how far this doctrine may be supported by the concurring testimony of all mankind, in which there is not a possibility of deception; for if those facts which are agreeable to and supported by the common sense of mankind, cannot be depended upon for certain infallible truths, then there is no such thing as certainty attainable by human nature. Is it possible to doubt, if that glorious luminary, the sun, which dispenses heat, and light, and life, to this lower world, hath any real existence, and is the cause of those sensations? Surely it is not; and yet in what does this certainty consist, but the common sense of mankind. I see, feel, perceive, and am affected in a particular manner by the appearance of this fountain of life; all mankind are impressed with iden-

tical or similar sensations, perceptions, and affections; therefore no man doubts, or can possibly doubt of, the certainty and reality of the sun's existence.

All truths which are derived from common sense, are equally certain with the above; for if it were possible that all men could be deceived in any of those sensations, perceptions, and affections, which are common to all men; that is, if they could see, feel, and be affected in any way or manner they could not see, feel, and be affected, then truth and certainty to the human mind would be an impossible thing; there being no *criteria* by which truth might be distinguished from falsehood, nor man imbued with faculties to perceive and mark the difference of things.

Those things then which are felt, perceived, and produce the same sensations and affections in all men, and every where, may be depended upon as truths infallibly certain, beyond a possibility of deception. Not so experiments made by the most careful and the most candid, till they have been repeated again and again; and the first trials confirmed and duly authenticated by subsequent ones. Much more is to be feared from the cunning, the artifice, the prepossession, the prejudice, the vanity, and the interest, of designing men, who too frequently have been found to warp and bend their accounts, to promote their interested views.

It is in the observation of every man, from the most illiterate to the most enlightened, that all kinds of animal substances, when thoroughly digested and corrupted, are the strongest and most powerful promoters of vegetation. The hair, the skin, the horns and hoofs, the urine and excrements, the flesh, blood, sinews, and even the bones, are all richly replete with matter which supports and invigorates vegetation universally. It is therefore undeniably certain, that animal substances contain those principles which are the real and genuine food of plants. It is absurd, therefore, to suppose their food is earth, or water, or air, fire or heat, or any *one* or *single* simple element or thing whatever. It seems clearly evident, that it is a combination of principles derived from animal substances by the chemistry of nature. When animal substance has been thoroughly purified, almost the whole becomes volatile, and is so far attenuated, subtilized, and refined, as to be rendered capable of entering the roots and fibres of the minutest plants.

It seems then, that as the animal kingdom is entirely supported by the vegetable, so is the vegetable by the animal, and each is reciprocally the support of and is supported by the other. The matter of each is essentially the same, each is indued with the principles of life and augmentation, though appearing

under very different forms; each mutually transmutable into the other by the mere unassisted operations of nature.

Hence it seems to appear, that the wisdom and goodness of Providence have established the means of supporting and upholding the present system of the universe, till time shall be no more, by constant, uniform, uninterrupted powers or laws, which act unceasingly for the mutual conservation of the whole.—Every atom of matter, whether animal or vegetable, seems to teem with life, yet contains within itself the seeds of corruption and decay. In that state it enters into a new system of organization, and becomes the principle of regeneration and rejuvenescence, which annually returns at the appointed seasons, when all appears charming, sprightly, and gay.

To this theory it may be objected, that vegetation may be successfully promoted by vegetable manures, without the least assistance from animal substance of any kind.—Every one knows that it is common to manure the ground by ploughing in green vegetables, such as buck-wheat, clover, &c., which often succeed well without any other help whatever. This objection falls short of its object; it only proves, that profitable crops may be obtained without the cultivator's using animal substances under that form; but the theory supposes, that every vegetable is replete with principles derived from animal substances, and only differs from them in being more subtilized and refined.

It is equally certain, that vegetation may be powerfully promoted, without laying on or providing any manure at all. The horse-hoeing system of husbandry depends entirely upon reducing and pulverizing the soil. It cannot be reasonably supposed, however, that the spade and hoe, or plough and harrow, or cultivator or scarifier, convey any fertilizing principles. These operations, which are found to render our lands so surprisingly fertile when judiciously performed, only prepare the soil for the easy entrance of those fertilizing principles with which the atmosphere is abundantly replete. The atmosphere is the grand magazine, the great receptacle of putrid exhalations, which incessantly fly off from all animal substances, the living as well as dead; and by their specific levity mount up into the air, from whence, being condensed, they return in dews, rain, snow, &c., and impregnate the soil as deep as it hath been duly pulverized.

It seems very evident then, that whether the husbandman manure his fields from the dung-heap, or by ploughing in green vegetables, or by duly exposing it to the unceasing influence of the atmosphere; the principles of vegetation which he bestows in either

case, are essentially and substantially the same. They all equally originate from putrid animal substances. That from the dung-heap is indeed by far the strongest, it having not gone through its last stage of digestion and putrefaction; in this gross and impure state, it sometimes poisons and kills, and thereby defeats its intended purpose. It in general, however, when discreetly used, gives great luxuriance and an enlarged size to the stalks and blades; but luxuriance is not fruitfulness: indeed, they are seldom if ever compatible. This holds good in all kinds of grain as well as fruits. Manure, imperfectly digested, or used in too great abundance, often defeats the views and hopes of the planter; he may reap a great burthen of straw and very little grain. The same thing may happen from green vegetable manure, unless it be ploughed in time enough to undergo a thorough fermentation, and at the last ploughing be intimately blended with the soil. But of this there is no danger in the last-mentioned method of cultivation; for the principles of vegetation derived from the atmosphere, by thoroughly pulverizing the soil, are so perfectly digested, subtilized, and refined from the impurities of the former, that unhealthiness or a surfeit is not to be apprehended, especially as it is not given all at once like the former, but administered from time to time as the skilful husbandman may see necessary.

I should now proceed, according to my proposition, to consider of the *easiest and most effectual means of promoting vegetation*, in support of, and consistent with, the above principles; but as I apprehend that would run this paper to an inconvenient length, I must postpone it for some future communication.

Observer.—No. XX.

THE VIRGULA DIVINA, OR DIVINING ROD.

"Convince the understanding, and it is impossible for the judgment to withhold its assent."—*Chief Justice Tilghman.*

I do not wish to interfere in the controversy between Dr. HORTON and JAMES PEDDER.—Some of my thoughts were penned for the Cabinet *before* they took the field. I have therefore a common right to sail upon the high seas, but intend to do so under a neutral flag, alike respective of the rights of the belligerent powers. The better to preserve a strict neutrality, I shall neither *affirm* or *deny* the efficacy attributed to the divining rod—or to those who are supposed to possess the faculty of employing it.

My object shall be to call the attention of the reader away from mere assertions—hasty opinions—and false pretensions, to the consideration of the *natural phenomena* which the

case presents, in order that he may arrive at the "whys and wherefores."

Under the specious and imposing names of *virgula divina*—*caduceus*—*baculus divinatorius*—*Aaron's rod*, &c. &c., the *divining rod* has been extensively used for the last eight hundred years, for the two-fold purpose of discovering hidden treasures of the precious metals, and wells of water. Many conflicting opinions and fanciful explanations have been offered. Perhaps the most elaborate work which has yet appeared on the subject was a duodecimo volume by M. THOUVENEL, published at Paris, in 1781, wherein he details six hundred curious and interesting experiments for the purpose of illustrating the "Phenomenes de la Baguette divinatoire."

I have known several *water smellers*, as they are called in this neighborhood, and have seen them smell for water—and *water was found in all the places where they designated*. But before we can place a just estimate upon facts of this nature, it will be necessary to consider

1. *The means used*,—and
2. *The object sought*.

1. *Of the means*.—In olden times a hazel branch appears to have been in the highest repute for the divining rod. Originally, perhaps, it might have been the *witch hazel*.—Some still prefer hazel—some the peach—apple—elm, &c. A few, however, greater adepts I suppose, use any kind of wood, provided it has the proper form—a close fork with two slender equal branches. (See fig. 15.)



Fig. 15.

A belief in the efficacy of the divining rod implies the existence of something like *polar attraction between it and the water*, whereby the larger end is inclined with considerable force towards the hidden element, somewhat as the magnetic needle tends to its proper pole. To discover this *polarity of the rod*—or more properly to ascertain the situation of the *aqueous pole* toward which it is attracted—the operator first inverts the rod and then grasps the extremities of its branches with his hands, having the backs turned downward and the arms extended. By this manœuvre the branches are *smartly bent outward* near

the hands, so as to bring the ends in a horizontal position. (See fig. 16.)

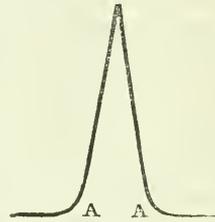


Fig. 16.

Thus equipped the water smeller proceeds to smell for water, not with his nose, but by means of this magic wand. As he walks forward it is alledged that when he approaches a stream of water below the surface, the top of the rod will begin to incline from its vertical position—and that the inclining force will increase till the rod is *greatly bent*—or *broken*—or *reverted to its natural position*—*sometimes the delicate hands of the operator blister in the process*. The spot where the inclining force is greatest is the one where they say the water will certainly be found—the depth being in an inverse ratio to the force of attraction. Fig. 17 may represent a sec-

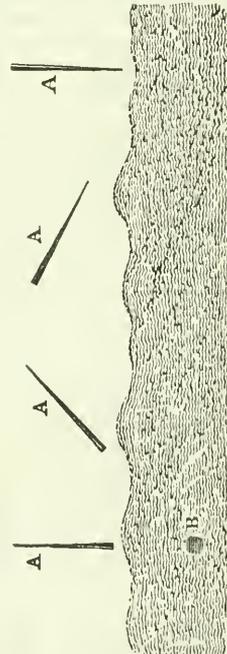


Fig. 17.

tion of a field having a subterranean stream of water B. The positions of the rod at A A A A indicate the increasing attraction as it is brought nearer to a vertical position over the

water—the operator passing from the right to the left hand.

This inclination of the rod *may* be occasioned by the polar attraction between it and the water—but I conceive that there *are* other causes in constant operation which *must* give the rod just such an inclination to turn downwards. Among these I may briefly notice

1. The *elasticity* or spring of the rod where it is bent near to the hands of the operator.—(See AA fig. 16.)

2. The involuntary and unconscious *relaxation* of the muscles of the hands. This is greatly promoted by their being made to grasp so slender an object.

3. The *force of gravity* acting on the rod itself—giving it a direct tendency downwards. When a long and stout rod is employed, both the leverage and the power will be very considerable—more than sufficient to snap a brittle twig if the hand does not relax its hold. The necessary motion imparted to the rod in walking, increases the facility with which these forces act.

The grand consideration then is to determine whether there may not be *natural causes* in operation amply sufficient to produce the alleged result without having recourse to the aid of *enchantment*. I submit this to the judgment of the reader. Perhaps he could decide more readily if he would make a few experiments either with a forked rod or an *elastic wire*, bent to the proper form, by walking to and fro in his parlor, or while sitting in an easy chair on a rainy day.

2. *Of the object.*—The defenders of the divining rod say that the proof of their faculty lies in the undeniable fact that *water can always be found in the places which they designate*. Now if it were true that water can *only be found in a few selected places*, their fact would go very far to sustain their pretensions. But in order to come at the true value of that fact, it must be taken in connexion with another, which is quite as well authenticated, viz.: That *water can be found in almost every situation within a few feet of the surface*, and without the aid of the divining rod. It is therefore necessary to inquire *under what conditions water exists in the earth*, before we can safely determine whether the divination of the divining rod of the diviner is *adequate and necessary to discover its location*.

The rains which fall upon the earth penetrate it variously, according to the nature and arrangement of the strata which enter into the composition of its different parts. Some of these strata are impervious to water—others allow it to pass freely through them. They are sometimes vertical—sometimes horizontal—or variously inclined.

Influenced by the force of gravity, water

constantly tends downwards to its lowest level, and if no obstruction presented would soon occupy a position around the central nucleus of the earth. If the earth were sufficiently porous, and the quantity of water not too great, it would all descend below the deepest valleys, leaving the whole surface one wide arid waste. There could be no evaporation—consequently no dew nor rain—nor fountains and streams of water. (See fig. 18.)

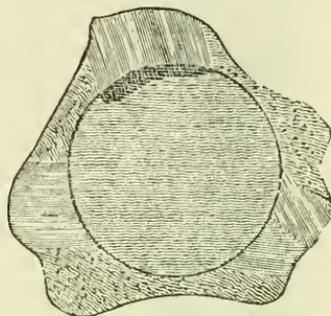


Fig. 18.

The proportionate quantities of earth and water, and the wise arrangement of the heterogeneous materials which compose the globe, has happily produced a better state of things. The water still tends to the centre, but is collected in reservoirs on the surface of the deeper valleys, forming ponds, lakes, and seas. (See fig. 19.)

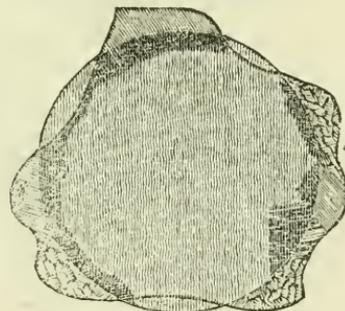
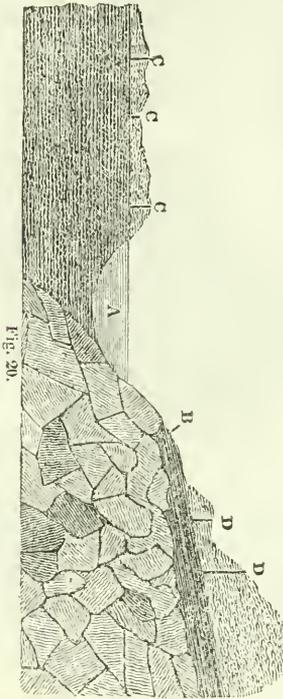


Fig. 19.

Water is rapidly evaporated from those extended surfaces, and diffused through the atmosphere from whence it descends in the form of dew and rain. These not only refresh the surface of the earth; but, by penetrating it, supply the fountains and streams, which in their turn replenish the ocean. But they furnish our wells also.

Fig. 20 may be supposed to represent a portion of the earth's surface. The left hand section is composed of loose materials, which allow the water to sink to its lowest level as marked by the black line—corresponding with

the surface of the ocean at A. Water could be procured any where in this section by digging down to that level, whatever may be the elevation of the surface, as at CCC.



The upper part of the more elevated mountain region on the right hand is also pervious to the rains which fall upon it—but is underlain by inclined strata of impervious rocks.—These strata *crop out*, or come to the surface at their lower edge. The effect of this arrangement must be obvious. When the water percolates through the upper portion of the mountain, and reaches the surface of the rock, it is forced to deviate from its course and to follow the stratum *til* it again emerges at B in the form of a *spring or fountain*.—This fountain forms a *rivulet*, which by uniting with others compose larger *streams*, that flow into and replenish the waste of the *ocean* below. Water may also be obtained by digging down to the surface of the rock, and intercepting the stream *above* the fountain as at DD. The supply obtained in this way is often more abundant, but less durable than in the former instance. Thus it will be perceived that *without impervious strata there could be no fountains or running streams of water*.

Now if the correctness of these illustrations be admitted, (and perhaps none will deny their general accuracy) the reader will at once perceive what value is to be placed on the

faculty of discovering water by means of the divining rod. It *may* and certainly *does* point to a hidden fountain. The divinator smites the thirsty rock with his magic wand, and a fountain gushes forth. But is this divination, or is it chance? Is it in obedience to the *call of the magician* or to the *established laws of nature*? Let the reader answer. I repeat—the rod may unerringly point to the subterranean fountain—it certainly does so—but *that fountain pervades the whole earth—exists every where beneath its surface, and cannot be mistaken*. There can be but little *liability to error* where it is *impossible to err*.

Let the believer divine and dig by the divinings of his rod—and the unbeliever consult his own convenience, and they shall both find water. There will be this difference only—the former will be obliged to place his house by the water—the latter will have water by his house.

It would be a violation of my pledge either to affirm or deny the power of divination to the *caduceus*, but I suspect that very few of my readers will henceforth think it deserving of trial.

New Garden, 10th mo. 1st, 1839.

The Rod again.—Milk Pans.

To the Editor of the Farmers' Cabinet.

SIR,—I perceive that Mr. PEDDER is out, in your last number, in reply to an objection to the Divining Rod, and I mean to help him, not because I am more credulous than those who hoot at it, but because there is *truth in the thing*, and I think *science* will help us out.

I shall first state some facts, and then try to show how this seemingly strange thing may be accounted for. Some years ago, having fixed on a site for a house, I was anxious to know the exact spot I ought to dig in order to obtain water. A plain farmer in this vicinity, who was in the habit of finding water for the "folks" without fee or reward, was requested to come and try for me—he found it just where I would have had it, and moreover told me,—“I might dig any where thereabouts and obtain water.” This easy good natured direction you may rest assured did not increase my confidence in the *art*; but I dug and found water. Some two or three years after the subject was introduced in a conversation between two gentlemen and myself at my house, and one of them, an elderly man, who had traveled much, said that he was satisfied of the truth of it, and that the divining rod would operate in his hands. The other gentleman and myself having now a fair opportunity to investigate this *absurd* matter, we sallied out forthwith to obtain the necessary instrument, and when obtained and

tried by the old gentleman we saw there was no *mistake*—that at least in certain spots or places there was invariably an involuntary depression of the point of the fork, and by widening the circle round the pump, we felt satisfied that we could indicate the course of the stream that supplied the well. We wished to know why it did not *act* in the hands of all persons alike, and found by repeated trials of different persons, that where the skin of hands was *dry* all was inert—that it only operated where there was a *moist* skin. Another fact was ascertained by our repeated trials at different times—that in proportion as the atmosphere was charged with moisture, the indications were weakened. These facts led us at once to conclude that electricity was the agent.

The rod must be made of a forked twig of the present season's growth—that is, must be full of sap. The end where the two branches meet must be sharpened to a point.

Tell Mrs. JENKINSON, that the "leads" they use for creaming milk in England, will not answer in this climate—they are very unsuitable for a spring house. I have one made on the best and most approved plan, sent me by a kind friend, and have tried it in a vault, and find that it does not answer as well as our earthen pans. Persons who use tin pans instead of earthen, speak well of them. I fear the women will have to hold on to their skimmers. D. Z.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

Frank.—Father, I see no Garden at all to be compared in beauty and pleasure with ours. The shrubbery appears so large, and the walks so long, although we know that the space which it occupies is but small: this must be occasioned by their winding course, so unlike all our neighbors' plans for laying out their gardens.

Father.—You see that the walks in the shrubbery are what is called *serpentine*; it has been decided that "a curve is the line of beauty," and that, therefore, "nature," which is all beauty, "abhors a straight line." Now, in this, persons have been apt to overstep the bounds of moderation, and it is at length supposed, that walks for pleasure, cannot be made too crooked—they are mere *snail creeps*, and instead of the *swell of nature*, we have the zig-zag of some clever man's brains. Do you know that the human figure can be drawn by taking segments of circles only, which mean, *curved lines*—so that not a straight line shall be followed in tracing it!

Frank.—No indeed!

Father.—You see, then, the justness of the expression, "*The curve of nature*,"—but

this gentle swell is very unlike the very crooked walks that are now so fashionable.

Frank.—I have heard also, that "*nature abhors a vacuum*," but I do not know the meaning of this.

Father.—A *vacuum* means an empty space—and some persons, seeing that all nature is full and perfect, could account, in no other way, for the rising of the water in a pump, when a portion had been drawn up, and an empty space or *vacuum* had thereby been caused in the pipe, and into which the water would instantly rush to supply it: but it is the *pressure of the atmosphere* upon the surface of the water in the well which forces it into the empty space, on the unerring principle, that every thing in nature will *find its level*.

Frank.—Now I wish to know more about the *pressure of the atmosphere*. I hear it often mentioned, but should like to understand it.

Father.—It is by means of the air pump, that persons have been enabled fully to understand the subject: this is a beautiful but expensive instrument, by which the air is pumped from under a bell-shaped glass, turned down on its mouth, just as though it were water: you know that water is a fluid—so also is air discovered to be. But we will endeavor to make a very simple *water pump* in about a minute—do you see this glass tube? I will show you by this, the way in which the pressure of the atmosphere operates. Now, I stop the upper end of the tube, and put the lower end into this pail of water.

Frank.—Why, the water has not risen into the tube, it remains empty.

Father.—The tube is already full of air, and it cannot escape, because I keep my thumb on the end of it. I will now unclose it, and see what will be the result.

Frank.—The water rises in the tube, and is now just so high as the water in the pail.

Father.—Yes—as soon as the air could escape, the water flowed in to supply its place, and has attained its level—this, as I said, is the law of nature, and is unerring.—Now then we will suppose this tube to be the pipe of a pump; if we draw the air from the top of this pipe, there will be a *vacuum* formed, and the air, pressing on the water in the pail, will force it into the pipe to supply it in an instant. See! I will draw off the air by sucking it out.

Frank.—Ah! there it rises—but is not this sucking up the water?

Father.—To appearance it is, but it is merely drawing off the air which permits the water to rise; and this could easily be proved to be the true state of the case if this tube were thirty-two feet high; for with all our sucking, it would not be possible to raise the water to a greater height than that; no com-

mon pump will draw or lift water more than thirty-two feet in height. When you are older, I will take you to see what are called philosophical experiments; at present we must be content to examine and reflect in a plain way.

Frank.—But I suppose that this might be called a philosophical experiment?

Father.—Yes—and with a very simple apparatus too; it is enough however to show you the effect of atmospheric pressure on the water in a well.

Frank.—Now, cannot you contrive to make an air pump too?

Father.—Let us try—our tin cup will make a decent substitute. Now fill it with hot water, and when it has stood awhile, empty it, and turn it down into this saucer, and pour a little water into it.

Frank.—Oh! how the bubbles are breaking out all round the edge of the cup, and forcing their way through the water in the saucer!—How is this?

Father.—The air, which is confined under the cup, being rarefied or expanded by the heat, forces its way round the edge of the cup and through the water in bubbles. Now wait a little, and take up the cup, and tell me what you observe.

Frank.—Well, I declare! The saucer sticks so closely to the cup as to be lifted up by it! How did you contrive this?

Father.—It was no contrivance of mine—it was caused by the *pressure of the atmosphere*: upon the escape of the expanded air from the cup, none could enter to supply its place because of the water in the saucer, which formed what is called a *water lute*.—On the cooling of the cup, and consequent contraction of that portion of air which remained confined in it, a partial vacuum was formed, when immediately the external air being heavier than that which was contained in the cup, pressed so forcibly on it as to keep it fixed to the saucer.

Frank.—This is indeed a capital air pump—and I now see how it is, that when a piece of leather, with a string fastened to it, is stamped on a smooth stone, it sticks so closely that the stone might be lifted by it: it is because the air has been driven out from under the leather, and then the *pressure of the atmosphere* falls upon it and fixes it to the stone.

Father.—It is so, and that you may perceive how we are surrounded with objects which call for observation, I will mention a very familiar example of the pressure of the atmosphere, the effects of which cannot have escaped your notice. You know that when we cross the lane leading to Farmer Vince's house, we are in danger of losing our shoes by sticking in the clay!

Frank.—Yes—I have often done that, I know.

Father.—The clay being soft, takes so exact an impression of the shoe, that at every step the air is driven out from under the foot by the pressure of the atmosphere, and the foot is so forcibly pinned down that it is often difficult to raise it. And what is it, do you think, which presses so heavily the hot iron with which your mother smoothes the clothes after washing! The air is expanded by the heat, and is driven out from under it, when, immediately, the external pressure on the iron, great in proportion to its heat, is sufficient to answer the purpose of a mangle heavily loaded.

Frank.—Our theory of haymaking, I declare!

Father.—Exactly—and I am pleased with your application. I was going to say, take a cold iron, and rub it with all your might, and you will scarcely make any impression—the same iron made hot gives one the idea of copperplate pressure; and this is increased by damping the clothes, as by that means, the expansion of the air is greater, and the vacuum thus created more perfect. And see, how one observation leads to another. You have heard *London dirt* spoken of by those who have visited that place, and they declare there is no walking the streets without splashing one's self from head to foot. The reason is this—the pavement is worn so smooth, that at every step the shoe fits it so closely, that the air is driven forcibly out from under it; and then the foot falls so heavily in consequence of the pressure of the atmosphere upon it, that the mud is scattered about on all sides, as though it were *blown up*; while here, in the country, we can walk in the worst roads without scattering the dirt, as the inequalities in the ground give space for the escape of the air, and support the pressure of the foot, by which all splashing is prevented.

Frank.—I wonder how many of the thousands who crowd the streets of London, and complain of the mud with which they are covered, ever think of attributing it to the right cause,—*the pressure of the atmosphere*?

Father.—There is just one more instance which I will mention. You have often heard persons, who wear India rubber shoes, complain of the pain which they experience, if they keep them long on their feet, especially in warm rooms. This is occasioned by the pressure of the atmosphere upon the feet, in consequence of the *vacuum* that has been formed around the feet by the tightness of the rubber shoes, which fit so closely as to prevent any air from entering to supply the place of that which has been forced out by expansion, caused by the heat of the feet: evaporation can therefore no longer go on, and the stock-

ings and feet are often found wet with perspiration on removing the rubbers; while much pain in the feet, as also in the head, is oftentimes experienced, during the time they are worn; the first is occasioned by the pressure of the atmosphere upon the feet, the second, for want of proper circulation and evaporation; all insensible perspiration being checked by the closeness of the rubber shoes; and I have no doubt much and serious illness has arisen from this cause.

Frank.—Then are not those waterproof clothes, now so much in fashion, injurious, from the same cause?

Father.—Undoubtedly they are, and I speak from experience; for I once had a water-proof great coat, to defend me from the heavy rains to which I was at that time exposed, and was for some time at a loss to account for the extreme fatigue and lassitude which I always felt on wearing it, until the thought struck me that it arose from impeded circulation and checked perspiration. I never put it on again, nor ever again did I feel that sense of suffocation and difficulty of breathing, which always affected me when I wore it.

Frank.—Thank you for this lecture on the pressure of the atmosphere; I shall now be able to account for many things which have puzzled me amazingly. But there is still one, which I cannot understand; and although it does not seem to have occasioned much inquiry, it appears to me very wonderful, and I should like to know more about it. I was reading in the Penny Magazine the other day, an account of the vast salt mines in Poland, which, although they have been worked for many ages, seem, at this day, quite inexhaustible. Other countries, also, are found to contain mountains of this mineral in the bowels of the earth, while the never-failing salt springs, which are so often met with in this, and in almost every other country, might be supposed, I should think, to flow from beds of salt buried in the earth; and if so, they must be of infinite extent. I used to think this salt was different from that procured from sea water by evaporation; but it is proved to be identically the same, contaminated, sometimes, with other matters, but when purified, it is, in reality, *marine salt*. Now the question is,—how came such enormous masses of sea salt to be deposited at such great depths in the earth? Were they thus formed at the creation of the world?

Father.—This is a most interesting question, and yet, strange to say, it would appear that no attempt has been made to account for so wonderful a phenomenon. Horne Tooke said, “what a man *throweth*, that is truth,” and after much thought and reflection, I have adopted a *theory*—I suppose it might be called—which, although to my own mind it is satis-

factory; yet I should almost despair of making it intelligible to others, much less to render it plausible to any; but let us see what we can make of it.

I believe that the elements of this globe, earth, air, fire, and water, were all created at the same time, and are dependent upon each other—all being necessary for the formation of the *perfect whole*—that the fires which are now raging in the bowels of the earth, were kindled at the time of the creation; and that their grand office is, *to furnish the earth with fresh water by distillation*—the water being originally *salt*—that this salt water passes from the sea by secret channels, into the caverns of the earth, where, coming in contact with those subterranean fires, it is by them converted into steam, which, ascending through the crevices of the earth, is at length condensed into streams of fresh water, which form springs—the sources of rivers—upon the surface of the earth. The saline particles of the water, *which cannot be made to rise by distillation*, are left, after this process, in the bowels of the earth—the caverns formed by the burning away of the earth, becoming their receptacles—until they accumulate, so as to form those immense mountains of rock salt, which are there found at the present day, and from whence flow those salt springs of which you have spoken. So then, thus it would seem:—The waters of the ocean are continually escaping through caverns—many of which we have read of; particularly that great whirlpool, Maelstrom, on the coast of Norway, which forms a vast funnel, many miles in circumference, into which, if a ship enter, it is sucked, or drawn down into the abyss, without the possibility of escape—where, coming in contact with subterranean fires, they are instantly converted into steam, which, on condensing, forms springs of fresh water; the residuum, which cannot be evaporated, goes to form those enormous mountains and beds of rock salt in the earth, of which you have read! Now do you understand what I have been saying?

Frank.—I believe I do, but the idea is so new to me, and so astonishing, that I hardly know what to say. And yet, this theory seems to account for these mountains of salt, in a very natural way, as also, for those hot mineral springs in many parts of the world, of which we so often read—*boiling hot*, even upon the surface of the earth, and forced up to an astonishing height by some invisible power; thus forming *boiling fountains*.

Father.—Yes, and this theory accounts for the cause of earthquakes, and all those terrible revolutions, which are continually taking place in different parts of the globe—it would appear that they are all occasioned by the *power of steam!*

Frank.—Astonishing! we have here, at one view, the mighty power of that overwhelming agent! It is enough to *overwhelm* us with awe and wonder!

Father.—By this view, too, we are enabled to understand how it is that although "All the rivers run into the sea, yet the sea is not full," (Ecclesiastes, Chap. i., v. 7) as well as that, "unto the place from whence the rivers come" (the sea) "thither they return again;" for, how can fresh water rivers come from the sea—the waters of which are confessedly salt—unless they have been first deprived of their salt by some process, either in the atmosphere or in the bowels of the earth? And is it possible that this can have been effected by any means, but by *evaporation*? It appears then, that the water which is evaporated by these internal fires, as well as that which is drawn up by the heat of the atmosphere, returns to the sea, to be again evaporated, so that nothing is lost; and that this process has been going regularly on, since the day of creation!

O Lord! how manifold are Thy works!
In wisdom hast Thou made them all.

For the Farmers' Cabinet.

Honey Brook, Chester Co.—Lime, &c.

MR. EDITOR,—In looking over your Cabinet, and seeing correspondents from different parts of the country, except from my own neighborhood, and thinking that we, as a community, were called upon to contribute our quota towards the cause of agriculture, I shall endeavor to give you the opinions of some of our farmers,—confining my remarks to *Honey Brook Township, Chester County*.

I shall first give an account of the quality of the land, for the benefit of those who have never traveled through it. In general, the soil is of the best quality; in some places clayey, in others gravelly, and of a sandy nature, and in others, a deep rich loam, well calculated for raising grain of all sorts, particularly *wheat* and *corn*, and in fact all kinds of grain and grass, for all of them at present engage the attention of the farmer, and the only diversity of opinion is, which is the easiest manner of keeping the land in order.—Some say, lime is the only thing; and lime of an excellent quality can be had from ten to fifteen cents per bushel. Others say, that *without manure* lime is comparatively useless, as it will not have that effect that it would, if there was a sufficient proportion of manure along with it.

There is also a difference of opinion as to the *quantity*. Some say forty, and some an hundred bushels to the acre. But this, I think, depends on the nature of the soil; for on clayey ground, eighty bushels will not be

found too much, while sandy or gravelly soils, experience has convinced me, will not require as much; for my father has used lime between thirty and forty years past, (he built for his own use, it is supposed, the first lime-kiln in Berks County, the land of which is of a sandy nature) and he never applied more than fifty bushels per acre. Since he removed to this place he has applied on the land as high as one hundred and ten bushels to the acre, and it has not recovered from the effects of it yet, and that is four years since. There is also a diversity of opinion as to the best mode of its application. Some say, put it on the sod which you intend to plough down for corn; others think it best to spread it on grass, two years before it is intended to be put in corn, and I am inclined to the latter operation; but from experience I cannot say, for I have only used it in the former of these two ways. Some think that marl might be used as a substitute for lime, for in some parts we have marl in abundance, by digging from two to five feet; but its value as a manure has never been tested. I will now endeavor to describe its properties as well as I can, for I am no chemist; but I wish some competent person would inform us of its properties. It is found from two to forty feet under the surface of the ground, and generally of a white color, with red streaks through it; but it is of different colors, sometimes green, brown, and of a slaty color, and when dissolved in water, a greasy scum rises on it, which prevents the water from washing, to counteract which some use soda, but others are making rain-water cisterns, and on that account we are engaged at this time in constructing one. When the water has this scum on it, it is called limestone water, from its having a disagreeable taste, like water impregnated with lime. And there are also "sinks," as they are called, similar to the sinks in limestone districts, which can be accounted for in no other way but by supposing that water has washed away the marl (for it is of a very dissolving nature) and has found some outlet, and the surface has sunk down. Some of these sinks are of thirty yards in diameter, and twenty feet deep.

Some are in favor of feeding their own produce to cattle, and making *manure*, and thereby improving their land, independent of lime; while others think that marshy or bog land is the best, as they are always collecting from the high land; but they must be drained—and they inquire how land that is level is to be drained; and that, under such circumstances, appears a difficult matter, and if any of your subscribers could devise some way, they would confer a benefit on a great many in this part of the country.

We have also some *nuisances*, that perhaps some of your numerous correspondents could

devise a remedy for; particularly garlic, wild carrot, and Canada thistle, and elder or bore-tree. The garlic is not confined to this part of the country alone, for I am informed that it is to be found over almost all the state. A correspondent recommends a plan for to destroy it, but experience has convinced me that it will not answer; for I have tried every remedy that I could devise, and all have failed. Some say, turn the field out and let it lie a common, but that wout answer, for there is at this time a field which has been lying out for twenty-six years, as I am informed; and from that time to this there has not one head gone to seed; yet I was surprised on examining it some time since, to find that the roots were there, only waiting for circumstances to revive them; and I think the seed of some weeds will remain for years in the ground, only waiting for circumstances to favor their germination.

Soap Making.

Much difficulty is often experienced by those who manufacture their own soap, frequently indeed the operation succeeds well, but sometimes it totally fails from unknown causes. Often when every precaution has been apparently taken, complete failure has been the consequence; and the time is not long past, when some have even declared that they believed their soap was *bewitched*. But if the rationale on which the process is founded, is but understood, the whole becomes simple and easy; and may be performed with an absolute certainty of success.

Common soft soap is composed of oil (or fat,) and potash. The potash is obtained from common wood ashes, by causing water to run through it, which dissolves the potash contained in the ashes, and leaves the residue behind. The manner by which the oil or grease is obtained is well known. These are made to unite and form soap by being boiled and well stirred together.

One of the first requisites in soap making is that there should be a sufficient quantity of potash dissolved in the water, or in other words, that the ley should be *strong*: this is readily ascertained by an egg; if the egg floats the ley is sufficiently strong; if it sinks, it is too weak, and must be increased in strength by evaporating a part of the water by boiling, or by passing it again through ashes.

But it not unfrequently happens that the ley is found by trial to be too strong, and yet good soap cannot be produced. This is almost always owing to the potash of the ley not being *caustic*, or capable of corroding the skin, which state is absolutely requisite to success. Potash in its purest state is highly caustic; but when ashes have been for some

time exposed to the air, they gradually absorb from it a portion of the peculiar kind of air existing in small proportion in it, known by the name of *carbonic acid*, which destroys the caustic properties of the potash, and renders it unfit for the manufacture of soap.— Now, as quick lime has a stronger attraction for carbonic acid than potash has, it is only necessary to place a quantity of lime, in the proportion of half a bushel of lime for a hog-head of good ashes, in the bottom of the leech before filling it, and it will abstract the carbonic acid from the potash of the ley, as it passes downward, leaving it in a comparatively pure and caustic state. In order to prevent failure, therefore, this should always be done. In order to ascertain if ley contains carbonic acid, pour a few drops of sulphuric or nitric acid into a wine glass of the ley, when, if it contains much, a violent effervescence (or boiling up of bubbles) will instantly take place, owing to the escape of the carbonic acid. The carbonic acid may be removed from the ley and render it fit for soap making, by boiling the ley with quick lime.

If the ley be *strong*, if it be rendered *caustic*, and if there be a sufficient quantity of tolerably *clean fat*, there can be little danger of success. The proportions should be about thirty pounds of fat to eight or ten gallons of ley.

Hard Soap consists of soda instead of potash, united with fat; and is commonly made by adding common salt (which consists of muriatic acid and soda,) to well made soft soap while it is yet boiling. The soda of the salt unites with the fat, and forms hard soap, while the potash unites with the muriatic acid of the salt and separates by falling to the bottom of the vessel. Different degrees of hardness in soap are obtained by using potash and soda, at the same time, in different proportions. Hence grease from salt meat has a tendency to increase the hardness of soap unless the salt be previously removed by boiling in water.

Soap of tallow is made in England, and largely in the United States, and is the best in common use; when scented with oil of caraway seeds and cast into a mould, it is used for the toilette, and is called *Windsor soap*. Other toilette soaps are made with butter, hog's lard, or with almond, nut or palm oil. Sometimes fish oil is used for coarse soaps, as well as linseed oil; and rosin is often added to give a yellow color and odor. The following proportions (by weight) have been given for a good yellow soap; tallow twenty-five, oil four and a half, rosin seven, barilla, (soda) eighteen, settlings of waste ley, evaporated and calcined, ten, and palm oil one-half part.

Soaps are colored blue by indigo, yellow by

tumeric, &c.; and marble or veined soaps are made thus:—to the soap just separated from the spent ley, new ley is added, and then coppers dissolved in water; red oxide of iron (or coleothar,) mixed with water is stirred in it by manual dexterity, is so mixed as to produce the peculiar appearance.—*Gen. Farmer.*

Neat Cattle.

CRITERIA OF DAIRY STOCK.

We copy from the Farmers' Magazine, the following scale of points of Jersey dairy stock, which has special reference to the *producing butter and milk*, but is not designed to apply to cattle for draught or fattening.

SCALE OF POINTS FOR BULLS.

	Points.
Art. 1. Purity of breed on male and female sides, reputed for having produced rich and yellow butter,	4
Art. 2. Head fine and tapering, cheek small, muzzle fine, and encircled with white, nostril high and open, horns polished, crumpled, not too thick, the ears small, of an orange color within, eye full and lively,	8
Art. 3. Neck fine, lightly placed on the shoulders, chest broad, barrel whooped, and deep, well ribbed home to the hips,	3
Art. 4. Back straight from the withers to the setting of the tail, at right angles to the tail. Tail fine, hanging two inches below the hock,	3
Art. 5. Hide thin and moveable, mellow, well covered with a fine soft hair of a good color,	3
Art. 6. Fore arm large and powerful, legs short and straight, swelling and full above the knee, and fine below it,	2
Art. 7. Hind quarters, from the huckle to the point of the rump, long and well filled up; the legs not to cross behind in walking,	2
Art. 8. Growth,	1
Art. 9. General appearance,	—
Perfection,	25

No prize to be awarded to a bull having less than twenty points.

SCALE OF POINTS FOR COWS AND HEIFERS.

	Points.
Art. 1. Breed, on male and female sides, reputed for producing rich and yellow butter,	4
Art. 2. Head small, fine and tapering—eye full and lively, muzzle fine and encircled with white, horns polished and a little crumpled, tipped with black, ears small, of an orange color within,	8

Art. 3. Back straight from the withers to the setting on of the tail, chest deep, and nearly of a line with the belly, 2

Art. 4. Hide thin, moveable, but not too loose, well covered with fine and short hair of good color, 2

Art. 5. Barrel hooped and deep, well ribbed home, having but little space between the ribs and hips, tail fine, hanging two inches below the hock, 5

Art. 6. Fore legs straight and fine, thighs full and long, close together when viewed from behind; hind legs short, and bones rather fine; hoof small, hind legs not to cross in walking, 2

Art. 7. Udder full, well up behind; teats square and largely placed, being wide apart; milk veins large and swelling, 4

Art. 8. Growth, 1

Art. 9. General appearance, 2

Perfection for cows, 30

Two points shall be deducted for the number required for the perfection of heifers, as their udders and milk veins cannot be fully disclosed.

No prize shall be awarded to cows having less than twenty-one, or to heifers having less than fourteen points.

REMARKS ON NEAT CATTLE.

1. The head small and clean, to lessen the quantity of offal. 2. The neck thin and clean, to lighten the fore-end, as well as to lessen the collar, and make it fit close and easy to the animal in work. 3. The carcass large, the chest deep, and the bosom broad, with the ribs standing out full from the spine; to give strength of frame and constitution, and to allow sufficient room for the intestines within the ribs. 4. The shoulders should be light of bone, and round off at the lower point, that the collar may be easy but broad, to give strength; and well covered with flesh, for the greater ease of draught, as well as to furnish a desired point in fattening cattle. 5. The back ought to be wide and level throughout; the quarters long; the thighs thin, and standing narrow at the round bone; the udder large when full, but thin and loose when empty, to hold the greater quantity of milk—with large dug-veins to fill it, and long elastic teats for drawing it off with greater ease. 6. The legs (below the knee and hock,) straight, and of a middle length; their bones, in general, light and clean from fleshiness, but for the purposes of strength and activity. 7. The flesh should be mellow in the state of fleshiness, and firm in the state of fatness. 8. The hide mellow, and of a middle thickness, though in our author's opinion this is a point not well determined.—*Marshall.*

On Seeding.

BY GEORGE WILLETS.

Of all the practices constituting good 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 modern date are infinitely superior?

I rejoice in the improvement that has been already 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 behoves 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 others 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 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 it a practice to sow our timothy immediately after the last harrowing in of wheat, having a person to follow each harrow, which leaves not a particle of ground without seed, and I never have

perceived wheat to have been injured in consequence.

The time for sowing clover must depend altogether upon 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 become 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.

Hussey's Patent Reaping Machine.

Letter of Gen. R. Mansfield, in reply to inquiries made by Dr. J. W. Thomson, Corresponding Secretary of the Agricultural Society of New Castle county, Del.

Near Middletown, (Del.) July 26, 1839.

DEAR SIR,—Your note of the 11th inst. was duly received, in which you ask information respecting "Hussey's Reaping Machine," purchased by the Agricultural Society of St. George's and Appoquinimink Hundreds. I should have answered it immediately, but wanted to make trial of the machine under my own inspection, which I have now done to my perfect satisfaction. I do not hesitate to say it will do every thing the patentee says it will do.*

It cuts a band of from four feet six inches to five feet wide, if propelled at the rate of four miles to the hour, which active horses will walk. Every mile's travel will be above half an acre. It will therefore depend upon the industry of the operators, and the activity of the horses—when kept in full and active operation, it will furnish work for five binders. That it cuts smoother and cleaner than *any* cradle, and lays the grain, if properly attended by the man with the rake, better than nine-tenths of the cradlers that grip the grain is a fact, cutting a smooth stubble of about six or seven inches high. In high projecting, rocky and stumpy ground there would be some difficulty—but on rolling or undulating land it will cut as well as on a perfect level.

The patentee has calculated it for two horses—when I tried it, the ground was soft in consequence of a heavy rain; I therefore attached three horses, which I found to work well and with great ease. The price is one hundred and fifty dollars. Any description I might give of the structure would be imperfect. As it can be seen by any and all per-

* Warranted to cut fifteen acres of heavy wheat in a day, the grain taken as clean and left in as good order for binding as when cut by the scythe or sickle.

sons wishing to see it, I think a personal inspection would be more satisfactory.

I am, with esteem, dear sir,
Yours, &c., R. MANSFIELD.

Doct. J. W. THOMSON, Cor. Sec. N. C. C. A. S.

Self-Acting Cheese Press.

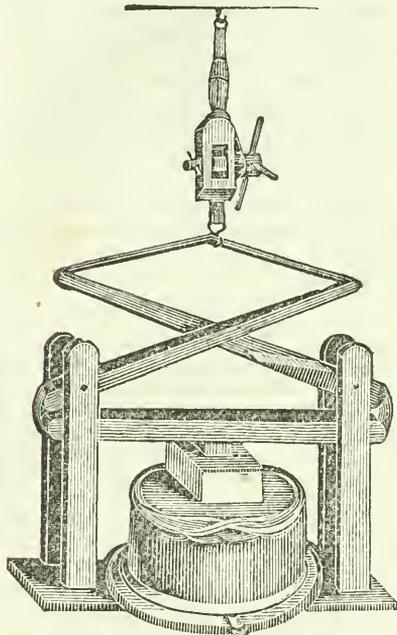


Fig. 21.

The cheese press has undergone almost as many modifications as the churn and washing machine. The several mechanical powers have been combined in almost every shape in which human ingenuity could devise, in order to procure a sufficient *squeeze*. The screw, the lever, wheel and axle, inclined plane and wedge, we have seen, all put into requisition in order to bring about the required pressure with the greatest ease and despatch, and the most of them seem to be made on the principle that a great pressure is necessary to press a little curd. Now we suppose that the pressure should be uniform and steady, and as the whey comes out, and the curd becomes more solid, it should still keep up sufficient pressure to continue force enough to cause a flow of the remaining portions, and consolidate the curd to a proper hardness. This is effected in a very simple and neat manner by the Self-Acting Cheese Press, a representation of which is given above, and which is manufactured by some of the Shakers in different states.

It is constructed on the principle of the

knuckle or *togle* joint—a species of compound lever. The cheese itself is the pressing power. It is the *Pressor* and the *Pressee*, and of course the pressure is regulated by the weight. We have never used one, but are informed by those who have, that they are very good for the purpose intended.—*Maine Farmer*.

The Self-Acting Cheese Press may be had at the Agricultural Ware House, No. 87 North Second street, Philadelphia.

Domestic Economy.

Potash and soda are the two common and abundant alkalis used in every family every day. The first in the form of soap, pearlash, salætatus, quick lye, salt petre, &c. The other in the form of common salt, (muriate of soda,) and sometimes in other combinations.

Lime and magnesia are called alkaline earths; the former is frequently put with ashes in leach tubs, where it absorbs the carbonic acid combined with the ashes or potash, and by that means gives it greater power in acting on the grease or oily matter used for the soap. It is more effectual than red hot horse shoes in keeping witches from the soap, and is more certain than either the new or full moon, in gratifying industrious housewives with "*good luck*," in this branch of domestic economy.

Acids and alkalis neutralize each other. Consequently, if an accident occurs from vinegar, sulphuric acid, (oil of vitriol,) nitric acid, (aqua fortis,) muriatic acid, (spirit of salt,) or any other acid, apply potash, soda, ammonia, quick lime, magnesia, or some alkali, or alkaline earth.

If an accident occurs from an alkali, apply vinegar or a weak solution of some of the stronger acids.

By a knowledge of the properties and the relations of the two classes of substances, constantly used by house-keepers, stains on garments can frequently be removed or prevented, cooking improved, and frequently life saved.

Oxygen is the vital portion of the atmosphere, and the agent which supports respiration, sustains combustion, produces rust on metals, changes the juice of the apple, first into sugar, then alcohol, then vinegar, and finally putrefaction; causes light and sour bread, darkens the shade of certain colors, and destroys others, and produces some influence on every thing at all times.—*Genesee Farmer*.

It is better to exercise the judgment, than to overload the memory.

**Cattle Show & Horticultural Exhibition,
New Castle County, Del.**

The Cattle Show of the Agricultural Society of New Castle County, held in this city on Wednesday, September 25, as usual, attracted a large concourse of strangers, from different parts of this county, and the adjacent counties of Pennsylvania; and the cattle, sheep, hogs, &c. exhibited, did great credit to the agriculturists of the county. A great number of pens had previously been erected for the accommodation of stock, and they were nearly all filled on the morning of the exhibition with a variety of very fine cattle, &c., some of which were brought a distance of nearly twenty miles. The agriculturists of this county and state for some years past, have been much engaged in improving their stock, and for this purpose several valuable European breeds have been purchased at very high prices, and introduced into the state; and the advantages that have already arisen and will continue to arise to the farmers and agriculturists, is now being more and more developed at every succeeding exhibition of the society. Some of the young cattle of foreign blood exhibited on this occasion, we do not imagine would lose by a comparison with any other in the Union; and in the course of a few years more, should as many improvements be made, as in the last four or five, we shall, no doubt, be able to boast of as fine cattle as those of any other quarter of the globe. We presume the society will in a few days publish a detailed account of the exhibition, particularizing the different kinds of stock, by whom raised, the premiums awarded, &c., and we do not, therefore, deem it necessary to give a full description at present, further than to say that the most sanguine anticipations of the members of the society, as well as all others who witnessed it, were fully realized.

The Horticultural Exhibition in the City Hall, on the same day, was also very numerously attended by our citizens, and a large number of strangers, some of whom came a considerable distance to witness it; and for the beauty of arrangement, and brilliancy of design, exceeded any thing of the kind ever produced in this city before. The richest and most delicious products of nature, such as melons, peaches, pears, apples, grapes, and, in fact, all descriptions of "fruit empurpled deep," and vegetables,—were spread around in great profusion, and in the most delectable style. The gorgeous display of flowers of every hue, and of most delightful fragrance, interspersed with evergreens, and formed into wreaths, harps, chandeliers, and other fanciful figures, lined the ceiling, walls, pillars, windows, &c., of the large room in which they were exhibited, giving to the whole

scene a most brilliant and imposing effect; and resembling a magnificent banquet, prepared by lavish Nature's well directed hand. Many productions of art, and a great variety of silks, both raw and manufactured, were likewise exhibited. One of Brooks' Spinning Machines was kept in operation nearly the whole time, which attracted considerable attention; and must have convinced all that the silk business is destined at no very distant day, to become one of our principal branches of industry, and which is to add greatly to our already numerous sources of wealth. A large number of ladies were in attendance, and they appeared to enjoy the scene with no small degree of pleasure and delight.

About three o'clock in the afternoon, the Agricultural Society, consisting of near one hundred members and invited guests, sat down to a most delicious dinner, prepared by Mr. Brooke T. Turner, of the Bayard Hotel, which was served up in the Council Chamber of the City Hall. The table was furnished with the choicest description of meats, vegetables, pies, tarts, &c., prepared in the best style, and with the greatest abundance, which did the worthy host no small degree of credit, and showed that he was every way qualified to cater on such an occasion, and satisfy the most fastidious taste—at least so we should judge from the manner in which the company seemed to relish every thing with which the table was lined. After the cloth was removed, several very appropriate addresses were delivered by the members, in which they stated their views and experience upon subjects of interest to the society, and several excellent toasts were drank—and after thus enjoying themselves for an hour or two, the company retired, well pleased with the festivities of the day, and we doubt not, with a determination to renew their exertions in their noble and praiseworthy pursuits.—*Wil-
mington (Del.) Gazette.*

Chester and Delaware County Agricultural Exhibition.

An unusual degree of interest was excited in our borough the past week, by the Exhibition and Cattle Show of the Chester and Delaware County Agricultural Society, held on the premises of J. P. McClellan. This is but the second one since the formation of the society, and if the future ones are destined to exceed the recent one as much as this did the preceding, we may safely predict, that Chester county will soon rival the most favored sections of our country, in the number and quality of her improved breeds of cattle, sheep and hogs, as she now surpasses most in her fertile soil and luxuriant pasture. We counted no less than ten imported animals of the

Durham short horned breed, where, last year, there was but one or two exhibited. The two cows "Donna Maria" and "——," recently brought from England, by Messrs. Cope and Burton, were conspicuous for their fair proportions, and perfection in the valuable points, for which the Durham breed is so celebrated. "Victoria," a beautiful roan of Mr. Whitaker's importation, and owned by Geo. Brinton, was also much admired. Edward Gheen, Francis Strode, and our townsman Mr. A. Bolmar, also exhibited several cows and bulls of the pure Durham breed of native stock, highly creditable to their skill in breeding and enterprize. The very large number on the ground of more or less purity of blood, and obtained by judicious crossing of our native stock with the pure bloods, show that the spirit of improvement is abroad, and that our farmers are alive to its importance.

In the preceding account we have omitted to mention the superb cattle of Paschall Morris, of East Bradford, which were unsurpassed by any on the ground. To the best of our recollection, they consisted of a superior Durham bull, "His Grace," four Durham cows, a heifer and bull calf. The first took the premium, and probably some of the others—they being of noble blood, of fine symmetry and in most excellent order. They were unusually admired.

There were also some specimens of pure Devons, which, though smaller than the Durhams, are highly worthy of cultivation. Two cows, belonging to Abner Hoopes and John Hickman, were really beautiful.

In regard to oxen, Chester county ably maintained her reputation for possessing the largest and best working cattle. The magnificent brindles of Thomas S. Woodward, of East Bradford, and which, we have understood, obtained the first premium, did credit to the exhibition. They were of giant proportions, combined with perfect neatness and docility. These, and three or four pair, belonging to Joseph Jefferis, would have graced any exhibition in the country.

The Sheep and Swine were also ably represented. W. W. Barber and Davis Beaumont produced some of the pure Berkshires, a breed of hogs just coming into notice in Chester county, and promising to outdo all others, in regard to weight, form and early maturity.

Of Sheep, in addition to the pure Southdowns of Abner Hoopes, so well known here and abroad, for his great success in introducing this valuable breed, there was a very large collection of mixed breeds of various crosses, approximating, more or less, to the pure bloods Leicester and Southdowns, which, we are confident, could not be exceeded in any part of the country. It is pretty certain,

that so far as regards fine sheep, the Chester and Delaware County Society, already takes the lead of any society in this vicinity. Messrs. John Worth, Joseph Cope, Bradley, Hannum, Gheen, Strode, Huddleson and Hickman showed pens of extraordinary beauty.

Of Horses, although the large display was mostly of the kind useful for draught and road service, it was very respectable, and seemed to indicate, that we are already in possession of as good a breed of horses, for agricultural purposes, as can be found in any other section of the country.

On the whole, we never knew an exhibition pass off with more eclat, or more clearly evince a high degree of agricultural enterprize and prosperity. If the society should do nothing more than merely collect together, at these annual exhibitions, the better kinds of stock already in the two counties, thus giving an opportunity of comparing and improving, it will be highly useful, and in a measure realize the expectations of those who originated it; but it is evident from this exhibition that our farmers are not going to stop there, and that so long as a better animal of any kind is to be found elsewhere, there are those who will not stop short of its acquisition.

In the afternoon an able and peculiarly appropriate address was delivered in the Court House by the President of the Society, John D. Steele, Esq., to an overflowing house, which we hope, will be furnished for publication. He alluded to the rapid improvements which had been introduced into the county, not only in regard to stock, but tillage and labor saving machinery, particularly the introduction of root culture, which will make quite an era in our agricultural history, and intimated that we have the foundation in our luxuriant soils and abundant pastures, for vying with any other portion of the world, as we already surpass most in our system of cultivation.—*Village Record, Oct. 22.*

The following article is extracted from the Flemington (Hunterdon County, N. J.) Gazette.

To the Farmers of Hunterdon County.

The present is an age of improvement, in every department of arts, science and industry; and in no one branch is there more room for greater and permanent advances, than in the art of *agriculture*. That agriculture is an art, I presume no one will gainsay; and that it is one of the most ennobling, healthful, honorable, and lucrative professions, if well followed, is sufficiently clear. It is unfortunate for our country that agriculture for many years back was neglected; and a distaste for the most rational and delightful of all occupations, was thereby created, and thousands of our healthy and intelligent youths, were

annually sent to those seats of contamination, cities and large towns, to learn the arts, mysteries, and cares of mercantile life—while hundreds of others sought to be professional gentlemen. Hence the ranks of the physician and the lawyer, were not only filled, but presented an immense corpse in *reserve*.—The natural consequence is, that they lead out a life of sickly professional existence.—The truth of the matter is, we have ten times too many professional gentlemen. They cannot all have full employment: and I would most affectionately recommend to them, to return to their proper employment, that of tilling the soil. Old mother earth will receive her wandering and erring sons most kindly, and abundantly repay them for every effort they make to draw from her bosom all that is necessary to supply their wants, *provided* they in their turn are kind, replenishing the soil by the timely and judicious application of fertilizing manures; keeping it well pulverized, well attended to, free from weeds, and in good heart.

“A spot of ground,” the Romans said, would afford sustenance to a family. *This is vue*. The great fault with us, brother farmers, is, that we cultivate *too much land*.—It is a mistaken notion that a large farm is necessary. It is a prevailing error, and deers many a man from entering upon the cultivation of a *small* farm. So far from being necessary, a large farm, except under peculiar circumstances, is not even desirable.

Too little attention has been paid by the farmers of this state to the improvement of our agriculture. Here and there, it is true, are a few noble exceptions. We need more light and knowledge on the subject—our prosperity requires a systematic course; a free interchange of opinions, and practice of farmers. I was therefore rejoiced to see the effort of our Princeton friends to form an Agricultural Society. This is right. It is an example worthy the immediate imitation of Old Hunterdon. The benefits resulting from societies of this nature, when organized on correct principles, and properly managed, are almost incalculable. I hope to see my brother farmers moving in this matter. Shall Old Hunterdon, ever kind to her industrious and persevering children, have an Agricultural Society! What say you, brother farmers? Who will respond—who will take the lead—when and where shall we meet?

I am aware that many are opposed to *innovations*; they set their faces against agricultural newspapers, repudiate book farming, and utterly discard all improved implements of culture. This is not right. Those who entertain these sentiments fight strongly against their own interest. I am free to confess that I was once set against theory,

and against book farming; but since I became a subscriber and reader to the Philadelphia Farmers' Cabinet, my views have not only changed, but the aspect of my spot of ground has also changed, and that greatly for the better. Though I do not approve of *all* contained in that publication, I must, in candor to the editor and his able correspondents, say, that I have derived great benefit from it, and it affords me much pleasure to bear this public testimonial to its favor, as I find it is the sentiment entertained by very many practical and intelligent farmers.

I have adopted the *new* system of ploughing, as it is called, as the best ploughing is that, in my opinion, which completely subverts the soil, and buries beneath it the entire vegetable growth. The advantages of this are many and great, and if you see fit, Mr. Editor, to print what I have already written, I may trouble you more on this point, and perhaps say something on “Agricultural Implements” in general. In conversation with a farmer from Pennsylvania, a few days since, he informed me that they have introduced in that State, a new implement for planting Corn, Sugar Beet, Ruta Baga, Mangle Wurtzel, Turneps, Peas, Beans, &c. I had seen this machine figured in the Farmers' Cabinet, and read the account. I thought it so extravagant that I would not touch it. But the gentleman to whom I refer, and in whose veracity I have implicit confidence, states, that after the ground was prepared, he took this machine and planted eight acres of corn, and one acre of sugar beet and ruta бага, in ten hours. The machine lays out the furrow, drops the seed in the fresh earth; it is immediately covered and sufficiently rolled, all by one operation. My friend states that his corn and beets have come up finely, regularly, and from two to three days earlier than those sown by hand. This he thinks is owing to the seed being dropped in the fresh earth, and immediately covered. Price \$15, I think he stated. He made his purchase in Philadelphia.

AGRICOLA.

Hunterdon, July 12, 1839.

Choice of a Profession.

It has frequently occurred to us that our young men, on completing their studies in our colleges, mistake the road to usefulness and comfort in preferring the study of some *fashionable* profession to the pursuits and occupations of rural life. As soon as a young gentleman is admitted to the degree of Bachelor of Arts, his thoughts are turned on the future, and perhaps the first resting place they find is upon the acquirement of professional knowledge of some kind, which to him seems the only road to wealth or distinction. Thus

we see the science of agriculture neglected by those who *are* capable of investigating it as they should be; and every possible inducement to engage in the improvement of the soil, and to assist nature in what she is wont to do for man, is but a feather in the scale of reasoning. And through fear of adopting some pursuit that is attended with a little *labor*, and as some call it *drudgery* (but which is the greatest conducive to good health) resort is had to the study of some *profession*—which has done and we fear is doing great injury to our country. We wage no war against professions of any kind; on the contrary, they are indispensable, but it is a fact that it is considered an *unpopular* step nowadays for a young man on completing his academic studies to devote his time and talents, if he possess any, to the advancement of the cause of agriculture.

We have before us an address, delivered before the young gentlemen admitted to the degree of Bachelor of Arts, at the first commencement of the University of Nashville, by its venerable President, Dr. PHILIP LINDSEY—which deserves to be more extensively circulated than we fear it has been—and from which we make the following extract—and shall give more of it in future.—*Southern Cultivator*.

“I know not what are to be your future professions or occupations. Every honest calling ought to be esteemed honorable. I address you as moral and intellectual beings—as the patriot citizens of a great republic.—You may be merchants, mechanics, farmers, manufacturers—and yet be eminently distinguished and eminently useful, if you will persevere in seeking after knowledge and making a proper use of it. The Medici—Necker—Ricardo—were merchants or bankers: Franklin was a mechanic; Washington was a farmer. By far the greater part of our countrymen are and must be farmers. They must be educated; or, what is the same thing, educated men must become farmers, if they would maintain their just influence and ascendancy in the state. I cannot wish for the alumni of Cumberland College, a more healthful, independent, useful, virtuous, honorable, patriotic employment, than that of agriculture. Nor is there any condition in life more favorable to the calm pursuits of science, philosophy and religion; and to all that previous training which ultimately constitutes wisdom and inflexible integrity. Should our college eventually become the grand nursery of intelligent, virtuous farmers, I shall esteem it the most highly favored institution in our country. I have long thought that our college graduates often mistake their true path to honor and usefulness, in making choice of a learned profession, instead of converting agri-

culture into a learned profession, as it ought to be, and thereby obtaining an honest livelihood in the tranquil shades of the country.”

Vegetable or Root Cutter.

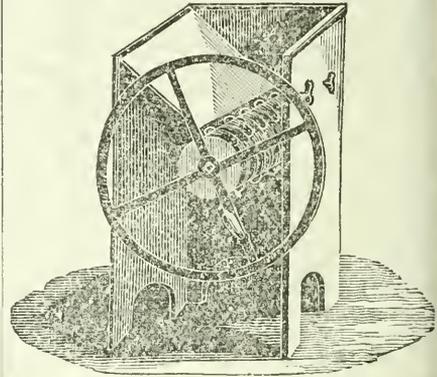


Fig. 22.

Willis' Improved Vegetable Cutter for cutting large or small roots. The great objection to all other machines is, their cutting the roots into slices, which makes it almost impossible for the cattle to get hold of them; this machine, with a little alteration, cuts them into large or small pieces, of such shape as is most convenient for the cattle to eat. It will cut with ease from one to two bushels of roots per minute. No farmer should be without one of these machines. The importance of the root culture in this country is now fully established—the experience of the last three years in the *raising* of the sugar beet, ruta бага, &c., and their peculiar excellence as winter food for cattle, is conclusive. The result has more than realized the sanguine wishes of the most jealous advocates of root culture. The sugar beet appears, now, to be the general favorite—but the ruta бага is not far behind. It should be remembered that a change, even of succulent food, is not only beneficial, but necessary—the judicious farmer will not therefore cultivate one member of the root family to the exclusion of all the others. His main crop may be sugar beet, or ruta бага, with a suitable proportion of turneps, carrots, mangle wurtzel, potatoes, &c. These roots all contain, as is well known, a large proportion of saccharine matter; and, if carefully preserved from the effects of cold and frost, they will retain their native juices throughout the winter, and even in spring (if well preserved) they are found to be a most efficacious substitute for green crops of grass. The advantages of the root crop to the farmer are too apparent to require any notice—but we wish to call their attention to the machine

gured above, for preparing roots for cattle. Simple in its construction, it is not liable to get out of repair, is well built, and offered at moderate price. It may be seen at No. 87 North Second street, Philadelphia.

Cost of raising Sugar Beets and other Roots.

In examining an estimate of the expenses of making beet sugar in this country, many farmers will consider that the expense of raising the roots is reckoned too low; this is owing to the little attention that has been paid to root crops; and to farmers in general not being acquainted with the best and most economical method of culture, and not having machines and implements to enable them to manage the growing of root crops to advantage.

These unfavorable opinions will in a measure continue, till root culture is more in practice; for though cases are stated of crops raised at a small expense, they will be regarded as extraordinary cases, and estimates made on paper, in which no error can be pointed out, will be looked upon as something uncertain; yet these favorable accounts will lead the enterprising and intelligent to try and see whether these things are so, and although their expectations may not always be realized, yet they will find a great advantage in attending to root culture, and be led to inquire into the most frugal method of pursuing it. Farmers who dig up a small patch and sow it in beets, and do not weed it till there are five hundred weeds to one plant, may find that the cost of raising a bushel of beets is one dollar, when with prudential management in raising on a large scale, ten or twelve bushels could be raised with this expense.

In raising beets and some other crops in a garden, we have managed to do the weeding before sowing, and find that it is a great saving of labor; that is, pursue that manner of culture that will destroy the weeds before the seed is sown; and the same plan may be followed in field culture, and even to greater advantage, as most of the labor can be done by animal labor, which is much cheaper than manual labor in this country, and this, as has been observed in the articles lately published on the subject, will enable us to raise beets as cheap as they are raised in France.

Our method has been to put on the manure and stir up the ground in the fall or early in the spring—the former is preferable, as the frost will loosen the soil and make it mellow, and the weeds will start in the spring before the soil is dry enough to work; when the weeds were well started, we worked the ground over again. About the 20th of May the ground was well worked over, and the seed sown, after being soaked, so that it would come up in a short time; the plants were up

and large enough to hoe when scarcely any weeds appeared, the hoeing was done in a short time, the soil being very light and mellow, and there was but little trouble on account of weeds through the season, they having been mostly destroyed before sowing. If this plan should be pursued in field culture, it would save nearly one-half of the expense.—One hour's work with a horse and cultivator in stirring the ground and destroying weeds before sowing, would save several days in hoeing.

The following method of culture for a field crop, would be very economical as to weeding, which seems to be the most expensive part of cultivation. A piece of land, a deep mellow soil, that has been well manured and planted one year in corn or potatoes, would be in good condition for a beet crop. If it has been ploughed more than one year, there would be danger from the grub worm, which we believe is the principal injury from insects to which the sugar beet is liable.

A piece should be selected that can be ploughed deep, and the stones, if any, removed. If there has not been sufficient manure applied to the previous crop, apply the manure and plough the ground very deep in the fall; if it cannot be done at this season, then as early as possible in the spring. When the weeds have started, go over it with a cultivator, and in a few weeks go over it again in the same way; this will loosen and pulverize the soil and destroy the weeds. From the 20th of May to the 1st of June, let the earth be thoroughly stirred with a cultivator, or, if the soil be not very loose it may be well to plough it again, then go over it with a light harrow to make the surface level and smooth, and the soil fine: be ready to sow as soon as the ground is prepared, while the surface is moist, and that the plants may get the start of the weeds. Pour water as hot as can be borne by the hand on the seed, and let it soak a day and a half or two days, then it will vegetate and be up, and the plants will be large enough to hoe before the few weeds that are liable to grow, get up so as to be much trouble.

Sow the seed with a machine and the expense will be light. Let the rows be from two to two and a half feet apart, then a light cultivator may be used between the rows; in thinning the plants let them stand about one foot apart. If any places are vacant from the seed not growing or the grub worms eating them, the deficiency may be supplied by transplanting; though transplanted beets do not form so handsome a root, yet they yield about as much as the other. The expense of weeding and loosening the soil will not be great. In harvesting, if the beets cannot be pulled easily, a furrow may be ploughed near

each row with a horse plough, then they may be pulled with little labor. By this, or some better way if it can be devised, beets may be raised at a small expense, and as lands and animal labor are cheaper here than in France, and as much labor can be done here by animals which is performed there by the hands, we think our advantages are equal to those of France in the cheapness of manual labor.— But supposing our advantages in raising the beets are not equal as to a cheap production, we have reckoned the expense higher in the calculation we have published, so as to conform to a fair estimate on all expense. Instead of three dollars and twenty cents per ton as in France, we have reckoned at five dollars per ton. No calculation on the expense of raising beets or other crops can be made exactly suited to all parts of the country, as the prices of labor and land are different. Near cities and large towns, and near the sea-board, owing to good advantages for markets, and communications, lands are higher, and the rent of them more, of course, than in the interior; in such cases labor too is usually somewhat higher.

Estimated expense of an acre of Sugar Beets.

Use of an acre of land well prepared for beets, and manured, or managed in the previous crop.....	\$12 00
Ploughing.....	4 00
Cultivating, horse, cultivator and hand, two hours.....	50
Twice more before sowing.....	1 00
Harrowing.....	50
Seed \$2 25, sowing with a machine 75.....	3 00
First hoeing.....	4 00
Second hoeing, thinning, and transplanting to supply deficiencies.....	4 00
Hoeing again, and loosening the ground with machines.....	2 00
Harvesting.....	9 00
	<hr/>
	\$40 00

Make the rows two feet four inches apart, and then a cultivator can be used in hoeing. If the beets stand one foot apart in the rows, and weigh two and a quarter pounds each, the yield will be twenty tons. In rich ground at that distance, a great number will weigh four or five pounds each; twenty tons is a good crop, but not extremely large, for in some cases twenty-five or thirty tons to the acre have been raised in this country. At the above expense of forty dollars to the acre with a yield of twenty tons, the cost would be two dollars per ton. We make this estimate, to show how cheap beets may be raised under favorable circumstances, such as good land at a fair price, convenient machinery and implements, and the most prudential management in the culture, with labor at a moderate price, and a favorable season. We have no doubt that in some parts of New England, beets could be produced in great abundance at the above price; but we must not always

expect a combination of favorable circumstances.

Supposing we reckon the produce only two-thirds as much as above, say thirteen and two-third tons, and the cost thirty-two and a half per cent. more, which will be fifty-three dollars and thirty-three cents; then the cost of the beets will be only four dollars per ton, one-fifth less than Mr. Bosson reckoned in his calculation on the cost of beet sugar. If we reckon fifty pounds to the bushel, thirteen and a half tons per acre would be only five hundred and thirty-three bushels, which would be no more than a middling crop; not half as much as has been raised in a number of cases that have been named.—*Yankee Farmer.*

A Hint.

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 the 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.

Rhubarb.

This excellent plant, which should have a place in every garden, is very easily raised, requiring nothing more than a rich loamy situation. It is an orchard in miniature, the stems of its leaves affording a substance which is an excellent substitute for apples, to make sauce or pies. The sauce made from it, is very wholesome and palatable, and will be a good preventive of bowel complaints. It is said that by stewing it with sugar and preparing it in the same manner as for the table, it may be bottled and corked up tight and preserved for winter. Indeed, we do not see why it may not be kept as long as apple sauce, or any of the berries that are preserved in this way without being bottled up. Some of our good housewives had better try the experiment.—*Maine Farmer.*

The law compels no one to do a benefit, nor permits him to do an injury for nothing.
A good maxim is never out of season.
A bitter jest is the poison of friendship.

Willis' Improved Double Operating Corn Sheller.

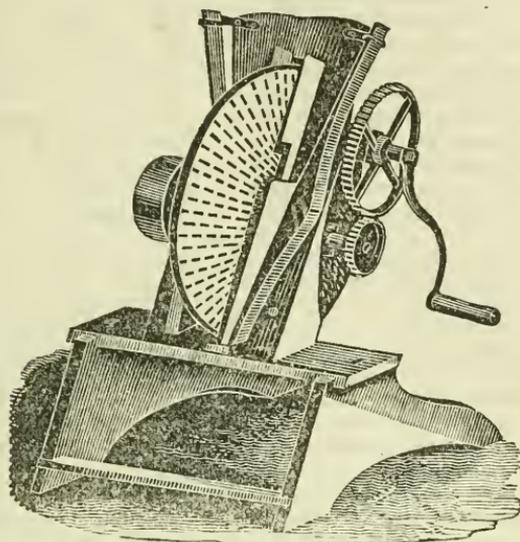


Fig. 23.

The Improved Double Operating Corn Sheller will shell two ears of corn at the same time, can be worked by hand or any other power—is very durable and not likely to get out of order, and is one of the most convenient and labor saving machines used by farmers. Every practical farmer, who raises any quantity of corn, should own a good corn sheller, as it is one of the most convenient and labor saving implements that he can use. The advantages are almost incredible; and we are persuaded that no person who has seen this machine in operation, and it is said to be one of the very best in use, would be willing to pursue any longer the old system of shelling by means of the shovel, the tub and the bodkin—an unsatisfactory and tedious process, resorted to principally in rainy days. This instrument, put into rapid motion, will perform more in the way of shelling corn in one day, than will be accomplished during a whole month of “storms without and of storms within, unless boys are more industrious than some we knew when we belonged to that class.” The price is no objection—but if it be deemed too high for the quantity of corn raised on small farms, two or three neighbors might unite in the purchase—as they are portable, and easily removed from one place to another. There are a variety of corn shellers, of different construction, capacity, and prices. We would not be understood as recommending a joint purchase by farmers of a neighborhood, of improved implements, as a general thing. Exclusive ownership is best—yet there are cases

in which this rule may with great propriety be departed from—for instance in a neighborhood composed of small farms,—which by the way generally rank high in the scale of fertility,—several neighbors may unite in the purchase of Hussey's Reaping and Mowing Machine, or any other of great importance, the price of which is too high for the proprietor of a small plantation. The corn sheller, however, does not belong to this class.

Fruit Ladder.

A gentleman in Maine recommends the following ladder, or frame, for gathering apples, &c. It consists of two upright posts, from seven to ten feet long, (more or less at the option of the constructor,) inclining towards each other, about four feet apart at the bottom, and one foot at the top. The rounds of the ladder pass through these posts, and are about a foot apart. They are made somewhat larger in the middle than at the places where they are inserted into the posts, to give greater strength to the machine. A third post is added to these, through which the top round of the ladder passes, permitting the post last mentioned to turn thereon, so that its lower end may be set at a greater or less distance from the other two posts, or rather from a straight line drawn between them. This ladder may be made light and portable, and possesses the advantage of supporting itself without leaning on any other object.

ROBERT BURNS, the poet, was a ploughman.

DEATH OF JUDGE BUEL.

[From the Albany Argus, Oct. 9.]

We discharge a melancholy office in announcing the death of another of our most respectable and valuable citizens. Judge JESSE BUEL expired at Danbury, Ct., at three o'clock on Sunday afternoon, in the sixty-third year of his age. In consonance with the general sorrow, and as a tribute to the character of the first proprietor of this journal, our columns appear in the habiliments of mourning.

Having accepted invitations to deliver anniversary addresses before the Horticultural and Agricultural Societies of Norwich and New Haven, Conn., on the 26th and 27th ult., he left home about a fortnight since, with that view. At Danbury, he was seized on Sunday night with a bilious cholera, of which he was relieved in the course of twenty-four hours; but bilious fever supervened, and he sank under it, after an illness of more than a week—receiving, during the time, every attention, and unremitting medical attendance from the hands of strangers. It was not until Friday last, however, soon after his son had left him on his return to Albany, to request the attendance of his family physician, that the disorder assumed an alarming aspect. He was accompanied on his journey by his only daughter, of whom he took an affecting and final leave, in the full possession of his mental faculties, a few moments before he calmly breathed his last.

Intelligence was brought yesterday morning by express, announcing the expected fatal termination of his illness. It was a melancholy surprise to his anxious family on reaching the steamboat wharf in the afternoon, on their route to his place of illness, to be among the first to learn that his remains had been brought up by the Columbus, the day boat from New-York, which arrived before the departure of the afternoon boat. The body had been brought from Danbury to Poughkeepsie, and thence to this city.

For the last thirty years, Judge Buel has occupied a wide space in the political and agricultural world. In 1813, he removed to this city from Ulster county, and established the Albany Argus. In the following year, he was appointed Printer to the State, and discharged the duties of that station, and of the editorship of the paper, until 1821, when he retired to the farm in the suburbs of the city, since so widely and favorably known as the "Albany Nursery." After his retirement from his editorial labors, he represented the city for successive years in the popular branch of the legislature, and at the period of his death was a Regent of the University. His last appearance in political life was as the

gubernatorial candidate of the opponents of the national administration in 1836.

But it is as an Agriculturist, in the great and broad sense of the word, practically and scientifically, that he has built his fame as a public benefactor. As such, he was known throughout this continent and in the old world; and no man has contributed more, as a writer, and in practical life, to elevate, inform and improve the agriculture of his age. Nearly six years ago, as an auxiliary in his plan for the diffusion of knowledge on this subject, Judge B. established "The Cultivator," a monthly publication of the highest value, and of great and varied information, and which has attained a vast circulation throughout the American continent. His labors, however, were not confined to his monthly publication, ample as were its pages. His pen was in constant requisition upon nearly every subject connected with the cultivation of the soil, and his correspondence throughout the Union, and abroad, was extensive. In example, not less than in precept, he may be said to have conferred blessings upon the times in which he lived—blessings that will continue to fructify, and ripen into fruit, long after his body shall have mingled with his favorite earth.

As a neighbor and a citizen—and in all the relations of domestic life—he was without reproach. He was esteemed not less for his integrity than his intelligence and worth,—for the unaffected affability and simplicity of manner in his intercourse with his fellow men. He may be said to have lived for utility; and to have died in the prosecution of his favorite employment. His death is a public bereavement, which all will mourn, as irreparable.

Within the last two years, society at large—and the farming community in particular, have sustained a serious loss in the death of two of the most eminent conductors of the agricultural press—JUDGE EMERSON,* of Jonesboro, Tenn., Editor of the Tennessee Farmer, and THOMAS G. FESSENDEN, of the New England Farmer. These gentlemen had devoted themselves zealously to promoting, by means of the press, the great and important interests of agriculture; and by persevering efforts had overcome many obstacles, and were encouraged by the flattering prospects before

*Judge Emerson, we believe, established the first agricultural newspaper in Tennessee, and continued it until his death, in the face of great discouragement, and at great personal sacrifice; and if we mistake not, so important did he consider the dissemination of light and knowledge on the subject of agriculture, to the prosperity of East Tennessee, that he made provision in his will for continuing the paper he had established, and which he had conducted for some time with marked ability.

them, of future usefulness, when they were arrested by the hand of death. And now, another is added to the list! In the death of JUDGE BUEL, the agricultural community, as well as society at large, has sustained a severe loss. No single individual in this country, probably, has done more within the last twenty years, to promote the cause of agriculture.—His influence will long be felt. Well may it be said, "Death loves a shining mark."

**THE AGRICULTURAL EXHIBITION
OF THE PHILADELPHIA SOCIETY FOR PROMOTING AGRICULTURE,**

Was held at the Rising Sun Tavern, according to appointment. Being confined by indisposition we were not able to attend.—The Exhibition, we learn, was well attended—five or six thousand farmers from the surrounding country being present. The following are the Reports of the several Committees:

The Annual Exhibition and Sale of the Philadelphia Society for Promoting Agriculture, was held at the Rising Sun Village, on Tuesday and Wednesday, the 22d and 23d of October, when a large number of superior stock was brought forward from Philadelphia, Montgomery, Chester, Delaware, and other counties.

They demonstrated, in a most gratifying manner, the interest which our exhibitions are exciting, and in connection with the recent fine display at the Chester and Delaware and other agricultural shows, evince a striking and rapid improvement in the breeding of live stock in eastern Pennsylvania.

The *Committee of Arrangements* refer to the subjoined reports of the judges, for more particular descriptions of the animals, &c., exhibited.

The weather was remarkably favorable, and the quiet and orderly demeanor of so large an assemblage for two consecutive days, was a source of gratification. We have only to regret the want of proper and ample accommodations for live stock, and anxiously hope that before another year, the means will be placed within the society to erect such sheds and other conveniences as shall fully satisfy the wants of contributors.

The representatives of the people will, we trust, see the propriety of some appropriation or provision for the immediate benefit of the farmer, whose interest is too frequently overlooked in our legislative halls.

The Sale embraced a few Durhams of

mixed breed or doubtful pedigree, but consisted chiefly of dairy cattle of various quality; the owners of high bred and perfect animals, wisely retaining them for the increase of their own stock. Considerable spirit was manifested by the bidders, and very fair prices obtained.

Periodical sales so common in Europe and particularly in Great Britain, are of great advantage and convenience to the farmer and grazier.

The society feels encouraged by the success of the two annual sales already held, to continue them at future exhibitions, if sustained by the community.

KENDERTON SMITH,
Chairman of Com. of Arrangement.

ALGN. S. ROBERTS, *Sec'y.*

Report of the Committee on Horses.

The committee of judges on Horses, being confined by the published rules of the society, to such animals as are best adapted to general use on the farm and road, in conformity thereto award the premiums as follows:—

1st. For the best stud horse, to William W. Barber, Chester county, for *Boston Bellfounder*, ten dollars.

2d. For the second best stud horse, to Mr. Price, of Delaware county, for *Bellfounder Junior*, six dollars.

3d. For the third best stud horse, to James Brown, Philadelphia county, for *Talma*, four dollars.

4th. For the best brood mare, to George W. Roberts, Montgomery county, for his *Bay Doll*, ten dollars.

5th. For the second best brood mare, to Franklin Comly, Philadelphia county, for his *Black Mare*, six dollars.

6th. For the third best brood mare, to Robert Potter, of Philadelphia county, for *Sally Miller*, four dollars.

7th. For the best colt, between two and three years old, to George W. Roberts, for his sorrel colt *Sheridan*, two years old, by Busirus, out of Bay Doll, six dollars.

8th. For the second best do. do., to G. W. Roberts, for his sorrel colt *Garrick*, two years old, by Busirus, out of a Messenger mare, four dollars.

9th. For the best colt under two years old, to Mr. Barney, for his *Chocolate Colt*, one year old, by Busirus, five dollars.

10th. For the second best colt under two years old, to F. Comly, for his *Bay Colt*, by American Perry, out of his Black mare, three dollars.

The society was particularly gratified by the display of a powerful stud horse and mare imported from Normandy, by E. Harris, Esq., of Moorestown, N. J. There were also a number of remarkably fine animals beside

those receiving premiums, among which were the horses Washington, Rob Roy, Andrew Jackson, and several others, worthy of commendation.

GEO. McCLELLAN,
EVAN G. LESTER,
JOSIAH WALTON,
THOMAS HART,
OWEN SHERIDEN.

Philadelphia Co., Oct. 23d, 1839.

Committee on Cattle over two years old.

The Committee appointed to examine, and award premiums as offered for certain neat cattle over two years old, after a careful examination of the many fine animals of high pedigree, and almost faultless form, offered for their inspection, do respectfully report:

That they award the first premium for the best imported Durham bull, to Mr. Dennis Kelly, of Montgomery county, for his bull *Prince of Wales*, three years old, ten dollars.

To Mr. Paschal Morris, of Chester county, the second premium for his imported Durham bull *His Grace*, of two years old, five dollars.

For the best native bull of other breed, they award to Mr. H. Yerkes the first premium for his white bull *Montgomery*, ten dollars.

For the best imported Durham cow, to Mr. James Gowen, of Philadelphia county, for his cow *Dairy Maid*, of four years old, the first premium, ten dollars.

For the second best imported Durham cow, to Mr. Charles J. Wolbert, for his cow *Nell*, the premium of five dollars.

For the best native Durham cow, to Mr. C. J. Wolbert, for his cow *Flora*, the first premium of ten dollars.

To Mr. Paschal Morris, for his native Durham cow *Alice*, the second premium, five dollars.

For the best native cow of other breed, to Mr. Dennis Kelly, for his cow *Kate Karney*, the first premium, ten dollars.

For the second best native cow of other breed, to Mr. John Passmore, of Philadelphia county, for his *Roan Cow*, the premium of five dollars.

For the best ox or steer raised in Pennsylvania, and fitted for slaughter, "reference being had to mode of feeding," the first premium is awarded to Mr. Isaac W. Roberts, for his *Dunn Steer*, ten dollars.

For the second best steer as above, they award the premium to Mr. D. Hitner, for his *Yellow Steer*, five dollars.

For some of the premiums offered by the society, the committee regret to state that no cattle were exhibited—and in one or two instances there was but little competition, and the animals offered, though good, were not thought to be fairly entitled to premiums.—

Some others had taken the first premiums at the exhibition last year, and by the rule of the society could not be offered again. Among these, the committee would mention Mr. C. J. Wolbert's splendid and unrivalled imported Durham bull *Colostra*; Dr. Uhler's large and beautiful imported Durham cow *Cato*, and Mr. I. W. Roberts' fine red Steer.

Next to those to which premiums were awarded and as meriting the particular notice of the committee on account of their high blood and fine qualities, they would mention C. J. Wolbert's cows, Paschal Morris', Dr. Uhler's, and Thomas Rotch's—some of which came in close competition with those to whom premiums were awarded.

Two very fine cows of mixed blood were exhibited by Samuel Richards, Esq., showing evidence of deep milking, with good size and form. Other good specimens, the result of judicious crossing with improved breeds were exhibited by the following gentlemen viz: Richard Lardner, Esq., A. S. Roberts Esq., R. T. Potts, Esq., K. Smith, Esq., Mr Sidden, Mr. Samuel Cooper, and Mr. George Rose. Mr. G. W. Keith sent a specimen of the Guernsey breed of cattle—a very small cow with her calf; she showed evident signs of a good milker.

Two very fine Durham bulls were sent by gentlemen of New Jersey—*Ajax*, the property of P. Dickinson, Esq., and *Fitz Roslyn* the property of Messrs. Tatum and Cooper—both very superior animals.

The high bred Durham bull *Emperor*, was exhibited by Mr. Durkee; also a fine Durham bull by J. P. Wetherill, Esq., and a bull of mixed blood by Mr. Shetzline.

The committee were much gratified with the appearance of the neat cattle, generally and feel confident that with proper management in breeding, and more liberal feeding that farmers may be readily supplied with the most profitable and beautiful stock of their own raising.

AARON CLEMENT,
PHILIP RAYBOLD,
ISAAC W. ROBERTS,
BENJAMIN SERRIL,
HENRY CHARLEY,
Committee.

Committee on Cattle under two years old.

The committee on cattle under two years old, having carefully examined those presented to their notice, report, That in their opinion the following animals are entitled to the premiums awarded, viz:

For the best Durham bull, between one and two years old, to Thomas Rotch, for his bull *Cæcil*, sixteen months old, the first premium of six dollars.

For the best bull "of other breed," between

one and two years old, to Kenderton Smith, for his bull *Hero*, the first premium of six dollars.

For the second do. to H. Helmbold, for his bull *Prince*, four dollars.

For the best Durham heifer, between one and two years old, to Charles J. Wolbert, for his heifer *Cinderella*, the first premium of six dollars.

For the second best do. to Dr. George Uhler, for his red heifer *Miss Merion*, four dollars.

For the best heifer of other breed, between one and two years, to Robert T. Potts, for his Devonshire heifer *Isabella*, the second premium of four dollars.

For the best Durham bull calf under one year old, to James Gowen, for his calf *Leander*, the first premium, five dollars.

For the second best do. to A. S. Roberts, for his bull calf *Marmion*, three dollars.

For the best of "other breed," to Samuel Richards, for his bull calf *Harrison*, the first premium, five dollars.

For the best Durham heifer, to C. J. Wolbert, for his calf *Modesty*, the first premium, five dollars.

For the best heifer of "other breed," to K. Smith, for his heifer *Dolly*, the second premium, three dollars.

The committee, after having gone through with the list of premiums, feel bound to remark, that they see in the rising "generation" decided improvement, and think they perceive in the young stock exhibited here to-day, great encouragement to persevere in a good cause—and that if properly attended to, we shall in the course of a few years, have stocks of very superior cattle. In addition to the foregoing, the committee would say that owing to the great competition they found in many instances, much difficulty in deciding on the various merits of the animals presented. Among some of the many contributors they would mention C. J. Wolbert, a very elegant bull calves, each four months old; James Gowen, a beautiful heifer; R. P. Gardner, a very handsome heifer; also, Pasha Morris, Dr. G. Uhler, Robert T. Potts, and many other gentlemen, exhibited specimens of superior animals, for which they are entitled to the thanks of the society.

JAMES THORNTON,
THOMAS WALMSLEY,
DANIEL C. FREYTAG,
JOHN JUSTICE,
WILLIAM SERRILL.

Report on Sheep and Swine.

The Committee on Sheep and Swine offer the following Report:

1. I. W. Roberts, of Montgomery county, showed a full bred Southdown Ewe four years

old; one do. half blood, two years; two half blood yearlings, and five lambs; two full bred, one three-fourth do., one half do.—all of fine forms and in good order.

2. Isaac Newton, of Delaware county, one Southdown Buck three years old, large and fine form; a Ewe five years old of equal merit, and a broad-tail Buck, full breed. The history of the introduction of this last and valuable breed into Pennsylvania, is given in the memoirs of the Society, vol. ii.

3. Isaac W. Hollowell, of Montgomery county, a Ewe, large and well formed, and two lambs of the New Leicester or Bakewell breed.

4. Robert A. Parrish, of Philadelphia, two Southdown Bucks of fine forms and large sizes, from the stock of Sir Gerald Aylmer, near Dublin: the sire and dam imported by the owner (not offered for premium.)

5. Wm. Warner Roberts, of Montgomery county, a handsome Southdown Buck.

6. A. S. Roberts, of Philadelphia county, four Southdown Ewes.

SWINE—1. By William W. Barber, of Chester county, a Boar and Sow of the British Berkshire breed, five months old.

2. James Thornton, of Byberry, Philadelphia county, a Boar five and a half months old, and a sow of the same breed.

3. Mr. Pierce, of Mount-Airy, Philadelphia county, a mammoth sow and boar, and a sow with seven pigs in fine order.

4. Thomas Balt, of Philadelphia county, a Boar two years old.

5. Joseph Sides, of Philadelphia county, another fourteen months old.

6. Thomas Smirke, of Roxborough, Philadelphia county, a full bred Chinese Sow, eleven months old, with eight pigs seven weeks old; the latter in fine order.

The following premiums were awarded;—
SHEEP—1. To Isaac Newton, for the best Southdown Buck, four dollars.

2. To William Warner Roberts, for the second best, two dollars.

3. To A. S. Roberts, for four Southdown Ewes, five dollars.

SWINE—1. To William W. Barber, for the best Boar, five dollars.

2. To James Thornton, for the second best, three dollars.

3. To William W. Barber, for the best Sow, five dollars.

4. To James Thornton, for the second best, three dollars.

The forms of these animals are excellent, and their near approximation rendered it difficult for the committee to decide upon their superiority. Mr. Thornton's specimens were, on the whole, not deemed equal to their competitors in size, in proportion to their ages.—

1. W. Roberts' fine sheep were excluded from

competition by reason of their not all being full bred Southdowns.

JAMES MEASE,
R. A. PARRISH,
JOSEPH CRAWFORD,
WILLIAM W. BARBER,
ISAAC ROBERTS.

Report on Agricultural Implements, &c.

The Committee on Agricultural Implements, Report,—That their attention was chiefly directed to ploughs, there being no other implements exhibited worthy of consideration.

To Mr. Joseph Dickinson, Chestnut-Hill, Philadelphia county, they award a first premium of five dollars, for the best *Plough*.

To Mr. John Young, Warren county, New Jersey, a premium of three dollars, for the second best *Plough*.

To Mr. Wiley, of Chester county, Pa., a premium of three dollars, for his complete and handy *Revolving Plough*.

All which is respectfully submitted.

JAMES GOWEN,
DAVID COMFORT,
JOHN N. REEVE,
THOMAS WALMSLEY,
DANIEL RITTENHOUSE,
Committee.

October 22, 1839.

In addition to the foregoing, there was exhibited, by James Gowen, Mount-Airy, Sugar Beet, Mangle Wurtzel, Field Carrot, and Sugar Parsnep—samples from half acres of each kind,—also, by the same, fine Italian Spring Wheat in head, sowed 6th of April, reaped the 23d of July.

By H. J. Helmbold, fine Sugar Beet.

By G. Fulton, superior Tuscany Wheat.

By do., Rappahannock White-Bearded Wheat.

By Kenderton Smith, Spring Barley, weighing fifty pounds to the bushel.

By Samuel E. Lecch, very fine Ruta Baga.

By Isaac W. Roberts, two Sugar Beets, weighing, one nineteen pounds, the other twenty and a half pounds.

By S. Maupay, Maclura Aurantia, or Osage Apple, a thorn highly esteemed for hedge.

By J. R. Bowman, Merion, a mammoth Pumpkin.

By William Fisher, Chestnut Hill, a large do.

By Bartlet Crock, a very large Drumhead Cabbage, nineteen pounds weight.

Samuel Crager, near Rose-Hill, exhibited White Gourd Corn, the ears uncommonly large, and the grain in some of them deeply embedded.

James Gorden, of New-Hope, from the Lepanti Mill, Ingham creek, exhibited a sample

of beautiful Buckwheat Meal, which, from the peculiar process of hulling and screening this mill, gives to the flour a superior appearance.

John Young also exhibited a very fine Buckwheat Meal, from the mill of Cresman Cresman, Roxbury, Warren county, New Jersey.

An account of the Sale, &c., on the second day, with further particulars regarding the proceedings of the Society, may be expected in our next.

The Editor of the Germantown Telegraph who was present at the exhibition, says that it "was not on the whole, as extensive an complete as we could have desired; the live stock, however, were almost, generally speaking, of a very superior description and attracted great and deserved attention. The crowd of spectators—many of whom were from a considerable distance—showed the interest which had been awakened on the subject, *in the right kind of people*.—Indeed, of the five or six thousand who attended on the first day, four-fifths of the number were constituted of the best and most intelligent farmers, in Philadelphia, Montgomery, Delaware, Chester, Lancaster, Bucks and other counties, in this state, and in the states of Delaware and New-Jersey. From the fact, that these men have showed so strong an inclination to encourage this, the most accessible and valuable means of advancing the agricultural interests of the country, we have no fears but that the future Exhibitions of the Society, will be supported in a manner and to an extent, greatly exceeding the past, and comporting more fully with the intelligence of the community and the importance of the object.

Nothing would be more conducive to this result, than the publicity of the fact, that these exhibitions are to be annual; that the same place, which is the most eligible that could any where be selected—will be the permanent Exhibition Ground; and that every accommodation will be provided for live stock, and all other necessary arrangements made. We would also recommend to the Society what we consider a very important matter—the extension of the exhibition from one to two days. This addition would afford an opportunity to all desirous to attend, to be present; and thus attaching a still greater degree of interest, while it would add a character and solidity to the Exhibitions, that it is impossible for the brief period of a single day—especially if the weather be inclement—to impart."

A desire for admiration is the offspring of vanity.

For the Farmers' Cabinet.

Expenses and Proceeds of Crops.—No. 1.

MR. EDITOR,—I here send you some account of the proceeds of a farm of fifty-six acres, within reach of the Philadelphia market, together with the management of the same. There are five fields, of eight acres each, which form a five years rotation in the following order: 1—Corn, 2—Oats, 3—Wheat, 4 and 5—Grass. The remainder is divided into orchard, meadow, and truck round. Each field is manured and limed whenever it is sown with wheat. The account for the year 1838, as near as I am able to make it out, stands thus—

Farm.

R.	To 12 months labor, at \$10,.....	\$ 120 00
	To 6 do. do,.....	60 00
	To interest on 56 acres at \$100 per acre....	336 00
	To do. on \$1000—value of stock, &c.,	60 00
	To seed,.....	44 00
	To 400 bushels of lime at 12½,.....	50 00
	To 10 per cent. on \$400 worth of implements, for wear and tear,.....	40 00
	To 300 bushels of oats consumed,.....	135 00
	To 16 loads of hay,.....	246 00
	To 100 do. manure at \$1 50,.....	150 00
	To 200 bushels of ruta baga at 30 cts.,.....	60 00
	To keep of 6 sheep, at \$3 50,.....	21 00
		<hr/>
		\$ 1322 00

CR.

	By 140 bushels of corn at 80 cts.,.....	\$ 112 00
	By 300 " " oats at 45,.....	135 00
	By 50 " " potatoes at 80,.....	40 00
	By 50 " " beets at 30,.....	15 00
	By 200 " " ruta baga at 30,.....	60 00
	By 100 " " apples at 75,.....	75 00
	By 8 " " timothy seed at \$3,.....	24 00
	By 180 " " wheat at \$1 75,.....	315 00
	By 16 dozen brooms at \$2 50,.....	40 00
	By 6 loads of clover hay at \$12,.....	72 00
	By 2 " " rye grass at \$15,.....	30 00
	By 8 " " timothy at \$18,.....	144 00
	By 8 cwt. of pork at \$8,.....	64 00
	By boiling corn,.....	50 00
	By fruit and poultry,.....	50 00
	By profit on 25 sheep,.....	25 00
	By straw and stalks 30 loads at \$5,.....	150 00
	By Wool,.....	20 00
	By 6 lambs at \$3, and 6 calves at \$4,.....	42 00
	By increased value on 4 young oxen and one colt,.....	50 00
	By wintering 4 horses, 12 weeks, at \$1, ...	48 00
	By profits from 6 cows 6 months,.....	72 00
		<hr/>
		\$ 1633 00
		1322 00
	Balance, clear profit,.....	\$ 311 00

I have here credited the farm with all its products—(whether sold or used in the family) at the prices which they could readily command at the time, and have made it debtor on all which were consumed by the operative part of the stock. I have placed the manure on this side as a counterpart to the stalks and straw, which are mostly eaten by dry cattle in the winter. I will now speak of the different main crops in the order in which they come, giving a synopsis of the mode of culti-

vation, and an account with each field, taken from a journal kept at the time.

First—CORN.—Seven acres, clay loam, with a gravelly subsoil, two years old sod, finished ploughing in twenty-one pace lands on the sixth of May, passed over it three times with a heavy harrow before the twelfth, once on the line of the furrows, and crossing them in each direction at an angle of forty-five degrees; marked out the rows with a sled (made for the purpose) four feet apart both ways—put five or six grains in a place, the first dressing ran the cultivator once in a row, one way; second and third twice in a row, crossing the previous dressing each time, the fourth and last dressing, threw a slight furrow to the corn with a plough, followed once in a row by the cultivator. It was thinned to four stalks in each hill; cut off at the ground, and put in shocks of thirty-six hills each in September, and husked in the field, and the stalks bound and hauled home in November—the account kept with this field is—

No. 1.

DR.	To ploughing, 4½ days at \$2,.....	\$ 9 00
	To harrowing, 3 times,.....	3 00
	To marking out,.....	2 00
	To planting and seed,.....	2 50
	To thinning,.....	1 00
	To tending,.....	9 00
		<hr/>
		\$26 50

CR.

	By 140 bushels of corn at 80 cents,.....	\$ 112 00
	Deduct expenses,.....	26 50
	Balance,.....	\$ 85 50

The corn turned off but twenty bushels per acre; it was a poor crop, owing to the extreme drought. It also received injury in thinning, as this was deferred until the stalks had taken too firm a hold of each other by the roots, to be separated without hurt to those which were intended to be left. I am however fully satisfied, that it is much the best plan, always to put in more seed than you desire plants, and thin out the supernumerary ones, rather than depend upon replanting, in case of partial failure.

Second—OATS.—Sandy loam, sloping to the south. April 12th, sowed oats—after corn—harrowed once before sowing, twice after and rolled,—two bushels of seed per acre, harvested about the 21st of July.

Account with No. 2.

DR.	To ploughing, 3 days at \$2,.....	\$ 6 00
	To harrowing 3 times,.....	3 00
	To rolling,.....	1 00
	To 14 bushels of seed oats at 45 cents,.....	6 30
	To sowing,.....	20
	To harvesting,.....	12 00
		<hr/>
		\$28 50

CR.	
By 300 bushels of oats at 45 cents,	\$135 00
Deduct expenses	28 50
Balance,	\$106 50

There were seven acres of this field occupied by the oats, which turned off forty-three bushels per acre. On strong soil, oats should be sown thin: on poor ground, thick. If allowed room they will spread and branch out on the former, the straw will be of much stronger growth, and less liable to lodge; the growth being light on the latter, unless sown thick, there will be waste of ground. Particular care should be taken to have this crop put in the mow in a dry state. The earlier it is cut, the more valuable will the straw be as fodder.

Third—WHEAT.—Eight acres mostly clay loam. The last week of August, 1837, ploughed the oats stubble, and harrowed it twice, once across the furrows. During September, spread fifty bushels of oyster shell lime to the acre, and harrowed it in—hauled on one hundred and fifty ox-cart loads of short barn-yard manure, spread it evenly, and ploughed it under crosswise of the previous ploughing—harrowed once with the furrows to sowing. On the 5th of October, sowed one-half with the white bald wheat—and the other with the red chaff bearded—five pecks of seed per acre—harrowed twice, sown with timothy seed, and rolled after sowing. The spring of 1838 put on about half a bushel of clover seed, picked weeds from it June 9th, finished hauling in two hundred and forty dozen the 14th of July.

Account with No. 3.

DR.	
To ploughing 8 days at \$2,	\$ 16 00
To harrowing 3 days at \$2,	6 00
To 16 bushels of seed wheat at \$2,	32 00
To rolling and sowing,	1 50
To 400 bushels of lime at 12½ cents,	50 00
To hauling do.,	12 00
To spreading do.,	4 00
To 150 loads of manure at \$1,	150 00
To hauling and spreading do.,	20 00
To harvesting,	16 00
	\$307 50
CR.	
By 80 bushels of white wheat, at \$1 75, ..	\$140 00
By 100 do. red chaff do at do., ..	175 00
	\$ 315 00
Deduct expenses,	307 50
Balance,	\$ 7 50

The four acres of white wheat turned off twenty bushels per acre, the growth of straw rather light, and grain somewhat shrivelled. The half sown with the red bearded produced twenty-five bushels to the acre, a large yield of straw, and grain plump. The whole field was partially affected by rust, and the part sown with white wheat received considerable injury from the Hessian fly, which seems to

have a predilection for this variety, when allowed to choose between it and others, probably owing to the straw not being of so coarse a texture. I am led to believe that the application of the lime would have been productive of more beneficial consequences, especially all succeeding crops, if it had been applied nearer the surface.

Fourth and Fifth.—No. 4 is a clay loam which lays low, and from its position cannot readily be drained. No. 5, a gravelly loam. Picked off all stones in the spring. Commenced mowing No. 4, mostly clover, July 29th. Mowed No. 5, of which timothy formed the greater proportion, July 9th. The general plan followed in gathering the hay, was mow one day and let it lay in swath until the dew was off the next morning, then spread it towards evening rake it up with a horse rake and put it in cocks; open these lightly the next morning, and haul in P. M.; but you must decide what course to pursue, from the condition of the grass, and the state of the weather. When this is unsettled it is often double the work, to secure the hay crop, when this is the case, it is best not to have much grass down at a time, haul in any portion as it becomes fit, and salt it in the mow.

Account with Nos. 4 and 5.

DR.	
To picking stones half a day,	\$ 1 00
To getting in hay from No. 4,	9 00
do. do. No. 5,	11 00
	\$ 21 00

CR.

By 6 loads of clover hay at \$12,	\$72 00
By 2 " rye grass hay at \$15,	30 00
By 8 " timothy hay at \$18,	144 00
	\$246 00
Deduct expenses,	21 00
Balance,	\$ 225 00

There are five acres of clover and one of rye grass, the latter was sown with turneps the fall previous. After wheat, the clover yielded about one ton per acre, the rye grass two tons. In No. 5 there were six acres of timothy, which gave one and one-third ton per acre, there was but little second crop on either field, from the effects of the great drought—the same cause made the first crop much lighter than they would have otherwise been; where plaster was sown this year it was done to manifest advantage. Clover should be cut when in full bloom, timothy when the seed forms. Three acres of these fields were out of the course, owing to a change of fencing, and one acre of timothy was retained to be cradled for seed; with these I kept no account.

I have thus endeavored to lay before you readers, a succinct account of the leading points in the management of the principal

rops. I have not debited the corn crop to arvesting, nor either of the three grain crops to expense of preparing for market, the fodder and litter furnished by the stalks and straw will be sufficient to balance these; one acre of No. 1 was occupied by broom corn,—the other of No. 2 by potatoes and sugar beets, these and other matters may form another communication. [Send it on.] I have given this exhibit of the mode of management of my farm, not but that I suppose it capable of great improvement, or excelled by others, but have stated it just as it was, in hopes that others may be led to follow the example, when by comparison the good and bad practices of each will be discovered. It will be seen that two of the main crops, the corn and hay, were very deficient. This, however, was owing rather to accidental circumstances, than to any fault of culture. The wheat is liable to injury from the frost, mildew and rust; the corn, from the grub, wire-worm, drought and short seasons; oats is almost a sure crop;—grass may suffer by dry weather and from the attacks of grasshoppers. As the crops of the farmer are thus exposed to so many enemies, it is hardly likely he will escape without material injury received by one or other of them; this he should anticipate; it is well that it should be so, it calls forth the reasoning faculties, to apply a remedy for these disasters; it awakens the subtle energies of the mind, and affords them an incentive to renewed exertion, and which is the only means whereby they may be developed. Happily clear of the vortex of trade and speculation— independent of man—the agriculturist should do all in his power to avert impending evils, and then rest contented, that he has performed his quota, to the extent of his abilities, and that to God alone does he look to crown his endeavors with increase and plenty.

In the retrospect of the past, we will find perhaps, that agriculture has received a greater impulse during the last twenty years, than in double or treble that period, previously—that during this space of time, a great number of those who have brought a scientific knowledge and enlightened education to bear upon the subject—and aid them in putting theory into practice, have thrown aside the narrow prejudices, contracted by the world at large, have entered the arena, and are bringing these pursuits up to their true standard, clearly demonstrating that herein there is an ample field for the exercise of the clearest faculties, and the deepest scientific researches, calculated to afford enjoyment to those engaged in it, and fully reimburse their expenditures.

This march of improvement is not stayed, happily we may safely assert, that at no point of time, was it more in the full tide of progress than at the present, and no limits can be

set to its advancement. To quicken it our farmers themselves must lay hold of the matter, they should individually experience that a portion of *this work* is assigned them;—that they are called upon as integrant parts of a great community, to further its interests, by the means which they severally have at command. They should be willing, impartially, and unbiassed by old prejudices, to canvass all their actions, and bring them to the test of reason. They should not suppose that in any one particular have they reached to ultimate perfection, and yet at the same time keep this always in view, as the point to arrive at, let our real tillers of the soil do this, and the course must be onward.

A. E. T.

Philadelphia county, Oct. 25, 1839.

The Farmers.

The following just and eloquent tribute to this meritorious class of American citizens is from the pen of an eminent New England clergyman.

“There is one class of men upon whom we can yet rely. It is the same class that stood on the little green at Lexington, that gathered on the heights of Bunker Hill, and poured down from the hills of New England, which were the life-blood of the nation when the English lion was ready to devour it,—I mean the FARMERS. They were never found to trample on law and right. Were I to commit my character to any class of men, my family, and my country's safety, it would be to the farmers. They are a class of men such as the world never saw for honesty, intelligence and Roman virtue, sweetened by the Gospel of God. And when this nation quakes, they and their sons are those that will stand by the sheet anchor of our liberties, and hold the ship at her moorings till she outrides the storm.”

To destroy Sorrel.

Among the pests to which the farmer is subject, there is none more annoying or vexatious than *sorrel*. While it exhausts the soil, and impedes the progress of healthful and cleanly culture, it is utterly unfit for all purposes of food. It is however fortunate for the husbandman that there is a remedy.—*Lime* is its certain destroyer. We say this from experience, having tested its efficacy the present season. We had a few acres infested with it, much to our inconvenience: on a part of this we spread sixty-six bushels and two-thirds of lime to the acre; on the balance we spread two hundred bushels of ashes. The sorrel on the limed part has nearly disappeared, while on the portion on which ashes were spread, it is as thick as ever.

Quantity of rain which has fallen in each month since January 1, 1839.

	Inches.
1st month,.....	5.63
2d month,.....	3.42
3d month,.....	1.50
4th month,.....	1.50
5th month,.....	6.07
6th month,.....	3.92
7th month,.....	2.51
8th month,.....	4.61*
9th month,.....	2.92
10th month,....	2.83

* It rained on seventeen different days.

Philadelphia Hospital, 11th mo., 1st, 1839.

State of the Market—Nov. 6, 1839.

FLOUR AND MEAL—Demand fair and steady for superfine Flour at \$6 50 per barrel. *Rye Flour*—Demand limited, sales at \$4 25. *Corn Meal* per puncheon, \$18 for Brandywine, and \$17 for Pennsylvania.—*Buckwheat Meal*—Sales for shipment in half bbls. at \$2 75 each. The ship Montezuma cleared for Liverpool on the 25th Oct. with a cargo of 5620 bbls. Flour, and the ship United States on the 30th, with 4439 barrels of Flour.

GRAIN—Sales of Pennsylvania, Juniata and Susquehanna, at \$1 23 @ \$1 25 per bushel afloat, and \$1 22 @ \$1 25 on the Schuylkill canal for good to very prime quality. Some small lots in store sold at \$1 25 to \$1 27; Delaware at \$1 26 in store and \$1 23½ afloat for good quality; inferior do. \$1 20. *Rye*—Sales of Penna. at 74 @ 75 cts. *Corn*—Sales of inferior to fair Virginia yellow at 71 @ 75 cents; Delaware and Maryland yellow, at 76 @ 78 cts.; a lot of very prime Penna. round yellow at 80 cts.; Southern white 72 @ 73. There is a good demand for Corn at 76 @ 78 cts. for yellow.—*Oats*—Sales of Southern at 33 cts.

PROVISIONS—There has been an increased demand for Western Pork. Sales at \$15 50 @ \$15 75 cash, and \$16, 4 mos. for Mess. *Bacon* at 8½ @ 11 cts. for middling to prime Hams. *Lard*—Sales limited. *Butter* is in limited request. Sales of No. 1. and extra in kegs at 13½ and some in tubs at 12 @ 12½ cts. per lb.

CATTLE—At market—500 Beeves; 190 Cows and Calves; 530 Swine, and 1400 Sheep. *Beef Cattle*—Prices remain steady at \$6 50 @ \$8 for common to good quality, and \$8 25 @ \$8 50 for prime; 40 head unsold. Cows sold at \$25 @ \$35 each; Calves \$5 50 @ \$5 75 per hundred lbs. *Swine*—400 head sold at \$6 75 to @ \$8 25 for common to prime. *Sheep*—Supply nearly all taken at \$1 75 @ \$2 50 for Lambs; and \$2 25 @ \$4 50 for Sheep.

The Magazine of Horticulture, Botany, and all Useful Discoveries and Improvements in Rural Affairs, published in Boston, by Messrs. Hovey & Co., is not only issued with its accustomed regularity, but also sustains the high reputation it had previously acquired. The October number—No. LVIII—contains several papers of great interest, viz.: Art. 1. Some remarks upon several Gardens and Nurseries, in Providence, Burlington, (N. J.) and Baltimore, by the Editor, C. M. Hovey 2.—On the propagation, cultivation, and general treatment of Epacris, by JOHN TOWNE, Esq. 3.—Notices of new and beautiful plants, figured in the London Floricultural and Botanical Magazines, with remarks on the cultivation of many of the species, and some account of those which it would be desirable to introduce into our gardens. The *Miscellaneous Intelligence*, which occupies a part of the work, is varied and very interesting. We know not the measure of support obtained for this work: but of one thing we are certain that if its patronage corresponds with its merits, there is it well sustained, for it most certainly is a meritorious work. If it is not well sustained, the friends of Horticulture and Floriculture owe it to themselves—to the science—to the country, to extend to it a generous and liberal support, that it may take deep root and flourish. In its continued success they are deeply interested.

The Agricultural Almanac for 1840, calculated for the meridian of Philadelphia. This Almanac contains, besides the calendar, a variety of useful articles on agriculture—eight pages of miscellaneous matter. Appended to the Almanac is a catalogue of Implements, Machines, Tools, Seeds, &c. &c., for sale at the Agricultural Warehouse, No. 87 North Second street, Philadelphia. The improved Agricultural Implements are briefly described, and many of them illustrated by wood engravings.

From Freedom's Centinel of Nov. 1, published at Centreville, Eastern Shore of Maryland.

The Maryland Agricultural Society held their Cattle Show and Fair in Easton on Thursday and Friday last. The exhibition of live stock, domestic manufactures and agricultural products and implements, was gratifying, in a high degree, to every beholder, surpassing as it did, any former exhibition. Several of the most important premiums, we are pleased to learn, were awarded to gentlemen of this county. The Morus Multicaulis Trees offered by the Silk Company at public sale on the second day of the Fair, were not sold for want of bidders.

THE FARMERS' CABINET,

A monthly newspaper, is published by

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PETER B. PORTER, No. 97 MARKET STREET, WILMINGTON, DEL.

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Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

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**Agricultural Ware-House and Seed Store,
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PHILADELPHIA,**

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

Any gentleman remitting *Five Dollars* will be entitled to the Farmers' Cabinet for **SEVEN YEARS**, commencing with the first or any subsequent volume.—The volumes now published can be sent by mail, in paper wrappers; Postage, under 100 miles twelve cents—to any part of the United States over 100 miles from the place of publication, eighteen cents per volume.

Wintering Sheep.

THE season has arrived when sheep require a little of our time and attention. If these are now bestowed with subsequent ordinary care, sheep will pass through the winter with a trifling loss and much to our advantage.—For want of attention at this season of the year, I have seen large flocks almost entirely destroyed, while their owners blamed their bad luck, but not their bad management.—Sheep, to do well through the winter, must be in good condition when they begin it. If they are so, they pass through it without difficulty; but if they are poor at this season, good provender and a regular supply of it will not insure them well through. To see then that our sheep have been well taken care of during the summer and fall, is an important step with the farmer, and which would be a great saving both in sheep and fodder.—It is wrong to permit them to ramble over the fields later than about the first of December, because at that time there is little nutriment in the scanty herbage on which they feed, and the grass itself had better remain on the stem to protect it during the frosts and winds of winter, and prepare it for an early and vigorous growth in the spring; besides, as the supply to the animal is small

and innutritious, there is great danger that there will be a falling off in its flesh, which it can illy spare, and which to its subsequent existence it is so necessary it should retain.

I have frequently thought that an open December, which is so often wished for by the farmer to save his winter's supply of hay, is more prejudicial to his sheep, when they ramble over the fields, and to his own interest, than he is generally aware of. It would certainly comport more with real economy, if he were to bring up his sheep by the 10th of December into winter quarters, even if the weather should remain warm and the ground uncovered. If they lose flesh at this time, they cannot regain it until spring, and the mortality which it sometimes costs flocks of sheep, is imputable to this cause.

Sheep in winter should have sheds: the preservation of their health requires this indulgence, and nature prompts to it. Let me ask, if they have the choice, do they remain in the open air in a storm? No—they as instinctively run to their covering as a man does to his house, and if they do not require it quite as much, they appear as grateful for the shelter. For a flock of poor sheep a protection from the weather is all important.—Those in good condition do not so much want it, as they have a better coat both of flesh and wool; but for them it is likewise useful, and a good farmer will not omit to give all the requisite shelter.

As soon as sheep are brought into the yard, the different kinds of lambs, ewes and wethers, should be carefully separated and kept during the winter apart. It is important that those in one yard should be nearly of a size as practicable: for by being so, there are no strong ones among them to drive the weaker from their provender. All will feed

alike and do well. The flocks ought likewise to be as small as we can conveniently make them. It is an invariable rule that a small flock does much better than a large one, even if both, according to their number, are fed equally well. If the flocks in each yard can be reduced to between fifty and one hundred, so much the better; and it is a great desideratum to make them as few as fifty, if it can in any way be effected. It is likewise necessary to have a separate yard for old and poor sheep, and if there are any in the flock that do not subsequently do well, they should be removed into what is commonly called the hospital. These hospital sheep, by being few in number, having a good warm shed, a sheaf of oats, or a few screenings from under the fanning mill once a day, will soon begin to improve and do well. I have had my hospital sheep in a better condition with this care by spring than any other flock, and I must say that for the last three seasons, my sheep were in a better condition when I turned them out of my yard in the spring, than when I put them in in the beginning of winter.

Sheep ought to be rather sparingly than sumptuously fed, three times a day, out of racks, to prevent them from running over and trampling on the hay. As soon as one is seen in any of the flocks to become thin, it ought to be removed at once into the hospital where it will be better fed. If you neglect to do this soon, it will be too late, and you will suffer loss; for a sheep once reduced to a certain point cannot be recovered. It is good to give them a feeding of straw or pine tops, if you please; it invigorates their health and makes a change in their food. They ought all to be daily watered, and if your hay has not been salted, they ought to have a lick of salt occasionally. By adopting these rules, you will save all your sheep; or you will not lose more of them than you would of the same number of horses and cattle. They will have no disease among them. I have often thought of an observation made to me by an experienced wool-grower from whom I asked for information of the diseases of sheep; he answered,—“What have you to do with the diseases of sheep—take care of them and you will have no need for remedies.” This observation struck me as strange at the time, but subsequent experience has amply confirmed it.

And now, what will the farmer gain by keeping his sheep well? In the first place he will gain in his hay,—a fat sheep will not eat as much as a poor one; he will save all his grain—sheep in good condition do not require any. In the next place he will save all his sheep—he will have more and better lambs in the spring; and in consequence of it, he will have several ounces of wool more to each sheep; and what is better than all the rest,

he will in the end save himself loss and anxiety. The saving will at least be from one-eighth to one-fourth of the value of his flock, and all this by attending to a necessary work in due season. A.

Cheap Food for Stock.

A correspondent of the Poughkeepsie Telegraph states “that his crop of beets, sugar beets and mangel wurtzel, which he was then harvesting, would be one thousand or twelve hundred bushels from less than an acre of land. His largest six sugar beets weighed sixty-seven pounds. The cost of raising did not exceed six cents per bushel.

Though we have numerous instances of the large yield of roots and their great value for stock, showing them to be a very profitable crop, yet many farmers are slow in adopting this great improvement in their business. As the country becomes more thickly settled, farmers will be more limited in the extent of their lands for mowing and grazing, and in order to keep as much or more stock on less land they must raise roots.

With proper attention to this business, twice or three times as much stock can be supported, and in better condition too, from the same land, as there can be by feeding on hay and grain. Sugar beets and other valuable roots for stock will generally produce twenty tons to the acre, which is worth as much as seven tons of hay.”

The fall is a good time for preparing ground for root crops; let it be freed from stones, and well ploughed, then by exposure to the frost, the earth will become finely pulverized.

If the manure can be put on in the fall, it is all the better, for it will not waste by evaporation in the cold season, and if the ground be well prepared and the manure applied in the fall, and the ground be harrowed or stirred with the cultivator a few times in the spring before sowing, to kill the weeds, there will be but a few weeds after sowing; this method will save half the expense in cultivation, as we showed particularly in an article on this subject in the past summer.—*Yankee Farmer.*

Why do pearl-ash and water remove grease spots?

Because the pearl-ash unites chemically with the grease, forming a species of soap which easily washes out.

Why is pipe-clay used for scouring cloth?

Because the pure clay, or alumina, has great affinity for greasy substances.

The mind tires in indolence. To be able to do much, it is necessary that we should have much to do.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

Frank.—Father, I was yesterday assisting John Lambert to drive his father's sheep to the upper pasture, and I could not help thinking of our late conversation respecting the most profitable breed of sheep for a farmer. In his small flock you might find almost every variety, from the short-wooled to the long-wooled, with legs and bodies of almost any length, and necks longer than either! John told me, the long-necked animals were called Aldermen's sheep, for it is a common idea in London, that on the day after an Alderman's dinner, necks of mutton rise in price, in consequence of the number that are then required for broth and thin soup, for those who had gormandized the day before! Some of these sheep certainly afford a rare opportunity for the anatomical lecturer, for their bones are about as easily defined as those of a carcase fresh from the *halls* of the Ravens. I now see the truth and justice of the remark, that "a prudent man will advise with his land on the most profitable breed of sheep for a farmer."

Father.—True; that might be called a practical lesson, not easily to be forgotten. During a pretty long life, I have had opportunities of becoming acquainted with many of the different breeds of this most valuable animal, and, as it might afford you instruction as well as amusement, I will endeavor to recollect some of the most remarkable features of their character.

Frank.—"Features of character"—that reminds me of a paper in the No. for September, of our favorite monthly visitor, "*The Farmers' Cabinet*," under the head, "A Source of Comfort." I had no idea that we were so much indebted for our comforts, and even necessities, to the simple and common article, *flannel*! At now, that the mornings and evenings grow cold, I am reminded daily of the gratitude which I owe, first, to "Him who doeth all things well," and next, to the interesting animals, who furnish us with the means of defying the storm." I intend to copy the latter part of that paper into my "book." It runs thus—"It is most remarkable property of flannel, that although it prevents the ingress of cold, it seems, in a measure, to facilitate the egress of heat, and is, on that account, admirably calculated to form the clothing of that animal, on whom alone it might be said to be found, and which, without this wise ordination of "Him who doeth all things well," would be totally unable to live or exist in hot weather, under a covering four or five inches long, of a substance which, of the texture even of gauze, will enable a man to defy the elements! It is truly a wonderful ordination of Nature, which ought to call forth, every day of our lives, the acritie of a grateful heart! but the blessings of life, coming in the humble guise of a *flannel shirt*, are very apt to be overlooked—so true is it, that our greatest blessings are of everyday occurrence, and so common that, like the air we breathe, we might be said to repire them—too often with careless and unthankful hearts!"

Father.—Good—And now, as you remember I said, a prudent farmer will advise with his land on the subject of the best breed of sheep." I will relate a circumstance which fell under my immediate observation. You have heard, that the Welsh mountains are famous for feeding a small race of sheep, whose carcases always bring a very high price in the market, at a certain season of the year, October, when they are slaughtered without other feeding, their flesh partaking of the flavor of the finest venison, from their having fed on the wild thyme and heath, growing on articular spots of these natural pastures: they are ever slaughtered until four or five years old, when the mutton is very dark colored and full of gravy of the richest flavor—fit food for an Alderman!

Now, it so happened, that a very large tract of this wild mountain land came into the hands of a first rate farmer, from one of the deep feeding counties in England, who could not bear the idea of rearing sheep, *ven by the thousand*, to weigh no more than six or even pounds per quarter, and he therefore resolved to introduce the improved South Down breed, of sixteen or eighteen pounds a quarter—determined, as he expressed it, "that they *shall* do." Now, the climate of his part of Wales is wet, almost incessantly; and the Welsh breed of sheep, expressly calculated for such a

climate, are covered with a loose and rather long wool, which, separating along the back, falls over the sides, carrying off the rain, and preventing it from penetrating to the skin. The South Downs, on the contrary, have extremely thick, close and fine fleeces; not sufficiently long in the staple to divide and fall over; so that, in such long and continued rains, as are experienced in Wales, their wool becomes full of water, which penetrates to the skin, and soon causes the disorder called the Pelt rot, in which, if you take the sheep by the back, the wool will separate from the skin, and come off by handfuls—their fleeces are so close and thick, they cannot shake the water from them in rainy weather; whilst the native breed will relieve themselves in this manner, most readily.

I remember this flock of South Downs, about two thousand in number, and the finest sheep of that breed I ever saw, coming to the mountains about Michaelmas, when the hills were covered with grass, of which there was no fear of want, even in the longest winter; and the owner had not, therefore, made any preparation for feed during that season, except, in mowing a portion of the long grass of the mountain, during the summer. From the first day of their arrival, it was apparent to every one, that these sheep would starve before they would eat a herbage, so entirely different from that short and sweet bite, which they had left on the Chalk Hills of Sussex, where, it is a proverb, "a sheep will grow fat on an egg shell full of grass in the day;" and on turning them into a pasture of five hundred acres, I do not think they ever stepped foot on fifty acres of the whole: unfortunately, too, the weather set in wet, before they had recovered from a journey of one hundred and fifty miles; and sick and weary, they lay down amidst the long wet grass of the pasture, from which they could not be roused but by the dogs; while the rain, falling incessantly, would oftentimes form pools of water under them, in which they would lie and soak! In a very short time the wool began to separate from the skin, and many died, even before they had lost much of their good plight, which they had brought from their native hills.

Frank.—But ought not the owner immediately to have removed them, when he foresaw the certain destruction of the flock?

Father.—Undoubtedly, he ought—but his pride would not allow him to do so. The Welsh farmers had foretold the event, from the moment they arrived in the country, and were hovering around the dying flock, like carrion crows, enjoying the frightful catastrophe, and laughing contemptuously at the Englishman, who thought he knew so much more than they, of the climate and country, of which they and their forefathers had been the possessors for ages; and the owner of the flock had been heard to declare, he would lose every one of them, before he would remove them; adding, "they *will* and they *shall* do." In a very short time, they began to die by hundreds, and the shepherds had more than they could do, to skin the dead animals; at last, their skins were no longer worth the labor of taking off, and they were then tumbled into holes, dug to receive them, as fast as they died! I remember, after a dreadfully stormy night, I went to see the flock early in the morning, and I shall never forget the horrid scene—thirty five had died during the night, and twice that number never again rose from their dying beds of long, wet grass! many of these last, were lying under the dead sheep, still breathing; and the stench which arose from their putrid bodies, even before their death, was terrible. I could not bear the sight or smell of mutton for a long time after.

Frank.—Horrible! but what was the end of all this misery?

Father.—It only ceased with the end of their lives: I do not believe that a single sheep escaped. On the morning above mentioned, I was struck with the difference, which then appeared between this flock, and one of native home-bred Welsh sheep, in the same pasture—these last had found shelter in the glens, and behind the rocks of the mountain, and on my approaching them, they would bound out of their hiding places, shake the water from their fleeces and set off on the gallop, to regain their companions, all life and vigor! and one of them having been left on this side a brook, which had become swollen to a torrent by the night rain, on running to it, hesitated a moment, and the next, plunged into it, and swam over to join his fellows, only stopping to shake the water from his

coat. Do you now see that "a prudent man will take counsel of his land before he determines on the breed of sheep he ought to keep?"

Frank.—I do, indeed! "Experience keeps a breed school," truly.

Father.—But the same person committed the same error, in the selection of his herd of cattle; for, from the same deep and rich feeding county, he, at the same time, purchased about one hundred young, highbred Durham cattle, which he turned upon the same mountains, to feed on that coarse and poor herbage; they did not die off so suddenly as did the sheep, as he took them into shelter during bad weather; but if my memory serves me, he lost about two-thirds of them before the spring, and sometimes as many as six of a night. Now the error proceeded from this cause—the owner visited these mountains in the summer, and seeing loads of grass, and neverfailing streams of water, and the cattle and sheep in good condition, it struck him that such fine pasturage ought to carry larger breeds of cattle and sheep; and judging from his success in the fine country which he had left, he calculated it was owing to a want of judgment, on the part of the Welsh farmers, that they did no better; and having very unreservedly expressed his opinion, and boasted that he would soon teach them better, his pride, as I said, would not permit him to retrace his steps.

Frank.—Well, that is a frightful picture!

Father.—Then we will turn to another. The occupier of a farm, adjoining the house which I once inhabited, was a man of the most perfect judgment in his profession; his horses, cattle, utensils of husbandry, &c., were all of superior quality, but his sheep were his hobby! he had spent a fortune in the improvement of the breed, and his annual shearing, and sale of pure Dishleys, brought persons far and near, to see his stock and taste his mutton—indeed they were beautiful animals; and, as his farm was suited to deep keep, his flock was the pride of the country. It was his custom every Sunday morning, to rise early, dress himself for church, a mile distant, and walk among his flock for an hour or two, examining every lineament, even of their faces, feeding them from his hand, and conversing with them as with his children; while they, in their turn, would come to him to be fed and fondled! I used often to accompany him, and to him I am indebted for much information of real practical usefulness. On such occasions I always thought of that beautiful verse—

The husbandman goes forth a-field,

What hopes his heart expand!

What calm delight his labors yield—

A harvest from his hand!

I should say, his sheep were of the largest size, some of them having risen to thirty-five pounds per quarter; and I have known him to shear fleeces of nine pounds each: but to bring this weight, and keep their condition, it was necessary to provide them with, what is called, "deep keep," that is, cultivated crops—turneps, tares, &c., for all this, however, they paid handsomely; his lambs brought him the price of his neighbors' full grown sheep, and no wonder that his sheep were his greatest pleasure. An adjoining neighbor kept a flock of highly improved South Downs; and it was a question between them, which kind of sheep would pay best for fattening—an experiment was therefore made by stall-feeding two of their largest wethers, weighing them at the time of putting up—my friend beat his antagonist by eight pounds per quarter.

Frank.—Now that is a much more beautiful picture.

Father.—Another excellent manager who lived farther on the hill, and whose land was dry and pasture short, had the judgment to select his flock from the small South Down breed; but, after holding his farm for several years, he found that, by good tillage, his land had become able to carry a larger breed of sheep—he, therefore crossed them with the pure Dishley, and, with a single cross he obtained the kind of sheep which, I should say, was, upon the whole, "the most profitable for a farmer to keep." They were sufficiently large for every good purpose, sixteen or eighteen pounds per quarter, with the hardy nature of the dam, the fattening propensity of the sire, and the quiet disposition of both: with a fleece much heavier and longer than that of the dam, and much finer than that of the

sire; coming under the denomination of fine combing, or coarse clothing wool, and suitable for both purposes. They were capable of bearing cold or wet, and of producing a progeny, full double the value of the dam, and of the most perfect form imaginable; indeed, I know of no sheep so generally suitable and profitable as a single cross between the Dishley or New Leicester, or *Bakewell, (they are all the same, under different names) and the South Downs: they are remarkably quiet and tractable in their dispositions—a necessary qualification in quick feeders.

Frank.—But I remember, you told me that your experiment to raise lambs twice in the year, was made by a cross between the Dishley and the Dorsets; and the result must have been very satisfactory, I suppose, the lambs bringing such high prices; the first crop selling for upwards of seven dollars each, the second bringing five dollars each, when sold to the butcher.

Father.—It was just so—the second lambs were from the Dishley cross, very fine and large; the third crop also was from the same cross, equally good: the first lambs brought such high prices in consequence of being very early—the Dorset breed are remarkable in this respect: still, however, I prefer the cross between the Dishley and South Down, for the purpose of stock.

Frank.—I wonder if it was ever before known, that seven ewes brought twenty-eight lambs in the short space of sixteen months and a half.

Father.—Possibly not—but such was the fact, which can be verified by many still living in the neighborhood where the occurrence took place.

Frank.—I have heard and read a great deal of the Cheviot sheep, which are so highly valued as stock, upon the Cheviot hills in Scotland—have you seen many of this breed?

Father.—Yes—they were introduced upon the mountains in Wales, after the failure of the South Downs; and being looser in the fleece, more accustomed to high and exposed latitudes, and brought into the country during the summer, they were in a great measure, acclimated before the winter, and bore the change tolerably well; the Cheviot hills producing grass, much of the nature of that on the Welsh mountains: still, however, they suffered dreadfully by the scab, which was, I am satisfied, occasioned in a great measure, by the moisture of the climate and the injudicious mode of smearing with tar and grease—a management introduced by the Scotch shepherds, who accompanied the flock from their native hills, and who, most erroneously, considered the method as applicable to the moist climate of Wales, as to the high and dry climate of the Cheviot hills. The coat of tar and grease prevents the escape of insensible perspiration; and, in a wet and mild climate, must have a most pernicious effect; and this was manifestly the case in Wales, for, soon after the smearing, the sheep lost condition, became loose and flaccid and large in the body; and the scab broke out so violently, as almost to ruin the flock, and totally the wool, for the first year, and causing the death of scores: indeed, for the space of two years after, the time which I had them under my observation, the flock was never clean from the disorder. I have, however, heard, that they are now much better, the smearing

* *Bakewell, of Dishley, Leicestershire.* His success in the improvement of the breed of sheep was very great; but it is now admitted on all hands, that if he had commenced with *dam* the best, instead of *sire* the best, the end would have been accomplished in one half the time. He once failed in business, in consequence of the great expenses which he incurred in the improvement of the breeds of horses and cattle, as well as sheep: on the meeting of his creditors he was permitted to select one ram from his flock with which to commence the world anew. His choice did not please his old and faithful shepherd, and the strife between them lasted four days, at the end of which he gave up the contest, permitting the shepherd to choose—the event justified the choice, for from thence sprang the means of realizing a large fortune. A butcher once purchased twenty fat sheep of Bakewell, and was to choose the best from a flock in a certain field; he did so, and took, with nineteen wethers, one of his best rams, which had strayed among them, and slaughtered him immediately, boasting of what he had done—a prosecution was instituted against him, and damages to the full amount of his means were awarded, after which he was driven from that part of the country.

being dispensed with. Sheep can bear almost any degree of cold, if the climate be dry; the Scotch shepherds declared, they have experienced it so intense as to kill the dogs while lying at their feet, on the Cheviot hills; and yet the sheep bore it well. The Cheviots are a very pretty and useful breed of sheep, especially for high lands and coarse pasture; they being completely coated, even to the eyes and hoof in wool, enables them to stand the exposure of the mountain, without flinching.

Frank.—I have often heard of the sagacity of the Scotch shepherds' dogs, did you observe them to be particular in this respect?

Father.—I did, and have often been astonished to see them perform their *evolutions*. At the time of which I am speaking, the number of Cheviots on the estate was seven thousand, divided into four flocks; and although these were sometimes pastured on the same district, there was no danger of their intermingling—the dogs would guard against that. The custom of the shepherds was, to remain with their flocks until they had lain down for the night; and then to leave them until a little before day-break in the morning, when, in going among them quietly, they would know to a certainty, if any individual was sick; for if a sheep does not stretch itself on rising, it is a sure sign of disease. But, before disturbing them, the dog would take a circle round them, to ascertain the scent, if any stranger had visited the flock during the night, and if there had, as soon as the flock had been drawn together, he would go into them and seize the straggler by the ear. Towards evening, the shepherds were accustomed to collect their sheep into a circle, in some sheltered spot, if a storm was apprehended—and to do this, it was only necessary for him to say to the dog, *go round them*, when away he would start, circling them so quietly and at such a distance, that they would continue to feed all the way as they approached the shepherd, who had thus again the opportunity to examine and count them, to ascertain that all was right for the night; and if he observed any symptom of sickness, he had only to point out the individual, when the dog would go so quietly, and take him by the wool of his neck so gently, as scarcely to disturb the remainder of the flock; after this, the shepherd had only to remain until they were lain down, when he could leave them with the certainty of finding them in the same position in which he had left them, the next morning at break of day. Some of the pastures were bounded on one side by a bank, and on the other by a wall, and if, on removing the flock, the shepherd wished to head the sheep to the right, or to the left, he would say, *over the dyke, or over the wall*, and the dog would never mistake the one for the other.

At the time of lambing, each shepherd was furnished with a stone bottle, strapped across his shoulder, filled with cow's milk, for the support of the lambs lately dropped, some of which were, perhaps, too weak to suck their dams; and the way in which they administered this *cordial* was curious—they would take a large mouthful of milk, and keep it there until it grew warm; then, clasping the lamb between their knees, and opening its mouth with the fore finger, they would direct the milk run from their mouths in a small stream, directly down the throat of the lamb, in the most convenient manner possible.

Frank.—I have also heard of the disease called the *crino mania*, do you remember the time, when the whole people seemed all at once to be affected by this *vet disorder*?

Father.—Perfectly, and it was, indeed, a "caution," to observe its effects on even sober-minded people—and a need of the excitement either—for, if the merino race has been taken up by those only to whom, as a business, it properly belonged, nothing would have succeeded better or have been attended with better results; it all must dash into the speculation: and I have said, that even merchants' clerks would have their *crino* tied up in, perhaps, the coal cellar, by which they calculated to make a profit of one or two hundred per cent. It is a valuable breed of sheep for some purposes and situations, and with care and great attention have been found to retain all their excellent properties, and greatly to improve in the article of mutton, which they were originally deficient. They were introduced into England by George the Third, who, at great expense and trouble, imported them direct from Spain, for the improvement of the wool of the clothing

districts. It was his wish to place them in the hands of those most likely to take the greatest care of them, and he therefore made presents amongst the nobility and great flock masters of England—but all fell through—none could be found to take the necessary care of animals which came into their hands so cheaply, and it was the happy thought of Sir Joseph Banks, to sell a portion by auction, considering, that when men paid dearly for their *whistle*, they would take care of it.—Accordingly, in 1808, the average price of ewes at the King's sale was £23 12s. 6d.; of rams, £13 10s. 1d., the highest price for an ewe being £38 17s.; of a ram, £74 11s.—and then came on the tug of speculation! Every one thought that merino wool would eventually be the only article grown, and on this the people seemed to suppose they must depend for *life, and breath and all things!* In the mean time a few persons of judgment and skill set themselves quietly to examine the matter; and amongst the first of these must be placed Lord Somerville and Dr. Parry; in their hands these sheep proved to be all that had ever been expected; and although at first, the wool dealers and clothiers were determined to consider the wool of the Anglo-merino sheep inferior to the imported Spanish, yet, Dr. Parry, by a singular method, convinced them against their will, and condemned them out of their own mouths! It is said, that for several years he packed the wool of his merino flock in the bags which had been emptied of the purest imported Spanish wool—from the *Penlin flock*, marked *refina*—and introduced it into the market *as such*; readily obtaining the highest prices of the day, without a suspicion of its being the growth of England! and these prices in 1809 had risen to the enormous sum of twenty shillings English!—This plan he adopted, because he could not obtain of the wool buyers a price at all equal to the value of the article; but by it the sales were easily effected for several years, at a price equal to that demanded for the prima piles of imported Spanish! And he obtained a premium from the Bath Agricultural Society, at their annual meeting, at which, the committee reported as follows: "They had, in conjunction with several woolen drapers of the City of Bath, minutely inspected the comparative quality of cloths, Nos. 1 and 2; and had adjudged, that No. 1 was entitled to a preference, in respect of fineness of wool,"—(it appeared, on examination, that No. 1 was manufactured from the wool of Dr. Parry's Anglo-merino flock, and that No. 2 was made from one of the best piles of wool imported from Spain, and known by the name of the "Coronel pile,") and they were decidedly of opinion, that Dr. Parry had accomplished the grand object of producing, in the climate and soil of Britain, wool equal to that usually imported from Spain." Now, this object would not have been accomplished, had not the sheep been sold for enormous prices—when they were *given away*, no one cared much about them, and they were consigned to the care of servants, who, generally speaking, entertained strong prejudices against them; and at best, were not sufficiently careful to prevent them from becoming contaminated with other breeds. And here I cannot resist the mention of a circumstance, which was related to me by my friend the Dishley breeder—he said, "I once attended an agricultural meeting, of which the great Arthur Young was President; his speeches filled all with enthusiasm, and caused us to consider a visit to his farm, which was in the neighborhood, as the greatest treat we could enjoy, as there we were sure to witness all his theories carried out to practice—I, therefore, obtained his permission to inspect his farm the next day, with a letter to his shepherd, instructing him to show me every civility, and permit me, especially, to examine his flock. The next morning early, found me on the road, enjoying, in anticipation, the pleasure of seeing an establishment built and supported by long experience, consummate skill, and the most ample means of improvement; but how shall I express the mortification which I experienced! A fine farm, cross cropped and badly managed, was nothing to the *horror* which I felt when the shepherd introduced me to the flock of sheep, which had been brought into an enclosure for

* *Note.*—It is a fact, that at the first introduction of the seed of the sugar beet from France, by the Beot Sugar Society of Philadelphia, some of the first agriculturists of the State declined accepting it as a gift!

my inspection! they were of all sorts and sizes—'ringed, spotted and speckled'—with ewes and rams promiscuously mixed; dirty, draggled and dingy! The shepherd observed my surprise, and mistook it for excess of admiration; and began to launch out in praise of the different objects of his care; at last, I begged him to point out the best and most valuable ram in the flock; upon which, he seized upon a huge thing, and dashed him down on his rump, in a way which he should not have used one of my sheep for his head; and asked, if I had ever seen his like? I answered, 'no indeed! but pray be so good as show me what you consider his most beautiful points?' upon which he looked up, and said exultingly, 'Did you ever see such a nostril in your life?' Now in this sheep I thought I could point out every defect that I had ever witnessed; his forelegs reminded me of a pair of scissors, and I could have buried a loaf in the hollow behind his shoulders! his head was tremendous, but oh! his nostril! it did, indeed, throw all his other defects into the shade—I never attended any more agricultural meetings where that honorable gentleman was President."

Frank.—Well, here are varieties of sheep, from whence a judicious farmer could make his choice; upon which I perceive his future success must, in a great measure, depend; and I now see that size ought not to be the only criterion by which to judge of the most suitable breed for the farmer; the nature of the fleece must be of great consequence in many situations, while the profit of the flock cannot be confined to any one particular breed. I have heard it said, a famous farmer, near a large town, bred his sheep heaviest in the hind quarters, as that part of the carcass brought a higher price in the market than fore quarters; and on the butchers complaining that the sheep had not much "inside fat," he observed, "only say how much you want, and I'll soon make it for you;" and this he did, by crossing the breed.

Father.—Yes, and my friend, the Dishley breeder, used to say, this could be easily accomplished, "for if you wish to have inside fat for the candle makers, breed your sheep narrow across the back, and you'll be sure to have it; all the juices flow to the back, and remain there, if the animal is wide across the loins: if narrow, however, they pass away and settle in the belly and offal of the animal—but I profess to grow mutton, not soap and candles!"

As an application of this, our long conversation, remember, that there is a fitness in all things, and to be able to choose the most suitable rank in life, as well as the most valuable breed of sheep for the farmer, we must take counsel of our means, as well as of our land, not expecting too much in any one variety, or in any one situation, the merits and advantages of all combined. In our stations in life, all the advantages are not confined to one particular sphere, be it ever so prosperous in appearance; and if the truth could be known, I believe it would be found that we are much nearer upon a par in regard to the blessings of Providence, than most persons imagine. I cannot afford to keep a carriage—true, but blessed be God! I can walk; which is more than Sir John D. can say, for if he had no carriage, he would never more enjoy the pleasure of fresh air and exercise. I do not possess riches—true, but I enjoy all that I require, to constitute happiness; and I am reminded of a very rich man, to whom a person applied for charity—"why," said he, "you say you have food and raiment and lodging, and I assure you that is all that I get, amidst all my seeming superfluities." And I was once acquainted with a farmer, who was as happy as a long summer's day, while he occupied the farm at A—, but when he became a gentleman, and retired from business in consequence of the great wealth of which he very unexpectedly came into possession, on the death of a distant relative who had amassed it in India, he grew so wretched that "it would be a sin to wish a dog such a state of existence," as a friend expressed it, who had visited him at his mansion and found him in a little dark room, with his hat pulled over his eyes and rocking himself, almost in a state of palsy! My friend said, he uttered these memorable words—"You knew me at the farm at A— a hard working man, but contented and happy! you now see me a wretched being, without a comfort upon earth! The grasshopper is a burden to me; and all this misery arises from this cursed wealth."—Poor wretch, he died soon after, and the neighbors declared, that his days and nights were so haunted by

frightful shapes, that his death was the only happiness remaining to him; nor could they believe but that his misery arose from the kind of wealth that he possessed; remarking, "Lord Clive and his steward returned from India, loaded with gold—he shot himself in his mansion, and the next morning his steward was found hanging by the neck in the chalk pit above the house!"

This has been a long story, but it is on a subject of great importance to those who are engaged as we are in life. The employment of the shepherd is one of the most ancient on record; and the continual reference to this very pleasing occupation, which we find in both the Old and New Testaments, has endeared it to many, who have never enjoyed, as we do, the pleasure in reality. Let us close by reading that beautiful versification of the twenty-third Psalm.

As the good Shepherd gently leads
His wand'ring flocks to verdant meads,
Where winding rivers, soft and slow,
Amidst the flow'ry landscape flow.—

So God, the guardian of my soul,
Does all my erring steps control;
When lost in sin's perplexing maze,
He brings me back to virtue's ways.

Though I should journey through the plains,
Where Death, in all its horror, reigns,
My steadfast heart no ill shall fear,
For thou, O Lord! art with me there.

By Thee, with peace and plenty blest,
My life is one continued feast;
Thy ever-watchful providence
Is my support and my defence.

O, bounteous God, my future days
Shall be devoted to thy praise;
And in thy house, thy sacred name
And wond'rous love shall be my theme!

To the Editor of the Farmers' Cabinet.

DEAR SIR,—As I calculate that "Frank's Book" is by this time nearly full, the "Dialogues" will henceforth be discontinued—happy, if I have contributed, in any degree, to the instruction or amusement of the juvenile portion of your readers, a class of persons for whom I have ever entertained a very sincere and affectionate regard.

An idea has been suggested, that the "Dialogues" which have been very extensively copied from the pages of the Cabinet, and widely circulated by many of the newspapers, would form an interesting little "Book," if issued as a separate publication. It could learn through the pages of the Cabinet, or be means of those papers who have sometimes thought those articles worthy their notice, that such is the general opinion, I should possibly be induced to prepare them for the purpose of forming a small publication under the title of "Frank, or Dialogues between a Father and Son, on the subject of Agriculture, Husbandry, and Rural Affairs."

Yours,

With perfect esteem and respect,

J. P.

Philadelphia, 1839.

In the year 1497, in a fish pond in Suaba, a Carp of prodigious size was found, which had in its ear a ring of copper, with these words in Latin:—"I am the first fish that was put into this pond, by the hands of Frederick the Second, Governor of the World, the fifth day of October, 1230." So that this Carp must have lived two hundred and eighty-seven years. We wonder, says an old writer, whether this memorable fish was doomed to end his days in a stew-pan!

On Manures.

A paper read by a member before the Agricultural Board for the Eastern Shore of Maryland, upon the subject of Manures—and ordered to be presented for publication.

Resources of manures formed by nature are all important to the farmer, and these should be diligently searched for, and their contents daily distributed over the arable lands.

1. Marsh mud, low bottom lands, and deposits of fossil shells, commonly called shell marl, are my only natural sources of manure. I prefer this marl in the first instance, because it contains lime which furnishes the earth with an essential ingredient to enable it to produce well, and aids the action of all other manures that may be applied afterwards.—Some of these deposits of fossil shells are much richer with lime than others—of those I have, six hundred bushels, as dug out of the bank or pit, to the acre will produce evident and salutary effects—and after a moderate dressing of the same land with any vegetable animal matter, the same quantity of shell marl may be again applied with additional advantage. A further application of marl in this I have no experience of, and I incline to the prevalent opinion, that this is enough marl for some time.

Of salt marsh mud there is a great variety. My experience teaches me that some of it is good manure, and that some does not seem to be worth hauling—all had better be spread as early after hauling out as possible. Marsh mud should be distinguished from marsh turf. The latter, according to my experience, is of little value unless it is first burned or deposited in a feeding yard or cow-pen—but it is said that others have witnessed different and better results from marsh turf. I am told that this if dug up and immediately thrown into bulk mixed with lime in warm weather, becomes composed in the course of the season and is then excellent manure—I am now making an experiment.

Low, rich bottom land is known to all as good fertilizing matter; a great deal of it is a deposit of rich soil washed down by torrents; others of it again is gradually reclaimed grass enriched with various annual accumulations of vegetable matter. There is sometimes to be found a gravelly, poor morass, on which vegetation seems principally to be supported by moisture alone. Such low bottom lands are either worth reclaiming or hauling out. There are some things, such as cranberries and some medicinal plants that are adapted to such soils, and for such alone are they fit.

Of common salt marsh mud I have put from twenty to one hundred single horse cart loads to the acre, and the loads not large.

The mode of using marl, salt marsh mud, and bottom land is pretty much the same. All are better for exposure, and all are generally spread over the ground at all times before ploughing it, but the earlier the better. Some of the salt marsh mud has been found too acrid, and has totally destroyed all vegetation for a time where it was spread—this is probably owing to excess of salt, and the land afterwards recovers.

Of fresh water marsh I have no knowledge, but presume it is similar in its effects to, and ought to be applied as, the fertilizing matter from low bottom lands, and in the same quantity.

2d and 3d. The means of making manure may vary on different farms, but, generally, they are the same. There can be no doubt that they are abundant enough on every farm to furnish daily useful employment throughout the year. As the second interrogatory before the Board relates to the means of making manures, and the third to the system of applying them, my view shall embrace both.

The first means of making manure is littering the farm yard well where your cattle are to be fed before you begin to feed, and add fresh dry litter regularly whenever the yard becomes wet. The quantity and quality of this manure (always esteemed very good) depend upon the care taken of the cattle. Whoever designs to increase his manure and take good care of his cattle, will litter well and commence feeding as early in the autumn as the cattle can be induced to feed, giving moderate quantities of food at first—and he will continue littering and feeding always to the first of May, and as long afterwards as he can find provender and get his stock to eat it. It is an evidence of ignorance, inattention, or want of judgment, when a farmer tells you he can't begin to feed early, lest his provender should not hold out; or, that he had not provender to feed in the spring as long as the cattle would eat it—for every farmer ought to know how many cattle he has, and what is necessary to feed them well, and he should provide it. If the seasons forbid this, he should sell off a portion of his fat stock early in autumn and reduce them to the number that he can feed properly.

Proper attention to bedding horses and cleaning stables, affords the finest source of the strongest manure produced by horses well taken care of; and the milch cows for winter's use, and work oxen, which ought all to be treated in the same way, add much to the bulk of manure.

In summer, soiling horses, milch cows, oxen, (and if it can be extended to the out-cattle so much the better) furnishes much rich manure when they can be well littered, and has been satisfactorily proved to be the most

economical way of feeding the grass upon a given quantity of land. Soiling hogs too in a littered pen produces much and good manure.

In fattening hogs, as is the custom in our country, in a good sized pen, a vast deal of fine manure may be made in these pens during that period by hauling marsh turf and litter of all sorts into them, before you commence feeding, and then feeding on that—the whole becomes a mass of rich matter in the course of fattening the hogs and is in fine state, the next spring, for every purpose to which manure is applied.

In some retired spot, close at hand to the kitchen and poultry yard, a common square pen should be made, say sixteen feet square; to receive the sweepings of the yard and grounds about the house, which are to be kept clean for decency and health—to receive the sweepings from the poultry, house and yard—the filth taken from all out houses—the cast off contents of all tubs, pots, ley hoppers and vessels of every sort, meat liquor and soap suds excepted, at the times when the first is boiled up with food for pigs, and the last is particularly applied to grape vines and fruit trees, for both of which it is eminently useful. The manure collected in this receptacle is the richest of all made on the farm, and where due attention is paid to it, the quantity is incalculably great.

Whatever may be the natural sources of manure with which a farm abounds, the mode of making it in fold yards, feeding pens, reservoirs, &c. ought never to be neglected. As ample stores of manure are essential to abundant production, and as that made from the stock is among the best produced, the labor and arrangements of the farm should be so adjusted as to afford a sufficiency of labor for hauling out constantly from the natural resources, as well as for making and hauling out the manure from stock yards, stable and reservoirs. The cultivation of the earth without regularly manuring it is a misapplication of time and labor—it impoverishes man and reduces the soil instead of enriching the one and improving the other.

As to the mode of applying manure which seems to be the object of inquiry in the third and eighteenth interrogatory, much difference of opinion exists among different farmers.—All agree that manure, however applied, is ultimately useful—but as the inquiry seems to be into the application of manure to do the most good to the growing crop, this is the precise point upon which a diversity of opinion exists.

Men of wealth can by the force of money accomplish any thing on a farm that is practicable—they can buy land at high prices and expend enormous sums of money in buying

manures, and in other improvements and embellishments. However good and creditable this may be to the fortunate proprietor, it adds but little to the welfare and instruction of the great agricultural community, because few can follow such examples. To render true benefit to agriculture, plans ought to be such that the great majority of farmers may be able to adopt them—such as are within the means of ordinary tenants and farmers upon a small scale, whose whole and sole dependence is upon their farms. Whosoever will teach these men to live in comfort and to grow richer by improving their lands and increasing their crops annually will be really a benefactor.

Manure is the great agent for the increase of crops—we desire to know how we shall employ this agent to afford us the greatest yearly income. A good direction is furnished us in the maxim of a very useful agriculturist of our own time and country in this particular, which is “to extend a given quantity of manure over as great a portion of the field cultivated as possible, so as to cause the field to yield an improved quantity of crop, the ground being left better after the crop than it was before”—such a course systematically and unremittingly pursued, will, no doubt, accomplish the object of improving crops and lands. But this direction applies more particularly to the quantity of manure per acre—the question *how* and *when* it is best to apply manure, whether superficially, or to have it immediately turned under—whether late or early, still recurs—and we are also to inquire whether perfectly decomposed manure is best, or at what lesser stage of decomposition it is more advantageous to apply it.

Many farmers have thought that the sooner the manure is incorporated with the earth in the fields after it is hauled out, the more enriched the ground becomes, and consequently the more capable of bearing a crop—supposing that all exposure to sun and air caused an exhalation of its fertilizing particles.

Others on the contrary contend, that the volatile particles of manure are comparatively very small and that such loss is unworthy of regard—that the enriching qualities of manure are rather disposed to gravitate and sink, and therefore they prefer their most superficial application.

To discuss this question, philosophically is not my design. I prefer to leave that to others of more science and more leisure. I shall only offer my own experience as ascertained by my own fallible judgment and add a few suggestions.

When manures are designed to be incorporated with the earth by turning them in immediately, soil and season will produce a difference. Soil of loose texture not sandy, but

sufficiently adhesive to retain what is mixed with it, manured in moist seasons, will sooner possess itself of the qualities of the manure than close, adhesive, stubborn soils will if manured in dry seasons. The loose textured soil will permit the qualities of the manure most easily to pervade it, as it is easier to penetrate a soft than a hard body, and the moist condition of the earth will afford attractions on all sides of every particle of the manure to aid in its diffusion—the soil then that soonest possesses itself of the qualities of the manure will be soonest ready to impart it.

By spreading and ploughing in your manure as you cart it out into the field, you certainly guard against the loss of evaporation, be it little or much—and having your manure thus intermixed with your soil, the whole superficies or rather the top of your field is, for a few inches, in some degree, a bed of compost. Whether the most fertilizing particles of the manure have the greatest tendency to gravitate or fly off, I do not pretend to say—but as soon as the manure is mixed up with the soil, I conclude that the earth acts as an absorbent and that all the qualities of the manure are thus made to be diffused through and to become incorporated with the earth with which it is intermixed. Thoroughly rotted manure being most desirable, will soonest become incorporated with the earth, and will therefore be soonest ready to act—whether its action will be longest or strongest is yet to be inquired into.

Upon two different pieces of land I have for a dozen years past pursued a different course with manures composed of the same materials—taken from the farm yards and stables. One of these which was the best land of the two, and generally of a lively, loamy soil, I have carried out the farm yard and stable manure after it had been all collected together and thrown into a heap for a twelvemonth, by which time it was completely decomposed. On the other piece of land, which is generally a stiff white oak clay, I have always carried out the same manures the spring next succeeding the winter that they had been accumulated—and I am decidedly of opinion that the latter piece of land has been improved the most, and that the crop (particularly of wheat) has been quite as good notwithstanding the original disparity of the lands. The size of the fields on the two pieces of land are not very unequal, and the quantity of farm yard manure made on each not differing much. On both pieces there was a free use of marl during the time.

The application of manure on the surface as used here, is to top dress grass and wheat in winter and spring—and on Indian corn after it is up and cleared. In the case of the

wheat and grass it is completely a top dressing—but in the case of the corn, the manure is first exposed on the surface and is turned in the first ploughing that is given to the corn after it is put around the hill. That manure, thus applied, may produce improvement in both the crops of wheat and corn, may be very probable—but whether it improves it most by this mode, or by an earlier intermixture with the earth can only be determined by the distribution of equal quantities of like manure on the same soil, in the same year, on the two different pieces of land.

I have entertained the opinion that the sun and air exhaled much of the good qualities of farm yard and stable manures, and have therefore always turned them into the ground as fast as they were carted out, and rolled the ground immediately to prevent a further escape of the volatile particles. Believing too that the decomposition of my half rotted manure had better go on and be perfectly intermixed with the soil of my field, rather than suffer it to take place in its own bulk, I prefer carting it out and ploughing it in in that state, particularly as the whole is accomplished by once handling and once carting it. In dull, heavy clay soils, the action of half rotted manure in its progress to complete decomposition seems to dispose the stiff soil to become more easily pulverized. So half rotted manure on soils dry and sandy being apt to bury any crop to which it is applied, I would use well rotted manures alone upon such lands.

The turning in of green crops for manure, such as clover, buckwheat or Indian corn, to which is now added the cow pea, is by some considered an eligible plan of manuring. I have no knowledge of the effect of turning in more than two of these crops, viz: clover and buckwheat, and from these I have seen great, good effects. On soils where plaster of Paris acts certainly and powerfully, nothing can point out the road to abundance and wealth more directly, or upon less difficult terms than the use of clover, and plaster. But all depends upon doing things right. The crop of clover shades the ground well, and loses, under any circumstances, much of the foliage from its stock on the ground—it has also a large and long tap root that mellows the stiff earth by penetrating deeply into its bosom, and imparts much vegetable substance to it when it decays.—The time for turning in the clover for manure is the question. My opinion is that turning in clover as soon as it is first in blossom, as is often done, is getting but a moderate portion of the benefit which it might be made to yield if it was suffered to grow and mature completely on the ground. When the clover is quite brown, and the stalk instead of being juicy and full of water become ligorious, the whole growth imparts strong substantial vege-

table matter to be intermixed with the earth; but in its green state affords little else than water. Keeping clover up and preventing any stock from feeding on it—suffering the first crop to fall and the second to grow up through it, and so on in succession, is a certain mode of enriching lands rapidly and thoroughly. Generally, the quantity of seed for an acre of clover will not cost more than seventy-five cents, and the loss of the use of such land for pasture, before it is improved, is very inconsiderable. To compare such loss with the gain that would accrue in the increase of crops from such lands after lying under clover for two years, would certainly be measuring a trivial loss with a great gain.

Buckwheat will also render much service in this way; by seeding it early it will mature, producing a crop according to strength of land and season, which, when ripe, may be rolled down and turned in, and a second crop will immediately spring from this turning in, that may also be rolled down and turned in ready for wheat fallow that autumn. I have never known the benefit in one year from buckwheat thus managed, to be equal to that derived from clover kept up the summer and autumn after it is seeded and the whole of the succeeding year. Yet I have seen most advantageous results from the buckwheat in the subsequent crop of wheat.

I have no experience of the effect from green crops of Indian corn or oats turned in, but should suppose that little good result could be expected from them in consequence of their immature state. I know nothing of the cow pea, but could readily believe from what I learn of its growth, (rank and luxuriant, filled with leaves, growing large pods full of oily peas) that it would answer well if suffered to mature before it is turned under. Inquiry and experiment upon this subject would be well made by the board.

There is a very common pea or bean which grows luxuriantly with abundance of large leaves and long pods filled with peas that are exceedingly rich and oily when ripe, called the crowder, that I have no doubt, if used as a fertilizer like the cow pea, would be productive of very good results, and take the liberty of suggesting to the members of the Board, among their practicable experiments, to give a trial to this growth of our own country so commonly cultivated yet so little regarded, except among the laboring people as an article of strong rich food.

Regarding manure as the great and essential principle in agriculture; without which the best skill and practice must annually suffer diminution in its returns and rewards, it is difficult to account why it is so much neglected, when the means of procuring it are so various, so easy, and so ample. To ascribe it to sloth

and indolence would probably be injustice. I know no more true and rational mode of accounting for it than in our error in the distribution of labor on our farms, proceeding from another error in cultivating too much land.—The true measure of what ought to be cultivated is *what can be manured*—and if what can be manured is alone cultivated and rests under clover kept up, whilst all the other, or such other means of manuring as we have adverted to or practised upon the remaining fields in turn, the farm must be rapidly and substantially improved amply to repay all labor and expense thus laid out upon it.—*Easton Gazette.*

For the Farmers' Cabinet.
Agricultural Shows.

Agriculture is evidently attracting more attention at the present period than it has hitherto done in this country, and gives some reason to hope that ere long we shall see the farmer taking the rank, and exercising the influence in society which the importance of his occupation should command.

Amongst the measures that are inspiring with energy and vigor the action of the farmer, the most prominent, and at this time perhaps the most in favor, is agricultural displays of stock, produce, &c., of which many have been held during the present autumn throughout the union.

As an evidence of their extent and importance in Great Britain, the following account is extracted from the report of the Highland Society's Show at Glasgow, 1838.

There were exhibited of

Cattle.....	461
Horses.....	121
Sheep.....	274
Swine.....	47

Total.....903

Of competitors for other articles, there were for

Butter.....	18
Full-milk cheese.....	15
Skim-milk do.....	6
Wool.....	8
Roots and seeds.....	13
Implements.....	28

Total.....68 lots.

“The sum total collected at the gates was £246 equal to \$3700.

Of this about £30 were collected at the gallery at half a crown a head, equal to about..... 300 persons
 £10 at 1 shilling each is..... 16,200 “
 One person to take charge of each lot exhibited..... 722 “

The number present.....17,232
 Besides workmen and official people

At four o'clock the gates were thrown open to the populace, who entered in numbers beyond calculation.

Notwithstanding the great number and

extent of the exhibition, it appears that the whole business is gone through within one day.

The Show was held at the new Cattle Market, on the 27th September. The stock was arranged in classes around the yard, and when viewed from the gallery erected for the ladies had a very pleasing effect.

The seeds, roots, cheeses, and wool were accommodated in the sheds belonging to the market; and so great was the number of implements entered, that a small field adjoining had to be fenced in on purpose for the exhibition of that particular class. Large and numerous premiums were awarded to the successful competitors. The next day the comparative merits of the ploughs were tried practically and excited great interest.

Many valuable hints may be drawn from the proceeding of English and Scotch agriculturists, and it would be well for our Pennsylvania farmers to profit by their superior skill and experience.

Is not the plan of fencing in an enclosure and making a moderate charge for admittance worth serious consideration? I would throw out this hint for the Philadelphia Agricultural Society particularly; if feasible, they might profit much by it; increasing their accommodations, enlarging their premiums, and thus holding out stronger inducements to contributors. I would not wish to be considered as urging the propriety of the measure, but only as soliciting the attention of those most immediately interested. It *may* or *may not* be deemed expedient. To the Horticultural Society it is a source of great profit, and an essential means of conferring benefits.

A FARMER.

To the Editor of the Farmers' Cabinet.

Further Remarks on the Manufacture of Sugar from the Beet Root.

SIR,—Permit me to say, by way of postscript to the article on the manufacture of sugar from the beet, at p. 94 of the Cabinet for October, that the process by desiccation does not injure, as it is very generally believed to do, the pulp for feeding cattle, sheep, &c. The improved mode of macerating now in practice, leaves it as valuable for the purpose of feeding stock, as that which is produced by crushing with the rasp and pressing; after which it only requires to be moulded into form, by the power of a common press.

It is generally admitted that sugar of a better quality, and more in quantity, can be obtained by desiccation, than by rasping and pressing; but the tardy mode which has been adopted for drying the root, has hitherto operated as an interdiction to the introduction of the process upon a large scale; means of ef-

fecting this might, however, easily be devised.

I beg you to accept a free but *faithful* translation of a paper on this subject, which I have received from France. I find, by late accounts from that country, that the modes of manufacture now in operation, are enabling the manufacturers to send into the market a very superior sugar, and at a profit which enables them to cope with that produced from the cane, as well as to pay the vexatious and impolitic impost of the government, which, in its poverty, it has been compelled to levy, as a means of raising supplies.

Translation of a Circular addressed to the Manufacturers of Indigenous Sugar, by MONS. LAURANCE, GRACE PAR MAILLI (Charente Inferieusc.)

"SIR,—I have the honor to address you on the subject of a new process, for the production of sugar from the beet, which I have been fortunate to bring to perfection in this, the conclusion of my crushing season. It is based upon my plan of late years, but being ignorant of chemistry, it has employed me many hours before I could bring it to that perfection which I have the confidence to believe will, in the end, cause it to be adopted by all fabricators of indigenous sugar. It is an extraordinary fact, which has put to fault all science, that from one thousand pounds of pulp, the juice of which is 5° by saccharometer, I obtain nine hundred and ninety-two pounds of juice at 5°, and four hundred and forty-four pounds at 2.50°, and I offer to prove this, mathematically, publicly or privately.

"Consider, sir, the great advantages which must arise from this discovery. In this process no more lags, no more clais, no more powerful hydraulic presses are requisite, and the whole apparatus for the manufacture of four hundred hectolitres in twenty-four hours, will amount to a very small sum—no fear of fermentation, even after twenty-four hours extraction of the juice—the bad roots can be used as well as the good;* the work, simple, and more easily performed, than by the usual method: the defecation, concentration and finishing being performed over naked fires with the greatest facility; the pulp, equally fit for cattle, after being pressed properly together. I will warrant that the yield shall be greater than what has hitherto been obtained by any other process. You will perceive that I obtain more than one hundred per cent. of juice of undiminished weight, and this must give a great and profitable result; but you will understand why I do not give the result in figures, as so much must depend upon the *quality of the beets*; I only warrant

* This is unnecessarily good.

that every manufacturer shall be satisfied with the results, in that he will be able to obtain even a very fine *third* quality of sugar."

The process above mentioned is conducted by desiccation and maceration; but when Mons. LAURANCE proposes that the concentration and finishing should be carried on over naked fires, he displays an ignorance of the value of steam for this purpose, which, in such a person, is scarcely excusable.

JAMES PEDDER.

Philadelphia, 19th Nov. 1830.

From the Franklin Farmer, published at Frankford, Ky.
Breeding and Rearing Swine.

For economy, I would advise the farming community to select out of their herd of swine, every spring, as many female pigs as they may think will produce them as many pigs as they may be prepared to rear through the winter for family or market use, and to have this lot of young sows kept in a lot sufficiently close to prevent males from getting to them. Should the grazing on the blue grass or clover not be sufficient to keep them in a good healthy growing condition, I would advise a small proportion of corn, given regularly morn and noon, to assist their regular growth. And as I have, from my own experience with a lot of eleven head, having only ordinary blue grass woodland pasture, made a regular practice morn and noon, of giving them eight or ten ears of corn at a feed, I can say with safety, by so doing you will be well paid for your husbandry. Your sows will have health, good sleek coats of hair and good stamina, and they will not be hurried, in their growth—then the animals will be much more capable of propagating. Young sows kept in this way, will weigh from 120 to 160 pounds when about eight months old.

Sows are susceptible of conceiving when four or five months old; but for better size and form, I would recommend not to breed them until they are about eight months old, that their first littering will be when they are about twelve months of age. Sows impregnated from the 20th to the last of December, will bring pigs from the 10th to the 30th of April, as the period of gestation is about one hundred and twelve days. I have a number on record of the above age, and find their produce to be from eight to thirteen pigs a litter. I know the usual wants of the farmers, by hearing them frequently observe, by their fireside, "let me have my stock of pigs to come the first of March," and at the same time, unconscious of the danger of severe storms and cold blasts in March—and the little economy they have in providing shelters for their sows—frequently lose their entire stock of pigs, which is of no small value to a

farmer that has his plan laid out to rear a great number of hogs, consequently must buy a stock, or sell their grain at reduced price. I have experienced the loss more than once, to a considerable amount, consequently I have postponed breeding, as before mentioned. Thus I have the security of better weather and the benefit of vegetation, which has a good tendency to correct any indisposition in sows, which frequently occurs in animals as well as human beings. They are subject to inflammatory colds, and fever succeeding, dries up their milk, the pigs perish and death intervenes. To insure the farmer a quick and rapid growth in his lot of pigs, let them come about the last of April, (say 20th,) which is far preferable to March pigs, which have sustained much injury while very young; stunted by frost and hunger, they cannot be well resuscitated by the best of attention afterwards.

In an ordinary way, sows suckle their young in the spring from six to eight weeks, but in the fall the sows frequently wean their young in about six weeks. I would say, to make your pigs thrive and grow on without much injury in their looks from weaning time, the better way is to prepare a covered pen for your pigs, and have a hole sufficiently large so they can go in and out at pleasure, and always keep shelled corn by them. Be particular to commence thus feeding when they are about three weeks old, and it will aid the sow in rearing them—consequently they will wean them kindly, and grow on without any ill effects which are common to weaning. These pigs will have age and sufficient growth by good clover and blue grass—will winter kindly, which will insure the farmer a regular growth in his lot of hogs by the common mode of corn feeding, or following corn-fed cattle, the excrements they collect from them are equal to cooked or steamed malt. After weaning their litter of pigs, I would advise all the old sows to be spayed, while reduced in flesh by suckling, as the period is most favorable. A careful hand performing the operation in the left side, I seldom or never lose any of that age and healthy rearing. They will fatten kindly, and make about as much weight at selling time as their brothers of the same litter. You now perceive I do not winter any hogs more than one winter. I can say from experience that sows with pig winter better than barrows. They should be kept in a large woodland pasture, if practicable, by themselves, to prevent any injury from other hogs. Be careful to have a house or shelter to protect them in inclement weather. Continue to select every spring the best female pigs out of your litters, as many as you may think will produce as many pigs as you may want to breed

from, and by so doing you may rear your hogs on your farm at a moderate calculation of 20 per cent. over and above the prevailing practice of the day. As in the common way the farmer has his males and females running together at large, then they may expect to have litters of pigs every month in the year; the unevenness of the lot of hogs, and consequently the stronger will be certain to abuse the weak, (a hog is a hog by name and nature,) and having masterly strength, and in all cases the weaker are driven from their food and comfortable shelter in the forest; and in many cases we have a proof of the uneconomizing rural system of our farmers, by having all sizes and ages. In our usual winters we see the small class of hogs, when pinched with cold, deep snows and wet weather, fall victims of death by smothering and suppression by the larger class being with the small ones. On all occasions hogs ought to be separated and classed according to size, and kept in the woodland pastures where they may provide shelter in the forest foliage. Every farmer should provide himself with hog-houses in his woodland pastures, where they can get the foliage of the forest to make their beds. The best place for these houses should be selected on the south or north-east side of a hill, so as to receive the warmth of the sun in the winter, and on a moderate slope, so as to drain off the water, and that the sun may the better dry and warm the earth. As to form I am not particular, but always recommend the shelter to be close and dry; to aid in keeping dry much care should be observed in trenching around the house to turn the water.

Rearing a herd of blooded female swine; spring and summer treatment; breeding and winter treatment.—They should be left in a lot sufficiently large for exercise, containing plenty of water (for wallowing) and shade. If the grazing is not sufficient, I would advise a little corn, dish-water, slops and soap-suds, mixed together, to be given them, so as to keep the animals in a good healthy look, but by no means like fattening, to hurrying them in their growth.

My practice for winter treatment. After my sows are all pregnant, if practicable, I always have a large field of clover or meadow for their grazing, or put them on rye or wheat fields, and let them graze about twenty-four hours, twice a week, when the snow is off the ground; always providing a comfortable dry shed or houses for them, having a regular time for feeding, (morning and evening,) and if any animal stands in danger from the want of regular feeding while pregnant, it is the sow: and there is great danger of their being fed too much at a time, by careless or inexperienced servants, which is

apt to produce abortions. Another cause is the severe weather on sows, snow and wet weather, when they have frequently to make their beds in the snow, and sometimes in mud and water—when shelters are not provided for them; this is the cause why we so often hear our farmers say all their sows have slunk their pigs, and shall have no pigs in the spring, and another cause still more particular, I leave to the careful to observe; when my sows are half gone with pig, (sometime in February,) without fail, I separate my sows and put them in lots (four or five in number) to prevent from laying one upon another along in February and March, cold snowy spells, which causes them, by oppression, to miscarry. This is the time that the greatest care should be taken with sows, as the period of littering is close at hand, for if they should miscarry, you have again to breed them, when their pigs will come late and much time lost.

Breeding of blooded Sows.—When they have attained to the age of eight months or thereabout, my practice is to breed them between the 1st and 15th December, so as to make their littering to the latter end of March, and by having shelters or houses for their littering in, I can venture breeding sooner than I would otherwise advise. I can rear this litter and have my sows stunted to boar, and bring the second litter in and about the first and middle of September, so as to have time to rear them, and so they will stand the ensuing winter. Then my sows can have about a month's rest until the 1st of December, which I very much approve of for breeding again, and by so doing I have three litters in the period of twelve months. You now see the months I prefer for my blooded sows to litter—the end of March and the 1st of April. The second litter from 1st to 15th September, and the third litter the latter end of March and 1st of April, which makes the period I have noticed. In stinting my sows to the boar according to the time mentioned, I have been very particular to aid my memory by committing to writing the time when they were stunted, and the mode of stinting. I was in the habit of the old custom in my first beginning of doing business in this way. I soon saw there was an error somewhere, and my intentions were defeated somehow—as I would reserve my lot of common sows to be bred in December, so as to bring the pigs the 1st of April, when the weather was warm, and the old custom would be to let the boar go with some twenty or thirty sows, with the expectation of having a lot of pigs of one age, and in a common way there would come in season at one time, in all probability, one-third of the sows. Admit the boar to be in good health and a full flow of animal spirits

and strength, he will soon by severe service be impotent, and consequently only the first few sows may be impregnated. The sows will in all probability continue to come in season, and the boar still reducing every day, and yet his lasciviousness keeps him incapable of being fruitful. Hence, I found by experience, my sows were unproductive, some having two or three pigs, and they coming in much later than I expected, consequently I would recommend one boar to every ten sows, where you want all your pigs of one age and of good size. Of all the animal creation that I have any acquaintance with, the boar and ram will loose their juices faster from gendering. I will aver that a boar may be in good health and high condition of animal spirits, and just let him with a lot of sows twenty or thirty in number, and in four weeks time he will lose one hundred pounds weight, and you may feed him with what corn he may want to eat.

My young maiden sows I hardly ever permit to be served but one time; my reason for this is that the old boars are too heavy and strong for them. I disapprove under any circumstances, of letting the male to a sow more than once when he is in good order. I recommend an aged male to maiden sows in all cases, to secure large, sprightly, and well formed pigs, and more prolific. I have kept a true account heretofore, of this practice. I let a lot of seven sows run with the boar until they have done with him, and kept their several dates. I also had a lot of young and old sows. I let the boar out of his pound and let him serve them once a piece, and kept their several dates. There was but one out of the six that did not stand, and out of the lot of seven there were two which did not stand. The lot of six produced from six to eleven pigs apiece, and the lot of seven did not produce as many pigs by four as the six. I kept both lots in the same manner with care, and they answered their several dates in littering, the period of gestation being about sixteen weeks. If you stint your sows to the boar only one time and you keep her in a lot to prevent other males, and she stands, she will be very sure to bring forth in from 111 to 113 days; but if permitted to run with the boar when she is in season until she is done, I have recorded a number of instances and dates where they have varied from the set time of 111 to 116 days. This convinces me of the injury the boar sustains, and the sows receive no benefit. From his masterly strength she is constrained to do what nature does not desire, therefore the great discrepancy in the supposed period of gestation.

Particular feeding.—I have always given my sows dish-water slops, when practicable, through the winter, in a trough, sufficiently

long, that they may all feed out of it without scuffling, with a pole confined on each end of the trough, and also to keep their feet out of the slop and keep them from fighting and slipping over the rotundity of the trough. The ammonia in the dish-water will suit impregnated sows much better than strong salt. I had twelve head last winter in the severest weather and deep snows; I never gave but three ears of corn to each head, morning and evening, and when the snow was off, my feed was from one to two ears to each head, morning and evening.

Treatment.—When in some two or three days of their littering, I always separate my sows and put them in sheds or houses by themselves; I prepare leaves for their beds, if practicable, as I prefer them to straw or hay; they are light and warm, and there is no danger of the young pigs getting entangled, as they do sometimes in straw; being very weak, they die before they get to the teat; now whilst confined before littering, give them two ears of corn morning and evening, and a plenty of water until they have farrowed. After they have littered, give nothing but water for twenty-four hours; then give two or three ears of corn night and morning, for some four or five days—never give rich slops for some four or five days before littering, for they are not in good health, but feverish, &c., and rich food will increase the fever and swell the teats, so that the pigs cannot draw them, more especially in warm weather.

I have known instances of the milk entirely drying up from fever, and the pigs die for the want of it. Our affection frequently takes precedent of reason, by giving in to supposed calls of nature, therefore many feed their sows on the richest food immediately after littering. It also produces that very injurious disease among the pigs—scours.

Treatment after the pigs are some five or ten days old.—The sows should be kept separate from each other at least ten days after littering, to secure the pigs' affections to their own mother, and to prevent them in large herds of pigs from this evil, which is so common when the sows are permitted to run and litter together. The strong pigs will suckle all the sows, for their superior strength will force the weaker and younger from their teats, and consequently soon become puny and weak, which if kept as I have described, has a good bearing to prevent them. I can say from experience, that every pig will have their own teat, and regularly as the sow call or permits them to suckle, they will return to their own, unless forced away by the stronger. My practice is, after they have arrived at the age before mentioned, to put them in a lot of grass sufficient for their

grazing and exercise, with a plenty of shade and water, if practicable, and always keep other stocks of hogs away from them of any size, for the purpose of keeping the sows from fighting, and running over and crippling the young pigs, which is pretty generally the case if they are permitted to feed with the sows and pigs. I feed my sows while suckling with as much corn as they will eat up clean, and always if possible put the corn on smooth and dry ground for them. As for economy, from experience, I can say I am well paid for my husbandry, to have houses and sheds for winter feeding. My summer and fall feeding of slops to my sows while suckling their pigs, is done in the following described manner; have two barrels or tubs placed convenient to the troughs, then put into each barrel two pecks of rye and one peck of corn meal, one of wheat bran, then fill the barrels with kitchen slops and soap suds; when not enough of this, make up the deficiency with water, frequently stirring it with a paddle, and in twenty-four hours by a summer heat it will be about as acid as common still beer. Commence slopping out of one tub the first day, leaving some of the slop in the tub to retain the acid for quick fermentation; the same evening fill up this tub again for the third day; now commence slopping the second day out of the tub, and re-fill in the evening as you did the first; now you have both your tubs fermented and a body of acid in them, you must keep it up by filling one every day; renew the meal and bran every two or three days by putting in one peck of the three kinds mixed together in each tub, in the same proportion to the first put in. From this quantity I fed five aged sows and thirty-one pigs three times every day, which took about twenty gallons altogether, leaving in the tub about twelve gallons to fill up on. I continued slopping them in this way for seven weeks, which was about weaning time. In this time they consumed about twenty bushels, and at an average cost of fifty cents per bushel, they cost ten dollars expended in meal and bran. From these pigs I sold three hundred and ten dollars worth, leaving me some five or six pigs on hand.

Description of the Russia hogs.—Their color is generally white, with long coarse hair, their head is long and coarsely featured, their ears are not so broad as the common variety of the country, yet longer and narrower, and come regularly to a point, projecting forward, and they do not appear to have so much command of them as other breeds; they have fine length and height, their bone is large and fine, they stand well upon their pastern joints and trackers; quite industrious; they are thick through the shoulders, indifferently ribbed, (or suddenly inclined

down,) their plate or kidney bone rather narrow and ovaling than otherwise, hams pretty good, though not so good as the Irish, Bedford or Berkshire, yet preferable to the variety; they do not graze so well as many others; they want more time to bring them into market than the above named breeds. Give them from eighteen to twenty months age, they will make very large hogs; they are quite prolific, their usual number is from nine to twelve pigs a litter. I have found their cross with the named breeds to be a valuable acquisition to their grazing, aptitude to fatten, and rapid growth at the same time.

Rearing, treatment and management of thorough bred male hogs.—To ensure good size, form and fulness in their hams, straight in their stifle joints, and to give a good and regular growth, I seldom or ever suffer my boar to serve a sow until he has arrived at the age of eight or ten months, and older if possible. I give them a lot sufficiently large for exercise, and give food enough to keep them in a high state of flesh while growing; by so doing, I have no fears, from past experience, of injuring their libidinous propensities as so much objected to by aged men, who pretend to be hog growers in Kentucky. By this mode, I am satisfied that you will have stronger, more vigorous, active and regular sized pigs in every litter; and furthermore, you will find your sows in littering are not so apt to produce pigs dead, *fitty* and feeble, as when got by a young or poor boar. In this way I breed them, and, according to my former view, never suffering them to run at large with spayed sows, &c. I believe by this treatment they will be good producers for ten or twelve years, if not longer. They are dangerous animals, and should not be permitted to run with horses and cattle.

This is the practice that I have adopted and shall follow, unless I see some further information from the pen of some other writer upon the subject. I am always open to conviction, and willing to receive instruction, and will not spare time, trouble and expense to procure correct principles. I should be pleased to see some writer who has the weight and benefit of years and experience on his side, that I might look up to as a son to a father, for further information, as I am but yet in the morning of life. I feel much delicacy in coming out in the columns of a public agricultural work, but still, from solicitation, and as a friend to the cause of agricultural pursuits, I have ventured. We find recorded in the book of Genesis, chapter iii, verse 23d, one of the first commands that God gave to man—"to till the ground from whence he was taken."

JAMES E. LETTON.

Millersburg, Ky.

Turneps, Beets, &c. for Seed.

Roots, intended for seed, should not have their tops cut off nor their leaves torn off. The leaves should be carefully cut off with a sharp knife a short distance from the top or crown. We have seen ruta бага and other roots set for seed that had the tops cut off so close that they produced but very little seed. No branches could start from the crown of the root, which generally produces the most vigorous, and only a few feeble ones from the sides.

Roots often decay, from exposure to air and too much heat during winter, so that their life is nearly gone and they are of but little value for seed. They may generally be kept in a good condition by being packed in boxes, casks, or bins, with layers of pure earth or sand; this will protect them from the air, and prevent their heating, and as they will not be so likely to freeze in this condition, they may be put in a cold part of the cellar, and suffer less from heat than those roots that are exposed.

We have preserved roots in fine condition by digging holes in dry ground about three feet or more deep, and two, three or four feet diameter, according to the quantity we wish to put in one place, then placing alternately a layer of roots and a layer of earth until the roots are as near the surface as they can be without risk of freezing; then throw on the rest of the earth, heaping it up in a round pile over the roots, and pound it down close with a shovel so that it may be hard enough to throw off the water; and for further protection against water, as it will in powerful rains wear away the earth, it is best to lay a few pieces of board over it in a slanting manner.

At the base of this heap of earth, which should extend a little outside the hole, a small trench should be made to carry off the water that runs down from the heap, or may run towards the place upon the ground. We have saved roots in this way so that they were in as fine condition as in the fall. As they hardly touch each other they keep as well as though they grew deep in the earth, and remained through the winter; in some winters when the ground has frozen little or none as it was protected by snow, we have observed that roots a little below the surface were in good condition in the spring.

Some persons have recommended preserving roots in this way, excepting instead of earth among the roots to prevent their heating they advise making a hole at the side to let off the heated air and fill this hole with straw to keep out the cold air.

We cannot determine how near the roots may be to the surface without freezing; in

some winters when heavy snows come before the weather is very cold they will be safe within a few inches of the surface; again if there be no snow to protect them, and the cold is very severe, the roots are liable to freeze two feet below the surface, perhaps in some seasons more; so it is best to prepare for the worst. In the same ways that we have named, roots for eating may be well preserved.—*Yankee Farmer.*

Warm Houses for Cattle.

It is evident to every observing farmer that cattle ought to have a warm house during the winter in our cold climate. Much less fodder is necessary to support cattle and keep them in good condition if they have a warm place in cold weather. If an animal is in a barn or stable through which the wind can whistle, and the snow drive, in the severe weather when man needs his woollen garments, close rooms and a good fire, to keep him comfortable,—surely they must suffer, and while suffering they cannot thrive, and a large quantity of fodder will be necessary to support life.

But in making the cattle house warm, it must not be forgotten that animals, as well as men, need pure air to breathe, and a number of large animals require a large quantity of this requisite of life. To give the advantages of a warm house and pure air for respiration it should be open in front, at least for a few feet in width, near the heads of the cattle and all other parts should be made close and warm as possible.

It is very important that the cold air should be excluded from under the house, both on account of its rendering the cattle uncomfortable and causing the manure to freeze to the floor. Some sheds in which cattle are sheltered are left open at top, when they might be rendered comfortable in a very little time by laying even a coarse floor and throwing some fodder on it. When the boarding is open, the *tie up* may be made warm for a time by plastering with green manure, and this method, with close attention to repairs during the winter, is much better than none in keeping the poor animals warm; but the better way is to have a good tight boarding or some battens to stop the cracks, as these will be permanent improvements that will save more than twice the expense in one season.—*Id.*

If you wish to preserve fine teeth, always clean them thoroughly after eating your last meal at night.

Add not trouble to the grief worn heart.
Better to be alone than in bad company.

Transplanting Trees.

The planting of trees, either fruit or forest ones, though too much neglected by farmers, is at times practiced by most of them, and should be so conducted as to not only preserve the tree and prevent the entire loss of the labor, but also to afford it the best means of a rapid and healthy growth. Trees may be transplanted at any time while the sap does not flow, a period among deciduous trees marked by the fall of the leaf; or from October to April, but the time generally chosen is the spring. Convenience, however, should be consulted in this matter; as from the full employment of time in the spring months, the operation is very hastily and imperfectly performed, frequently to the injury or loss of the tree.

In transplanting trees as much of the dirt should be retained on the roots as possible.—This will prevent the drying up of the small fibrous roots, which are indispensable for the nourishment of the tree, and will in part prevent that shock which all plants experience more or less, when removed into a soil unlike that in which they have grown. The long roots, of course, must be cut off, and in fruit trees, those that penetrate directly downwards may be spared without danger; but in forest trees the downward shoots should be retained as far as they can be. It is the custom with many in setting out trees, to dig a small hole, but far deeper than that in which the tree has formerly stood. Into this deep hole the roots are forced by bending, twisting and treading, the dead earth is shoveled in upon them, and the trees are left to their fate. Instead of its being a wonder that many perish under such treatment, the wonder is that they survive.

When trees are to be transplanted, the hole for the reception of the roots should be broad but not deep, as no tree when it is removed should be set in the earth more than a few inches deeper than it stood before. The vegetable mould and rich earth of the surface should be retained for placing on the roots of the tree, and if there is not a sufficient supply of the proper kind, it should be brought for the purpose. The tree should be removed and placed in the spot dug for it with as little disturbance of the rootlets as may be, and without any bending or bruising of the larger ones. If these are too long, they may be cut off, but all should be allowed to remain that the pit will receive. After being placed, the best earth should be thrown on the roots and shaken or gently pressed down till the whole are covered, and the hole filled.

It is necessary that the tree transplanted should be kept firm in the earth until the roots have time to fix themselves, or it will be lia-

ble to be loosened and blown over by the winds. To secure it in this respect, some have recommended that a stake or stakes should be driven into the ground, the top inclining towards the tree, to which the body is to be tied. Others, and the practice is generally followed among European planters, place three strong sticks in a triangle form across the roots of the tree, the angles being secured with a stout wood hook driven into the ground, and thus all shaking or injury from winds is averted. McKnight maintained that in transplanting trees, the greatest care should be taken to give them not only the same kind of soil, but the same exposure, and that the side of the tree exposed to the sun before planting, should be so placed as to receive its most direct rays afterwards.

Evergreens require a different treatment and a different time of transplanting from those that shed their leaves in the fall. The best season for transplanting such is in the fore part of June, or latter part of May, but without some preliminary measures many so removed will perish. It has been recommended, and the method when tried has proved very successful, that some two years before removal, or one year at least, that with a sharp spade, all the surface, and most of the other roots, be cut off at the distance of two or three feet from the tree, and that it then be allowed to stand undisturbed till wanted for removal. The result will be, that the earth near the tree will be filled with abundance of fine vigorous roots, and if, when taken up, proper precautions are used in lifting it from the bed, it may be removed without the least danger, or scarcely retardation of its growth.—*Farmers' Visiter.*

From the Gardeners' Magazine.

On preparing Ice and filling an Ice-house, so as the Ice may keep for two or three years. By Mr. JAMES YOUNG, gardener to Henry Smith, Esq. of Wilford-house, Nottinghamshire.

SIR,—None of your correspondents having laid before us the proper method of preserving ice, so as to keep in an exposed situation through the hot months of summer, for one, two, or more years, as may be required, I now venture to do so. Most gardeners who are in the habit of laying up ice annually for summer use, complain of its melting away too rapidly. This, I presume, is owing to the method they practice to preserve it. To remedy this evil, the method which I have practised for a considerable number of years, with gratifying success, is as follows:

In the month of December or January, when the water-pools are frozen to a sufficient thickness, say one or two inches, proceed to

break the ice in pieces, and draw it off the water with iron hooks, conveying it to the ice-house in carts, as quick as possible. Before throwing it into the house, three or four men should be employed to break it in small pieces, about the size of common road metal. Then carry it into the house, where two men should be again employed in pounding it almost to powder. Lay the bottom and the sides of the house with a layer of wheat straw three or four inches thick. After there are about two feet of ice thus pounded, take ten pounds of salt, and dissolve in ten gallons of boiling water. When the salt is sufficiently dissolved, pour it on the ice through a common garden watering-pot; thus going on regularly every two feet, watering, and laying the sides with straw till the house is filled, finishing with a double quantity of salt water. After it has been in eight days, and when it has subsided, fill up closely with small bundles of straw, to exclude all air as far as possible.

¶ An ice house filled in this manner will be found, when opened in summer, to be as firm as a rock, and to require at all times the force of a pick-axe to break it up. It will be found to keep three times longer than the common method of filling ice-houses, and is more suitable for being received from the ice-house for use, as it will keep three times longer when exposed to the air. I was induced to try the above method, on account of our ice-house being placed in a very exposed situation. The sun shines from rising to setting on it, and it was found impossible, before adopting this plan, to keep ice above a year, and now it keeps three years, and the last of it is as good as the first. I remain, sir, &c.,

JAMES YOUNG.

Wilford-house, Sept. 5, 1839.

Preserving Roots.

Every person that has a family should lay in a good stock of roots for winter, whether he raises them or not; if he raise them, the best should be selected in the fall and properly preserved; and if he has to purchase them, then he should do it while they are in good condition, and save them well, instead of buying them after they have lost much of their good qualities, as is the case when they are saved without proper attention.

Beets, carrots, turneps, parsneps, &c., are often put into the cellar without any protection from the air, and they soon become dry and poor, or they may be put in large piles in a warm cellar and heat, and thus become poor. These roots of the proper shape and quality, should be selected very soon after they are dug, and saved in pure earth or sand. If there be a convenient place to lay them on

the ground in a bin, or corner of the cellar, in small quantities, they may be saved well by covering them well with earth; if the quantity of roots be large, there should be alternate layers of roots and earth. If it be convenient, it is as well to put the roots in a close box or cask, first a layer of earth, then one of roots, and a good covering of earth on top. Either of these methods may be followed, as most convenient. The roots are best saved by being embedded closely in earth and having enough to cover them to prevent its drying readily.

When roots are covered with earth, they may be saved in a cooler cellar than when exposed, as they will be much less liable to freeze, and when thus protected they keep better where it is tolerably cool. Any pure earth, having only a common degree of moisture, is good for saving roots, and will answer about as well as sand if it be fine, so that it will run down closely and cover them. A person living in a city and having only a garden spot, can generally get good earth for this purpose, by removing the top as far as it has been cultivated and taking up the pure soil below.

Most farmers have good cellars in which they can lay their potatoes on the earth, and by keeping their cellars shut close and free from light, they usually save their potatoes well without covering them, but they must not infer from this that other roots may be kept well in the same manner, for as they are more liable to injury from being dried and exposed to air, they should be protected with more care.

We have known good turneps and beets become very poor in a few months, when with proper care in laying them down in earth they might have been kept perfectly good till warm weather. We had some early garden stone turneps last fall, which kind is of as transient duration as any kind cultivated; we put them in a barrel with layers of earth, and they were excellent the first of May; they continued good till the warm weather caused them to grow.

Most persons that raise parsneps let them remain in the ground till spring, and then they can have only a few messes before they begin to grow; instead of this way, a part should be dug and put in the cellar, packed in earth, that they may be used as wanted through the winter.

The best roots for eating are of a small or middling size; the large ones should be given to stock. Turneps that were sown late and have acquired one-third or one-half the usual size, are of a much better quality for present use, and they keep far better than those that have a full growth.

There is generally time enough to raise

turneps for winter use after digging early potatoes. Some of sufficient size were raised in that way last year, and we have seen some this season that have already attained a good size for eating, on ground that has produced a crop of potatoes; and they will probably grow a month or more yet.

“The Cultivator’s Almanac and Cabinet of Agricultural Knowledge, for the year 1840, by WILLIAM BUCKMINSTER, Esq., Editor of the Boston Cultivator” is before us. It is neatly got up, as the phrase is, and we think it must give general satisfaction. It consists of one hundred and twenty-four pages, including the Calendar, which is calculated for Boston, New York, and Washington City. The few tables given are replete with interest, and the great part of the reading matter is such as to commend it to the notice and favor of the practical farmer, and all who desire to improve in the arts of agriculture and husbandry. D. H. WILLIAMS, Boston, is the publisher, but we learn that the work may be obtained in this city of Mr. PERKINS, Chestnut street. We extract a part of the notices for the

Month of January.

With the month of January we commence the year. The Romans commenced it on the first of March. July took its name from the great Julius Cæsar. August from Augustus Cæsar. September from the numeral *septem* seven, being the seventh from March. *Octo*, eight—*novem*, nine,—*decem*, ten, furnish the other numeral months.

January is usually our coldest month, though sometimes we have a day in February as cold as any in the season. In December, with our shortest days, we seldom have the coldest of weather. The heat of the summer has not all passed off, and warmth is ascending from the earth to mitigate the severity of the frost.

FROSTS.

Philosophers have sometimes disputed on the question whether frost was a positive or a negative quality. COWPER exclaims,—“What art thou, Frost?” These were times when men disputed much upon words, and could hardly hope for any useful result from their discussions. BACON led the way of inquiry into the nature of things and of course thought less of the terms made use of, provided they conveyed the proper ideas; and philosophers now, instead of inquiring whether cold is a negative or a positive quality, are

searching into the bowels of the earth to ascertain the cause of the heat which uniformly increases as we approach the centre.

GEOLOGY.

Modern geologists contend that our earth was once a ball of liquid lava, and that in a course of time, passing through a cold sky, its outside has become so cool as to form a shell or crust hard enough for mortals to stand upon. That the eruptions of volcanic mountains are caused by the contraction of this cooling shell, making a combined pressure on the heated liquid below us, and causing it to burst out at the various crevices, which are usually mountains thrown up in the early stages of this crusty formation. It is an ascertained fact that the deeper we descend into the earth the greater the heat, increasing about one degree to sixty feet, and that we should therefore not be in much dread of the frosts of January, if we would first step down one single mile below our customary platform. If the doctrine be correct that our earth is still growing cooler, we may, by and by, wish to creep a little below the surface to enjoy a portion of this rarified atmosphere in the absence of the sun: as the Esquimaux Indians now do when they are deprived of its rays.

SPORTS OF WINTER.

Winter brings joy to the youth who are not at that season so much confined to labor, and they hail its return with quite as much zest as the aged do the return of the summer season. The sleigh ride and the skating frolic are sports in which the frost must always have a share, and it is always made welcome to the young. Winter has its comforts for the adults also. The long evenings favor the social visits of country people, who often, without a formal invitation, take up their abode for the evening in a neighbor’s house, and “talk the night away,” at least in part, over a social fire—in an open fire place,—that gives light to the whole room. Here farmers will talk of their modes of management, of their stock, of their grain, of their vegetables, and of their year’s store of meat, salted up safe in the cellar: and they enjoy a feeling of independence unknown to him who must first seek employment, then his compensation, then the best market to lay out his cash in, from day to day, to support an anxious family. When the good husbandman has laid up his stores for the season, and feels within himself that he has provided comforts not only for himself and family, but for his cattle and all the brute race on his farm—that he has fields of his own that will always, with a common blessing, yield him an abundance of the good things of life—that the failures or the misfortunes of those engaged in more uncertain pursuits need not,

in any great degree, affect his business—he feels a degree of security and of independence unknown to most other classes of society.

DEPENDENCE USEFUL.

Could the farmer live wholly within himself—could he manufacture so as to supply all his wants and not feel under obligation to any for the necessaries or the luxuries of life—did he want no favors from a neighbor—the tendency of such a state of things would be to exclusiveness, selfishness, and even to moroseness. And Providence has wisely provided that we shall be dependent on each other. There are undoubtedly evils attending on the independence of which we have spoken, and the independent farmer is almost the last man to attempt to make any improvement in his condition; one reason for this is, he feels less in need of improvement in his outward circumstances than most other people. Independence to a certain extent is a useful trait. It is desirable that every one should be so independent as to think for himself and to act freely; but a stiff and surly independence is not a virtue. It is too closely allied to selfishness.

FUEL.

In our climate we need parlor fires more than half the year, and as our cities and towns multiply and extend we should also multiply the quantity of fuel. Instead of this we are clearing off our forests and converting them into pasture grounds. The forests of New England have supplied us with the principal portion of our fuel, but they would soon prove inadequate if we had no other sources. Our improved methods of cutting will serve greatly to increase the supply, as a great revolution in opinion has taken place within thirty years. Now the practice of cutting the large and small wood clean is almost universal, though we sometimes find a veteran who adheres to the old mode of singling out the oldest and the decayed trees of his forest and trampling down a hundred young ones in hauling it out. We now cut every tree small and great, and find that the small stumps very generally send out new shoots, and often ten for one.

PIT COAL.

This is an article which is now very generally used in our cities in cold weather in preference to wood. We remember when none was used except the English Liverpool coal, and this was brought here as ballast for vessels and could thus be afforded at a price which was not thought extravagant. We have not yet discovered any native coal so full of bitumen and affording so much blaze as the English coal—or sea coal—as it was called. The mines now discovered in Pennsylvania and in many of the western states seem in-

exhaustible; and it is probable that pit coal will be the principal fuel of our cities. Some mines have lately been opened in Massachusetts and in Rhode Island, and it is hoped we shall at length discover those of the first quality.

PEAT.

This substance has been used in many parts of New England, as fuel, for some years past. Not much of it is brought into the cities and towns, but it is found a very cheap and useful fuel in the country, when it is mixed with wood. When burnt alone it makes a slow and very lasting fire, and it is excellent to preserve a moderate heat for a great length of time. It is much used to preserve fire through the night—one lump as large as a couple of bricks having been known to retain fire for at least three days. Many cords of this may be dug up on one square rod of ground, as we can often go several feet deep. This substance is formed principally of the vegetable growth of low lands. Grasses and bushes growing to the surface of the water in a small pond have been known, in a few years to make such encroachment from the banks as to usurp entirely the site of the pond. A perfectly level surface is thus formed, and such meadows are now often made to produce the best of English hay.

CHESTNUT WOOD.

The chestnut is found an exceedingly useful tree in New England, though it is not the best of wood for fuel, but as its price is more than half that of walnut or of rock maple, and as six cords of chestnut may be grown sooner than one cord of walnut, a chestnut lot is much more valuable even for fuel than is a lot of walnut.

But the durability of this timber, and the ease with which it is cloven into posts, rails, stakes, &c., constitute it one of the very best articles for wooden fence. A chestnut rail kept up from the ground, but exposed to the weather, will often remain sound for seventy-five years. Sprouts from the stumps of these trees spring up with great rapidity, and often attain to the height of ten feet the first season.

FODDERING CATTLE.

Various modes of managing cattle in winter are adopted by farmers. In some of our coldest states, Vermont, New Hampshire, and Maine, cattle are often allowed to be out during the night, or are barely sheltered by an open shed. And it is believed that young cattle are better wintered in this way than when tied fast to a standsh, and shut up close in a stable. When habituated to it, they do not appear to suffer from the cold, provided they are sheltered and protected from the

winds. They should always be sheltered and protected from rains and storms, and their yard should lie on the south and east side of the barns and sheds. Under these shelters they always appear more comfortable than when ranged in a stall where they are obliged to lie down in their own filth, which often covers them with an unnatural and burthensome coating of an inch in thickness. Good racks should be provided when cattle are fed in yards, and not much of the fodder is wasted. As we often keep young cattle on the poorer kinds of hay, or straw, &c., they are found to eat those better when at liberty than when confined where their breath makes foul any mess of fodder placed before them.

MANURES OF WINTER.

When cattle are tied up in stalls, the manure which falls from them must be thrown out daily. This is exposed to the freezing and the thawing of the winter season, and there can be no doubt it is much injured in this way. We find that lumps of manure that have been frozen and thawed a few times are nearly destitute of perfume, and therefore must have lost much of their virtue. Cattle, left loose in a yard, on the other hand, trample down close all the manure among the scattered litter, and it is not subject to such exposure to the weather as that which is thrown loosely out of the barn. Then in the one case we catch all the liquid portion of the manure, which is absorbed in the litter and in the soil placed in the yard for that purpose—in the other case we lose most of this liquid, which is quite as valuable as the other part of it.

LICE ON CATTLE.

Some ingenious men have given directions for building racks in such form as to keep the hay seeds and the chaff out of the heads of the animals. We call this book farming. Hay seeds, or dust, or dirt, are excellent articles to keep out lice from the heads and shoulders of cattle. Animals of this kind are quite fond of wallowing in sand banks, and goring gravel pits in mock warfare; and when they scratch up the loose dirt with their fore feet, they often lay it handsomely on their backs! Hens are famous wallowers in "dust and ashes," which are now found far better remedies for lice than for "sore biles." Fowls that are kept on plank floors uniformly become lousy. And they will soon bury themselves in dust, on letting them out, when they can find a convenient place. Instinct prompts these animals—wonderful instinct!—

"Who taught the nations of the field and flood
To shun their poison and to choose their food."

Cattle need no unguents—no tobacco steeped to destroy their vermin. Dust should be

sifted on them when they cannot obtain a supply for themselves. Racks, therefore, should not be made to keep the dust out of their heads.

FOWLS.

In winter these should be kept where they can have constant access to food—to light, dirt, and to lime. When a constant supply of buckwheat is kept for them they will not gormandize as when they have been kept hungry. They will not eat so much as when fed only twice in a week, and they will return more eggs. Buckwheat is good food for them. Boiled potatoes are good, as both these articles contain lime, which is necessary for the formation of the egg-shell. Fowls are often so mischievous in summer, that many farmers refuse to keep them. But there are times when they may traverse the garden to very great advantage. Without much training they soon learn to follow close in the rear of the ploughman, and pick up the worms now just aroused from bed. With very little expense a yard may be made for them to be shut in for one or two months in the year, and then they can go at large without doing mischief. When attended to, they are valuable property, and if we keep them in summer, we should contrive to make them pay in part for their board in winter.

Hints on the Care of Horses.

There are a great many farmers who take but poor care of their horses in the winter season. In the short days they have water before dark, and then have to go without until nine or ten o'clock the next morning, or if they have water early in the morning, they will not usually drink, as their time of thirst is past. Horses seldom refuse water after they have eaten their evening meal, though if they do not have it then, they will usually drink but little the next morning until after eating. So if a horse will not drink early in the morning, it is no indication that he has not been thirsty the previous evening.

We have been particular in our observations on this point. We have turned a horse out to drink at nine or ten o'clock in the evening, and seldom knew him to fail of drinking heartily. Then for experiment we omitted to give him water in the evening and attended to it in the morning before he was fed, and he would seldom drink. If it be best for animals to have free access to water at all times, as is generally allowed, then they ought surely to have a supply immediately after eating, when they are usually thirsty; though the superficial observer who finds that they will not drink early in the morning may think that all has been well.

There is not a man probably, who has not

at times been very much in want of drink, and yet, without being able to obtain it, his thirst has gradually abated. In this case the juices from other parts of the body are, in a measure, put in requisition to supply moisture when it is wanted, so by an equalness the thirst is abated or done away, but there is a deficiency of moisture in the system—a drought less severe but more extensive which, if experienced daily, will prove unfavorable to health and strength; and in animals it will injure the growth of the young and operate against the fine, healthy condition of every creature. They must have water when they need it or they will not drink; like men, they do not eat and drink according to fashion and custom.

Some farmers will use their horses till they are warm and sweaty, and then put them up, perhaps in a cold barn, without covering them with any thing to keep them warm; this evil is often greatly increased by allowing the horses to drink freely of water while warm, in order to save the trouble of watering them after they have stood till cool; a great many horses suffer in this way, and some are ruined. For a man or beast to be inactive and exposed to cold after exercise and perspiration, is very destructive of health, and will destroy the strongest constitutions. Every man knows the importance of guarding himself against exposure to cold after perspiration, and how a drink of cold water, in this state, will send a chill through his whole frame. Though a man is not like a horse, he resembles him in his ability to endure a great deal of labor, with proper management, and in his liability to disease if his tender frame be not guarded with care.

It was observed in the Farmer, some months ago, that it was better for a horse to have a place in the winter where he could stand upon the manure, and walk round at ease, than to be confined to a stall and stand upon a hard floor. But in this case, as the horse will generally stand in one place to eat, the manure will accumulate under his hind feet so that he will stand uneasy, unless it be levelled frequently so that it will be as high or higher under his fore feet.

Currying horses is very much neglected by some farmers. This operation is very important, as it contributes both to the pleasure and health of the animal. In some cases this business is hardly attended to, being performed only a few times in the course of the winter.

Many a farmer's horse that is now stupid and lazy, and of a miserable appearance, would, under the care of a good hostler, without extra keeping, become so changed in his appearance and spirits, in a few months, though performing the same amount of labor, that his owner would hardly know him.

For the Farmers' Cabinet

Marl:

MR. EDITOR,—Your correspondent in the last number of the "Cabinet," who writes from Honey-brook Township, Chester county, on the subject of lime, &c., states that they have *marl* in abundance in the township, from two to forty feet beneath the surface of the ground. From the geological character of that portion of Chester county, I am inclined to think that your correspondent is entirely mistaken in regard to the character of the mineral substance which he names *marl*. Chester county lies within a primitive district, so called by geologists, with the exception of a range of red shell and red sandstone rocks, which pass through the north eastern section, leaving the township of which your correspondent speaks, entirely within the primitive district, and which is, I believe, principally characterized by that formation designated by the name *Gneiss*. The township of Honey-brook being exclusively primitive, it entirely forbids the idea of the existence of *marl*, as that valuable mineral substance is never found in a primitive country. And indeed I doubt much as to whether *marl* can be found within the limits of the State of Pennsylvania, being confined in the United States perhaps exclusively to the *Tertiary* formation, and the alluvial and deluvial deposits which lie principally on the seaboard, and are of recent date when compared with the other formations. Your correspondent, by forwarding a specimen of the mineral to which he alludes to the "Chester county Cabinet of Natural Sciences," located in West Chester, I doubt not, would be able to obtain satisfactory information in regard to its name and character.

A SUBSCRIBER.

Plumbago Hill, near West Chester.

From the New England Farmer.

Review of the Season.

The agricultural year is now drawing to a close. A severe frost occurred on the 20th ult., and vegetation is brought to a stand. The leaves have in a great measure fallen, though some still cling to the trees, like men, after the powers of action and enjoyments are gone, still holding on to life. The Indian corn harvest is generally concluded; and the house and cellars must soon be barricaded against the entrance of those relentless enemies, if so they may be called, cold and frost.

The review of the season, so far as the labors of the husbandman are concerned, present a most emphatical call for grateful acknowledgement. The earth has brought forth abundantly. Almost all vegetable products have been in perfection; and there are ample supplies for man and beast. It is both

presumption and folly to suppose that every thing, or indeed that any thing in nature should be measured by our wishes or our notions of utility or expediency; but it would be difficult to point out a season, when a more liberal compensation has been made to agricultural industry and skill.

Early vegetables came forward seasonably and in abundance. The small fruits yielded profusely. Grass has been every where much more than a middling crop; and after the first part of the summer, no season was ever more favorable to the securing of it. Rye and oats throughout the State, as far as we have heard, have given a great yield. Wheat, in our part of the country, has in general produced an inferior crop; but in the western States it was never more abundant. It is said that wheat on the Wabash sells freely at thirty-seven and a-half cents per bushel; and that it can be easily brought round to New York in sacks holding two bushels, by the way of New Orleans, and delivered free of all charges, at eighty-five cents per bushel. We have been told, perhaps, however, it may be only a traveler's story, and the due abatements are to be made from it, that one farmer in Michigan has this season, on thirteen hundred acres, raised thirty-nine thousand bushels of wheat. Be this as it may, western New York is full of wheat. Dairy produce, too, through the country is abundant. Indian corn has come in well, and so perfectly has it ripened every where, that many farmers are in the situation of one who said he did not know what he should do for pig corn to feed his swine. The crops of onions, in some of our towns a large product, have, it is believed, fallen short of a usual supply. Sugar beets, ruta бага and carrots, were perhaps never better. More young stock has been raised in Massachusetts the current year, than is remembered to have been raised in any previous year. We might go on, but we stop here.

With all this abundance, in the midst of these unmeasured bounties of Divine Providence, perhaps there was never more or louder complaints of hard times and hard pressures; and the commercial world seems to be threatened with a general crash. There is no mystery in all these matters; and we mean, at some future time, to discuss at large the cause of these embarrassments and sufferings. It may not be very palatable to our pride to hear of them, but it may prove medicinal to our morals. Presently we shall hear that neither individuals nor communities, through either avarice or folly, can violate the great laws of nature or Providence with impunity. If men will not labor, they cannot be allowed to eat; and if they will not be satisfied with the gradual and moderate, yet ample gains of honest industry and just frugality, but will

plunge headlong into every species of speculation and gambling, then, according to the proverbs of the wise, he that maketh haste to be rich shall seldom be innocent; and the folly of fools shall destroy them. All that seems to be lamentable in the case is, that the guilty drag the innocent into the same vortex of ruin. This arises from our social constitution; and is not without its benevolent designs and beneficent uses. Whatever the honest and industrious, however, may be doomed to suffer on account of other men's follies and crimes, there is one good, the greatest of all earthly goods, of which a just Providence will never suffer them to be deprived—that is a clear conscience—as the Romans called it, “the mind conscious of right.” This is a treasure which the wealth of the world cannot purchase, and for the loss of which the wealth of the world would be a poor equivalent. H. C.

Sugar Beet.

The attention of farmers is requested to the subjoined communication from the Hon. ELLIS LEWIS, of Lycoming county, Pa., in regard to the cultivation of this plant, as a feed for cattle. All “*experiments*” of this kind being well worthy of trial, and that of Judge L. having resulted so advantageously, we think it commends itself to the favorable consideration of the farming community generally.—*Harrisburg Keystone.*

In the month of April last, I planted about an acre of sugar beets, for the purpose of feeding to the cattle during the winter season.—The ground consisted of several patches, some of which had been used for potatoes the year before.—After it was properly prepared, deep furrows were run through it two feet apart, in which manure was afterwards deposited, which was covered by running a furrow on each side of the first, and thus forming a small ridge over the manure. Along this the beets were dropped and covered by means of a species of hand drill of my own invention, composed of a piece of two inch plank about a foot long, in the shape of a triangle, with three old harrow teeth formed like small shovels of the proper shape, and a handle of about four and a half feet long, with a calibre about the size of a rifle bore, through which the seed were made to descend into a furrow formed by the front tooth; they were covered by the two hind teeth. The seed were deposited in the row about a foot apart. On the first of November the beets were taken up. The product of four hundred and forty feet was weighed on the hay scales and amounted to eight hundred and twenty pounds, which, counting sixty pounds to the bushel, would be thirteen bushels and two thirds.—

The whole product of the acre at this rate is thirteen hundred and fifty-three bushels.—This will ensure me plenty of good milk and butter during the winter, and may serve to show that the beet is worthy the attention of farmers who have no intention to make sugar. I consider a bushel of beets nearly equal in value to a bushel of oats. Thirteen hundred and fifty-three bushels at thirty cents would make the yield of an acre four hundred and five dollars and ninety cents. Yours, &c.

THE FARMERS' CABINET.

PHILADELPHIA, DEC. 15, 1839.

The Good Work Advancing.

Nothing can have a greater tendency to encourage the friends of an enlightened and judicious system of agriculture, to persevere in their praiseworthy efforts, than the spirit of improvement, which appears to be widely diffusing itself throughout our land. The results of the late Cattle Shows and Agricultural Exhibitions, held in various parts of the union during the present season—the increasing interest manifested by members and others—the fine condition of the stock exhibited—the great variety and value of new agricultural implements, and the determination of the tillers of the soil not to rest short of every attainable improvement to bring their farms to the highest grade in the scale of fertility, and of consequent profit to themselves, and great advantage to the community at large—are full of promise.

During the present year a large number of Agricultural Societies have been organized—possessing within themselves the elements of great good. Besides, several societies formed long since, and which were permitted to languish through the lukewarmness of their members, have been resuscitated—a proper spirit appears to pervade them, and no doubt can be entertained but that the greatest benefits will result to the community at large from the organization of Societies—numbering among their members many of the most enlightened and public spirited agriculturists of our country—and having for their basis the improvement of agricultural knowledge. We believe that in every state in the union, soci-

eties have been formed during the year—a circumstance hitherto unknown to our annals, and far greater attention has been paid to the interests of agriculture in all its various departments, than at any previous time. *Experiments* have been made, if not on the great scale, at least very extensively—and in this matter the farmer has a decided advantage.—Knowledge has been greatly increased, and our brother farmers, many of them at least, are prepared to enter in good spirits and in somewhat improved circumstances, on the labors of another year. The raising of roots for the purpose of feeding cattle is no longer a matter of experiment. The great importance of this crop is now established, and we presume that those persons who have put in their winter grain, where the sugar beet has been last raised, and especially if two successive crops have been taken from the same ground, provided the earth has been properly turned up, and the grain sown of a good quality, will be abundantly satisfied with the results of the ensuing season. The sugar beet especially, and the root crop in general, has a tendency to leave the ground in admirable order for any of the small grain crops to succeed. While we recommend to every farmer to put in a full supply of roots the ensuing season, sufficient for his cattle during the next winter, we would advise him not to entertain the opinion, or even to attempt the manufacture of sugar from the beet. It is not the province of the farmer—and in the present state of chemical and agricultural science it cannot become a profitable subject of household fabrication. To be successful, its manufacture must be conducted on the great scale—then there is neither risk nor difficulty.—The farmer should be content with raising, at the present, a sufficient quantity of roots for his own use, and the keep of his stock, and when sugar manufactories and refineries are established, then it will be time to think of raising beets for the purpose of sugar making; and no doubt, if the business is properly commenced—with a competent head, sufficient capital, and the right kind of machinery—a ready market at fair prices will

be found for all the beets that can be raised within the proper circle of each manufacturing establishment. But, admitting that a pound of sugar is never made from the beet, still, its introduction into the country, and its almost universal culture, must be regarded as a national benefit. The large return it renders, the eagerness with which almost all kinds of stock feed on it, and their disposition to fatten on it—its peculiar adaptations to dairy stock, not merely increasing the *quantity* but also the *quality* of the milk and butter, together with the excellent order in which it leaves the ground on which it is grown, all concur in pointing it out as one of the most eligible crops the farmer can raise. We would by no means have the sugar beet raised to the exclusion of other root crops, especially such as the rutabaga, carrot, potato, &c.; as a change, even for stock, is both good and desirable.

The more general introduction among our farmers of Improved Implements in Agriculture, has not been without its effect. Many of these machines are calculated not only to lessen the labors of the field, but also perform the work in a more perfect manner than it can be done by hand. Foremost among those deserving public commendation, is the *Reaping and Mowing Machine*, invented by Mr. OBED HUSSEY, of Baltimore;* the Centre Draught Plough, possessing many peculiar excellencies over others, one of which is its lightness of draught, as well as the neat and very perfect manner in which it performs its work; the Corn Planter, invented by Mr. Buckminster, promises well,—Straw Cutters, Root Cutters, Threshing and other Machines, are either newly invented, or greatly improved. The stigma so long attached to this, the most noble of all earthly pursuits, is washed away—the strong prejudices have been dissipated, and agriculture is now regarded by the truly intelligent, as not only the first of arts, but the most dignified calling that can claim the attention of man.

* For a full description, and various statements respecting this truly valuable machine, the reader is referred to the preceding volumes of the Farmers Cabinet. There ought to be one at least in every neighborhood.

We have already observed, that the best spirit prevailed at the exhibitions recently held. They must, indeed, have been animating to all the friends of improvement, and we cannot but regret that it is not in our power to furnish our readers with a synopsis of their proceedings; we must however refer to the laudable efforts of our friends on the Peninsula—a district naturally rich, but which by the old and wretched system has been impoverished. The evil effects of drawing successive crops from the same soil, without replenishing it with enriching manures, was never more strikingly exemplified than in the case of the Peninsula. The error is seen and felt, and will now be remedied, as persevering and intelligent men have set themselves to work, to bring back these cropped lands to their early and high state of fertility. In this good and important work they have every thing to encourage them—Providence has placed within their reach every thing necessary to render the soil not only highly productive, but equal in point of fertility to any other equal extent of connected territory in the United States; marl of the best quality (the green sand) and exhaustless beds of calcareous matter, abound in almost every quarter, and may be said to be within the reach of every farmer. Lime, also, can be obtained from the adjacent lime regions, at a very reasonable price. And not only so, but the best markets the union affords are, on either hand, easily reached, and at a small expense—Baltimore, Philadelphia and New York; and the day is not far distant, when Delaware and the Eastern Shore of Maryland will become a great garden—the Netherlands of the United States.

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THE AGRICULTURAL SOCIETY OF THE EASTERN
SHORE OF MARYLAND,

Held their annual Cattle Show and Fair, at Easton, on the 24th and 25th days of October. A number of premiums were awarded for Cattle, Horses, Jacks, Mules, Swine, Sheep, &c. The various committees speak in the highest terms of the animals exhibited, equaling if not excelling on the whole, any former

exhibition. Col. N. GOLDSBOROUGH exhibited a machine for threshing and shelling corn, which received the first premium. Mr. E. N. HABLETON presented a set of machinery for reeling silk from the cocoons and making sewing silk, and also a corn planter. Several samples of excellent *native sewing silk*.—The display of *Household Manufactures* was large and of the first order, and spoke loudly in favor of the good taste and industry of the ladies. Success to them. The *Butter* submitted was very superior, and the judges were not a little puzzled in deciding on the comparative merits of the different lots. The *ploughing match* was well attended, and gave great satisfaction. The committee on *Crops* awarded the first and second premium on wheat and corn to Col. N. GOLDSBOROUGH; the third to Mr. THOMAS C. NICHOLS, for the best acre of Mangle Wurtzel. Samples of wheat yielding thirty-three and a third bushels to the acre, were exhibited by SAMUEL H. BENNY. Governor SAMUEL STEVENS, of Talbot county, also exhibited samples of corn, producing *ninety-two* bushels to the acre. Other samples of grains, roots, &c. were exhibited, and favorably spoken of by the committee.—As the crops of grain and mangel wurtzel referred to are so much larger than those raised for years back in the Peninsula, we give below the different statements as to the mode of culture adopted by the several growers.

CROP OF CORN

Raised by Gov. Stevens, of Talbot county.—Having offered for premium the product of an acre of corn, it devolves on me, in conformity to the desire and request of the Trustees of the Agricultural Society, to describe the mode of cultivating said acre, viz:—The ground having been well ploughed, I run deep furrows seven feet distance, which I filled with good manure, which was covered up; then one foot on each side of said manure, I run a light furrow, in which I dropped my corn at distances, one foot, putting two stocks in a hill, endeavoring as much as possible to break joints. Thus my corn was two feet apart, one way, and longitudinally one foot, with two stalks in a hill; about one half of the ground was additionally manured with about two spoonfulls of ashes and plaster of Paris (mixed in equal proportions,) on the hill. To

make it more plain, I beg leave to make a diagram of the mode of planting.

Yours with respect, SAML. STEVENS.

Corn one foot between the hills.

Furrow with manure two feet wide.

Corn one foot between the hills.

Space five feet wide.

Corn one foot between the hills.

Furrow with manure two feet wide.

Corn one foot between the hills.

CERTIFICATES.—We, whose names are hereunto subscribed do certify that we did as accurately as was in our power, lay down one acre of land for Samuel Stevens, on which he had corn growing, to exhibit at the cattle show in Easton—given under our hands this 23d day of October, 1839.

SAML. CONNELLY,
SOL. STEVENS.

I do hereby certify that I had gathered carefully the corn from the acre of ground, which was laid down for Samuel Stevens, by Samuel Connelly and Solomon Stevens, as described in their certificate, given from under my hand this 23d day of October, 1839.

JOHN WINTERBOTTOM.

We do hereby declare and certify that we have measured and seen measured, the corn which grew on the acre of ground laid off by Samuel Connelly and Solomon Stevens for Samuel Stevens—and do certify that there were ninety-two bushels of good corn on said acre of ground, from under our hands this 23d day of October, 1839.

SOLOMON STEVENS,
J. WINTERBOTTOM.

The sample sent was not measured, half a peck.

CROP OF CORN

Raised by Col. N. Goldsborough, of Talbot county. The subscriber regrets that it was wholly out of his power to procure a surveyor to measure his ground. The ground was measured in the first instance with a twenty foot pole, and was two hundred and twenty feet long and two hundred feet wide—making forty-four thousand square feet; forty-three thousand five hundred square feet make an acre. But it appears by the annexed certificate, that the ground actually covered by corn was forty-two thousand nine hundred and eighty-four square feet. The product one hundred and twenty three bushels—clear of the sample, an even half bushel of ears, which was reserved to show more particularly the variety, called *Barnet's* corn.

CULTIVATION.—It was covered with long manure, (a good dressing) which was well turned under with the plough—repeatedly rolled and harrowed till fine—furrows opened four and a half feet apart—and planted at distances of eight inches in the row, leaving two stalks in a hill—cultivated well with Beach's cultivator—but perceiving just before harvest, that the corn had not sufficient hold on the ground, it was ploughed. After harvest an old cultivator was passed over very lightly, merely to break the crust formed by the rains. Soil—deep black mould, in clover the preceding year. Another acre,

same preparation, cultivation, &c., but planted three feet square, produced ninety-three bushels and three quarters. The ears were much larger, and the corn looked better than on the preceding acre, but there were not so many plants to the acre, and a portion of the ground not so good. I have sent no sample of this.

N. GOLDSBOROUGH.

CERTIFICATES.—We hereby certify that we have carefully measured a piece of ground planted in corn by N. Goldsborough, that the measuring pole was placed close by the outer side of the stalks of corn—and that the rows were exactly two hundred and sixteen feet long by one hundred and ninety-nine wide, and that it contains forty-two thousand nine hundred and eighty-one square feet. If required, we are willing to swear to the above statement. EDW. P. MULLIKIN,
Ottwell, Oct. 23, 1839. JAS. C. MURPHY.

We hereby certify that we have carefully measured the corn on an acre of ground, cultivated by Nicholas Goldsborough—and that there were one hundred and twenty-three bushels—and we further certify, that we selected a fair sample of said corn, which amounted to an half bushel of ears, over and above the one hundred and twenty three bushels aforesaid. If required, we are willing to swear to the above statement.

JAS. C. MURPHY,
ISAAC STEVENS.

Ottwell, Oct. 23, 1839.

CROP OF WHEAT

Raised by Col. N. Goldsborough, of Talbot county. Fourteen and a half bushels of Polish Wheat, seeded after corn, at the rate of fifteen hundred corn hills to the bushel—the corn planted four feet six inches by four—cut off and shocked up on the ground—produced four hundred and twenty-six and a half bushels, heaping measure, once through the fan. Another cut of the same variety of wheat, was but little inferior to the above. Herewith is a certificate of the overseer, respecting the wheat. All of which is respectfully submitted.

N. GOLDSBOROUGH.

Ottwell, Oct. 23, 1839.

I hereby certify that I sowed fourteen and a half bushels of Polish wheat, at the rate of fifteen hundred corn hills to the bushel. Corn planted four feet six inches by four feet.—Cut off and shocked up on the ground. That the product was four hundred and twenty-six and a half bushels, heaping measure, once through the fan.

ISAAC STEVENS.

Ottwell, Oct. 23, 1839.

CROP OF MANGEL WURTZEL

Raised by Thomas C. Nicols, Esq., of Talbot county. We, the subscribers, do hereby certify that we were present at, and assisted in measuring a piece of land, in which is growing mangel wurtzel, raised by T. C. Nicols; there are on said lot fifteen rows, three of which are shorter than the others, and which we count as two rows, making therefore fourteen rows; we selected one row as an average row, which we saw pulled up; the piece of land was two perches and four links wide, and fourteen perches and six links long. We measured one half barrel, which weighed two hundred and two pounds, and saw the whole

produce of the row weighed at the hay scales, the nett weight of which was nine hundred and sixty pounds.

Weight of one row,	960 lbs.
Weight of fourteen rows,	13,440 lbs.

Five bushels weighing two hundred and two pounds, the whole measuring about three hundred and thirty-four bushels. All which we certify to be correct.

T. DENNY,
JNO. CAMPER,
JNO. BULLEN.

The annual Exhibition of the "AGRICULTURAL SOCIETY OF ST. GEORGE'S AND APPOQUINIMINK HUNDREDS, DELAWARE," was held at Cantwell's Bridge, October 22, 1839. The day was not only fine, but the turn out among the farmers was an evidence of the interest they felt in the prosperity of the society.—The display of stock, of different varieties, vegetables, implements, &c., showed a manifest improvement over the preceding exhibitions. The collection of horses, neat cattle, swine and sheep was not only larger than heretofore, but remarkably fine. We are gratified to learn from the report of the committee on Roots, that attention to this valuable source of a farmer's winter dependence for his stock, especially sugar beets, has not been neglected. Samples of the sugar beet, raised by Mr. CYRUS POLK, weighing from twenty to twenty-five and a half pounds each, were presented to the Society: and remarkably fine samples of the same were exhibited by Maj. JOHN JONES, who, like every good farmer ought to do, has "cultivated two acres of sugar beet, from which he has obtained a very abundant crop of this most useful root." Gen. RICHARD MANSFIELD, who has the past season raised a crop of *ruta baga* on stalk ground without manure, exhibited one of the roots which weighed *nineteen and a half pounds*, and although the General's crop is represented by the committee as being very fine, we recommend him hereafter not to neglect the manure if it is attainable. JOHN M. SMITH also exhibited "fine specimens of *ruta baga* and onions," the latter raised from the seed, large and of excellent quality; the former "sown broad-cast and producing an abundant crop without the usual trouble of tillage in drills." We would inform Mr. Smith that

the trouble of tillage in drills is usually far more than made up by the increased quantity of the product, and surely the after tillage of the crop is of no great trouble, provided the cultivator is used. These are not wholesome examples: abundant manure and careful tillage are to be commended. JAMES T. CARPENTER exhibited a variety of garden vegetables which not only excited great attention, but were deemed by the committee the best presented. "DR. JAMES S. NAUDAIN exhibited *Rohan potatoes*, some weighing two pounds each;" and SAMUEL HIGGINS a fine sample of the same. Mr. H. raised one bushel and a half from a single tuber.

There were many samples of *grain* presented. The *wheat* was good, generally, and heavy for the locality. Mr. JOHN M. SMITH'S crop of three hundred and forty-four bushels of the white bearded, averaged sixty-one and a half pounds to the bushel. The wheat, raised on the Peninsula, this season, is, we learn, of a very superior quality. Samples of white corn, from the Messrs. TOWNSEND, produced "forty bushels to the acre the field over." WILLIAM BENNETT'S specimens of *Irish oats* produced one hundred and sixty-two bushels from three sown, weighing forty and a half pounds to the bushel. The display of *butter* and *miscellaneous articles*, is referred to in terms of high commendation.—The report of the committee on *Hussey's Reaping Machine*, which will be given in our next, is highly satisfactory. The following report of the Committee on *Marl*, we give entire.

MARL.

The committee appointed to investigate the action of marl upon crops as far as it has been applied, and to report the result of their labors to the Society at its annual meeting, have to report, that in consequence of the crops of corn not having been gathered, they regret that they cannot give a satisfactory report upon the precise results obtained from the application of marl. St. George's Hundred abounds with marl, both of the calcareous and green marl or gunpowder; the active or fertilizing principle of the two latter being potash, and of the former, lime is the basis of fertility. The committee are pleased to notice that the farmers in the vicinity of the marl have not failed to avail themselves of their resources, and that generally so far as their experience extends, their expectations have not been disappointed, as those who have used it most extensively are convinced of its good effects; and as an evidence of this fact still continue to raise the marl of both kinds and apply it to their lands—so far it has been applied chiefly upon corn and grass lands, the corn and clover are both much improved by it; the green

marl has been found to answer well as a manure for buckwheat, but the committee, not being furnished with proper statistics, can make no correct estimate of the increase in any one crop caused by the marl.—The committee, however, feel warranted in saying that in their opinion the marl of St. Georges and Appoquinimink Hundreds will compare with that of any in the United States, for its fertilizing powers, and that it is calculated in an eminent degree to enrich our farms and elevate our husbandry by greatly increasing the profits derived from a given number of acres. They would therefore, earnestly enjoin those who have not yet applied this manure to their crops, to lose no time in doing so, and if a fair debit and credit is kept, the result will show a decided balance on the credit side of the account. Respectfully submitted,

WM. POLK,
C. VANDEGRIFT,
J. S. NAUDAIN.

The annual meeting of the AGRICULTURAL SOCIETY OF KENT COUNTY, DELAWARE, was held at Dover on the third of October. We have not, as yet, received the report, but have learned incidentally that the meeting was much better attended, than any one previously held, and that a large number of premiums were awarded. We learn also that the stock exhibited was remarkably fine and in the best condition, and that there was an evident improvement in the grain and root crops. The best spirit prevailed, and the meeting separated with a determination on the part of the individuals composing it, to persevere in the good cause. Success say we to the Peninsula, and especially to those who are engaged in bringing her up from her present depressed state to her proper standing among the very best agricultural sections of our country.

We learn from the last number of the *Hunterdon* (N. J.) *Democrat*, (to which paper and not the *Gazette*, as wrongly quoted, credit should have been given for the article in our November number, signed "Agricola,") that an AGRICULTURAL EXHIBITION took place at *Bloomsbury, Warren County, New Jersey*, on the 21st of November. Premiums were awarded to a number of gentlemen for the fine stock presented on the occasion, as well as for samples of grain and roots. It appears from the account that Mr. SAMUEL SHIELDS exhibited samples of *oats*—yield sixty-four and a third bushels to the acre; of *flaxseed*, from BENJ. HULSHIZER, fourteen bushels to the acre; of *sugar-beets*, from ROBERT S. KENNEDY, Esq., who harvested one hundred and twenty-three bushels from the eighth of

an acre—nearly one thousand bushels to the acre; the same gentleman also raised ninety bushels of ruta бага from the same quantity of ground.

We know not the name of this Society, the territory it embraces, the history of its organization, or its prospects. We wish it great success, and should be glad to hear from some of its officers. The Editor of the Democrat strongly urges on the farmers of Hunterdon the organization of a county society. The sterling farmers of "Old Hunterdon" have within themselves and their territorial limits the elements of a noble and highly useful Agricultural Society, and all that is wanting is *action*. We hope the subject will be discussed until the whole county shall see the necessity of such an institution, if, indeed, it is not already ripe for its organization.

THE CONCLUSION.—The present number contains the last of the *Dialogues between a Father and Son*, on the subject of Agriculture and Husbandry, and their kindred branches. These papers have afforded us *instruction* as well as *amusement*, and judging from the very extensive circulation they have attained by being copied into very many of the journals of the day, they have been highly acceptable. Indeed, all we have heard speak on the subject have been pleased with them, and we doubt not the announcement of the last number will be received by our readers—as it was by ourselves—with regret. We believe that if revised by the Author, and published in a proper form, that they would be well received by the public—and in doing so, much good may be accomplished. Being replete with sound information, and related in that pleasing manner, calculated to arrest the attention particularly of youth, and make a lasting impression upon the mind; the wholesome truths they contain, and the fundamental principles of agriculture so beautifully set forth, must necessarily produce the most beneficial effect. The author will please accept our thanks for his former communications; and we hope, that although his "Dialogues" are brought to a close, that he may

not lay aside his pen, but employ it as heretofore for the good of his fellow men. There are a great variety of subjects—What does our friend say to a "*New Series of the Dialogues?*"

—
THE PAST, OR EIGHTY-EIGHT YEARS AGO.

We were forcibly struck the other evening in looking over an old statistical work, with the vast amount of exports from the port of Philadelphia, in the year 1751—eighty-eight years since. At that period, the then Province of Pennsylvania, contained but sixteen thousand families, numbering probably less than one hundred thousand souls*—a due proportion, no doubt, engaged in mercantile and mechanical pursuits. But it would appear from the statement, that even at that early day—thirty-six years preceding the first organization of the Philadelphia Society for the Promotion of Agriculture—that great attention was paid to agriculture, otherwise there would not have been so large a supply of bread stuffs &c. to export. It is but fair however to presume that Western New Jersey, and Delaware supplied their several proportions towards the aggregate of the exports, which were as follows:—129,960 barrels of flour; 86,000 bushels of wheat; 90,743 bushels of corn; 599 hogsheads, 812 tierces, 28,338 barrels, 7,588 quarter casks of *bread*, besides 249 tons of the same in bags and sacks; 925 barrels of beef; 3,431 barrels of pork; 9,865 hogsheads, 454 half hogsheads, 39 tierces, and 221 barrels of flaxseed; 4,812,943 staves; 4,491 bars of iron; 189 tons of bar iron; 205 tons of pig iron; 320 chests of furs; 112 barrels, 6 boxes, and 2 tierces of ginseng.

For the Farmers' Cabinet.

Farm Accounts, and Farm Profits.

MR. EDITOR—I was much pleased with the communication in your last number from A. E. T. of Philadelphia county, and I am glad that an article so plain, interesting, and calculated to place the profits of agriculture in a fair light, is to be followed up, as I infer from the heading of the piece, which is No. 1. Now, I do hope, that this writer, who, it appears can hold the pen as well as the plough, will continue his essays for the benefit of his

* According to Proud.

brother farmers. There are many subjects of great interest to the farmer that have as yet received little or no attention from agricultural writers. The subject of *Farm Accounts* is one of great importance, and I trust that A. E. T. will furnish us with a "birds'-eye view" of his system, which I presume is a good one.

The system or practice of farming with us in Montgomery county is not essentially different from that in the more immediate neighborhood of Philadelphia—but our great error has consisted in not farming *well* enough; we have been too anxious to have *large* farms, even if partially cultivated, in preference to *small* ones in a high state of fertility. The desire to own many acres, has been the ruin of hundreds, and was the rock on which I was nearly shipwrecked. Some years since, when money was cheap and every thing saleable dear, I was induced to believe that my farm of ninety-five acres was too small. True, I had lived above board, was entirely free of debt, and had abundance of employment; but still my farm was small, very small, indeed almost insignificant in comparison to some of my neighbors.—Instead of being contented with what I had, and by still greater attention causing it to produce more abundantly than it had previously; the spirit of grasping after more, ambition, speculation, or whatever you may please to call it, took full possession of my mind—of course my days of tranquility were ended.

About this time it so happened that an adjoining neighbor had become a victim to the spirit of emigration, and having settled on locating in the west, offered his farm for sale. He had been revolving in his mind the propriety of this step for several years, and as it worked upon him, his farm became more and more neglected, until, in some measure, he lost the character of a clean farmer. The buildings on the place were so old and decayed, that they were considered of no value. The farm consisted of two hundred and twenty-eight acres, subject to a mortgage of six thousand dollars, at six per cent., payable half yearly. This was no obstacle in my mind, "as the mortgage may remain for years." The day of sale came, and I was the fortunate purchaser; it being knocked down at eight thousand one hundred and twenty dollars, subject to the aforesaid mortgage. My farm of ninety-five acres, had in the nine years I tilled it poorly, yielded me about two hundred dollars profit per annum—so I had about eighteen hundred dollars at command, but was compelled to *borrow*, a thing I never did before, about four hundred dollars.

I had now attained apparently the summit of my wishes—I was now a large landed proprietor! At first, I little thought of the collar

on my neck, in the shape of a mortgage, and sundry small obligations shortly to be met. I enjoyed myself finely indeed, but only for a short time, as the "bubble burst," and I awoke to the cold and sober realities of my situation. True, I was a large proprietor, but that did not give sleep to my eyelids. My six months' interest came round, and was paid after many days' vexation. My coming crops, which fortunately were pretty fair, enabled me to keep along for that time, to support my family and pay off the four hundred dollars; but it took all, and when that was gone I was in a deplorable condition. A large plantation, mostly in a bad state of cultivation, with poor fences, going rapidly to decay—the soil requiring a liberal application of enriching manures to give it life, and no money to purchase it, or to pay for sufficient help. But I resolved not to be discouraged, and though, by going into debt for various articles where I had credit, I was compelled to pay an enlarged price, yet I pushed on, resolved to do my best to weather the storm, and improve the purchase, at least in appearance, such as fences, &c. But instead of cultivating but a part, I very foolishly—as I fear is the case with too many of my brother farmers who occupy too much land—undertook to cultivate the whole—the consequence was that my crops were generally light, especially on the new purchase, and not so good by odds, on the homestead. I saw my error, and determined, if possible, to retrieve it. By perseverance I was enabled to continue and make both ends meet, but as to laying up a dollar, I did not and could not, and I had almost become reconciled to my toilsome and care-worn life, when I was started on a new track.

In 1836 a young man, a stranger, who was soliciting sub-criptions for an agricultural work, called at my house about evening. I bid him to stop for the night, which he did. In the course of the evening our conversation—confined as it was to agriculture—turned upon my embarrassments. Why, said he, it is the easiest thing in the world for you not only to slip the collar, but to do it to some purpose. I inquired how; he replied, *sell enough not only to pay your mortgage, but to enable you to lay in a noble stock of manure, and devote the same cost, labor and attention on what you have left as you did on the whole, and I will guarantee you success.* But I can't sell—I have tried the neighbors for years, to no effect. But that is not the way—*advertise, yes, advertise very extensively, not only in your county papers, but in those of the city, and the surrounding country; make your farm known every where. Sell off the first chance.* He read me several articles about the profits of small farms well

managed—of the great improvements in agriculture, &c.

In the morning I subscribed for his paper. He went his way, and I turned my attention to the duties of my farm. But his advice made so great an impression on my mind, that I could not rest until I had made the effort to sell in the manner he proposed. I accordingly encountered the expense; and one of the advertisements fortunately brought me a purchaser, *cash in hand*, who took two hundred acres at forty-three dollars per acre, or eight thousand six hundred dollars; so I had a trifle left, besides twenty-eight acres of wood land. I was at once released from my trouble—but the gain—much as it may seem to some, can never recompense me for the intense suffering of mind which for years I had endured.

I promised my wife and children, that if ever I got well out of that speculation, that they would never find me engaging in another: and I will preserve my word inviolate. I immediately set about arranging for future operations. I was liberal in the application of manures to my old place—my fences were all put in excellent order—outhouses repaired, and all about or around the dwelling neatly whitewashed—better accommodations were made for cattle, &c., and now the old homestead not only looks as pleasant as ever, but is the abode of real contentment and rural enjoyment.

But this is not all—reading my agricultural works has stimulated me to endeavor to keep pace with the improvements—and what is a mystery to some of my neighbors is, that *now* on the old “*ninety-five*,” as they call it, I raise more saleable or disposable produce than I ever did, with the addition of the large farm. This is a fact. But is easily explained; the three hundred acres were partially cultivated—the homestead is now in the highest state of fertility, and I have from the free use of lime been under the necessity of contracting for an additional barn on the premises. Before I purchased the addition, I laid by about two hundred dollars a year, but when I cultivated the whole I could scarcely make both ends meet. Now I am, thank Providence, doing better than ever.—“I am doing well, and intend to let well enough alone,” and not be led away by a spirit of emigration, the mulberry mania, or the making of beet sugar. I shun these things as I would a pestilence, but shall content myself with raising the sugar beet for my stock, which is increasing, satisfied that nothing is better calculated for them, or more advantageous for the farmer—the stock farmer especially.

Now I am going ahead without keeping accounts, save certain memorandum books.—I feel the want of a correct system, and I

hope that your correspondent “A. E. T.,” or some person competent to the task, will furnish through the Cabinet, the information desired, for I consider it almost as important for the farmer to have a correct system of accounts, as it is for the merchant or mechanic.

J**** J****

A Singular Circumstance.

To the Editor of the Farmers' Cabinet.

SIR—I received a letter from a friend in England, who, speaking of the almost incessant rains which were falling during the latter part of the harvest, says, “Our friend W. R. has sixty acres of fine Barley, which will be quite spoiled—scarcely a dry day since it was cut, and it is growing as it lies upon the ground.” This reminds me of a singular occurrence which took place some years since, and which was related to me by the person concerned. “I had,” said he, “about fifty acres of capital Barley, which, after it was cut, was exposed to incessant rains, until it was grown into a mat as it lay upon the ground, when, all at once, the weather became dry and hot, and by continual turning of the crop, it became so dry and hard as to thresh well, and being a remarkably fine sample, I sent it to my salesman in the corn market at Mark Lane, saying, I send you a cargo, which I fear you will have trouble to dispose of, but pray do your best. In a short time he wrote me, saying, he had sold my consignment, but was sorry to add, at a price which he feared would not satisfy me, but it was the best he could obtain for it, as it had in some way got damaged, so as to spoil the color; the person who purchased it, admitted it was a remarkably fine sample, but he could not afford to give a first rate price, in consequence of the injury which it had sustained. In this letter was contained the bill of sale, by which it appeared he had sold my damaged crop of Barley to one of the first brewers in London, as *malt*! At that time the price of the best Barley was £2 10s. per quarter of eight bushels; the price of the best malt was £4 8s. per quarter, the duty on a bushel of malt was 4-8, or £1 17s. 4d. per quarter, so that I received more than double the price which I had expected for my damaged Barley.” The rain had caused the Barley to spear, as it lay upon the ground, and the dry and hot weather served as a kiln-drying operation; thus, in fact, malting the crop without incurring the government duty!

Should our friend of the present year be so fortunate, he will have abundant cause to say, “Whatever is, is right.” C. R.

Germantown, Nov. 23, 1839.

“Bear and forbear” is good philosophy.

Quantity of rain which has fallen in each month since January 1, 1839.

	Inches.
1st month,.....	5.63
2d month,.....	3.42
3d month,.....	1.50
4th month,.....	1.50
5th month,.....	6.07
6th month,.....	3.92
7th month,.....	2.51
8th month,.....	4.64*
9th month,.....	2.92
10th month,.....	2.83
11th month,.....	3.10

* It rained on seventeen different days.

Philadelphia Hospital, 12th mo., 1st, 1839.

New Works on Agriculture and Horticulture.

MESSRS. WEEKS, JORDAN & Co., 121 Washington street, Boston, have in course of publication a series of practical works on the Theory and Practice of Agriculture, Horticulture and Floriculture and Farming and Gardening in all their varieties, also on Swine, Horses, Cattle, Bees, Silk, Beet Root, Sugar, the Dairy, Manures, &c. The works will be by the very best authors, and will be printed and bound in handsome style, and where necessary, illustrated with engravings. Some of the series are already published and others in press. They will be sold separately or in sets as may be desired.

THE WORKS PUBLISHED ARE

1. KERRICK'S SILK GROWER'S GUIDE, a practical work on the growing of the Mulberry, with some instructions concerning the Silk Worm and its product.
2. COBB'S SILK MANUAL, with twenty engravings of Machinery, Worms, Roots, Leaves, &c. Mr. Cobb is so well known as a pioneer in the Silk culture, and his experience has been so extensive that his work will be found one of the very best for the American Silk Culturist.
3. FRUIT-GARDEN COMPANION, by E. Sayers, a practical Gardener, author of the "Flower Garden Companion." The Post says, "Mr. Sayers has proved himself a thorough master of his subject, and his work

cannot fail to be highly popular with the votaries of that beautiful science."

The following are nearly ready or in preparation.

1. THE ECONOMY OF THE HOG PEN, or the Raising and Fattening of Swine, by Henry Coleman, Commissioner of Agricultural Survey for the State of Massachusetts.
2. THE ECONOMY OF MANURE, or the Method, Materials and mode of applying Manures.
3. FLOWER GARDEN COMPANION, new edition, by E. Sayers, author of "Fruit Garden Companion."
4. CULTURE OF THE DAHLIA AND CACTUS, a practical Treatise on its Culture, Varieties, situation, description of a good Flower, and the management of the Cactus Tribe in a greenhouse and in the room.
5. KITCHEN GARDEN COMPANION, by an experienced Gardener.
6. THE APIARY, or Rearing Bees, &c. &c.
7. PRACTICAL AGRICULTURE, for the general Farmer.—By a well known writer.
8. THE DAIRY—COWS, Milk, Butter, Cheese, &c.
9. THE FARRIER, or a Treatise on raising, keeping and treatment of the Horse, Disease, &c.

Every one acquainted with the Agricultural prospects and past progress of our country, feels that it has advanced as much within the past ten years, as it had for the previous half century, and the works issued in our FARMERS' LIBRARY will partake of the spirit of the times.

A notice of the Proceedings of the CUYAHOGA COUNTY (Ohio) AGRICULTURAL SOCIETY, will appear in our next. It appears, that a Mr. LINDLEY of Euclid township, raised on the eighth of an acre two hundred, thirty-two and a half bushels of SUGAR BEET, equal to one thousand eight hundred and sixty bushels the acre. Expense of cultivation eight dollars seventy-five cents, or at the rate of seventy dollars the acre. Unfortunately, no statement of the mode of cultivation was furnished. It is not yet too late, and we hope that Mr. LINDLEY will furnish the public through some one of the agricultural journals, a detailed account of his mode of culture, character of the soil, &c. &c.

Expenses and Proceeds of Crops—No. II—with several other communications of interest, were not received by the Editor in season for the present number. They will appear in our next.

The *Agricultural Almanac* for 1840, calculated for the meridian of Philadelphia. This Almanac contains, besides the calendar, a variety of useful articles on agriculture—eight pages of miscellaneous matter. Appended to the Almanac is a catalogue of Implements, Machines, Tools, Seeds, &c. &c., for sale at the Agricultural Warehouse, No. 87 North Second street, Philadelphia. The improved Agricultural Implements are briefly described, and many of them illustrated by wood engravings.

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THE FARMERS' CABINET,

Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

Vol. IV.—No. 6.]

January 15, 1840.

[Whole No. 60.]

From Youatt's Treatise on Cattle.

The London Dairies.

THE dairies of the metropolis are objects of much interest to the stranger and to the agriculturist. In pursuit of the object of this work, we travelled over the greater part of the United Kingdom; and although we often had no other recommendation than the simple statement of the purport of our journey, we met with very few cases of incivility or of unwillingness to give us the fullest information; but when we returned to our usual residence, and where we expected most facility in the attainment of our object, we will not say that the refusal to admit us was accompanied by rudeness, but the gate of the dairy remained closed. This was the case with our overgrown milk establishments. It was a species of illiberality on which we had not calculated; but it mattered little, for we had seen many of the smaller ones, and we could guess with tolerable accuracy at the difference of treatment in some points—indeed they had been already whispered to us, and we had besides a minute and accurate account of them in the Magazine of our friend Mr. Berry.

The number of cows kept for the purpose of supplying the inhabitants of the metropolis and its environs with milk is about 12,000. They are, with very few exceptions, of the short-horn breed—the Holderness or Yorkshire cow, and almost invariably with a cross of the improved Durham blood. The universal preference given to this breed by such a body of men, differing materially on many branches of the treatment of cattle, is perfectly satisfactory as to their value, and that on three distinct points.

First, as to the quantity of milk. This we need not press, for the enemies of the short-

horns have never contested this point. There is no cow which pays so well for what she consumes in the quantity of milk that she returns.

This, however, is not all, though it may be the principal thing which enters into the calculation of the metropolitan dairyman.

The name of new milk has something very pleasant about it, but it is an article which rarely makes its appearance at the breakfast or tea table of the citizen. That which is got from the cow at night is put by until the morning, and the cream skimmed off, and then a little water being added, it is sold to the public as the morning's milk.—The real morning's milk is also put by and skimmed, and, being warmed a little, is sold as the evening's milk. This is the practice of most or all of the little dairymen who keep their half a dozen cows; and if this were all, and with these people it is nearly all, the public must not complain: the milk may be lowered by the warm water, but the lowering system is not carried to any great extent, for there is a pride among them that their milk shall be better than that of the merchants on a yet smaller scale, who purchase the article from the great dairies; and so it generally is. The milk goes from the yard of the great dairy into the possession of the itinerant dealers perfectly pure; what is done with it afterwards, and to what degree it is lowered and adulterated, is known only to these retail merchants.

The proprietor of the large dairy is also a dealer in cream to a considerable extent among these people; he is also a great manufacturer of butter, for he must have milk enough to answer every demand, and that demand is exceedingly fluctuating; then it is necessary that the quality of the milk should

be good, in order that he may turn the overplus to profitable account, in the form of cream or butter. The employment of the short-horn cow, in all the dairies, is a convincing proof that her milk is not so poor as some have described it to be.

It is the practice in most of the dairies to fatten the cow as soon as her milk becomes less than four quarts a day. They are rarely suffered to breed while in the dairyman's possession. The fact of their being so often changed is a proof that while the cow gives a remunerating quantity of milk for a certain time, she is rapidly and cheaply fattened for the butcher as soon as her milk is dry. Were much time or money employed in preparing her for the market, this system would not answer, and would not be so universally adopted. Fattening and milking properties can, therefore, combine in the same animal, and they do so here.

Mr. Laycock, however, does not adopt this as a general rule. The cows that are more than usually good milkers are suffered to take the bull when in season. He always keeps some good short-horn bulls for this purpose. It sometimes happens that the cow will continue to give milk until within a few weeks of calving; and he judges, and perhaps rightly, that this is a more profitable course than to fatten and get rid of her, with the probability that he might replace her by a cow that would give a less quantity of milk.

The present market price of a good dairy cow is about 20*l.*, but the owners of the small dairies have no little trouble to get a good cow. The jobbers know that they will have a ready market for a considerable portion of their lot in the yards of the great cow-proprietors, and will probably get a larger price than the poorer man would give; and therefore Messrs. Rhodes, or Laycock, or one or two others, have always the first selection. Mr. Laycock has peculiar advantages for obtaining good cattle. In addition to his dairy, he has sheds that will contain five or six thousand beasts. A great proportion of them halt on his premises for a day or two before they are brought into the market. In addition to the shilling a night which he charges for their standing, he claims the milk of the cows as his perquisite. The cows are milked by his people; he therefore knows beforehand the quantity of milk which each will yield, and he is thus enabled to cull the very best of the herd. The dairymen do not like a cow until she has had her third or fourth calf, and is five or six years old; she then yields the greatest quantity of milk, and of the best quality. Two gallons of milk per day is the quantity which each cow is expected to yield in order to be retained in the dairy. Taking

one cow with another, the average quantity obtained is rather more than nine quarts.

When she begins to fail in her milk, she is fattened on oil-cake, grains, and cut clover hay, and disposed of. The dairyman calculates on getting something more for her than when he first bought her, but sometimes he meets with an animal that seems to verify the old prejudice against cows in good condition. He bought her for known milking-properties, but she continues so poor that he in a manner hides her in some corner of his dairy. She, however, does her duty; she yields him plenty of milk, but that at length dries up; and he is unable, try what he will, to get much flesh upon her bones, and he sells her for less than half of her first price.

The quantity of milk yielded by all these cows, at nine quarts per day, amounts to 39,420,000 quarts, or twenty-seven quarts of genuine milk for each individual. The retail dealers usually sell the milk for 4*d.* per quart, after the cream is separated from it, and then obtain 3*s.* per quart for the cream; beside this, a great deal of water is mixed with this skimmed milk: so that we far underestimate the price when we calculate that the genuine milk sells at 6*d.* per quart, which makes the money expended in milk in the British metropolis amount to 985,500*l.* or nearly a million pounds per annum.

If we again divide the 985,500*l.* by 12,000, (the number of cows,) we shall have the strange and almost incredible sum of more than eighty-two pounds as the money produced by the milk of each cow. This is divided among a variety of persons, and after all affords but a scanty subsistence to many of them; but it unequivocally proves the rascality that pervades some of the departments of the concern.

We acquit the wholesale dealers of any share in the roguery, nor do we believe that their profits are exorbitant. They sell the milk to the retail dealers at a price that, according to Dr. Middleton, would enable them to clear sixty-four per cent., without adulterating the article—(we believe that fifty per cent. would be nearer the truth.) When we consider the nature of the business; the distance the milk-girls have to travel; and the time wasted in selling their little quantities from door to door, this profit is not too great; but when they abstract the cream, and add the water, and, unless they are much belied, some extraneous and abominable articles, the actual profits will far exceed cent. per cent. In the spring of the year when London is full, the consumption and the deterioration are greatest. In the latter part of the year the cream is converted into butter, and the butter-milk given to the hogs.

Rhodes's diary has been established more than thirty years, but some of the same family or name have lived in that neighbourhood nearly a century. 'Mr. Rhodes, farmer, near Islington,' is referred to by Dr. Brookesby, in his treatise on the murrain which prevailed among cattle about the middle of the last century. The writer of 'London Dairies,' in the 'British Farmer's Magazine' for February, 1831, gives a description of it, of which the following is the substance:—The surface on which the buildings are placed is a gentle slope of two or three acres, facing the east. The sheds run in the direction of the slope, as well for the drainage of the gutters as for the supply of water for drinking, which will thus run from trough to trough the whole length of the shed. The sheds are twenty-four feet wide; the side-walls being about eight feet high, with rising shutters for ventilation, and panes of glass let into iron frames for light. The floor is nearly flat, with a gutter along the centre, and a row of stalls, each seven feet and a half wide, along the sides, and adapted for two cows, which are attached by chains to a ring that runs upon an upright rod in the corner of the stalls. A trough or manger, of the ordinary size of those used for horses, is placed at the top of the stall. Four of these sheds are placed parallel and close to each other, and in the party-walls are openings a foot wide, and four feet high, opposite to each cow. The bottom of these openings is about nine inches higher than the upper surface of the troughs, and contains a one-foot square cast iron cistern, which contains the water for drinking; each cistern serves for two cows that are placed opposite to each other, but in different sheds; all these cisterns are supplied from one large tank. These cisterns have a wooden cover, which is put on while the cows are eating their grains, to prevent their drinking at that time, and tainting the water by dropping any of the grains into it. At the upper end and at one corner of this quadruple range of sheds is the dairy, consisting of three rooms, each about twelve feet square; the outer, or measuring-room—the middle, or scalding-room, with a fire-place and a boiler—and the inner, or milk and butter room.

At the lower end of the range is a square yard surrounded by sheds, some for fattening the cows when they have ceased to give milk, and the others for store and breeding pigs. The pigs are kept to consume the casual stock of skim milk which remains on hand, owing to the fluctuations of the demand. The milk is kept in a well, walled with brick laid in cement, about six feet in diameter, and twelve feet deep. The milk soon becomes sour there, but is then most nourishing to the hogs. Breeding swine is

thought to be the most profitable, and the suckling pigs are sold for roasting.

Beyond this yard is a deep pit or pond, into which the dung is emptied. There is a stackyard, sheds, and pits for roots, straw, and hay; a place for cutting chaff, cart-sheds, stables, and every building which such an establishment can require. The number of cows varies from four to five hundred.

The treatment of the cows is singular in some respects. The cows are never untied while they are retained as milkers. Some of them have stood in the stall more than two years. Mr. Laycock, on the contrary, turns his cows out once every day to drink from troughs in the yard, and they remain out from half an hour to three hours, depending on the weather and the season of the year. From the end of June until Michaelmas, they are turned into the fields from six o'clock in the morning until twelve or one, and from two o'clock in the afternoon till about three o'clock on the following morning. Mr. Rhodes' cows have always water standing in the cisterns before them.

We can readily conceive that, from the want of exercise, and consequent cutaneous perspiration, Rhodes' cows may give a somewhat greater quantity of milk than Laycock's; but on the other hand, when we think of an animal tied in the corner of a stall for twelve, or eighteen, or twenty-four months together, we cannot help associating the idea of disease, or tendency to disease at least, with such an unnatural state of things; the feet and the digestive system would particularly suffer, and we should suspect a little vitiation of all the secretions, and some deterioration in the quality of the milk. We should like to know the comparative state of health of the animals in the two establishments. The inclination of our opinion would be strongly in favour of Mr. Laycock's plan.

The principal food of the cows in both of these, and in all the dairies of the metropolis, is grains; and as the brewing seasons are chiefly in autumn and spring, a stock of grains is generally laid in at those seasons for the rest of the year. The grains are laid up in pits, lined with brick-work set in cement, from ten to twenty feet deep, and of any convenient size. They are firmly trodden down, and covered with a layer of moist earth, eight or nine inches thick, to keep out the rain and frost in winter, and the heat in summer. A cow consumes about a bushel of these grains daily, the cost of which is from fourpence to fivepence, exclusive of carriage and preservation. The grains are, if possible, thrown into the pit while warm and in a state of fermentation, and they soon turn sour, but they are not liked the worse by cattle on that account; and the air being perfectly excluded,

the fermentation cannot run on to putrefaction. The dairymen say that the slow and slight degree of fermentation which goes on, tends to the greater development of the saccharine and nutritive principle, and they will have as large a stock upon hand as they can afford, and not open the pits until they are compelled. It is not uncommon for two years to pass before a pit of grains is touched; and it is said that some have lain nine years, and been perfectly good at the expiration of that period. The dairyman, however, must know his brewer, and be able to depend on him. The grains from a large ale brewery are the most nourishing. Those from the porter brewery are not so good; and those from the little brewers, who first draw off their ale, and afterwards extract every particle of nutriment in the formation of table beer, are scarcely worth having.

Each cow is allowed a portion of salt. In Rhodes' establishment it is given with the grains. Laycock salts his rick when it is first made—a most excellent plan, for the hay is not only effectually secured from becoming mow-burnt or mouldy, but it is rendered more grateful to the animal, and we may venture to say, almost doubly nourishing, from the development of the saccharine principle. It is to be doubted, however, whether the cows obtain a sufficient quantity of salt in this way. Some should be given with the grains.

The grains are usually given about three o'clock in the morning, and two o'clock in the afternoon, being a little before the usual milking hours. Between the milkings they have green meat, as long as the season will permit. Cut grass is a favourite and excellent food; but where it can be managed, the plan of Mr. Laycock to let the cows cut the grass for themselves is a far superior one. Tares come in before the grass, and are afterwards given alternately with it. In winter, turneps, potatoes, and mangel wurtzel, are given as long as they can be obtained at any reasonable price; and then the dairyman is driven to hay or chaff: the superiority of chaff is now generally allowed.

Both of these gentlemen fatten off their dry cows with grains, oil-cake, and clover chaff, to which Mr. Laycock adds boiled linseed. Our readers may recollect the experiments made by the Duke of Bedford on the fattening quality of linseed, boiled and unboiled, and in which the simple unboiled linseed fattened the animals more expeditiously than any cooked preparation of that seed. Mr. Laycock boils the linseed in a common boiler, and when reduced to a pulp, conveys it by tubes into large wooden cisterns, where it is mixed with clover chaff roughly cut, and sometimes with grains.

These wholesale dairymen usually agree

with the retail dealers, that they (the dealers) shall milk the cows. The dealer knows the quantity of milk that he wants, and the dairyman knowing the usual quantity of milk yielded by each cow, calculates what number of cows will meet the demand, and the retail dealer attends at three o'clock in the morning and two in the afternoon, to milk these cows. He carries it into the measuring room, where its precise quantity is ascertained. If, as cows often vary considerably in their flow of milk in the course of two or three days, he has milked more than his quantity, it is put into a vessel belonging to the dairyman; or if the cows should not have given their usual supply, the deficiency is made up from the dairyman's vessel. The milk which is left on hand is put into shallow vessels, the cream skimmed and made into butter, and the skimmed-milk thrown into the pit for the hogs.

The joint-stock dairies which a few years ago sprung up in such abundance, have either ceased to exist, or the number of cows much diminished, have fallen into private hands. While there were many partners, and the business was controlled by a committee of persons who knew nothing at all about the matter, they all proved to be lamentable failures. Some of them, even in the hands of private individuals, who brought with them little or no experience, were sadly ruinous concerns. The Metropolitan dairy was a striking illustration of this; but now, under the management of those who have been drilled into the business, it is doing better.

From the Farmers' Register.

**Mode of preparing Land for Ruta Baga.
Yield of Three Acres.**

*Middletown, Monmouth Co., N. J. }
November 12th, 1839. }*

DEAR SIR—In your October No., there is an article on the culture and cost of three acres of ruta baga, copied from the Monthly Visitor, published in New Hampshire, which I read with considerable interest as I do all other communications having reference to the progress of root culture, that important auxiliary to successful farming. In fact, the writer is perfectly convinced from many years experience and observation, that no plan or system of agriculture can be complete without roots forming a very prominent part in the rotation; and the time will come, though now apparently distant, when not only Virginia, but all the eastern states will be independant of the western country for their supply of beef cattle. It is possible, however, that the American farmers, who are so sensibly alive to every principle of self-interest, may obtain a complete knowledge of the cul-

tivation, and proper and economical use of this invaluable root, much sooner than many people expect, who have made the subject a part of their study. Independantly, however, of the farmers individually comprehending this matter, it is essential also, that the labourers should understand, and by practice, properly and directly at the first, become expert with the hoe, and in singling out the young plants without even for a moment thinking of touching them with their fingers, however close they may be in the row. In entering into a consideration of the expense stated to have been incurred (one hundred and thirty days at a cost of \$98,) in the culture of three acres of turneps, I must confess that I never was so much at fault in my life, in being unable to comprehend how it was possible so large an outlay of labour could have been devoted to that object. It is presumed that in New Hampshire, hoes have not, as yet, found their way, but that the good farmers there proceed on the principle that "fingers were made before forks," and have used them where the hoe, plough or drill ought to have been exclusively made use of. Besides, something is said about making out the land in squares, and shaking over each intersection, seeds contained in a box, two or three in a place, transplanting where they failed to come up, &c., altogether a bundle of absurdities and perfectly contemptible, were it not that this was the first attempt on the part of the New Hampshire farmer, to raise a crop, (in which he appears to have been eminently successful,) of the root of all roots, notwithstanding President Muse's famous recorded declaration that they are "utterly worthless, composed chiefly of fibrous matter, a *simple hydrate of wood*." O! what a sentiment for the president of an agricultural society to deliver! To be charitable, however, it is inferred that he never saw a crop of turneps which had been sown in proper season. From this digression I will proceed to say, that I never saw any thing more than half a crop of any root obtained by dibbling, or what is the same thing, dropping seeds here and there; and early observed that the principle was wrong, and the practice productive of nothing but disappointment of a very grievous nature. Whoever is parsimonious in seed, particularly turnep seed, or beets for field crops, will reap his just reward. One pound of the former, and four of the latter, is the proper quantity which the drill in use on this farm will distribute with the utmost precision, the plants standing in the row, on an average, half an inch from each other. But why have them so thick? That is a question which has been put to me a hundred times. The answer has invariably been: You cannot obtain a *full plant in their*

proper places, except there are a superabundance of them to enable you to make a proper selection when they are hoed to their proper distance. But, there is yet another argument in favour of thick sowing. An attentive observer of the turnep crop will remark a vast disparity in the general appearance of the plants as regards strength, and of their fitness to remain, four days after they are up. How can this circumstance be accounted for. Certainly not, that some seeds are more favourably situated than others, as respects germination, &c., for it is found that plants in close affinity, present the same striking contrast, and may be noticed every where along the rows. Is it constitutional in seeds, as in animals to produce weak and strong of their kind! The writer has long thought so, from the result of several experiments he has made with different seeds, particularly the turnep, and uniformly arriving at the same conclusions, that one-fourth are unfit to be retained to stand for a crop. Hence, the importance of a liberal allowance of seed. Should the foregoing reasoning on this peculiar character of seeds be deemed by you of any importance, a further elucidation from so competent a source, would be interesting and useful. In harvesting a crop of turneps, that plan is best which admits of the least handling, the operator taking hold of them with the left hand and with a strong knife in the other, trim off the fibrous roots, and top them while yet in his hand, throwing them into the furrow, placing three or four rows together, for the greater convenience of loading. It is deemed advisable to top and tail no more than can be secured the same day, choosing dry windy weather for the business. To keep them through the winter, the plan adopted on this farm is the same as the one practised by the New Hampshire farmer, and is the very best that can possibly be devised.

In feeding turneps, my space will only admit of my stating generally that all animals except calves prefer them in their whole state. As a matter of precaution, the small ones ought to be preserved for the hogs, or cut up for the calves and yearlings, excepting there is kept on the farm an implement for dislodging potatoes or turneps from the throats of animals. It is labour misapplied, to cut or mangle roots in any form. What a business it would be to pass through a vegetable cutter the daily allowance of a thousand sheep and fifty bullocks! Animals eat them as we do apples, bite off bit by bit, with exquisite relish. What, not slice them a little for the poor little sheep! No! Positively injurious to do so. Neither for the hogs, no matter the size, the larger the better. Twenty hogs are generally wintered on this farm

exclusively on this root, with a daily allowance, as near as can be guessed, of ten pounds each, increasing to twelve as spring advances. No corn or grain of any description is given.

The preceding remarks are hastily thrown together for the benefit of those whom they may interest, but more particularly for the perusal of Virginia farmers, and for the author of the communication which has drawn them out.

In conclusion, a brief statement is given of the expenses incurred by the writer the present season, in cultivating three acres of Swede turneps, and presuming 2100 bushels to be the produce, a comparative statement may then be found.

DR.	
Interest on land, \$100 per acre, -	\$18 00
Twice ploughing three acres, -	6 00
Harrowing do. - - -	1 00
Seed, - - - - -	2 00
Ridging, two furrows thrown together, the tops of ridges three feet apart, one day, - - - -	1 00
Drilling the seed, and rolling with a light roller, taking two rows, one day, - - - - -	1 00
When the plants have six leaves, ploughed from the ridge a light furrow each side, going as near as possible with a one horse plough, one day, - - - -	1 00
Setting out the plants to ten and twelve inches apart; this operation must not be delayed five days, - - - - -	5 00
Hoing tops of the ridges effectually at the same time, then return the furrow each side carefully; and presuming the work well done, there will be no weed alive, - - - - -	1 00
In three weeks, governed by the condition of the land, run the cultivators one bout through the intervals, - - - - -	50
Then with the hand hoe, go over again, cutting out here and there weeds that have escaped former hoeings, - - - - -	50
In a few days plough out the middles, which will close the account for cultivation, one day, - - -	1 00
If any more work is requisite, pass the cultivator through the intervals. The harvesting of a crop of 2100 bushels, would occupy four men and two teams three days, say \$1 each, board and wages, - - - - -	12 00
	\$50 00

CR.	
2100 bushels turneps at ten cents, all they are worth for feeding, -	\$210 00
Profit, - - - - -	160 00

\$210 00

Cost of production in New Hampshire, \$128, in New Jersey \$50, difference, \$78.

Referring to my farm journal, for a series of years, the whole cost of production has never exceeded four and a half cents per bushel.

WILLIAM BOWKER.

The following is extracted from the lamented Judge Buel's late work, entitled, "*The Farmer's Companion, or Essays on the Principles and Practice of American Husbandry.*" It will be read with interest, as one of the last productions of his pen upon his favourite subject, agriculture.

Some of the Principles of the New Husbandry.

The new system of husbandry is based upon the belief, that our lands will not wear out, or become exhausted of their fertility, if they are judiciously managed; but, on the contrary, that they may be made progressively to increase in product,—in rewards to the husbandman, and in benefits to society, at least for some time to come. It regards the soil as a gift of the beneficent Creator, in which we hold but a life estate, and which, like our free institutions, we are bound to transmit, UNIMPAIRED, to posterity.

The principles of the new husbandry teach, that the soil is the great laboratory for converting dead into living matters—the useless into the useful—manure into plants—plants into animal food: That plants, like animals, are organized beings; that is, they live, grow, and require food for their sustenance—have organs to take in food, to elaborate it, to transmit it through their systems—organs of sexual intercourse, of reproduction, &c., all acting together to one end: That plants cannot, any more than animals, live upon mere air, or earthy matters, as clay, sand, and lime, but that they require, for their growth and perfection, animal and vegetable matters: That the effect of growing and carrying off the ground successive crops, is to exhaust the vegetable food in the soil; and that continued cropping will ultimately render it barren and unproductive, unless we return to it some equivalent for what we carry off.

The principles of the new husbandry also teach, that by carefully saving, and suitably applying, all the fertilizing matters afforded by the farm; by an alternation or change of crops, and by artificially accelerating or retarding the agency of heat, moisture, air, and light, in the process of vegetable growth; by draining, manuring, ploughing, harrow-

ing, hoeing, &c., we may preserve, unimpaired, the natural fertility of our soils;—and that with the aid of improved implements of husbandry, and a good system of management, we may also greatly increase the profits of its culture.

These principles do not rest upon mere theory. They have been long reduced to practice, thoroughly tested, and their correctness amply verified. They have, in their practical application, virtually converted Flanders into a garden, and rendered it so fertile in human food, that each acre is said to be capable of supporting its man. The system which these principles inculcate, has changed Scotland, in a little more than half a century, from comparative sterility and unproductiveness, into one of the richest and most profitable agricultural districts in Europe. It has increased the products of the corn harvest, in Great Britain, in sixty years, from 170 to 340 millions of bushels. It has doubled, trebled, and quadrupled the agricultural products of many districts in our own country. It has augmented the value of farms, in some of these districts, two, three, and four hundred per cent.—from twenty and thirty dollars, to one hundred dollars and more per acre. It has made every acre of arable land, upon which it has been practised ten years, and lying contiguous to navigable waters or a good market, worth at least one hundred dollars, for agricultural purposes.

We will state some cases of comparison, between the products of the old and new system of farming, to illustrate more fully the advantages of the latter.

The average products of Flanders are stated by Radcliffe as follows: wheat thirty-two bushels, rye thirty-two and a quarter, oats fifty-two, potatoes three hundred and fifty, per acre. Flanders has generally a flat surface, with a light, sandy soil, illy adapted to wheat. It is naturally very similar to the sandy district upon the sea-coast in New Jersey, Maryland, and the sandy plains in the valley of the Connecticut.

In the fertile districts of Scotland, according to Sir John Sinclair, and in propitious seasons, “the farmer may confidently expect to reap, from thirty-two to forty bushels of wheat; from forty-two to fifty bushels of barley; from fifty-two to sixty-four bushels of oats, and from twenty-eight to thirty-two bushels of beans, per statute acre. As to green crops, thirty tons of turneps, three tons of clover, and from eight to ten of potatoes, per statute acre, may be confidently relied on. In favourable seasons, the crops are still more abundant.” Professor Lowe gives the average products of Scotch Husbandry somewhat lower than the above. It is to be remembered, that, sixty years ago, the average

was probably not one quarter so much as it is now.

Loudon states the average product of wheat in England, at twenty-four, twenty-eight, and thirty-two bushels per acre—mean average twenty-six bushels.

The preceding references are made to old-settled countries—to lands which have been under culture for many centuries—to lands which were once worn out by bad husbandry, but which have been renovated and rendered highly productive by the new system.

In 1790, General Washington, in a letter to Arthur Young, computed the average crop in Pennsylvania, then one of the best wheat-growing States, as follows:—wheat fifteen bushels, rye twenty, barley twenty-five, oats thirty, Indian corn twenty-five, potatoes seventy-five. Mr. Strickland, who resided in Maryland about forty years ago, in a report which he made to the British Board of Agriculture, gave the average product of our wheat crop at twelve bushels the acre, and of Dutchess county, then, as now, our best cultivated county, at sixteen bushels.

Bordley, about the period we are referring to, stated the average yield of Indian corn, on the Eastern Shore of Maryland, at fifteen bushels per acre.

These quotations are sufficient to show, that in our old-improved districts, the crops do not in any wise compare with those grown in Flanders, Scotland, and England,—and this difference in product is owing entirely to the different modes of managing the soil; for wherever the new system has had a fair trial among us, it has been as successful as it has been in Europe.

We will illustrate still further the difference between the two systems, by stating the products, or their value, on the same lands, under the old and under the new system of husbandry.

We are furnished, in Rees’s Cyclopaedia, with many statements, demonstrating the superiority of the new over the old system. We will quote some of them. The first comparison is made on a farm devoted to grazing, breeding, and tillage, of three hundred and fourteen acres, in Yorkshire. Under the old mode of husbandry, the net profits amounted to £316 10s.; under the new system the same lands gave a net profit of £596, making a difference of £278, or nearly one hundred per cent., in favour of the new system. The second is that of a tillage farm of one hundred and thirty-nine acres in Lincolnshire. Under the old system the profits were £130—under the new £452; difference in favour of the latter £322, or 250 per cent. The third statement exhibits the profits of an acre of land, being the medium of a farm of several hundred acres, in Yorkshire, for six years.

Under the old system the profit was £19s. 3d.—under the new £17 6s. 9d.—an increase of more than 1100 per cent. The medium value of the acreable profit in England is stated at from twenty-seven to thirty-six dollars per annum.

We have spoken of Mr. Coke as one of the best farmers of the age. He owns a large estate in Norfolk, England, a portion of which he has been personally improving for half a century, the residue being occupied by tenants. The rental upon his estate has risen, in fifty years, in consequence of the improvement in husbandry which he has introduced, from £5,000 to £40,000.

The Hoffvyl Agricultural School farm, in Switzerland, under M. Fellenburgh, comprises two hundred and fourteen acres. Lord Brougham, after visiting this farm, and making inquiries of the Principal, says he found the average annual profit of the pattern-farm alone, for a period of four years, amounted to £836 sterling, equal to about \$4,000, exclusive of the cattle concern, which is kept separate.

The last case we will cite abroad, is that of the farm belonging to the Agricultural School of Moegelin, in Prussia, under Doctor Von Thaer. The school was established in 1809. In twelve years the value of the farm was increased from 2,000 to 12,000 rix dollars, by the improved mode of cultivating it.

The cases we have quoted, we admit to be extraordinary ones; yet they are not without parallels in our own country. Agriculture has been in a state of progressive improvement in the valley of the Hudson, for thirty or forty years. The lands have been increasing in value in consequence. The change has been so great in some districts, that farms which twenty years ago were sold for twenty to twenty-five dollars an acre, have recently been sold for one hundred to one hundred and twenty dollars an acre; and in other cases, particularly on Kinderhook plains, farms which were bought thirty years ago at five and ten dollars an acre, have lately commanded sixty and seventy dollars. Few farms of tolerable land in Dutchess, Orange, or other river counties, contiguous to the Hudson, can now be bought at less than from one hundred to one hundred and fifty dollars an acre, in consequence of their increased productiveness, caused by improved husbandry.

Doctor Black has demonstrated, in his prize essay, published in the American Farmer, that every acre of arable land in New Jersey, which now sells at from ten to thirty dollars per acre, is intrinsically worth five hundred dollars per acre; that is, if put under a judicious system of husbandry, every acre may be made to yield a net profit of thirty dollars per annum, equal to the interest on five hundred

dollars, at six per cent. And Mr. Johnson, of Maryland, in a speech which he made in Congress in 1837, cites a case in Delaware, near Dover, where land was bought, a few years ago, of medium quality, at thirty dollars an acre, by Messrs. Sipple and Pennewell, which has paid in its product for all outlay in improvement, and the owners are now receiving, in the farm crops which it gives, an annual clear income equal to the interest of *five hundred dollars an acre*.

We will offer but one other illustration in support of the great superiority of the new husbandry. It is that of John Robinson, Esq., an intelligent and industrious Scotch farmer. Fifteen years ago, Mr. Robinson bought a farm on the banks of Seneca Lake, three miles from Geneva, at ten dollars an acre. The farm was considered *worn out*. Mr. Robinson, with the aid of sheep, lime, manure, and good husbandry, has made it produce, over and above the expense of culture, and the support of his family, an annual income equal to the interest of one hundred and fifty dollars an acre,—and the farm is still in a state of progressive improvement. The income from four hundred acres is now \$4,000. Mr. Robinson has refused \$100 per acre for the whole.

We might multiply instances of worn out lands being brought into a highly productive and profitable state, by the new husbandry, if it were necessary; but almost every old settled district furnishes examples in point. Enough has been shown, or may be seen, to justify us in saying, that under the new system of husbandry, every acre of arable land, if any where contiguous to navigable waters or a good market, may in a few years be made to yield a net annual profit, equal to the interest of two hundred dollars. And we may add, that with such an income, and the industry and economy which belong to republican habits, there are few employments in life better calculated than agriculture to render a man independent in circumstances and in mind, and rich in all the elements of substantial happiness.

Lime Your Orchards.

The effect of lime on grounds in which fruit trees are planted, is stated to be very beneficial; it improves their health and promotes their growth, and is said to improve the quality of the fruit. The food or pasture of the trees is increased in quantity and improved in quality by the application; and it is doubtless an important agent in destroying the grubs and worms which are so destructive to fruit trees by the wounds which they inflict, as well on the tender absorbent fibres of the roots, as on the branches and trunk.

From the American Farmer.

Bots in Horses. Murrain in Cattle.

It is the duty of every person who has any experience in the treatment of diseases in that noble and useful animal, the horse, to communicate it to the public.

It was my province a few years since to have much to do with that noble animal, and of course among the number in my possession, I would find a number that would be diseased, and very often my skill and experience would be taxed to find a remedy for some of the diseases to which they would be very often subject.

The most formidable disease to which this noble and useful animal is addicted, and there is none more alarming in its attacks, is the bots.

I had consulted the highest authorities in the veterinary art for the treatment of this disease, and faithfully used the remedies laid down, without any benefit. I was induced from interest, and also for the very high regard which that noble animal, the horse, held in my estimation, to use every expedient in my possession, to cure this formidable disease. I had another motive—I had lost several very fine horses by this disease, which induced me to use and try every experiment which my ingenuity could invent, to arrest this disease among my horses, and prevent, if possible, its recurrence among them.

I am satisfied, and feel convinced, that I will offer to the public, an infallible remedy for the bots.

Some six years since, I purchased a very fine horse, but he had the appearance of labouring under some disease. I commenced a course of treatment, which I thought would relieve him, and which I had pursued in the treatment of some other horses which had the appearance of being diseased in a similar manner to the above mentioned horse, with decided relief; but in this case all my remedies failed of their desired effect.

I was induced to try the use of lime in the treatment of his case, as I was confident he was filled with grubs or bots, as he had discharged several. I commenced by giving him a table-spoonful of slaked lime three times per week, in bread mashes. After pursuing this course near two weeks, the bots began to pass off in quantities varying from ten to twenty, which he would expel during the night, from his intestines. In the meantime his appetite began to improve, and in six weeks he was one of the finest looking geldings I ever saw. From that day to this, I have kept up the use of lime among my horses, with decided benefit. As an evidence of its good effects, I have not lost a horse since I began to use it.

A large number of the bots which he would expel from his intestines, had the appearance of being dead. I was induced from this fact, to put some of them in a strong solution of lime-water, as I had frequently put them in spirits of turpentine, without producing any effect on them; but all those that I put into lime were perfectly dead in eight and forty hours.

Lime is a certain preventive in keeping cattle from taking the murrain. As an evidence of this fact, I have used it among my cattle three times per week, mixed with salt, for three or four years. In that time I have not lost a single cow, or steer, or ox, by this disease; in the meantime, some of my neighbours have nearly lost all the cattle they owned.

I will give you a stronger case than the one above mentioned. One of my neighbours who lost all his cattle, had a neighbour living within two hundred yards of him, who had several cattle which ran daily with those that died, and his cattle all escaped. He informed me he made it an invariable rule to give his cattle salt and lime every morning.

I have no doubt it is a sure and infallible remedy for bots in horses, and a preventive of murrain among cattle.

J. W. J.

Red House, N. C., Nov. 16th, 1839.

Incubation.

The progress of the incubation of the chicken is a subject curious and interesting. The hen has scarcely sat on the egg twelve hours before some lineaments of the head and body of the chicken appear. The heart may be seen to beat at the end of the second day; it has at that time somewhat the form of a horse-shoe, but no blood yet appears. At the end of two days, two vesicles of blood are to be distinguished, the pulsation of which is very visible: one of these is the left ventricle, and the other the root of the great artery. At the fiftieth hour, one auricle of the heart appears, resembling a noose folded down upon itself. The beating of the heart is first observed in the auricle, and afterward in the ventricle. At the end of seventy hours the wings are distinguishable; and on the head two bubbles are seen for the brain, one for the bill, and two others for the fore and hind part of the head. Toward the end of the fourth day, the two auricles, already visible, draw nearer to the heart than before. The liver appears toward the fifth day. At the end of a hundred and thirty-one hours, the first voluntary motion is observed. At the end of seven hours more, the lungs and stomach become visible, and four hours after this, the intestines, the loins, and the upper jaw. At the hundred and forty-fourth hour, two ventricles are visible, and two drops of

blood instead of the single one which was seen before. The seventh day the brain begins to have some consistency. At the hundred and nineteenth hour of incubation, the bill opens, and the flesh appears in the breast; in four hours more the breast bone is seen; in six hours after this, the ribs appear forming from the back, and the bill is very visible, as is the gall bladder. The bill becomes green at the end of two hundred and thirty-six hours; and if the chicken be taken out of its coverings, it evidently moves itself. The feathers begin to shoot out toward the two hundred and fortieth hour, and the skull becomes gristly. At the two hundred and sixty-fourth hour the eyes appear. At the two hundred and eighty-eighth, the ribs are perfect. At the three hundred and thirty-first, the spleen draws near the stomach, and the lungs to the chest. At the end of three hundred and fifty-five hours, the bill frequently opens and shuts; and at the end of the eighteenth day, the first cry of the chicken is heard. It afterward gets more strength, and grows continually, till at length it is enabled to set itself free from its confinement.

In the whole of this process, we must remark that every part appears at its proper time; if, for example, the liver is formed on the fifth day, it is founded on the preceding situation of the chicken, and on the changes that were to follow. No part of the body could possibly appear either sooner or later, without the whole embryo suffering; and each of the limbs becomes visible at the fit moment. This ordination, so wise and so invariable, is manifestly the work of a Supreme Being; but we must still more sensibly acknowledge his creative powers, when we consider the manner in which the chicken is formed out of the parts which compose the egg. How astonishing it must appear to an observing mind, that in this substance there should at all be the vital principle of an animated being! that all the parts of an animal's body should be concealed in it, and require nothing but heat to unfold and quicken them! that the whole formation of the chicken should be so constant and regular! that, exactly at the same time, the same changes will take place in the generality of eggs! that the chicken, the moment it is hatched, is heavier than the egg was before! But even these are not all the wonders in the formation of the bird from the egg (for this instance will serve to illustrate the whole of the feathered tribes:) there are others, altogether hidden from our observation; and of which, from our very limited faculties, we must ever remain ignorant.—*Provincial Journal*.

Ask thy purse what thou shouldst buy.
Never buy what you do not want.

From the Hampshire Gazette.

Antidotes for Poisons.

The following communication from Dr. Hall will be read with interest at this time. Every family should keep the antidotes named by Dr. Hall, laid up where they can be instantly obtained, in any case of emergency. When an active poison is taken, the only safety of the sufferer is in the *immediate* application of an antidote. A short delay is fatal.

“Every bitter hath its sweet, every poison its antidote.”

The repeated cases of poisoning which have recently occurred in this village, have induced me to make public some of the most efficient antidotes for poisons, especially for those which are found in the domestic department of almost every family: I am induced to make these “antidotes to poisons” public, because in instances of poisoning, from accident or otherwise, the urgency of the case does not allow us to wait for medical assistance, which is scarcely ever obtained without some delay, and consequently of comparatively little or no avail when it is, and the life of an individual is often lost by waiting, when by prompt interference it might have been saved.

I have confined myself to mentioning those antidotes which are the most simple and the most easily obtained; and it is worthy of notice, that *those* are the very articles that are most effectual. The practice of forcing down large doses of powerful and irritating emetics, which in themselves are almost sufficient to destroy life, cannot be too strongly reprehended. When emetics are necessary, as they sometimes are, especially in those cases of poisoning by substances which produce great torpor of the system, (such as opium and all the narcotics,) the safety of the patient requires that the dormant energies of the stomach be aroused. In these cases, nothing is better to be given than ground black mustard, a large tea-spoonful of which may be mixed with water and swallowed at once. It operates very promptly—it is perfectly safe, and nothing can be more effectual.

As a general rule, the effects of poisons are better counteracted by articles, which, being taken into the stomach *immediately* after the poison is swallowed, enter into combination with the poison, and form with it a new substance, either harmless in itself, or incapable of being acted on by the fluids of the stomach.

For *Oil of Vitriol*, the best antidote is large doses of Magnesia and water, or what is still better, equal parts of soft soap and water.

For *Aqua Fortis*, same remedy as the last.
For *Oxalic Acid*—(This resembles Epsom

Salts, and is often used for bed-bug poison.) Chalk and water renders it perfectly inert, forming an insoluble salt of lime. Magnesia is also a good antidote.

For *Tartar Emetic* in poisonous doses, Peruvian Bark and water renders it harmless; if that cannot be procured, use a strong decoction of tea until it can.

For *Saltetre*, (which is also sometimes mistaken for salts) a prompt emetic of mustard and water—afterwards mucillages and small doses of laudanum.

For *Opium* or *Laudanum* in over doses, an emetic of mustard, constant motion in a wagon or otherwise, and the stomach pump, where it can be obtained.

For *Lunar Caustic*, (the principal ingredient in indelible ink,) common salt forms an insoluble substance which is harmless.

For *Corrosive Sublimate*.—(This is the most common bed-bug poison, but it has probably destroyed as many persons as bed-bugs.) The whites of eggs mixed with water is the best and most effectual remedy. This should be given until free vomiting takes place. (Albumen renders this poison harmless, the whites of eggs are mostly albumen.)

For *any of the Salts of Copper*.—The same remedy as the last.

For *Arsenic*.—Three or four cases are reported as having been cured by doses of Magnesia. But the only sure antidote is the *freshly prepared Hydrated per Oxide of Iron*. This is not always at hand, and cannot well be prepared except by a physician, or an apothecary.

Rules for House-Wives.

1. When you arise in the morning, never be *particular* about pinning your clothes so very nicely; you can do that any time.

2. Never comb your hair, or take off your night cap till after breakfast. It is *your* business to take time by the foretop, and not let him take you so; therefore keep all right in that quarter till ten o'clock at least.

3. When you begin the business of *your toilet*, you may do it before the window or in the front entry; but the most proper place is in the kitchen.

4. Never have any *particular place* for any thing in your house; and then you may rest assured, that *nothing* will ever be out of place; and that is a great comfort in a family.

5. Never sweep your floor, until you know some person is coming in; he will then see how *neat* you are: and, besides, in such cases, even your enemies cannot shake off the *dust of their feet*, against you, though they may the dust of their clothes, with which you have covered them by your sweeping.

6. When you have *done* sweeping, leave your broom on the floor, it will then be handy: and being always in sight, and in the way, it will be constantly reminding your husband, when he is in the house, what a smart, nice, pains-taking wife he has.

7. Never follow the barbarous practice of brushing down cobwebs. A man's house is his castle: and so is a spider's:—It is a violation of right; and a shameless disrespect to the fine arts.

8. Keep your parlour and bed-room windows shut as close as possible in dog days; this will keep the hot air out—and you will have excellent *fixed* air inside.

9. Keep your *summer cheeses* in your bed chambers;—they enrich the qualities of the atmosphere; and if a stranger should lodge in one of your beds, if he could not *sleep*, he could *eat* for his refreshment.

10. Never teach your daughters to *mend* or *make* any of their own clothes: it is “taking the bread from the mouth of labor”—besides, it will make them crooked and give them sore fingers.

11. But if they should insist on *mending* their own garments, they should do it while they are on; this will make them *fit* better: and girls can't leave their work: if they should attempt it, their work would follow them.

12. If your husband's coat is out at *one* of the elbows, don't mend it until it is out at the *other*; then the patches will make it appear uniform; and show that you are *impartial*.

13. Never spoil a joke for a *relation's* sake; nor suppress the truth for *any body's* sake. Therefore, if you don't like your husband as well as you ought—*out with it*, and convince him you are not a respecter of persons.

14. You should endeavour not to keep your temper: *let it off* as soon and as fast as you can; and you will then be calm and quiet as a bottle of cider after the cork had been drawn half a day.

15. If, on any particular occasion, you are at a loss as to the course you are to pursue, in the management of yourself or your family affairs, take down the paper which contains these rules, and read them over and over till you have satisfied your mind—and then go on.

POOR RICHARD.

“AN EXCELLENT PICKLE FOR BUTTER.—Take two pails of water, two quarts fine salt, one-fourth of a pound of loaf sugar, two ounces of salt petre, well boiled and skimmed. Cover the butter with this pickle, and it will keep sweet the year round.”

From the Yankee Farmer.

**DISAPPOINTMENT;
OR, THE SALTED PUDDING.**

Verseified by its original author. (N. B. First published in prose in the Amaranth, 1833.)

A jolly old wight, ('twas a farmer of yore,
Who ne'er turn'd the needy away from his door.)
Was fond of good pudding, and order'd the same,
As often as Saturday evening came.

I mean hasty-pudding, an excellent food,
And *Grahamites* call it both wholesome and good;
But Gaffer *he* cared not for *Graham* a straw,
For he butter'd his pudding to pleasure his maw.

In condiments too, he was never a slouch,
As all his domestics might very well vouch;
Of salt, or of pepper, of mustard, or mace,
If there was a lacking, he'd show a wry face.

One Saturday night, when their labour was done,
A stranger called in there, the tempest to shun;
They bid him a welcome, and gave him a chair,
So he tarried all night, and partook of their fare.

The pudding, from meal of the rich yellow maize,
Was boiling and muttering over the blaze,
The worthy good house-wife was tewing about,
With Dolly, the maid, up and down, in and out.

"I'll bet now," cries Gaffer, "the salt is forgot,"
So he took out a handful and threw in the pot;
Then stept out of doors, when his wife, in a trice,
Came along and put in as much more of the spice.

Next Dolly, the maiden, and Moses, the son,
Both salted the pudding, not knowing 'twas done;
The stranger, with Romans, like Romans must do,
So, following the fashion, *he* salted it too.

The old oaken table by Dolly was set,
Around which the farmer's good family met;
The broad pewter platter, an heir-loom of fame,
Brim full of hot pudding, was placed on the same.

"Come, come, friend," quoth Gaffer, "fall to and spare
not:—

When this we have finish'd, there's more in the pot."
Then, taking a mouthful, cried,—"thunder! what's
here?

Who salted the pudding, wife?"—"I did, my dear."

"Did you?—so did I;"—"so did I too," said Moses:
"The gallows!" cried Gaffer, "we've put in three
doses!"

"I salted it also," said Dolly, "that's four;"

"For me," said the guest, "you may reckon one more."

"What, five?—by Lot's wife," cried the honest old
wight,

"Then sure we've no pudding for supper to-night.
Can you something provide, spouse? you'd better go
look;

If not, it is plain, we must all kiss the cook."

What they supped on, no matter; the house had enough,
For the farmer an army of gourmands might stuff.
The moral is common,—in palace or cottage,
With two many cooks, you will ruin your potage.

Secret Worth Knowing.

How to make three pair of boots last as long as six, and longer.

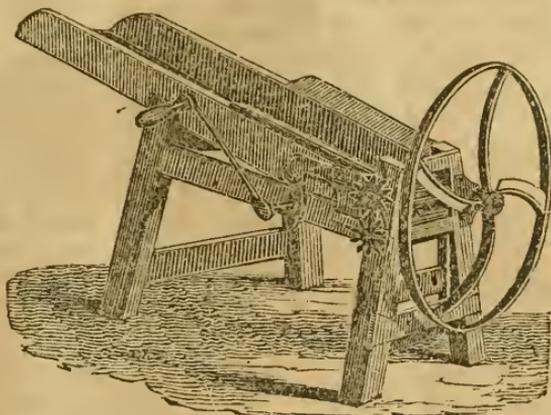
The following extract from Colonel Macarone's "Seasonable Hints," appeared in the *Mechanics' Magazine*, dated February 8th, 1838. After stating the utility of sheepskin clothing for persons whose employment renders it necessary that they should be much out doors, &c. he says—"I will not conclude without inviting the attention of your readers to a cheap and easy method of preserving their feet from wet, and their boots from wearing. I have had only three pair of boots for the last six years, (no shoes,) and I think that I shall not require any others for the next six years to come. The reason is that I treat them in the following manner:—I put a pound of tallow and half a pound of rosin into a pot on the fire; when melted and mixed, I warm the boots, and apply the hot stuff with a painter's brush, until neither the sole nor upper leather will suck in any more. If it is desired that the boots should immediately take a polish, dissolve an ounce of beeswax in an ounce of spirits of turpentine, to which add a tea-spoonful of lamp-black. A day or two after the boots have been treated with tallow and rosin, rub over them the wax and turpentine, but not before the fire. Thus the exterior will have a coat of wax alone, and shine like a mirror. Tallow, or any other grease, becomes rancid, and rots the stitching as well as the leather; but the rosin gives it an antiseptic quality, which preserves the whole. Boots or shoes should be large so as to admit of wearing cork soles. Cork is such a bad conductor of heat, that with it in the boot, the feet are always warm on the coldest stone floor.

How to prevent Oxen Hauling Apart.

Some oxen have a very vexatious trick of hauling apart, when in yoke. Mr. Francis Wingate, an experienced farmer at Hollowell, informs us that he prevented this in a yoke of oxen, by placing a small rope or line, a codline for instance, across from the horn of one ox to the horn of the other, thus bringing their heads in some degree together. The line should be tied around the tips, which, if they have ballson, may be kept there very easily, and should be proportioned in length to the length of the yoke.

If this simple remedy will obviate the trouble in all oxen addicted to this trick, it is worth knowing. If the rope be tied around the tips instead of around the roots of the horns, they will have less purchase upon it, and a smaller cord will answer the purpose.
—*Maine Farmer.*

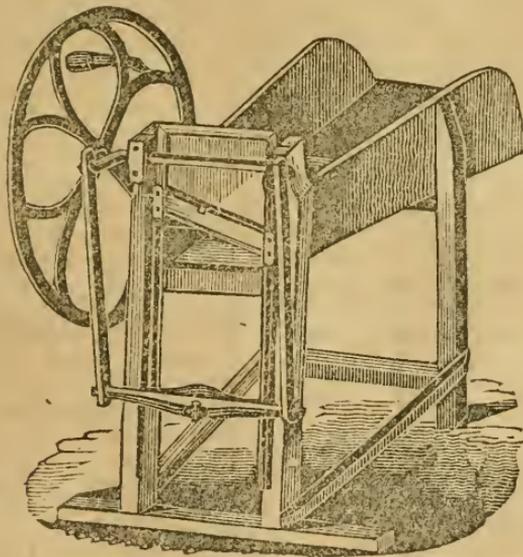
STRAW CUTTERS.



The above cut is a representation of "Wil- lis' Improved Vertical Hay and Straw Cutter." This machine is well constructed on mechanical principles; the knives are so placed as to operate with a drawing stroke—cuts free and easy—is fed and worked by one man, and will readily cut thirty bushels per hour.

The cut below represents the "The Guil-

lotine Straw Cutter," invented by the same individual; a very effective, cheap (price \$15) and durable machine. Either of these machines are well calculated for cutting the usual variety of fodder found on the farm. They have advantages over some in use, by their adaptation to cutting corn fodder, a very desirable property, to the purchaser of an article for general use. The advantage



of cutting the long food for cattle and horses, is no longer a "problem to be solved." The question is settled by the repeated experiments before the public. As an illustration of the great loss sustained by those who altogether neglect the use of the straw cutter on their farms, we give the statement below from a *calculating man*, Mr. BENJAMIN HALE, proprietor of a line of stages running between

Newburyport and Boston. It is a correct statement of savings made by the use of straw cutters in preparing the food for his horses. He says:—

"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 per ton, (the lowest price at which hay was purchased in 1816,) \$800 00

From Oct. 1, 1816, to April 1, 1817, whole amount of hay and straw purchased for, and consumed by the same number of horses, viz.

	T.	cwt.	qrs.	lbs.	Cost.
Straw	11	13	3	10	\$160 22
Hay	13	14	1	00	\$350 00

\$510 23

Deduct on hand, April 1, 1817, by estimation, four tons more than there was Oct. 1, 1816, at \$25 per ton, \$100 00

\$410 23

Saving by the use of the Straw Cutter, four months of the last six 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, twenty-five in number, from April 1, to Oct. 1, 1816, viz.

T. cwt. qrs. lbs.
23 0 0 0

At thirty dollars per ton (the lowest price in Salem.).....

\$660 00

Whole amount consumed by the same number of horses, from Oct. 1, 1816, to April 1, 1817,

	T.	cwt.	qrs.	lbs.	Cost.
Straw	15	13	0	0	\$187 80
Hay	2	15	0	0	81 00

268 80

Saving in using chopped fodder five months,.....

391 20

Total saving in using the straw cutter nine months, viz. at Newburyport, four months,.....

389 77

At Salem five months,.....

391 20

Total,.....

\$780 97

NOTE.—A variety of Straw Cutters are for sale at the Agricultural Warehouse, No. 87 North Second street, including those represented above, "Green's," and others.

From the Farmer's Monthly Visitor.

FRIEND HILL:—As many people are very fond of the intestine of our neat cattle, commonly called *tripe*, and many more would be, if they understood cleansing and preparing it for the table, I thought some might be pleased with directions which will enable them to prepare it in the best manner possible.

The following is the method by which this very valuable and highly palatable part of the beef is prepared. After it is taken from the creature, make an incision of about eighteen inches, through which turn out the excrement with care to keep the outside clean; then turn it inside out and sew up this opening perfectly tight: rinse off the remaining impurities in warm water, put it into an empty tub. After which, take two quarts of air or dry slaked lime, which rub over it with the hands, the hands being previously greased to prevent the lime from corroding them. Add about three quarts of warm water, in which let it remain for fifteen to twenty minutes. Then with a knife scrape it while in the tub, and the inner pellicle or skin, together with the remaining filth, will rapidly

peel off; and leave the tripe perfectly white and pure. Wash and rinse off all impurities: after which, cut it into convenient slices to boil: then put it to soak in cold water, with the addition of a little salt, in which let it remain twenty-four hours, changing the water three or four times. It has now become free from all external impurities; and that strong rank taste, which in the ordinary process is retained, is now extracted, and it is left perfectly sweet.

Process of Cooking.—Boil it until it is tender, then cut it into small pieces; add butter to it, warm it again, not so as to fry it, and it is one of the most delicious and palatable articles of food on the table.

From the Farmer's Magazine.

Nitrate as a Manure.

SIR,—In answer to your correspondent, Mr. J. R. Barker, who inquires as to the use of nitrate of potash, (saltpetre,) I beg to say, it should be used as a top dressing in March or April; and might then be put in those parts where there is an evident failing in the crop, but the growth must not depend on saltpetre alone; as a cheaper substitute, the nitrate of soda has strong recommendations. At the present time many spots on the Guildford Downs show evidence of its beneficial effects; but always, where there has been also a portion of stable dung, or folding with sheep, for the alkali is not only a food of itself to growing vegetables, but it acts as an assistant in converting the oleaginous matter that may be in the land into a soap; by that means they are soluble in water, and become food to growing vegetables; alone, it is recommended as a top-dressing in the spring, being exceedingly soluble, soon passes down to the roots, therefore is best sown in wet weather; the sun has a tendency to injure the leaves of plants when the sowing takes place in its rays. This nitrate has been mixed with the prepared humus manure, and sown with the seed in the proportion of one pound of nitrate to a bushel of manure; the effects have been good with every seed—and this coincides with the experiments made by Mr. Robert Rigg, as published in the *Farmer's Magazine* for June last, of the influence of nitrogen in the growth of vegetable substances. Of the price of this concentrated nitrogen in the shape of cubic soda, it is about 10l. per ton cheaper than the nitrate of potash.

E. J. LANCE.

Barossa Cottage, Bagshot, Aug. 3.

With strength and counsel joined, think nothing hard.

In making innovations the utility should be clear.

From the Genesee Farmer.

Hog Manure.

For aiding the growth of many plants, and particularly corn, we have never found any manure the application of which produced such effects as that from the hog pen. Last year we had a field of corn dunged in the hill, part of it with alternate loads of hog-pen manure, and common good stable manure. Each load planted about five or six rows. From the commencement of their growth, till the ripening of the corn, the rows manured from the pig-pen had the advantage, and at harvesting they yielded a much larger quantity of corn than the others, though all was excellent. A neighbour, the last spring, in planting his corn, used good stable manure, except for some few rows, for which the stable manure falling short, he substituted a load or two from his hog-pen. The difference in the size of the corn from the first, was such as to arrest the attention of every passer by, and though the year has been unfavourable for corn, it has given a handsome product compared with the other. Other instances have this year fallen under our notice, the results of which were precisely similar, and have established, in our opinion at least, the superiority of this manure over every other. Its greatest effect, however, so far as our experience or observation has extended, is produced on soils of a loamy or sandy texture, and on vegetables that require active manures to bring them forward rapidly.

It appears to us, then, an object of considerable consequence to the farmer, that he should avail himself of this resource for fertilizing his soil, as far as possible, and that methods should be adopted by him to preserve and increase the amount at his command, as far as may be, and not allow the avails of his pig-pen to be lost to the farm, as is not unfrequently done. Where pigs are allowed a small yard to run in from the pen, they may be made to produce a large quantity of good manure, by frequent additions to the material in the yard, of straw, weeds, turfs, muck, or even good common earth, to absorb the fluid part of the manure, and preserve its salts from escaping. In this frequently renewed mass, the pigs will love to work; and if any disinclination is manifested in them to stir this compost heap, a few handfuls of corn scattered over the surface, will speedily overcome it, and set them busily at work. If the pigs cannot leave the pens, the sty should be frequently cleaned, and care should be taken that the dung so thrown out is not lost to the premises. A load of muck, or vegetable mould, occasionally mixed with, or thrown upon the heap, will, when the time for using it in the spring of the year arrives, be found,

from this absorption of salts, and combination with the manure, an application of much greater value than common stable manures, for most of the crops cultivated by the farmer. Fresh manure of any kind should not be applied directly to crops of grain; as they are apt to produce too much straw and endanger the formation of a good berry. Manure should be first applied to roots, or to corn, and grain follow; by which the danger of a too rapid growth is avoided.

For the Farmers' Cabinet.

Topping Corn.

Will the Editors indulge a subscriber with propounding, through the medium of the Farmers' Cabinet, some queries which he believes to be of much importance to corn growers, and perhaps to others, inasmuch as every thing which tends to increase the quantity and quality of food for man or beast, must be in a measure interesting. The object of the writer is to call the attention of such of the readers of the Cabinet as may be competent to make experiments, and communicate the result through that medium, thinking, as he does, that the best mode of securing corn is of much importance, both as to the quality of the grain and also of the fodder, that one practice might generally obtain instead of several; some now plant one kind, some another; some top their corn, some cut it near the ground; others leave it standing until ripe, and after husking cut it for fodder—each practice has its advocates, who all think theirs the best. The being differently circumstanced as respects soil, as also in regard to the convenience of foddering, will warrant a continued difference in practice, both as to the kind of grain planted, and the manner of securing the fodder; unless it can be made satisfactorily to appear that the grain is more valuable when secured in one way than the other. The writer is of opinion, that by topping, the sun and air has a more free access, and that the corn ripens earlier than if left without topping; that it does not prevent the sap from passing from the roots to the ear so far as is required, in order to the full maturity of the grain, and frequently prevents the corn from being blown down by the autumnal winds. When I top my corn I have the fodder put under cover as soon as perfectly dried, which renders it, in my opinion, of twice the value which it would be if left exposed, as is very generally the case with that which is cut up and husked in the field; and further, I am enabled to feed it to the cattle in their stalls, which could not be done if cut up, especially if the corn was large; and in order that there may be no waste of fodder or litter, the remaining part

of the stalk is cut off immediately after husking and stacked by the barn yard to be thrown in as wanted through the winter. When the corn is suffered to stand in the field without topping until after it is husked, there is an almost total loss of the fodder by winds and rain. The advocates of this practice say the corn is better than when topped or cut off and shocked—again, those who cut it off say that there is more in measure and of equal quality in their practice; those who top adhere to the opinion, that their practice is best, believing that the grain has more nutriment. The opinion has heretofore generally prevailed, that sun and air were essentially necessary to the fully maturing of vegetables—is Indian corn an exception to this rule? Does the sap circulate in vegetables after they are cut off and begin to dry, and if not, in what manner does unripe grains of corn receive the requisite quantity of nourishment to bring them to a state of full perfection? is there no way by which to test the actual quantity of nutriment there is in the different kinds of corn? and also of the same kind when left standing, cut off or topped? If there is, and the experiment was satisfactorily made by repeated trials on a given quantity of each and published in the Cabinet, it would much gratify a

MONTGOMERY COUNTY FARMER.

From the New England Farmer.

Cutting of Stalks.

Several writers have, within a few years, recommended to let corn stalks stand until harvest, and then take all together. They say the corn will weigh more, and that it is not more work to harvest the crop than when the stalks are cut. The corn may be a little heavier; but suppose it is, that advantage is more than counterbalanced by the extra labour caused by the stalks not being cut, besides a loss of valuable fodder. I have, in several instances, had a frost take part of my corn before the stalks were cut, so as to kill the leaves, but not to injure the corn, and did not cut the stalks; and have, in every instance, found that it cost more to harvest the crop, than to cut the stalks and secure them, and then harvest the corn; that is, it is cheaper to secure them separately, than to take both at once. When stalks and corn are cut both at once they are too bulky, and it takes much more room to secure them than to take the stalks off first, and bind them in bundles.

CURING OF STALKS.—It is a favourite method with some, to bind their stalks as soon as they think they will do, and immediately secure them under cover, and hang or set them up in an airy place. So managed, they look very nice, but do cattle like them

best! This is what we want. Now it is a fact I have learned from actual experiment, that housing them is not the better way, but another way is better, as any man's cattle will tell him, if he will but try it. It is this—the next day after the stalks are cut, when the leaves are not so dry as to crumble, bind them in small bundles, and then shock them, or as it is called where I live, *pike* them—which is, to set eight or ten bundles, or such number as appears to be suitable to make a pike of proper shape to shed rain, on their butts—draw their tops together and cap with two bundles—when they are sufficiently dried to keep, put them into some building, and if the butts are too green, place the bundles to stand with the butts upwards. In this way my cattle prefer them to any other: there is a sweetness in them that cannot be had when dried in a building.

MIXING OF CORN.—Here I shall differ from all that I have ever read, or heard spoken on this subject. The common opinion is, that the blossom on the top stalk falls on the end of the ear, and causes the mixture. This seems to me to be hardly possible, when it is considered that the silk, as it is called, lops down as soon as it has grown beyond the length of the ears, and also that it is not probable that one blossom in a thousand, or the farina, lodges on the end of the ear. My theory, and I believe it to be the true one is, that there is a silk from the bottom, that is, next the cobb, of every kernel of corn: the silk is hollow—a tube, so to express it. Go into a field with a good glass, when this generating takes place, and I believe there will be seen a vapor, or myriads of vapors, resembling so many spiders' webs, leading in all directions, from the top stalks to the ends of the ears—I saw it once with my naked eye. This, in my poor opinion, is the way in which corn mixes,—it is by sympathy, or attraction, or whatever name the learned may call it by.

By my observation, corn seldom mixes more than two rows each way, when two kinds or colours are planted side by side—whereas if it were done by the blossom falling on the ear, I see not why it might not mix for a much greater distance, by the wind blowing the blossoms.

Dec. 23, 1839.

A FARMER.

Easy Mode of Edging Razors.

On the rough side of a strap of leather, or undressed calf-skin binding of a book, rub a piece of tin, or a common pewter spoon, for half a minute, or till the leather becomes glossy with the metal. If the razor be passed over this leather about half a dozen times, it will acquire a finer edge than by any other method.—*Mechanics' Magazine*.

For the Farmers' Cabinet.

Expenses and Proceeds of Crops.—No. 2.

In my former communication I gave a concise account of the principal crops of the farm. I will now proceed to do the same with some of the minor ones, or such as do not enter into the regular rotation: and commence with—

BROOM CORN.—1 acre gravelly loam.—Ploughed May 10th, then rolled and well harrowed, struck out the rows quite shallow, about four feet apart—put in four quarts seed with a drill, and ran over it with a light harrow to cover it well: Dressed it with the cultivator on the 14th, and again on the 19th June; finished tending it on the 30th, by throwing a light furrow to the corn, and passing the cultivator after the plough once in a row—bent it several times during August, to prevent the heads from spreading and becoming ill-shaped. Cut the wisks and secured them in the barn in October, afterwards cut the stalks and hauled them into the yard as litter; if the corn had been cut earlier, *perhaps* these might have been worth preserving as fodder.

BROOM CORN.

DR.	
To ploughing half a day.....	\$1 00
To harrowing three times.....	50
To drilling and seed.....	25
To tending.....	2 00
To gathering.....	3 25
To making into brooms.....	6 00
	<hr/>
	\$13 00

CR.

By 16 dozen brooms, at \$2.50 per dozen.....	\$40 00
Deduct expenses.....	13 00
	<hr/>
Balance,	27 00

POTATOES.—Three-fourths of an acre, gravelly loam, in corn the year previous. Hauled on twenty ox cart loads stable manure, and spread it evenly; ploughed it in the 21st of May, dropping the cuttings at a distance of nine inches apart, into every third furrow, then rolled the whole, harrowed them ten days after with the common harrow; ran the cultivator through them on the 16th and 30th of June; gave them the last dressing with the plough on the 7th July. Gathered them the first week of November. The method practised was, to run a furrow directly along the row with a plough, followed by the pickers, then pass the cultivator over it, and lastly, the common harrow two or three times—the pickers getting all that appear at each going over; if careful, but few will be missed in this way, and it is much more expeditious than digging them with hand rakes. It required six bushels large seed potatoes, cut into pieces of one eye each, some time before planting, to allow them to dry. They should have been housed earlier in the season.

POTATOES.

DR.	
To hauling manure one day.....	\$3 00
To twenty loads manure, at \$1 per load.....	20 00
To ploughing and planting.....	3 00
To six bushels seed, at 50 cts. a bushel.....	3 00
To tending.....	1 00
To gathering.....	2 00
	<hr/>
	\$32 00

CR.

By fifty bushels potatoes, at 80 cts. per bushel.....	\$40 00
Deduct expenses.....	32 00
	<hr/>
Balance,	8 00

RUTA BAGAS.—One acre clay loam, in corn the year previous. Hauled on twenty ox cart loads of barn yard manure, spread it evenly, ploughed it under and harrowed the ground well about the middle of June. Let it lay until the middle of July, then threw it into ridges two feet and a half apart; put ten loads of compost in the trenches and covered it by splitting the ridges, and throwing a furrow on to it on each side, then rolled it and drilled in three quarters of a pound of seed. Owing to the dry weather they did not make their appearance for more than three weeks after the seed was deposited in the ground. The tending of this crop was not kept account of regularly.

RUTA BAGAS.

DR.	
To twenty loads manure, at \$1 per load.....	\$20 00
To ten loads compost.....	10 00
To ploughing and harrowing one day.....	2 00
To hauling and spreading manure.....	3 50
To putting in and seed.....	3 50
To tending and pulling, say.....	5 00
	<hr/>
	\$44 00

CR.

By 200 bushels Ruta Bagas, at 30 cts. per bush.....	\$60 00
Deduct expenses.....	44 00
	<hr/>
	\$16 00

BEETS.—One-fourth of an acre sandy loam, in corn the previous year. May the 18th, hauled on four loads of barn yard manure,—spread it evenly and ploughed it under deeply and harrowed the piece well; then threw it into twenty inch ridges—put two loads of short well rotted manure in the trenches, and ridged over it again, smoothed and levelled the ridges with a rake, and dibbled in the seed by hand, five inches apart. Hoed them on the 11th and 19th of June; on the 25th, immediately after a rain, thinned them to ten inches apart, filling up vacancies with plants taken from where they were too thick; hoed them the last time on the 13th July. Pulled them early in November. The rows were too contiguous, attempted once to dress the patch with the plough and cultivator, but gave it up as poor business. Thirty inches between the rows, would have allowed of their being dressed by horse, instead of manual power,

and then perhaps they would not have suffered as they did, from want of the soil around them being kept open to the influence of the atmosphere. There were about thirty bushels of beets, the tops were used through the growing season as food for pigs.

PUMPKINS.—One-fourth of an acre, gravelly loam, manured all over and ploughed the 8th of June, harrowed until quite mellow, then struck out rows eight feet apart, put a shovelful of old compost every six feet along the furrows; drew a slight covering of earth on to this with a hoe, dropped from four to six seeds thereon and covered them about an inch deep; kept the soil loose with the cultivator, until the vines began to spread over it, hoed immediately around the hills by hand once, and thinned the vines to two and three in a place. Gathered the pumpkins the last week of October, and fed them off soon to milch cows and hogs, as they are easily affected by frost.

April 4th.—Planted a patch of early potatoes in ridges.

April 18th.—Grafting apple trees.

May 14th.—Apple trees in blossom.

May 18th.—Quince do. do.

June 12th.—Early potatoes do.

July 4th.—Thermometer 92° in the shade.

July 5th.—Wheat rusted in a slight degree last night.

July 20th.—Sowed buckwheat.

July 25th.—Cradled timothy for seed, and mowed the stubble for hay.

July 30th.—Trimmed all the fences of weeds and briars.

October 27th.—Pasture yet growing luxuriantly. Buckwheat crops have been quite light from the drought. Chesnuts plenty.

October 30th.—The first fall of snow; a severe frost last night, caused many of the trees to drop their foliage, which until then had remained quite green. Clover seed twenty-four dollars per bushel.

I have taken these extracts from my journal to show a little the manner in which it is kept. A. E. T.

Philadelphia County, Dec. 2, 1839.

ORIGIN OF THE WORD "FARM."—In the Saxon times the estate which the Lords of Manors granted to the freemen were at the first but for years, with a tender of a rent, which in those days were of corn or victuals, and thence the leases so made were called *fornes* or farms, which word signifieth victuals; but times ensuing turned the victuals into money, and terms of years to terms of life and inheritance, retaining the rents and those called quit-rents, or the rents of these persons that were acquitted or free.

From the Mississippi Farmer.

The Art of Curing Bacon.

Messrs. Editors:—It is conceded by all, that the people of Eastern Virginia excel all others in the art of curing bacon, and this reputation is strictly founded upon truth. And yet there is no good reason why it should be so, for I made as good bacon here last year as I ever made in old Virginia. The people of Kentucky, Ohio and Tennessee do not make it as well, nor ever will, until they adopt the Virginia method, and every part of that method; for, to dispense with any one of the requirements, although some appear frivolous to the inexperienced, will prove certainly fatal to your bacon, if intended for the palate of a connoisseur. As the bacon making season is near at hand, I propose to furnish your readers with the most approved method as practised in the Tuckahoe region of that renowned commonwealth.

In the first place then, let your hogs be well fattened on corn; for it is impossible to make good bacon out of lean or mast fat.

It is very desirable that your hogs be killed by the first of January, if the weather suits, as you will thereby have time enough to salt and smoke your meat before the warm weather sets in. At all events, have them in readiness to be killed the first suitable weather after that period.

Unless the weather should be very cold when you kill, it will be prudent, in this climate, to let your hogs remain suspended in the open air the whole night succeeding their slaughter. This will insure their being chilled to the marrow.

You can have nothing better to salt your meat down in than troughs made of the largest pine trees. Hogsheds answer very well, but barrels do not answer at all, as it is impossible to pack whole joints away in them without leaving large vacant spaces, which will prevent the brine from rising over the meat; a thing that is absolutely essential in this climate.

Your trough should be placed upon a perfect level, which can be done readily by pouring a gallon of water into it, and then wedging up the lowest end until the water is dispersed over the whole bottom.

As soon as your meat is cut out, (which every owner of hogs must be presumed to know how to do,) have two heaping tea-spoons full of pulverized salt petre rubbed upon the fleshy side of each joint, and one tea-spoon full upon every neck-chine and jowl.

Then rub your meat well with salt, (Turk's Island pretty well beaten, or pulverized, is the kind I use,) beginning with the hams. These should be placed in the bottom of the trough, as closely fitted into each other as

possible, (and they may be made to do it perfectly,) with the fleshy sides up. When you shall thus have covered the whole bottom of the trough with hams, sprinkle a plenty of salt over them. Do not be afraid of using too much salt. The meat can only absorb a given quantity in a given time, and whatever remains can be used for salting stock, &c. A bushel of salt to 800 lbs. of pork is the rule in Virginia, but I think it prudent to use more than that in this latitude. You will thus put in course after course of hams until the trough (or hogshead) be one-third filled;—then appropriate another third of the trough to shoulders, and the remaining third to middlings, chines and jowls. These can be filled up a foot above the edges of the trough. The skulls and other bloody parts should be salted separately.

If the weather should prove favourable, your meat will, in the course of a week, settle down very considerably, and the brine formed by it will rise above the highest course of joints. I think you need entertain no fears for its safety after this happens. Should the weather become very warm, however, within fifteen days after the salting, it will be prudent to see that no flies are about it; and even to displace some of the middlings so as to enable you to see one of the shoulders. Should this, and the brine prove pretty cold to the hand, and the joint appear to be attaining considerable firmness, disturb it no further. But, on the contrary, should the brine be warm and the joint spongy, your meat will be in great danger. It will then have to be spread out and the bone extracted. With good management, however, I believe this state of things will hardly ever come to pass.

At the expiration of three weeks, all the middlings and smaller pieces may be strung and hung up in your smoke house; and at the expiration of four weeks the joints may be taken out and strung. Splits of white oak make the best strings for this purpose that I have ever seen tried. After this is done, let each joint be very well rubbed with the ashes of hickory wood, and then hung up carefully with as much of the ashes adhering to the joint as possible.

It is very desirable that your smoke house be both large and high; otherwise, the heat of the fire may raise the temperature to such a degree as to injure your meat very seriously. I have frequently known bacon to be affected in this way. If your smoke house be built of logs, let it be perfectly well chinked and daubed with clay, and the roof be rendered as tight as convenient; otherwise the smoke will escape too rapidly.

Have a hole dug in the centre of your smoke house eighteen inches deep by three feet

square, in the bottom of which the smoke must be made; and upon the joists, immediately over this hole, should be placed a platform, five or six feet square, composed of slabs or planks. The object of this is to prevent the heat of the fire from affecting the meat immediately above it.

Hickory wood chips is the best material to smoke with; a peck to a half bushel being sufficient for a day. These chips should be rendered very damp in order to prevent their burning too freely. A smoke is made by placing two chunks in the bottom of the hole, with their fire ends lapped together, the chips poured over them, and the whole covered three or four inches deep with damp sawdust. This last is absolutely necessary to prevent the fire from burning too freely. Indeed I consider saw dust (any kind will do) so essential in this process, that I would send fifty miles for it, rather than attempt to make bacon without it.

The smoke should be kept up throughout the day, but be permitted to go out at night, lest the temperature of the house be too much raised.

At the expiration of two weeks the jowls and chines must be taken down and put into barrels, or something else, as they would be injured by being exposed longer to the smoke. One of them will then be found to make a very excellent and convenient dish, especially if boiled with turnep-tops.

At the expiration of three weeks the middlings must be taken down and secured in like manner from the further influence of the smoke.

With regard to the joints, it is very difficult to smoke them too much, and they may, therefore, be continued under this process to as late a period in the spring as may be consistent with a due regard to their safety from the depredations of the skipper fly.*

Whenever your joints may be considered as sufficiently smoked they must be taken down and packed in hogsheads, barrels, &c. with the ashes of hickory wood;—the method of packing to be very much the same as in the salting process: except that, as the packing in ashes is designed in part to protect the meat from the ravages of skippers, bugs, &c. a more liberal use of the ashes must be resorted to than of the salt. Let the layers of meat be well separated by the ashes (say half an inch at least, but as much more as you please,) and all the space not occupied by the meat should be occupied by the ashes:

* With regard to these destructive insects, it is thought by many that a free use of the pods of red pepper, in the smoking process, will greatly retard their operations, if not entirely expel them from a smoke house. It is worthy of trial, but I do not give it as the result of my experience.

the topmost joint being covered at least two inches deep. Such bacon will keep as long as you desire.

Yours, respectfully,

THOS. S. DABNEY.

Hinds County, 8th Dec. 1839.

From the Farmers' Register.

On Fattening Hogs, by Cold-Soaked and Fermented Food.

You complain very justly, I think, that many of your first contributors have grown weary in well doing; in other words, that their communications have fallen off in point of numbers. Although I myself am unconscious of being one of the culprits, I determined, immediately upon reading your remarks, to act as if I really was one, and felt anxious to evince my repentance by forthwith inditing to you an epistle of some kind or other; but could think of nothing, at first, that appeared worth communicating; luckily, however, in the midst of this quandary, I picked up at second hand, from a friend, something in regard to the mode of fattening hogs, which seems to be well worthy of notice.

First, however, I must tell you, that having, for a year or two past, enrolled myself in the fraternity of root-steamers for stock, (horses and sheep excepted,) my own experience is not yet sufficient to report to you any result of trials made by myself. I must farther confess that, as a novice in the steaming business, I still retain somewhat of that incredulity which I always feel relative to the benefits of any practice, when they appear to me so exaggerated as those do which are generally ascribed to the steaming process. But being open to conviction, and utterly condemning the old and common wasteful method of fattening our hogs, I was much gratified to hear the account which I will now give you of the mode practised by some gentleman, whose name I forget, in King and Queen or King William county.

One or more casks or tubs are nearly filled with alternate layers of chopped cabbages or roots, and broken ears of corn. Enough boiling water is then poured into the vessels, to cover the food. This is suffered to stand about twenty-four hours before it is given to the hogs, by which time some fermentation takes place, if the fattening process is commenced as early in the season as he commences it, which I understand he does long before frost. A constant supply of this food is given until a very short time previous to the hogs being killed, during which they have corn alone, which is generally deemed necessary to harden their fat.

By this method we may save the expense of steaming apparatus of every kind, such as

have been heretofore recommended in our agricultural papers. It is true that some of these cost very little compared to the advantages derived from them; but this little, even in the cheapest that I have seen mentioned, is worth saving, if it can be done by some contrivance still cheaper, and preferable on other accounts, as the one which I have just described, appears to be.

I am gratified that I have it in my power to give you the foregoing information at this particular time; for I have long been convinced that we should probably save, at least half the expense of fattening our pork, if we would commence doing it by the first of September, or even sooner, and give much less corn than we generally do. To postpone putting up our hogs for the sake of the acorns and chinkapins that they may be able to find by incessant travelling about in search of them, is as complete an illustration as I have ever known of the old proverb,—“*penny wise and pound foolish*.” since to say nothing of the notorious fact that hogs especially, fatten much faster in warm weather than in cold, and when they can fill their bellies without having to travel miles for the where-withal, (being the laziest animals upon earth except the gluttonous man, and his prototype, the quadruped called the sloth,) more of them are lost by theft, if suffered to run at large during the nut and acorn season, than would pay, twice over, the whole expense of feeding them in pens with food that costs us little or nothing, except the labour of collecting and preparing it. Even that portion of this stock which we call “*out hogs*” could probably be kept much more economically, if not suffered to run almost wild for half the year, and were supplied with food by their owners, instead of being left to supply themselves. As they are commonly managed, we may truly estimate the annual loss, in most cases, at nearly or quite half of the whole number; for many are killed for trespassing on our crops—starvation during three-fourths of the year, having taught them to be thieves; whilst a great number are stolen in the fall, after they get a little flesh on their bones, for a reason which I once heard alledged by an old negro in extenuation of the practice of stealing them, that “*hog meat was so miserable sweet his fellow servants could not help stealing it.*”

Every man is responsible for his own acts, and for the acts of his agents, within the scope of their authority.

No one can change his mind to the injury of another.

Trust not a profane person.

Thou shalt govern many, if reason govern thee.

We have been kindly furnished by one of our valuable correspondents with the following letter, in manuscript, for publication in the Cabinet; it was published in some of the Journals of the day at the time when written, and will be read with interest by those of our subscribers to whom the author was personally known, and will be found to contain valuable information for all interested in the selection of seeds.

For the Farmers' Cabinet.

Important Information in Agriculture and Gardening.

In a letter from Joseph Cooper, of Gloucester county, New Jersey, to a gentleman in Philadelphia.

Coopers' Point, 17th April, 1799.

RESPECTED FRIEND,—

Kind providence having placed me in a station of life which obliged me to procure a living by industry, and that principally in the agricultural line, it has caused me to be a strict observer of the works of nature, with respect to such parts of the vegetable creation as have come under my particular notice, and have been greatly embarrassed at the opinion very generally entertained by farmers and gardeners, that changing seeds, roots and plants to distant places, or different soils, or climates, is beneficial to agriculture, not agreeing with my observations or practice. This induced me to make many experiments on that head, all of which in more than forty years practice, have operated to prove to my satisfaction, that the above opinion is not well founded, and if so, must be extremely prejudicial to agriculture, as it turns the attention of the husbandman from what appears to me one great object, viz.—that of selecting seeds and roots for planting, or sowing, from such vegetables as come to the greatest perfection in the soil which he cultivates.

What induced me to make experiments on that head, was observing that all kinds of vegetables were continually varying in their growth, quality, production, and time of maturity. This led me to believe that the great Author of nature has so constructed that wonderful machine, if I may be allowed the expression, as to incline every kind of soil and climate to naturalize all kinds of vegetables, that it will produce at any rate, the better to suit them, if the agriculturists will do their part in selecting the most proper seed. In support of which I will take the liberty of subjoining a few facts and experiments, out of an inconceivable number, which have all combined to prove the above to my satisfaction.

In or about the year 1746, my father procured the seeds of the long warty squash, which have been kept on the farm ever since without changing, and are now far preferable to what they were at first. Our early

peas were procured from London the spring before Braddock's defeat, and have been planted successively every season since on the place. They have not been changed, and are now preferable to what they were when first obtained. The seed of the asparagus was procured from New York, in the year 1752, since which time I have not planted a seed but what grew on my beds, and by selecting the seed from the largest stalks I have improved it greatly.

A complaint is very general, that potatoes of every kind degenerate, at which I am not surprised, when the most proper means to produce that effect is constantly practised; to wit, using or selling the best, and planting the refuse; by which means almost the whole of those planted are the produce of plants the most degenerated,—the consideration of which induced me to try an opposite method. Having often observed that some plants or vines produced potatoes larger, better shaped, and in greater abundance than others, without any apparent reason, except the operations of nature, it induced me to save a quantity from such only for planting the ensuing season; and I was highly gratified in finding their production exceed that of others of the same kind planted at the same time, and with every equal advantage, beyond my expectation, in size, shape and quantity; this induced me to continue the practice, and I am satisfied that I have been fully compensated for all the additional trouble.

A circumstance happened respecting potatoes which may be worth relating:—A woman whom I met in market requested me to bring half a bushel of sweet potatoes for seed, the next market day, which I promised to do; but going through the market on that day, previous to her son's coming for the potatoes, I observed the woman selling such as I had brought for her; when the boy came I asked him the reason they wanted potatoes for seed while they were selling their own; his answer was, that his father said, if they did not get seed from me once in three or four years, their potatoes would be good for nothing. Query, if he had used the same means in selecting his potatoes for planting as I did, whether he would have profited by changing with one who used the other method?

In discoursing with a friend who lived at a great distance from me on the above subject, he introduced two instances in favour of changing seed, one was asparagus, the other radish seed he had from me; the production of both, he said, was preferable to any thing of the kind ever seen in that neighbourhood, which was near one hundred miles distant, to which he ascribed the benefit; but in two or three years the radishes degenerated, so as to be no better than what he had before: I asked

his method of saving seed: he said he had no other radishes in his garden, and when they had pulled what was fit for use, let the others go to seed. I then told him my method, namely:—As soon as radishes are fit for use, I dig up ten or twelve of those which please me best, as to colour, shape, &c., and plant them at least one hundred yards from where any other blooms at the time they do. This, I informed him, was the best method I knew of to improve any kind of vegetables, varying the process agreeable to their nature; and as he had, in my opinion, taken the most proper method to degenerate his, I asked if he thought I should be benefited by exchanging with him? His answer was,—he believed I was the best gardener. In or about the year 1772, a friend sent me a few grains of a small kind of Indian corn, the grains of which were not larger than goose shot, which he informed me, by a note in which they were enclosed, were originally from Guinea, and produced from eight to ten ears on a stalk. Those grains I planted, and found the production to answer the description, but the ears small, and few of them ripe before frost. I saved some of the largest and earliest, and planted it between rows of larger and earlier kinds of corn, which produced a mixture to advantage; then I saved seeds from stalks that produced the greatest number of the largest ears, and first ripe, which I planted the ensuing season, and was not a little gratified to find its production preferable both in quantity and quality to that of any corn I had ever planted. This kind of corn I have continued planting ever since, selecting that designed for seed in the manner I would wish others to try:—viz. when the first ears are ripe enough for seed, gather a sufficient quantity for early corn, or replanting, and at the time you would wish your corn to be ripe generally, gather a sufficient quantity for planting the next year, having particular care to take it from stalks that are large at bottom, of a regular taper, not over tall, the ears set low and containing the greatest number of good sizeable ears of the best quality; let it dry speedily, and from the corn gathered as last described, plant your main crop, and if any hills should be missing, replant from that first gathered, which will cause the crop to ripen more regular than is common, which is a great benefit. The above method I have practised many years, and am satisfied it has increased the quantity and improved the quality of my crops, beyond what any person would imagine who has not tried the experiment. The distance of planting corn, and number of grains in a hill, are matters many differ in; perhaps different soils may require a difference in both these respects; but in every kind of soil I have tried, I find planting

the rows six feet asunder each way, as near at right angles as may be, and leaving not more than four stalks in a hill, produces the best crop. The common method of saving seed corn by taking ears from the heap, or crib, is attended with two disadvantages; one is, the taking the largest ears, which have generally grown but one on a stalk; this lessens the production. The other is, taking ears that have ripened at different times, which causes the production to do the same. A striking instance of plants being naturalized, happened by Colonel Matlack sending some water-melon seed from Georgia, which he informed me by letter were of a superior quality. Knowing seed from vegetables which had grown in more southern climates required a longer summer than what grew here, I gave them the most favorable situation, and used glasses to bring them forward, yet very few ripened to perfection; but finding them to be as excellent in quality as described, I saved seed from those first ripe; and by continuing that practice four or five years, they became as early water-melons as I ever had.

Many admit the above errors from foreign flax seed producing the best flax in Ireland; but when it is considered that it is the bark of the stalk only that is used in Ireland, which is in the best perfection before the seed is ripe, and that part not used from any other plant except hemp, the argument falls to the ground when applied to other vegetables. For many years past I have renewed the whole seed of my winter grain, from a single plant which I have observed to be more productive, and of better quality than the rest, which I am satisfied has been of great use, and I am fully of opinion, that all kinds of garden vegetables may be improved by the foregoing methods, particular care being taken that different kinds of the same species of vegetables are not in bloom at the same time near together, as by that happening, they mix, degenerate, and each kind is injured. I am sensible the foregoing will meet with great opposition and contradiction, but as an experiment is safe and easy. I hope it will induce persons of more leisure, ability, and observation than myself, to make trial, as a mean of improving the agriculture of our country, which is the sincere wish of thy friend.

JOSEPH COOPER.

[Our correspondent who furnished the above will oblige by calling at our office at his convenience.]

The first principle of good speaking and writing, is good thinking.

Visionary minds swarm with impracticable projects.

ROOTS---Necessity of other products besides Indian Corn for stock---Importance of judicious Rotation---Farming in England.

Maplewood, near Lexington, Nov. 23, 1839.

To the Editor of the Franklin Farmer :

DEAR SIR:—Much attention seems to be directed at this moment, in this State and elsewhere, to the importance of introducing some auxiliary crops, to supply certain qualities of nutriment, in which our old staples are deficient; and in case of a default of these, to stand in the place of substitutes for them. Those who have bestowed care upon any of the domestic races of animals, well know the advantage, summer and winter, of feeding, in part, with succulent food. The vegetable juices which it contains, seem to be as much relished by these animals, as the most savory gravies by their intelligent owners. That they aid in the preservation of health, is sufficiently demonstrated in the superior condition of animals which are fed upon them. The skin of these, soft and pleasant to the touch, is entirely free of scurf, and their hair, smooth and silky, shines with a natural oil. In this section of Kentucky, we are, perhaps, as well supplied as any other portion of the Union with this valuable description of food. The common rye, which is now generally used for winter pasturage, appears to be exceedingly nutritious, and stock of all kinds graze it with avidity; and we have besides, a wonderful resource in the beautiful bluegrass, which, like a mantle of charity from on high, covers our country, even in the bleakest weather, with an exquisite and delicious verdure. Rye and bluegrass, in fact, upon large farms, and when the season is propitious, are nearly all that the great farmer wants. But our fall and winter pastures, are not always equally good; snows are of uncertain duration; and many small farmers cannot allot a sufficient portion of pasture for winter use: and in all cases, especially where labour is more abundant than land, the cultivation of a judicious assortment of roots would well repay the farmer for any trouble and expense that it might cost. But another weighty consideration, which may be mentioned in favour of introducing the general use of roots as an additional farm crop, is, that from the different time of seeding and maturing, it is very likely that the root crop would often hit when the grain would fail, and thus roots which are themselves sufficient for stock, without either other food or water, would rise in the scale from the second to the first place in the husbandry of years of scarcity. It is unnecessary to enlarge upon this topic. Experience has impressed it upon the minds of most of us, that small grain, in our climate, is precarious, and the annual variation of price in-

dicates but too plainly that even Indian corn, our staff and support, is not absolutely sure to reward the farmer with a full return. During the present year, it is said, large droves of our stock have been sent to distant parts in quest of grain, and thus many farmers in the present season have not only lost the benefit of personal inspection and care of their stock, but besides, have been obliged to yield the great advantage they would have derived from the manure of animals stall-fed upon their own land. In the quality of manure, aptly called “the sheet anchor of agriculture,” roots are fully equal to other descriptions of food; and the great quantity of liquid manure which they produce, tends greatly to hasten the decomposition of all the other contents of the farm yard.

Were it only necessary to find new crops to render the chances more promising of a full return, I think it not unlikely that the horse-bean would answer the purpose. It is greatly cultivated in England and France, and I have often seen it growing in our American gardens, with as much apparent luxuriance as it attains in the fields of either of those countries. In Europe it is of easy culture, being sown in various ways, either broadcast, drilled or dibbled. It is put in the ground about the time of sowing oats, and hundreds and thousands of acres team with the production of it.

Roots, however, are superior to this article for most of the purposes to which I have above alluded; and it is no doubt bad practice to multiply greatly the products of a farm, except when the condition of the land requires it. But admitting the fact, that the wise division of labour and the application of attention and means to one or a few productions is as essential in the conduct of a farm as in any other branch of human affairs, still, in different soils and exposures, different crops may be expected to succeed, and it is only by the success of the aggregate of a nation, that the horn of plenty is made to overflow.

Many farmers, unfortunately, have been deterred from the root culture, or have abandoned it after insufficient trials. The chief difficulty attending it lies in the proper selection of roots. A very safe mode to determine which are the best in any particular situation is, to apply the touchstone of experiment; and here we are greatly facilitated in our inquiries by the sister science of gardening. Our gardens, in fact, answer nearly all purposes of trial. In this section, for instance, I find by reference to my garden, that beets, carrots and parsneps succeed best of the roots; that potatoes do well, and that turneps are exceedingly precarious and could not by any means be relied on. The familiar volume of experience is therefore easily read and ap-

plied. But at this point, the investigation becomes confused, and it is difficult to proceed. Among the numerous varieties of these roots, which are of the easiest culture and afford the greatest yield! What crops do they best precede, and what should they be made to follow? These interesting inquiries cannot yet receive a satisfactory solution in Kentucky. When the root culture has been long practiced as a branch of agriculture, a new volume of experience may be compiled, containing the best roots and the best varieties of each root, for different situations. In this part of the Union, the science is still to be ascertained and deduced from faithful experiments. Perhaps it may not be amiss to state that in foreign agricultural works, the mangel wurtzel is maintained by many to be superior to the Swedish or any other turnep for farm purposes, and that it is generally admitted to be better for a clay soil. That carrots, though the acreable product is not so great as is the turnep, are thought to be the best food known for improving the wind and endurance of horses—that recent statements would seem to indicate that the sugar beet, the white variety of the mangel wurtzel, will answer well in many parts of our State.

In spite of a great desire to conclude this desultory letter, with your permission, I will cite as an example of the application of knowledge of the character I have been treating of, the system of farming pursued in a fine farming district in England, which came under my personal observation during a visit I made that country in 1835-6. The district I mean is in Yorkshire, not very distant from the old city of York. The rotation of crops is admirably adapted to the soil and climate, and the stock which consume them are selected with such judgment, and so used, that they may, in fact, be said to labour in the immediate melioration of the soil. Indeed I saw here combined in an improved system of husbandry, the results of a most extraordinary success in culture and breeding, acting and re-acting upon each other. In Kentucky, we have always appreciated the skill which is applied in breeding and rearing fine varieties of stock, but we have, no doubt, generally been too indifferent to the importance of a judicious succession of crops. I think it was remarked by General Washington, that "any system in farming is better than no system;" and a Briton has truly observed, that a proper rotation of crops "remedies all confusion, distinguishes and arranges the season and the appropriate mode of work, economises labour, reciprocates the improvement of both soil and stock, and forwards the interest of both landlord and tenant."

I am satisfied that no American could have

seen with my eyes, without drawing the conclusion I did, that a good rotation of crops for the different sections of our country, is a subject of momentous importance. But to return from this digression. The practice pursued in the district I have mentioned, is called the Norfolk system, and depends for its success upon the alternation of green and white crops. From this circumstance it is called by some "the alternate system." The most common rotation is the following, viz.: turneps, barley, clover, wheat. But besides the principal succession of white and green crops, in continuing this system, a change is made for the purpose of resting the land, in the particular green and white crop used in each year, or otherwise the clover is suffered to remain for two years, and is pastured instead of being mown. On the clay soils, in this district, liable to poach, the turneps are drawn and carted, or the crop is omitted altogether, and beans or some other substituted for it; but on sandy soils they are fed on the ground to sheep folded upon them. On the latter description of land, a wonderful improvement is wrought, and it was upon such a soil that I saw the greatest melioration I ever beheld effected by judicious culture. It elevated very much the opinion I had formed of agriculture as a science. On one side of a hedge I saw the finest crop of Swedes imaginable, the drills twenty-eight inches apart, clean as a garden, and the turneps touching in the rows with scarcely an omission. On the other side a howling waste of sand. This glorious field of turneps was produced by the rotation I have mentioned.

The preparation for the turnep crop is very simple. The drills are formed, and bones, broken up in mills, are laid in them at the rate of from fifteen to twenty-five bushels an acre. They are often mixed with ashes and distributed with regularity by a drill machine. The turnep seed is then sown on the top of the drill at the rate of three pounds to the acre.

When the roots are ready for use the tops are cut off and carried to the straw-yards to be consumed by cattle, and a small fold being formed of rope netting or hurdles, the sheep are introduced. These eat all the bulb, except the lower part, which is raised from the ground with a small prong and also carried to the straw-yards. The sheep are then removed to another part of the field, and so on, till the whole is gone over. The kind of sheep which I saw used here were the New Leicester, a sheep of great bulk, which yields the much esteemed combing or long wool of England, but of which the mutton, to my palate, is coarse and rank. It is, however, a profitable sheep to raise, both for its wool and flesh, and I was informed that those who were

engaged in sheep-farming were more prosperous than most other farmers. The New Leicester mutton bears, in my opinion, about the same relation to the South-Down or to our common Kentucky mutton, that the middling of the hog does to the ham, and perhaps might be useful here for the same purposes for which middlings are used. However this may be, on a sandy soil the New Leicester sheep is a capital laborer. Besides the great value of his manure, which is equally distributed by the practice of folding, the land is very much improved by the tramping and packing and incorporation of the manure with the soil effected with his feet, and which is called in one word the *management* of the land.

Besides being fed to the New Leicester sheep, the most artificial animal probably in existence, the turneps raised on the farm on which my observations were principally made, were also fed in considerable quantities to the admired Short Horn Durham cattle. When fed to these last, they are given about at the rate of two or three bushels a day, together with straw or hay to each full grown steer.

The mode of farming above described, borrowed originally from those excellent farmers, the Flemish, would not entirely apply in this part of the State, but in many parts of Kentucky and the Union, particularly on light sandy soils, the practice of a similar system would effect a great change, and even here some of its principles might be used with advantage.

In viewing the many beautiful farms with which this district of Yorkshire abounds, that were once considered worthless, I was induced to believe that there is not so much difference in the intrinsic value of land, as is generally supposed. Some lands, deemed dead for useful purposes, in fact only lie dormant until the appropriate system is applied, when they begin to reveal a wonderful and unexpected fertility.

The introduction of the turnep, suiting as this root does her weeping climate and much of her soil, has been of incalculable benefit to England. It is now actually the case that lands which rented for shillings, now rent for pounds; and what were once barren wastes, are now among the most profitable soils for cultivation. Bones are conveyed from all parts of the world to the ports of that country; Brazil has furnished a good supply, and even the United States have contributed to the crushing mills of Britain. I confess I have never seen an account of vessels carrying out bones to Europe, without feeling pained by the reflection that they were precisely the best manure for some of our own lands. I have sometimes looked forward with gratulation to the day when a regenera-

tion shall be effected in certain parts of America by skilful agriculture; when those parts of the Union, now deemed barren and almost worthless, shall rise in the scale and furnish their full quota of production. If turneps will not suit the soil and climate of the West, perhaps they would answer at the East; and who would not rejoice to see the sands of North Carolina, Virginia, New Jersey, Delaware, and Maryland, covered with countless flocks of sheep, an animal furnishing as it does, both food and raiment, precisely the best suited for a dense population! Who would not be pleased to see the manufacture of wool more extensively prosecuted, and the fabrics of American looms more generally used by a healthy, prosperous and happy population!

But the great change effected in the condition of England, and which might probably be wrought by similar means in some sections of the Union, has been produced, like a magical delusion, by the use of an easy system, and is but one result of scientific agriculture. Happy the day, when the soil shall be considered, as in truth it is, a great *terra incognita*, full of wonders and pregnant with untold blessings to mankind.

I remain, dear sir, your ob't serv't,

HENRY CLAY, JR.

For the Farmers' Cabinet.

Cultivation of Locust Trees.

MR. EDITOR,—I am now ploughing a field of ten acres of old worn out ground, which has been lying idle for a number of years, for the purpose of planting the same with the Locust tree, not knowing the true method to be pursued in the cultivation of the Locust. I therefore have taken the liberty of addressing you upon the subject for information, through the Cabinet, of the best mode and time of planting, and the quantity of seed per acre.

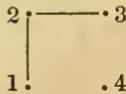
FRANKLIN HAND.

Cape May C. H.

We hope some of our correspondents or friends will furnish the very desirable information, solicited by our friend Hand. The sources from whence the supplies of this valuable timber have been derived, are rapidly diminishing; while the demand, from the extensive use made of it in the construction of rail roads, &c., is annually increasing. We have no doubt those who have unoccupied lands adapted to its growth, would find a profitable investment by sowing it with the Locust.

A Useful Hint.

MR. EDITOR,—I am persuaded that many farmers feel fully convinced of the *truth* of many valuable reports which come from the experienced and scientific agriculturist, but which are often of very little benefit from the difficulty of making experiments upon their own farm. I beg leave to suggest a very simple plan that will bring what may be dubious to a matter of fact, with very little trouble and at a trifling expense. Take twenty-three yards of common twine, tie a stake of about sixteen inches long, (sharpened at one end to enter the ground) in the middle of the twine—then place two other stakes, each at eleven yards from the centre one—now place the three stakes in the ground, as represented below :



Mark the outside of the two lines with a spade or hoe, then take up No. 2 and place it at No. 4, and mark the two lines as before, and you have eleven yards square (121 square yards,) the fortieth part of an acre. This mode will test an experiment as well as eleven acres—eight bushels of manure applied, will be at the rate of 320 bushels per acre, ten bushels at 400 bushels per acre, &c. Such patches, on repeated trials, will afford evident proof of the *utility* and *proper quantity* required to an acre of lime, marl, plaster, bone dust, &c., as manures for different plants; and by arranging the plants at different distances, you will find the best mode of *planting* or *sowing*.—*Ame. Farmer.*

THE FARMERS' CABINET.
PHILADELPHIA, JAN. 15, 1840.

The Publishers owe an apology to their subscribers for the late appearance of this and the last number of the Cabinet. The delay has originated in some recent changes and consequent derangement in the business of our establishment. Our affairs are now in such a train as will secure the regular and punctual issue of the future numbers of our sheet. Among the changes alluded to, is the retirement of FRANCIS S. WIGGINS, Esq., from the editorial management of the Cabinet. We have the pleasure of informing our friends, that arrangements are in progress by which we expect to secure the influence and services of a gentleman, who, in addition

to the numerous and excellent qualifications possessed by the former editor, will bring the superior advantages for such a work of an *extensive, sound, practical experience* in agricultural pursuits. When our arrangements are complete, and we can announce the name of the future editor, our subscribers will receive a sufficient guarantee that the former character of the Cabinet will be *fully sustained*.

Several communications were furnished by our attentive correspondents for the present number, which have not come to the hands of the publishers. They will be given to our readers in due time. In our December number several articles were promised to appear in this, but they have not been furnished by the retiring editor, and this must be our apology for their non-appearance. We respectfully and cordially invite our numerous contributors to continue their favours, for it is to them that we mainly attribute our past success—on them we still rely for aid to enrich the pages of our future numbers.

Since we commenced the publication of the Cabinet, some *ten* or *twelve* periodicals of a similar character have been commenced in this State and those adjoining. We have sustained towards them the most friendly relations, and lived to see the most of them "*go the way of all the earth.*" This circumstance may serve to show our friends the difficulties usually attending the establishment of works of this kind. Those difficulties by us have been surmounted, and our books exhibit a numerous, respectable, and we trust, permanent list of subscribers; from whom the Cabinet in its monthly visits will continue to receive a friendly greeting.

The sixth number of our fourth volume is now issued, and from the fact that a large part of the Cabinet has been stereotyped, we can always furnish complete sets from the commencement. The volumes already published contain a great many facts, experiments and opinions, that constitute a small library for reference, valuable to every *reading farmer*. We earnestly solicit the aid of *friends* and subscribers to extend our circu-

lation. Although, probably, we have a larger number of subscribers than any other agricultural paper has obtained in this state, yet our list is far short of what it should be, in order to enable us to make the Cabinet what is reasonably expected from works of the kind in this age of advancing science and agricultural improvement.

If each subscriber, friendly to the objects of the Cabinet, will recommend it to his acquaintance, solicit their subscriptions, and remit to us the money, (retaining the usual allowance to agents, *for which see terms*,) the work is done, and we shall "go on our way rejoicing;" our labours will be pleasant, and we shall enjoy the satisfaction of contributing *our mite* to promote among our readers a more intimate knowledge of agricultural science, and thereby in some degree, serve the true interests of our country.

Great Yield.

We have received the following account of the produce of one pumpkin seed from a source entitled to implicit confidence. It was planted by Mr. John B. Cox, of Medford, Burlington county, N. J. We opine that our friend Cox is a lover of pumpkin pies, or at least can claim some affinity to the Yankees in the art of cultivating the pumpkin.

Weight of No. 1,	- -	177 lbs.
Do. do. 2,	- -	118 lbs.
Do. do. 3,	- -	110 lbs.
Do. do. 4,	- -	81 lbs.
Total,		- - - 486 lbs.

Improvement in Baked Beans.

MR. HOLMES.—As you have had the satisfaction of cutting and slashing your redoubtable "Rohan," and feasting yourself and others with it, I think perhaps to their and your heart's content, I would suggest a change of diet—I mean Baked Beans. Prepare them as is common before putting them into the oven, then add three spoonfuls of molasses to about two quarts of beans, stir them well together as usual, and I will be bound you will have a dish which may well be coveted by those who have been feeding on your "Rohan" or on beans baked in the usual way. Try it gentlemen, "no mistake."—A LOVER OF BEANS. [Maine Farmer.

Cultivation of the Sugar Beet.

The following observations on the cultivation of the Beet are extracted from a pamphlet furnished us by the author, with only the *initials* of his name appended. But if we are right in our conjectures, it is from the pen of a gentleman of this city, who arrives at no conclusions without "*deep research*," and "*close calculations*." The pains taken by this individual to introduce improved grains, seeds, &c., and the liberality with which they have been distributed, entitles him to the gratitude of his countrymen, especially the farmers of this vicinity. We commence our extracts by giving his rules for the

CHOICE OF GROUND.

Beet thrives in the soil suited to the potato, to wit: in all soils that are somewhat sandy and loamy—these soils mixed with vegetable mould and decayed matter are particularly suitable. From land essentially sandy, much cannot be expected, unless it be highly manured; under these circumstances we have seen a good crop growing in New Jersey. In the absence of manure the roots will be small, but where they grow fresh and healthy, it has been found that small plants yield a large proportion of sugar—but this by no means makes up for the want of mass, and therefore with this as with other crops—it is proper to use land naturally or artificially good, to insure large returns. Clay may be added to sandy soil, and sand mixed with clay ground, to correct their defects, but the process is expensive.

Where land is essentially stiff clay, it is not suitable for beets, because the seed germinates badly and the root finding it difficult to penetrate and imbed itself, becomes forked and rises too much above the surface, whereby it is too much exposed to the sun and atmosphere, which dispose it to become hard and reedy. One of the evils attending forked roots is, that stones, gravel and earth get enveloped in the interstices, and thus blunt and injure the machine that is employed to reduce the roots to pulp, when the object is to make sugar. Clay soils are improved by deep and frequent ploughing and harrowing; the manures best suited to this kind of ground, are half rotted straw, fresh stable dung, leaves, &c., and sand can be employed to advantage, where it can be had with little labour, the quantity required to produce useful effects has to be very considerable. In France calcareous soils are not considered suited for growing beets. In America we may mistake what the French refer to, when

on this occasion they use the term "calcareous;" possibly it may be by them applied to chalk soil, a kind of land we have none of, and not refer to the limestone land that abounds here, and is justly held in high estimation, as it answers well for all crops. The farmers of America must not be deterred from trying to cultivate beets on limestone land, because it is said of other countries, calcareous soils are not suited for growing that root; in this, as in many other cases, we must determine the fact by our own experience. Here, on limestone land, the beet may suffer from drought, but all crops grown upon it are exposed to the same effects. In France, the products of different soils vary very much, and are greatly influenced by better or worse management, the difference rating from fifty to two hundred.

PREPARATION OF THE GROUND.

This will vary according to the nature of the soil, and here, as in all other departments of the farming business, much of the success depends on the skill and judgment of the farmer. In many cases, three ploughings will be necessary, and one of these ploughings should be before winter, that the turned up soil may be mellowed by the frost, the last ploughing has to be in the spring immediately before planting the seed; two ploughings in this country will be found sufficient; in all cases it should be well harrowed, and rolling will be an improvement that amply repays the expense. Deep ploughing is generally useful, but the farmer has to consider the nature of the substrata. It would be improper to turn up much of the poor clay or gravel bottom, and where the substrata is an open sand, deep ploughing is not required. Manure, in which the process of fermentation has not advanced far, will answer best for beets, nevertheless all kinds are useful; but the half rotten best divides the soil and suffers the roots freely to expand. In the state of Delaware, marl has been found an excellent manure for beets, and marl is found in many places in the low light soils on the Atlantic coast south of Sandy Hook. Some farmers in France allow the beet leaves that are cut off at harvest-time to remain on the land, and consider them a tolerably good manure, but this practice is not so good as having them carted into the barn-yard to be eaten and trodden on by the cattle. It will be found that straw of any kind when properly laid into the furrows and covered with the mould, will give good crops; and this open species of manure is suited to clay soils and the beet root. The roller is especially necessary on clay soils; by it clods are well broken, which favours the coming up of the plants, and fa-

cilitates the future hoeings and horse-hoe weedings.

OF SOWING.

There are four ways of sowing beets, first in beds as in a nursery; second, broad cast as in sowing wheat; third, sowing or dropping by the hand in drills; and fourth, drilling by a machine.

By the first of these methods the whole of the seed is sown on a small portion of land compared with what it is intended to occupy; these plants will be fit to pull up and plant out where they are finally to remain, in a month or six weeks from the time of sowing; this planting is performed by means of a dibble with which holes are made in the ground, always a little deeper than the length of the plant that is to be put into them, and with this dibble the earth must be carefully pressed close to the root. This method is attended with several inconveniences; it requires much manual labour, the roots are exposed to injury during the process of transplanting, and if the root is bent in the planting the beet will form badly, and in place of having the shape of a cone will be deformed and unthrifty with numerous roots filled with earth, which will be detrimental to the crop, whether used for feeding cattle or employed to make sugar. This mode of sowing should be thought of only where seed is scarce, the quantity to be sown not great, and labour easily procured.

Broad cast. This manner is the simplest, but requires a large quantity of seed, and will be expensive where that is dear, and seed in the European market, has on some occasions been five times dearer than on others. In this practice it will be found that six pounds of seed will be required, were two and a half or three would have been enough when planted in drills by the hand. The whole of the soil in the broad cast sowing is occupied, but it is difficult and expensive to hoe the crop, and keep it free of weeds, and the produce is never as great as by the following method.

Rows or drills. The little furrows into which the seeds are to be dropped are made by a harrow, having the teeth at the distance one from another that the rows of beets are intended to be from each other and the seed is dropped two or three into the drills at the distance of twelve to eighteen inches apart from each other. This work can be performed by young people; in France it is most frequently done by women, as more dependence can be placed in them than in boys. After the planting is finished, the seeds are covered by having a light harrow with plenty of teeth in it drawn over the ground. In this way there is a great saving of seed and the

plants are regularly spaced. Four women will plant an acre in a day. By using a drill drawn by a horse, the labour is very much abridged and the work will be expedited. This machine is very important to those who plant large fields; in the large sugar-making districts it is used with great success, it is of various forms and merits, the plans have not yet been brought to this country. Some French farmers place the rows twenty-four inches apart, perhaps thirty will be found a more convenient distance for the horse-hoe, cultivator, or harrow. In fixing the distance that is to be between the rows, reference should be had to the kind of horse-hoe that is to be used in keeping the crops free from weeds. The distance in the row may be from twelve to eighteen inches. When the plants are far from each other the roots will grow to a large size, and the contrary will result from planting them close. By careful observation farmers have to learn the distance that will produce the largest quantity, and best quality of roots on their respective soils. The seed should be planted at the depth of from one to two inches. Experience has proved, that at a greater depth especially on heavy soils, it is not sufficiently exposed to the action of the air, sun, and moisture; without which it will not germinate well.

TIME OF SOWING.

This depends on the position of the place and nature of the soil; as a general rule, the earlier the better: Provided, the land is dry and in proper order, early sowing is particularly important when the object is to make sugar, because the roots arrive sooner at maturity and allow the process of crushing to commence early. In France it has been found that in September and October the greatest quantity of sugar can be extracted from the roots. In the United States, the nature of the fall season, is very suitable for making sugar. The season for working here will be longer than it is in France, this will favour the manufacture here when it becomes a business. In Pennsylvania, beet sown so late as the first ten days of June came to perfection, but late sowing exposes the young plants to be injured by the drought of that season, and the heat of the sun; we have heard of an instance where by accident some beet seed had been dropped in the fall and remained in the ground all winter, and in spring vegetated well, and yielded a good crop. This accident suggests the trying how far it would answer to sow a part of the crop in fall, so as to have an early crop, and what the result would be of having from this early sowing, the ground well covered with leaves before the summer's hot sun comes on. If fall sowing shall be found to answer, it would

be of advantage to the farmer, by allowing him to have a part of the spring work done in a season in which he is not much hurried. This fall sowing should not be performed until late in the season, when all probability of warm weather has passed away, so that there might not be heat to germinate the seed before the cold and frost set in.

OF HOEING.

Few plants suffer more than the beet from neglect, and the baneful influence of weeds in the first stages of its vegetation. The ground therefore has to be kept free of weeds, and it should be kept mellow during the first stages of the plants' development. Beets require one or two hand thinnings, and as many hand hoeings. The first of the hoeings should be about when four or five of the leaves have put out, the second in from three to five weeks afterwards. Here it is proper to remark, that each of the burs that are planted is a cluster containing sometimes as many as four seeds; this is to be perceived by breaking one of these burs, in it will be found several small grains of white flour, and each gives out a separate plant. Mice are fond of this flour and will destroy the seed if they can get at it, all the plants save one must be pulled up at the time of hoeing, if not properly thinned there will be a cluster of leaves but very small roots, where there are blanks, they should be filled up with those pulled up from where there are too many. After the rows have been carefully freed from weeds and properly thinned, the horse-hoe, cultivator or drill harrow can be advantageously run between the rows. The horse-hoe, &c., has to be some inches narrower than the distance from row to row, and after each horse-hoeing, a person should go along the rows with a hand hoe, and remove the earth from such plants as may have had it thrown on them by the harrow, &c. If any of the beets should show a disposition to shoot out into the seed stalk, this must be stopped by cutting off these stalks, because this growth would be at the expense of the root. Some persons pull off a portion of the leaves to feed their cattle, the leaves also make excellent greens for the table, it is probable that taking these leaves is some detriment to the roots.

HARVESTING.

The season for taking up the roots will vary with circumstances and localities, early and late sowing, &c. &c. In France, beets ripen and the making of sugar commences about the end of September or beginning of October, and the evidences of the plant being ripe are the falling down of the leaves, and those of a bright green turning yellow and

brown. The influence of drought may bring on these appearances; the observing farmer will understand when this change is caused by heat, or want of moisture, indeed he has to attend to the weather and the appearance of the approach of winter that he may take advantage of all the growing season, and at the same time not be too late in harvesting, and thereby expose the crop to be injured by frost. The roots should be pulled by hand or assisted by the spade when necessary, and the person that pulls them must shake the earth off them, and be careful not to strike one against another or in any way bruise them; bruising has the same effect on beets that it has on apples, in both cases it disposes them to rot. The person who pulls the beets should cut off the tops with a knife, being careful not to cut the beet. The leaves being cut off lessens the disposition of the root to vegetate, and it prepares them to be housed. The beets should lay on the ground until they are dry before they are housed.

PRESERVATION.

The roots must not be left long on the ground exposed to air, heat and moisture; much heat or cold are both found detrimental, as a heat of fifty-six or sixty degrees Fahrenheit in damp weather, will produce a fermentation sufficient to reduce the quantity of saccharine matter, and on the other hand, beets freeze very readily, so that only a few degrees below thirty-two will dispose them to rot.

The best aired cellar is not better for securing the beet than a judiciously made pit, wherein the beets are stored and covered with the earth that was dug from the pit. The dimension of pits may be varied to suit circumstances. It is most prudent not to make them large, because if from any cause a part of the contents of a pit begins to spoil, the disease is contagious and will spread through the whole mass. They may be made from four to five feet wide and eight, ten, or twelve long. One to two feet is deep enough, this hole is to be filled with beets, and piled up until they form a ridge, and the whole is to be covered with the earth dug from the pit, a drain should be cut round the heap, to carry off all water, it being of importance, that the beet be kept dry, and for this reason, ground naturally dry should be selected for the pits—perhaps in our severe climate it may be necessary to spread a little straw or corn stalks on the outside of the heaps, to keep out frost; if put inside it might rot and spoil the beets, and it may be useful to open the pits from time to time to air and keep them fresh, and if any are observed to spoil, they should be carefully taken out. The preserving of beets is the most difficult of all the branches connected with them.

GROWING OF THE SEED.

As the beet is a biennial plant it is only in the second year that it produces seed. The proper time for choosing the roots from which the seed is to be produced next year is, when taking up the crop; these should be healthy, somewhat above the medium size in length and thickness; well formed and no way forked, and of a fine light colour; (if for sugar perfectly white,) they should be kept through the winter in sand or dry earth, and placed in a temperate barn or cellar equally guarded from the influence of heat and cold. In the neighbourhood of Philadelphia, they should be planted out in March, or so soon as the land is in good order, and at the distance of two or three feet apart, this will be sufficient space for yielding the roots and leaves the requisite nourishment; the stalks will rise from three to five feet, and the branches being liable to split off, and break down, have to be supported by sticks or frames. When the seed is ripe, which will generally be in September, the stalks are cut off, tied into bundles, and hung up, or laid over fences to dry—and then the seed is beaten off by switching the sheaves over a board set on its edge, or it may be threshed. In France the seed is removed from the stems by hand, taking care to leave the small seeds that grow towards the outer end of the branches, as these seeds do not ripen well in that climate, which is moister than that of the United States. The next process is to expose the seed to the sun, and then it is put into sacks and kept in a dry place, where mice or vermin shall not have access to it. The average yield of plants in France is from four to six ounces of good seed. The beet in this country has been found to produce very good seed—it will therefore be prudent and a saving for farmers to raise enough for their own wants. And for some time, in all probability, it will be a profitable branch of business to raise some for sale.

[We shall give the concluding remarks in our next number.]

Cheap efficacious Manure.—Raise a platform of earth on the headland of a field, eight feet wide, one foot high, and of any length according to the quantity wanted. On the first stratum of earth, lay a thin stratum of lime fresh from the kiln; dissolve or slake this with salt brine from the rose of a watering pot; add immediately another layer of earth, then lime and brine as before; carrying it to any convenient height. In a week it should be turned over, carefully broken, and mixed, so that the mass may be thoroughly incorporated. This compost has been used in Ireland; has doubled the crops of potatoes and cabbages, and is said to be far superior to stable dung.

A writer in the "Newark Daily Advertiser," under the head of "*Statistics of Political Economy*," gives the following estimates of the population of the United States and the sources from which they obtain their livelihood. It strikes us that the number here set down as engaged in *productive occupations* is small; but we let the writer speak for himself.

The following table I have compiled, after numerous and extensive inquiries, and from a long course of observation and extensive personal knowledge. Absolute certainty, or even a near approximation to the facts, are, perhaps, unattainable, but it is hoped the view here given will be found valuable, and may lead to more important and more correct investigations.

I estimate the whole population of the United States to be	16,000,000
Between the ages of eighteen and fifty, and capable of labour, of the male population,	2,000,000
<hr/>	
Of the two millions, those who labour at some <i>productive</i> occupation, agricultural or manufacturing, are	1,655,500
Living on the income of offices, rents, and use of property, interest of money, and on many pursuits, useful and honourable, but not productive, as will be explained hereafter,	344,500
<hr/>	
Making, - - -	2,000,000

In making up the number of 344,500 who live independent of any productive occupation, I estimate all officers of the general and state governments; all persons employed in the army and navy; all officers in banks, insurance and all other companies; all physicians, divines, and lawyers; all teachers in colleges, academies, and schools; all persons employed in navigation, or otherwise, as carriers or transporters of merchandise; all merchants and merchants' clerks; all hotel and boarding house keepers; in fact, all however useful and honourable their occupations may be, unless their labour tends directly to produce something from the land, the mines, forests, and fisheries, or to add extra value to these rude products, by some process of manufacturing.

In this view of the subject I think it will readily be conceded that I have not over-estimated the number of the unproductive class at 344,500; of these, 120,000 live by office or income, without rent or interest money.

And 224,500 live on the income of rents

and interest money; and altogether they receive from the productive labourers a sum about equal to \$290,000,000 per annum.—Southern planters are included in the number of those who receive rents for real estate. 120,000 who live on office or on occupations, exclusive of interest or rents, at \$500 each on an average, comes to	\$60,000,000
224,500 who annually, in interest and rents, receive the sum of	\$229,710,000
<hr/>	
Making a sum total of -	\$289,710,000

For the Farmers' Cabinet.

Receipt for making Deshler's Salve.

"Always have some balsam and salve on hand for current use."

Deshler's Salve has maintained a highly deserved reputation in and about Philadelphia for more than half a century, and some few of our old-fashioned housekeepers have the original receipt, and occasionally make the article and give it to their neighbours and friends when occasions call for it.

Having some years since come into possession of the receipt, and my wife having manufactured the article from it, it proved to be genuine, and has been very useful; I, therefore communicate it for the Cabinet, that our farmers may have the benefit of a very valuable article at a very small expense; it may be beneficially applied to man or beast, under circumstances requiring such a remedy.

Receipt.—Take of mutton tallow, rosin and beeswax, each one pound, flaxseed oil two gills, thick turpentine (such as exudes from pine trees or boards) four ounces. Melt the rosin and beeswax together first, and stir them well till thoroughly dissolved and incorporated: Then put in the other ingredients and keep *constantly* stirring the whole together over a slow fire till they are all melted and well incorporated; then remove it from the fire and continue *stirring* the whole mass till it is *cold*, otherwise the ingredients will separate and spoil the article. It may now be put by for use as it will keep for any length of time.

The proportions of the ingredients as above stated, are such as to make the salve of a proper consistence, which is of much importance, any material deviation may cause it to be too hard or too soft for beneficial use. The old women say that when it is applied with the intention of *drawing*, as it is termed, it should be spread thick; but when it is intended to heal the wound and not to *draw*, it should be spread thin. I give this information for what it is worth, not pretending to any special knowledge on the subject. R.

NOTICES, &c.

We hereby inform the public that Mr. FRANCIS C. WILSON, our late carrier, and agent in this city, and who travelled for us to some extent in Delaware and Maryland, is no longer authorized to transact business for the office of the Farmers' Cabinet. We are the more particular in giving this notice, as we have received information that Mr. Wilson is engaged in circulating a work similar in *appearance* and *character* to our own, and we wish our friends distinctly to understand, that the *new Cabinet* is not their old friend the Farmers' Cabinet.

Our New Jersey agent, Mr. John R. Post, will oblige us by informing us how a letter should be directed to be received by him.

Union of the Cultivator and Genesee Farmer.—We have received the first number of vol. vii. of this ever welcome periodical, being the first number of the consolidated paper, to be edited by WILLIS GAYLORD and LUTHER TUCKER, Esquires. We congratulate the patrons of the Cultivator that the place of the late Editor is thus so *soon* and *well* supplied. We are also gratified to learn that the subscribers to the new paper are to be presented with an engraved portrait of its late Editor, JUDAH BUEL, which we have no doubt will be cherished by thousands as a valuable remembrancer of departed worth. The portrait is to be accompanied by the "*Horticulturalist's Coat-of-Arms*," devised by A. Walsh, Esq., of Lansinburg, and exhibited at the Fair at Niblo's Garden, New York, in October last. The impressions are to be from a wood cut of large size, and the two will constitute a liberal present to the subscribers.

Maine Farmer.—No. I, vol. viii. of this work is before us. We are happy to learn from the address at the commencement of a new volume, that friend HOLMES is encouraged to persevere from the success and experience of the past. May his labours in the cause of agriculture be continued until his *high hopes* shall be realized, of seeing *our native state* "a model of improvement, enterprise and virtue."

We omit the usual account of the markets this week for the want of room.

To Our City Subscribers.

We are preparing bills to present to our city subscribers in a few days by the carrier, which we have no doubt will be met by them with their usual promptitude. Some of them have already called at the office, and paid up their subscriptions to the close of Vol. IV. for which they have our thanks, and should any mistakes occur in presenting bills, they will of course be cheerfully corrected.

The quantity of rain and melted snow which fell during the 12th month, 1839, was..... 6.26 inches.

The quantity which fell during the previous 11 months was..... 37.44

Whole quantity for 1839..... 43.70 inches.

1st mo. I, 1840.

CHS. ROBERTS.

The co-partnership heretofore existing between the subscribers, under the firm of PROUTY, LIBBY & PROUTY, is by mutual consent dissolved; John Libby is authorized to settle all business relating to the publication of the Farmers' Cabinet and Ladies' Garland. David O. Prouty is authorized to settle the affairs of the Agricultural Warehouse and Seed Store.

DAVID PROUTY, by his Attorney,
L. PROUTY,
JOHN LIBBY,
DAVID O. PROUTY.

Philadelphia, Jan. 14, 1840.

Agricultural Warehouse and Seed Store
No. 87 North Second street Philadelphia.

Seed Sowers, a variety, adapted to garden and field sowing. These machines are simple in their construction, and effectual in their operation.

Pruning Knives and Shears, a good variety.
Grass Knives and Shears, several kinds.
Improved Corn Sheller. This is the "ne plus ultra" machine of its kind.

Sheep Shears, among which can be found a very superior article.

Garden and Hay Rakes, by the dozen or single.
Scythes and Sneys, patent and common, from the best manufactories in New England and Pennsylvania.
Patent Guillotine Straw Cutter, a cheap, expeditious and durable machine.

Field and Garden Cultivators. The latter is a prime implement for working the Sugar Beet, Ruta Baga Multicaulis, etc.

A great assortment of fresh field, garden and flower Seeds of the growth of 1839.

Gentlemen are respectfully invited to call and examine for themselves.

DAVID O. PROUTY.

THE FARMERS' CABINET,

A monthly newspaper, is published by

JOHN LIBBY, No. 87 NORTH SECOND STREET, PHILADELPHIA,

For the Proprietors.

PETER B. PORTER, No. 97 MARKET STREET, WILMINGTON, DEL.

The Cabinet is published on or about the fifteenth of every month. Each number will contain thirty-two 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.* 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 the place of publication, out of the state,—one cent and a half on each number to any other part of the United States. ☐ Seven copies for five dollars. All subscribers must commence with the volume, No. I. or with the half volume, No. 7.

THE FARMERS' CABINET,

Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

Vol. IV.—No. 7.]

February 15, 1840.

[Whole No. 61.]

Beet Culture.

(Concluded from our last number.)

GENERAL REMARKS.

THE important uses to which the beet is now applied, having attracted great attention to its habits, it is found under some circumstances to degenerate; the seed of the white plant producing yellow and red roots; this tendency may be checked by changing the seed from clay to sandy, and from sandy to clay soils. Experience may show that changes from the North to the South, and from the South to the North, would be attended with good consequences. The seed, if carefully preserved from moisture, insects, and vermin, will keep for several years, but after four years, it will not be prudent to sow it. When the object is to make sugar, care should be taken to have seed that will produce white roots, and early sowing will afford the opportunity of commencing the crushing and boiling at an early period. French writers on the subject inform us, that the early bruising produce the largest proportion of sugar. Some of their remarks on soil, it is difficult for Americans to understand, as in this country we have no chalk soil. The routine of crops where the beet is cultivated is very varied. Some French farmers plant potatoes the first year, beets the second, and clover the third—and repeat. Now we do not understand how clover can be made to follow beets, or how it could grow when sown amongst them, as it would be destroyed by the process of working the crop—but they may have an annual clover we are not acquainted with. Others sow beets two years in succession, oats the third, clover the fourth, and repeat. And one man is mentioned, who has sown beets with success, for fifteen years in succession on the

same land; his practice was to change the nature and kind of manure, and dressing, put on the land.

In this country, as yet, there is nothing of strict system in the rotation of crops. The important article, Indian corn, grown all over the United States, and tobacco and cotton, in particular districts, renders it necessary for us to adopt a system suited to our circumstances and resources; our farmers have to exercise their own judgment, and select practices suited to their particular positions.

In most instances, the beet crop will not be got off the land early enough to be followed by wheat, and late sown wheat in general is not a safe crop. Wheat is found to yield more grain with a less show of straw in those cases where manure is not directly applied to it, but to a previous crop. Where manure is immediately applied to wheat, it is more liable to mildew, than where it has been used to a preceding crop.

When the beet is employed in feeding cattle, one of the effects will be, to produce more and *richer* manure, and this will place in the farmer's power the entire command of his farm,—he can do with it whatever he pleases. Every encouragement is held out for the culture of beet. It being a green crop, draws much of its nourishment from the atmosphere, and in place of exhausting the land, leaves it in fine order, for any crop the farmer may choose to put on it. Beets in no way interfere with the cultivation of wheat, clover, barley, Indian corn, potatoes, turnips, &c. With the aid of a few beets, the profitable effects of that most useful grain, Indian corn, will be greatly increased in feeding cattle. Calves fed with beets or roots in their first winter, will generally be as good animals at the end of two years, as those that have

been fed the first winter on dry food and corn, will be at the end of three years.

The raising a portion of beet is interesting to every farmer, inasmuch as the seed required to commence will put him to little expense, and afterwards he can supply himself; the business of his farm is the same as if he had planted an extra acre of potatoes, and the effects on milk, butter, cheese, fattening pigs, &c. is immediate. But on this crop, as in most new things, people will entertain different opinions; the merits of the question may be safely left to the decision of SELF INTEREST, in a country where the people are fond of beef, butter, good meat and profit. The object of this paper is simply to furnish some information on the subject.

Although the intention of this paper is to call the attention of farmers, to the raising of Beets, with a view to the improvement of their stock of cattle, their land, and their circumstances, it will not be out of place to draw their attention to another branch of the business of agriculture, that proves profitable to the husbandmen of other countries, and which is here more and more assuming an inviting appearance.

The best spermaceti oil, burnt in lamps, is now selling in Philadelphia at one dollar and fifty cents a gallon. The practice of using oil for lighting our houses, and its price, have for years been on the advance, and in consequence of the great number of whaling ships, the number of fish must be decreasing, and those that escape the fishermen, become more wary and shy. If oil, in consequence of these *growing* causes, is so high in the seaboard towns, it will be higher in those of the interior, in proportion to the expense and hazard incident to transportation; therefore the farmer in these districts, has so much more inducement to raise the plants from which oil is made.

Most earnestly we recommend to farmers and planters, the growing of Rape, which is a species of cabbage, or rather of greens, as it does not head. The French call it Colza—and it is from seed of this plant, that great quantities of oil is made by the French and the English; and the former, make from poppy seed abundance of table oil, so good in quality that it answers all the purposes of olive oil, and is much cheaper.

Those who are acquainted with the cultivation of these plants, (the Rape and Poppy,) harvesting the seed, and making the oil, could confer great service on the country by publishing the processes, or such of them as they are acquainted with; and there is every reason to presume, the Publishers of the "Farmer's Cabinet,"* published in Philadelphia, the

"Cultivator" at Albany, the "American Farmer" at Baltimore, and the "Farmer's Register" at Petersburg, &c. &c., would give the communications a place in the columns of their very useful periodicals.

It is with farmers, as with manufacturers, merchants, and tradesmen of all descriptions; all are exposed to the fluctuations constantly operating on trade and commerce, influencing prices, supply, and consumption; and every one should observe the improvements that are made in the arts and sciences that relate to his particular business. For it is not to be disputed, that all other things being equal, those who are best informed, with the same extent of industry, are to be most successful: And while the manufacturer is diversifying his productions, and lessening the quantity of labour required to make them, the merchant is performing voyages in twenty-eight days, that formerly employed three months, and letters pass between New York and Liverpool with nearly the regularity of a well-conducted mail-coach, and go with greater speed. The farmer must exert himself also, or be laid under contribution to the more active; while he is neglecting to study the nature and qualities of soils, manures, the kind of grain, plants, and cattle best suited to his circumstances, the most effective manner of employing labour—and economizing time and every thing about him,—the manufacturer is calling to his aid a stream of water, or steam engine, and with one or other of these agents, and the assistance of a few women or children, is converting bales of low priced raw cotton into costly cloths; or by employing a few sturdy men, iron ore into cart wheel tires, ploughs, needles, &c. &c., a few pounds of which will pay for the bale of cotton, barrel of wheat, or barrel of pork—nay, there are cases in which this will be done by a few ounces.

It is somewhat remarkable that there are few distinguished and celebrated farmers or planters, in comparison with tradesmen, engineers, and manufacturers. The truth is, the profession of husbandry, although it can be carried on in some way or other by most men, is one of the most intricate and diversified; influenced by causes, the laws of which are hardly known;—for example, of vegetation, the manner in which manure acts, the operation of lime, gypsum, &c. and the nature of soils, the grains and plants most suitable for soils and circumstances of the farmer, the seasons, the weather, the habits of plants, the nature, effects, and habits of insects, the grains, grasses, fruit trees, the adroit skill to secure the proper moment for sowing, harvesting, ploughing, and the innumerable operations and occurrences of a farm, influenced as they are by the vicissitudes of weather, and the

* We invite communications on those subjects.

talents to understand all that relates to these constantly operating causes, with the power to make the most of them, are more rarely concentrated in one person, than the knowledge and capacity to be eminent in the other professions,—this, and the defused position of farmers, form some of the causes to which may be ascribed the circumstance of there being few pre-eminent farmers.

But it is evident that this all-important business has now entered upon a new epoch, and which is manifesting itself in more attention to the selecting of good seed, new articles of culture, whereby the rigours of winter are equalized with the food of summer—better breeds of cattle, and above all, by the number and excellence of the treatises and periodicals that are published in this country, and Great Britain, and to which every farmer should attend, and be especially careful to see that his sons read and reflect on the subjects they treat of.

Improve the Soil.

The article which follows points out several methods of improving the soil. Every farmer knows very well the superior profit of a fertile soil in the production of crops that liberally repay him for his labour; but every one is not equally sensible of the various ways of enriching his lands, nor does he eagerly embrace every opportunity within his knowledge.

Farmers should awaken and look to the importance of this subject, embrace every chance within the reach of their means and information, to render their soil more fertile; and they will soon find a permanent improvement, and it will give better crops with less labour, for a mellow fertile soil is the most easy to work. Many means of improving the soil are neglected for want of information, and when new plans are recommended they are adopted slowly, as many cannot confide in any practices that were not sanctioned by the usage of our forefathers.

“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 those 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 principal 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 swamps are also excellent manures for all upland soils. These earths are usually found at the depth of from one to three feet from the surface, and are either of a white, gray or brownish colour. 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 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 12½ cents

a bushel, while in other parts, they are suffered to lie untouched about the potasheries.

Ashes generally answer the most valuable purposes 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 stunted 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 stunted 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; beside 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, saltpetre 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.—*Yankee Farmer.*

The Hog-Pen a Mine of Wealth.

(From the American Swine Breeder.)

The allotment of suitable enclosures, and the construction of convenient pens for swine, are matters of great importance to those who rear these animals with a view to profit. The miserable custom of permitting swine to roam at large, unattended by a swine herd, and allowing them to gather food throughout extensive districts, cannot be too severely reprehended. It is desirable that every farmer who consults the comfort of his animals should have both pens and pasture—the latter well covered with clover, of small dimensions, and, if possible, affording the hogs ready access to water. To effect this object, the

fences which enclose the pasture may be extended so as to embrace a portion of some running stream, or if this is not practicable, some spring, from which water may be constantly flowing into an artificial reservoir. It is found that hogs thrive better, when they enjoy the means of slaking their thirst as nature prompts them, than when they are restricted to water drawn from wells and furnished at stated intervals. Even in the absence of a stream suitable for the purpose, or a spring, water should, if possible, be conveyed, to some artificial pool or trough, in sufficient quantities for their use at any moment. The size of the pasture will of course depend, to some extent, on the situation of the farm, and number of hogs. In general, however, where the herd is numerous, it is deemed advisable, to scatter it in different enclosures, placing those hogs that are nearly of the same age and strength together. Small orchards, well set in clover, afford an excellent pasture for hogs. Their manure greatly enriches the ground; while the roots of the trees, near which, in such enclosures, their rooting propensities are mostly exercised, derive great advantage from frequent loosening of the soil.

It is a matter of great importance to the farmer to provide such enclosures, and adopt such treatment, as will secure from his hogs the greatest quantity of manure. Hog manure is extremely valuable, and large quantities may be obtained with slight attention. Where these animals are allowed the range of small yards or pastures, the method pursued by a correspondent of the Farmer's Cabinet, will prove advantageous:—"I usually keep and fatten, he remarks, four hogs in the year; these I keep confined in a yard twenty feet square, with a warm and convenient shed attached thereto, as a shelter for them during the night time, and in cold and stormy weather." Into the yard he placed the serapings of ditches, the dirt that is continually in and about buildings, and this became mixed with the straw with which they were littered. The whole was cleared out as often as was judged expedient. The quantity and quality of the manure would be greatly increased, if the pen was supplied with weeds, (an excellent way this of turning these noxious plants to a good account,) and in the absence of weeds, which by the way is not very common, even on our best cultivated farms, resort may be had to the woods; here the farmer has an abundance of leaves and other rubbish that may be used to great advantage. "By the adoption of the above course, more than twenty-five loads of manure was obtained, as the product of four hogs, and this, too, of a superior quality to

that generally derived from the stable or yard."

Another writer in the *Yankee Farmer*,* says:—"My plan is this; yard the hogs through the year. Give each hog, to work upon, ten loads of manure from the swamp. Some men think to avoid expense in keeping, by permitting their hogs to 'run at large,' or in a large pasture. This is a bad practice; the hogs 'run away' so much of their flesh, that it requires nearly as much to keep them in a thriving state as if they were yarded. If it did not, the pasture would be much more preferable for other stock. More than this, the hogs will convert about four loads more of mud into good manure, which will more than twice pay the extra cost of yarding."

Another correspondent still, of the same paper, remarks:†—"I keep my sty well littered with straw, leaves, weeds, soil from the woods, and meadow earth, obtained from ditching, by carting, together with that put into the yard, from two to ten loads per week. I sometimes put a few handfuls of rye in different places in the yard, and let in the hogs. Feeding them there for a few days, they completely stir up and commute the contents of the yard. I am confident that I make four times the quantity of manure my father did, and with no increase in the number of stock, and of a little better quality, too, comparatively none of its strength being washed away by the rains and evaporated by the sun."

The suggestions of a correspondent to the *Northern Farmer*, quoted in the *Farmer's Register*, contain much information on this subject. After stating the reasons which induced him to abandon the ordinary mode of suffering his pigs to run at large, for the better one of confining them in pastures—and his subsequent exchange of this for a smaller enclosure, which he contracted from time to time, until satisfied that a yard of twenty feet by fourteen, was sufficient for six hogs, if well supplied with materials to make manure in to advantage, he thus continues:—"My method of supplying these materials is the following; after having cleared their yard at the season of planting, I put into it such portions of straw as I may have on hand after the season of foddering is past; and if I have not a sufficient quantity of this to furnish the necessary supply till vegetable substances attain a sufficient growth to be profitably collected, I put in earth, collected from the low places by the side of the highway; though this I more generally place in or near my barn yard, in a situation to receive and retain the wash that might otherwise escape from that. Brakes and weeds of any kind are valuable. These I make use of, to the extent they are attainable,

when in a green state, as I consider green vegetable substances, for this purpose, far more valuable than dry. Potato tops, when pulled for early use, before they become dry and shrivelled, I consider equal if not superior to any other green substance for this purpose. Pea vines I usually put into my hog yard after the peas are thrashed off, and if some are put in before being thrashed, they are as gratefully received by the inmates of the yard. The quantity of manure made by my hogs is, for each one, double that made by each cow for the same period of time. The quantity of vegetable matter suitable for manure, that remain in most crops after the fruit and grain is selected, and the amount of manure that can be obtained if this matter is carefully collected and carted to the pens of hogs and other animals are indeed astonishing. "The expressed cane," says J. H. Cowper, in an able communication to the *Southern Agriculturist*, "tops and leaves, from an acre of cane, yield about 10,000 lbs. of dry vegetable matter. An acre of corn, including blades, stalks, husks, and cobs, gives about 3500 lbs., when the yield of corn has been twenty bushels; and the after crop of peas 1000 lbs.—together 4500 lbs. An acre of solid peas 2000 lbs. The potato vines, pumpkins, and turneps, being eaten green, contribute only to the production of fluid manure. The total quantity of vegetable matter to be applied to the manuring of sixteen acres in crop, will therefore be—

Four acres in corn, at 4500 lbs. per acre.....	18,000 lbs.
One acre in peas and turneps.....	2,000 "
Three acres in cane.....	30,000 "
	50,000

which, if merely rotted by the rain, will yield 100,000 lbs. of manure, and if rotted by urine and dung of stock from 150,000 to 200,000 lbs. or at least 25,000 lbs. of manure to each of the four acres proposed to be manured.

We are inclined to dwell still longer on the subject of manure, because its great importance, and the proper modes of collecting the greatest quantity, seem in many portions of our country to be wholly overlooked. Especially is this the case throughout the western states. Trusting to the extreme luxuriance of the soil, the lands of many farmers are burdened with one exhausting crop after another, until at length the productiveness of the farm is materially reduced, and finally measures are necessarily resorted to, to improve an impoverished condition of the soil which proper manuring would have prevented altogether. Many persons seem to consider a yard where the dung of animals can be collected, sufficient for all purposes—little dreaming that upon the construction of this enclosure depends both the

* Vol. iii. p. 410.

† Vol. i. p. 67.

quality and quantity of the manure; that successive rains may be gradually washing away the most fertilizing portions of their yard, or excessive fermentation causing the escape of gases which, if possible, should always be retained. The dung of animals, when intended for manure, should be protected as far as practicable from exposure to the air. "He," says Arthur Young, Esq., "who is within the sphere of the scent of his dunghill, smells that which his crop would have eaten, had he permitted it. Instead of manuring the land, he manures the atmosphere, and before his dunghill is finished, another parish and perhaps another county." "As few exhalations," remarks Fessenden,* "as possible, ought to be suffered to rise from the excrements of animals. Fresh manure ought to be kept as carefully from the sun and rain, as grass which has been cut for hay. But how are these objects to be effected? The answer is an easy one. Prevent the rain from draining off the best portions of the manure, by constructing a yard in a dishy form, lowest in the centre, so that the urine of the animals may be collected in a reservoir and retained; and prevent fermentation, or absorb its products by occasionally scattering over the dung-heap a quantity of the same earth with which the yard is bedded. "Earth," remarks the author of the letters of Agricola, "is a powerful absorber of all the gases which arise from putrefaction. Put a layer of common soil along the top of a fermenting dunghill, from twelve to eighteen inches thick, and allow it to remain there while the process is carrying on with activity, and afterwards separate it carefully from the heap, and it will have been impregnated with the most fertilizing virtues. The composts which of late have attracted such universal attention, and occupied so large a place in all agricultural publications, originated in the discovery of the absorbing power of the earth, and in the application of it to the most beneficial purposes. A skillful agriculturist would no more think of allowing a violent fermentation to be going on in his dunghill, unmixed with earth, or other matter, to fix and secure the gaseous elements, than the distiller would suffer his apparatus to be set at work, without surmounting his still with the worm, to cool and condense the rarified spirit which ascends to evaporation. In both, the most precious matter is that which assumes the aeriform state; and to behold it escaping with unconcerned indifference is a demonstration of the most profound ignorance.

A slight fermentation in a dunghill, may indeed be advantageous in causing the woody

fibre, contained in many of the substances deposited there, to decay and dissolve, but wooden fibre is the only vegetable matter that requires this process to render it nutritive to plants. In the straw of chaff and litter, as well as the leaves and other products of the forest—which may be advantageously placed in barn yards for conversion to manure—will be found considerable portions of fibrous matter, which must be fermented to be useful. It therefore becomes a matter of great importance to ascertain correctly how far this process of fermentation should be allowed to proceed. On this point Sir Humphrey Davy remarks:—"In all cases where dung is fermenting, there are simple tests by which the rapidity of the process, and consequently the injury done, may be discovered. If a thermometer, plunged into the dung, does not rise to above 100 degrees Fahrenheit, there is little danger of much aeriform matter flying off.

"When a piece of paper, moistened in muriatic acid, held over the steam arising from a dunghill, gives dense fumes, it is a certain test that the decomposition is going too far, for this indicates that volatile alkali is disengaged.

"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."

The urine of animals is one of the most valuable manures that can be applied to land; but it should be applied in a recent state, as a great portion of the soluble animal matter it contains is destroyed during the process of putrefaction. If unmixed with solid matter, it should always be diluted with water, as in its pure state it contains more animal matter than can be safely absorbed for the nourishment of plants.

According to some writers and practical farmers†, the value of the urine of cattle, if properly preserved and applied to the purposes of vegetation, is greater than that of all the dung which the same animals would

* Vide Davy's Agricultural Chemistry, republished in the Farmer's Register.

† Vide Complete Farmer, p. 175—177.

* Vide Complete Farmer, p. 173.

yield. A letter from Charles Alexander, near Peebles, in Scotland, addressed to Sir John Sinclair, in 1812, contains much valuable information on this subject. "This intelligent farmer had long been impressed with the great importance of the urine of cattle as a manure, and he set about to discover, by a long and well-conducted series of experiments, the best method of collecting and applying it. He began by digging a pit contiguous to the feeding stable, but distinct altogether from that which was appropriated for the reception of the dung. The dimensions of this pit were thirty-six feet square, and four feet deep, surrounded on all sides by a wall, and the solid contents were one hundred and ninety-two yards. Having selected the nearest spot where he could find loamy earth—and this he always took from the surface of some field under cultivation—he proceeded to fill it, and found that, with three men and ten horses, he could easily accomplish twenty-eight cubic yards a day; and the whole expense of transporting the earth did not exceed twenty-two dollars. When the work was complete, he levelled the surface of the heap in a line with the sewer which conducted the urine from the interior of the building, on purpose that it might be distributed with regularity, and might saturate the whole from top to bottom. The quantity conveyed to it, he estimated at about eight hundred gallons. The urine was supplied by fourteen cattle, kept there for five months on fodder and turneps. The contents of the pit produced two hundred and eighty-eight loads, allowing two cubic yards to be taken out in three carts; and he spread forty of these on each acre, so that this urine in five months produced a compost sufficient for the fertilization of seven acres of land. He states farther, that he had tried this experiment for ten years, and had used indiscriminately in the same field either the rotted cow-dung or the saturated earth; and in all stages of the crop he had never been able to find any perceptible difference. But what is still more wonderful, he found his compost lasted in its effects as many years as his best manures; and he therefore boldly avers that a load of each is of equivalent value. Mr. Robert Smith, of Baltimore, has his stables constructed in such a manner that all the liquid discharges of his cattle are conducted, together with the wash of the barn yard, into a cistern, pumped into a hogshead, and applied in a liquid state to the soil which it is wished to manure. This mode of making use of this substance, is likewise recommended in the Code of Agriculture:—"The advantages of irrigating grass lands with cow urine almost exceed belief. Mr. Harley, of Glasgow, (who keeps a large dairy in that town,) by

using cow urine, cuts some small fields of grass six times, and the average of each cutting is fifteen inches in length. There are disadvantages, however, connected with this mode of applying this powerful manure. It must be applied soon after it is formed, or oftentimes the putrefactive process will commence and deprive it of part of its efficacy. And, as urine is of a scorching quality, it is unsafe to apply it to growing crops in great heat or drought. Hence it is unadvisable to use it except for grass, after the month of April and May, unless diluted. It is particularly useful in the spring, when the application of liquid manure gives a new impetus to the plant, and makes its growth more vigorous. This manure forces newly planted cabbages in a most remarkable manner."

In addition to pastures, pens, especially for fattening hogs, will be required, and upon the construction of these with reference to securing the double objects of convenience and economy, great attention should be paid. Many of the styes, even on extensive and otherwise well provided farms, are miserable structures, ill adapted to the comforts of their inmates and the purposes proposed by their erection. Mowbray, while writing on the conveniences for swine, remarks:—"Room and ventilation are objects of the greatest importance, where numbers are kept, and dry lodgings, without which essentials success must not be expected. Nor are swine, in whatever state, proof against excessive cold, for I have known instances of their being frozen to death in their sty, and have always remarked, that severe weather materially checks their thriving, unless they be sufficiently defended from the chilling effects of the air. The sty, situated upon a dry foundation, as well as sheltered above, should be paved at bottom, to the end that it may be kept clean and dry, the operation for which should be daily performed; for although pigs will wallow in the mire, they are yet more thrifty in clean lodgings. As swine, confined, usually employ their leisure time in demolishing with their teeth the wood work within their reach, the modern cast iron troughs are preferable; at any rate wooden troughs ought to be iron bound." "The pigging house should be warm and dry, and secure from the inroads of foxes and other vermin, which have been known to steal sucking pigs from the sleeping or absent sow. Short straw is preferable for a bed, but in not too great quantity, lest the pigs be smothered beneath it; this should be renewed, with due regard to cleanliness; and, as the unwieldy sow is apt to crush her young against the

* Mowbray on Poultry, &c., p. 163.

wall, it is proposed in the New Farmer's Calendar, to append an inclining or projecting rail around, beneath which the pigs may escape on the down lying of the sow." In the Complete Farmer,* we find the following observations:—"Swine should not be kept in close and filthy pens. Though they wallow in the mire, their object is coolness, not nastiness, and they thrive faster and enjoy better health when allowed clean and dry lodgings than when they are not thus accommodated. The late Judge Peters, of Pennsylvania, in an article entitled, 'Notices for a Young Farmer,' &c., observes, 'In airy, roomy, and moderately warm pens, paved and boarded, and often cleaned, they are healthy and thriving. They show a disposition to be cleanly, however otherwise it is supposed, and always leave their excrementitious matter in a part of the pen distinct from that in which they lie down.' No animal will thrive unless it be kept clean."

The following Dialogue is from the pen of the author who furnished those published in our previous numbers. We take it from the "*Cabinet of Agricultural Knowledge.*"

We are happy to announce that the author of those interesting dialogues is about to publish them in book form revised and enlarged. The book will be a valuable one in every farmer's family.

Dialogue between a Father and Son.

LUCERNE—MANNERS, CUSTOMS, &c.

Frank.—Father, you said you would tell me more about the Island of Jersey—since then, I have seen an account of the growth and produce of Lucerne—a crop which you say grows there—which is truly astonishing. I find that it yields four crops for hay during the summer, and after that, abundance of feed for cows and sheep. Is it a species of meadow grass or clover?

Father.—It is much like a narrow leaved clover, but the blossom is very unlike, being of a beautiful blue colour. The growth and produce is, as you say, truly astonishing; and having had repeated opportunity to make myself acquainted with the crop in every stage of its growth, from its cultivation, I am able to speak very decidedly to its great superiority over every other, provided the soil be suitable, and the culture well attended to. The crops to which I allude were so remarkably productive, and I had such constant access to them, that I was induced every evening to enter into a journal, whatever had transpired during the day, worthy of obser-

vation; but for this circumstance, it would be out of my power, at this distance of time, to speak so decidedly as to their rapid growth and large yield: I have now, however, an opportunity to quote *chapter and verse* from this journal, which I will do, for your information.

The Rev. Mr. P. having a field of an acre and a quarter, which had been suffered to run to weeds and bushes, determined to clean it, and seed it with Lucerne; he had it therefore trenched with the spade, to the depth of the staple of the land, which was in some places very shallow, the substratum being a hard gravel. By this operation, the richest part, or surface soil, was turned down on the gravel, and the subsoil was brought to the surface, to be enriched by future dressings. The work was done for fifty cents per perch, of twenty-two feet square, and the seed was sown broadcast and harrowed in by hand. On the appearance of the plants, they were not supposed thick enough to form a crop, but by careful management the field has produced immense crops, both of green food and of hay. The journal commences, with

FIELD NO. I.

September 13th. Mr. P.'s field of Lucerne, measuring one acre and a quarter, after soiling two horses and a cow during the whole of the summer, has already given three crops of hay, on that part of the field which has not been cut for soiling, to the estimated quantity of five tons. The fourth crop now growing, measures two feet in height.

Sept. 21st. The fourth crop of Lucerne mown this day for hay.

Sept. 24th. The hay carried in excellent condition: the weather having been dry and hot, the only preparation requisite was, to turn the crop once only; this crop is equal to any of the preceding cuttings.

Sept. 26th. A portion of the field, from whence gravel had been dug, and the part levelled, has always dried up after producing one crop of hay in the summer, the substratum being impenetrable: that spot has been this day covered to the depth of five inches, with fresh earth, preparatory to trenching and re-sowing.

Oct. 18th. The trenching of the gravelly spot has been delayed, but the shoots of the Lucerne have penetrated the earth through a space of five inches, and it is now determined to allow it to remain untrenched.

Nov. 23rd. A fifth crop will not come to sufficient maturity for hay, but there is excellent food for horses and cattle.

April 8th. The gravelly spot is the best and earliest part of the field; scarcely an inch in space, without a vigorous shoot of Lucerne.

May 6th. Commenced mowing the crop of Lucerne for soiling, a remarkably heavy crop, more than two feet in height.

11th. The first crop mown for hay this day. A space six feet square, taken as a fair average of the field, yielded twenty-three pounds in weight as soon as cut; after one day's exposure it had lost eight pounds in weight, showing that a gallon of water had evaporated in twenty-four hours from this small quantity of green food.*

23d. The hay carried in good condition—not injured by five rainy days, the crop lying light, by means of its large stalks, requiring only careful turning now and then.

26th June. A second crop mown for hay, measuring two feet eight inches in height. The weather has been remarkably hot and dry, the result has been, a growth in the crop of two inches in height every twenty-four hours, the last four days.

July 17th. The third crop of Lucerne measures seventeen inches in height: the weather is extremely hot and dry, all the meadows are parched, and farmers are compelled to feed their cattle on hay; the Lucerne grows away as if it had a shower every night.

22nd. The crop on the gravelly side has again failed; a first and second crop come earlier and grows more vigorously on this part of the field than on any other; but after that, it suffers for want of a depth of soil, affording a familiar illustration of the parable of the sower, (Matth. xii. 5th and 6th verses.) The seed which fell on stony ground immediately sprang up, because it had not much depth of earth, and consequently soon felt the influence of the sun, but when the sun was in full vigor, it was parched, and for want of nourishment, withered away.

Aug. 7th. The third crop of Lucerne mown this day for hay; a very heavy crop, many of the plants in blossom. From the first to the second mowing, one month and fifteen days; from the second to the third cutting, one month and eleven days; after this the field was rented to a tenant for £30 sterling per annum.

FIELD NO. II.

Sept. 5th. A piece of land was sown this day with Lucerne seed of this summer's growth unaccompanied with any crop.

March 20th. The Lucerne sown on the 5th of last September, with seed of that summer's growth, has stood the severity of the winter, and the crop measures six inches in height this day.

May 4th. Cut the first crop of Lucerne this day, two feet in height.

June 14th. A second crop mown this day, equal to the first.

July 14th. The third crop mown this day, twenty-six inches in height.

August 24th. The fourth crop mown this day, equal to any of the preceding.

Sept. 5th. It was on this day last year that this crop was sown with seed of that summer's production: the fifth crop from which measures a foot in height this day.

FIELD NO. III.

Major T. sowed a field with Lucerne, in May of last year, unaccompanied with any crop; three heavy cuttings were taken for soiling during the summer, and on the fourth of May of the present year, it was mown for hay, a very heavy crop: thus giving four crops in the space of one year from the time of sowing the seed.

FIELD NO. IV.

Colonel T. has a field of Lucerne, of four acres, in full vigor; the crop, after cutting, measured three feet, seven inches, in length. He mowed a third crop for hay from this field on the 21st of July.

FIELD NO. V.

M. A. Esq. In breaking up an old unproductive meadow, for the purpose of seeding it with Lucerne, adopted the following mode. In September, the land was ploughed to the full depth of the soil, and sowed with winter tares, or vetches: these were cut for hay in May, and yielded three tons per acre. The land was immediately ploughed and repeatedly harrowed, and the weeds were collected and burnt: a plentiful crop of seed weeds soon made their appearance, which were ploughed down; the land was again harrowed, and the weeds were again collected and burnt: this was repeated, until the soil was as clean as a garden, when it had a very thick coat of well rotted stable dung, which was very carefully turned in, and Lucerne seed was sown in September, without any other crop; and during the next summer, it was cut five times, either for soiling or for hay: the fifth crop, for soiling, was commenced cutting on the 25th September.

So far the journal, which needs no comment.

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Observations on the Manners and Customs of the Island.

Frank.—I have heard that the Island is very small, not more than forty miles in circumference, and about six miles across from north to south—in fact not much larger in proportion than Captain Price's sloop's quarter deck, of which he used to boast, being *three steps and overboard!* but if such crops

* Twelve tons, eight hundred and fifty pounds per acre.

as these can be obtained, the size is not of much importance.

Father.—The Island is very small, but it abounds in remarkable incident. It is a sort of Republic, being governed by a chief magistrate, by the title of Lieutenant Baillie, who is appointed by the crown of England; and twelve jurats or magistrates, chosen by the people from amongst themselves—the chief magistrate having only a single vote. A throne and canopy are erected in the *Royal Court*, as it is called, on which the Lieutenant Baillie is seated, and the twelve jurats in scarlet robes, range six on each side, on an elevated platform.

A military governor is appointed by the crown, who is commander of the forces, it being a strong garrison: he has also a seat in the court, but no vote on any occasion, and, to show his inferiority, he sits on the right hand of the Lieutenant Baillie, on a throne somewhat less elevated. The court frames laws for the jurisdiction of the Island, from whence there is only one appeal, and that is, to the *King or Queen in Council*. There is perfect freedom from taxation, and every article imported for the use of the inhabitants, is duty free: the duty remitted on tea, amounting to about ninety-eight per cent., and on tobacco about *six hundred per cent.* Foreign spirits, however, is charged by common consent, with one shilling (25 cents) per gallon on importation, as a duty; the sum which this brings, about six thousand pounds sterling per annum, is faithfully expended in repairing and improving the wharfs and harbours of the Island—the government being supported by fees of court—a custom there is, of charging all purchasers at auction, with two cents each lot that is sold; these are called *God's pence*, and they are religiously devoted to the relief of the poor, who are always foreigners—a Jerseyman would sooner die than accept relief in the shape of public charity.

It has an Admiralty, as well as a civil and criminal court. All the estates in the Island are entered and described in a sort of doomsday book, deposited in court and are valued at so many quarters of wheat each, instead of pounds sterling or dollars; this being the ancient Norman law, in the time of Rolla: and if a person has an estate to dispose of, he takes the person wishing to purchase, to the court, and introduces him as such; the proper officer then turns to the description of the estate in the book, and declares whether there be any mortgage upon it, &c. and after the seller has fixed the price which the purchaser is to give, all the rest of the business is left to the court, who furnish title, receive the purchase money, and enter all proceedings in the *Book of remembrance*—so

there are no disputed titles. A strange law there is, if a son sees that his father, through age or infirmity, is no longer capable of managing his affairs, he has the right to take him before the court for examination: and if he be found incapable, the court places what is termed a father over him, to take care of him. They tell of a young man, who complained before the court, that his father had lost his memory—that he could not remember *any thing*. “Not remember!” said his father, “I shall never *forget* the cruelty with which you have treated me!” and they *drove the son from their presence*. The criminal laws are very lenient. There is a saying, “a man must have strong friends to get hanged”—a punishment which has scarcely been known to be inflicted for the last age: for forgery the punishment is the loss of an ear and banishment—to England! The post of public executioner is so odious that no Jerseyman has ever been known to fill it: the office falls to the lot of some foreigner—perhaps a culprit himself, who is never permitted to associate with any one of respectable standing in society.

The labours of his office are chiefly confined to whipping criminals, sentenced by the court, who are always from amongst foreigners, with which the Island abounds: no fear of Jerseymen being found delinquent, they are proverbially sober, honest and industrious, especially the women. A curious story is told of a former *Jack Ketch*, as the executioner is called: he was called upon, in the way of his duty, to flog a house-breaker, who was tied to the whipping-post, all ready for action, when Jack said to the magistrate, “Now I won’t flog this fellow unless you’ll give me a new suit of clothes;” the magistrate refused, saying, he had already received his yearly allowance of a new suit. “You won’t?” said Jack, “then flog him yourself;” and threw down the whip! and the magistrate was compelled to comply, for no one could be found who would put the law into execution.

This same Jack Ketch, with his wife, were afterwards detected in a burglary, and were sentenced to be flogged, but as no one would condescend to do it, they were ordered to flog one another! Jack began and cut Mrs. Ketch so severely, that she was not able to perform her share of the operation—they were then transported to France, but she took a dreadful revenge, for on that very night, she arose, and while her husband slept, she cut his throat! But the most curious are the bankrupt laws. It is necessary to premise, that by law, any creditor is at liberty, and as often as he chooses, to call his debtor before the court, and request to have him and his books examined, to ascertain if he have

enough property to pay his debts, and persons neglecting to do this, are sometimes placed in most singular circumstances; for supposing a man becomes unable to pay his debts, and declares his insolvency before the court, they immediately collect all the debts that are due to him, and summon his creditors to meet him at court, when the oldest creditor is asked, "Will you take all the property this man has (mentioning the sum) and pay all his debts?" If he finds that the man owes more than he is worth, he, of course, declines, when immediately he is struck from the list of creditors, and can never more come against the bankrupt for payment of any part of his debt. Then the next oldest creditor is asked the same question, and if, for the same cause, he also refuses, he is also struck off, and is forever incapacitated from making any future demand for payment. The next oldest creditor may find that the bankrupt has now more than the amount of his debts, and therefore, consents, putting money into his own pocket by the transaction! On expressing my astonishment at the injustice of this law, I was answered, "It is not unjust, for these creditors were bound to examine the man's affairs, and to see if he were able to pay his debts; by neglecting to do so, they gave the other creditors reason to believe that all was safe, supposing that they, who had so long known and trusted him, were satisfied of his solvency; they must, therefore, take the consequence, for they knew the law. Many foreigners feel themselves much aggrieved by another law, which is sometimes enforced. If any one rents a house of a Jerseyman, the rent to be paid quarterly, the landlord has a right immediately to cause an inventory of all his furniture to be made, which he holds as a security for the rent, which is not due until that day three months! and when the amount of rent is paid, he may, that instant, have another made, as security for the next quarter's rent, and during that time the tenant must not remove a single article from the premises; if he does, he is liable to be prosecuted for theft.

But the most unjust and unnatural law is, the right of *primogeniture*, (the right of the first born son) which reigns here in all its horrors! The owner of landed property cannot "will" that it shall be shared at his death, by all his children alike, even if he have accumulated it by his own individual exertions; but the law takes possession, and the court accords to the *first born son* (not daughter) the best house and lands sufficient to enable him to occupy it, if it consist of land; or any other property they might think fit: and when the daughters are called to receive the portions which the court have allotted them, the *oldest son* shares again with

them, to the injury, and sometimes the impoverishment of all the other children, male and female!

Frank.—Now that is scandalously unjust—and I would not live in such a country for the world, free as it is from taxes. Is the Island free from tythes? of the evils of which we hear so much in England.

Father.—There are tythes, but as the crops which are tytheable are enumerated by name in their old law books, and as potatoes, turneps and some other crops, do not appear amongst them, for they were not known at that time, they are supposed to be free from tythe; how far the *letter* will be able to do away with the *spirit* of the law of tythe, I do not know. The Episcopal clergyman of each parish has a right to demand from every inhabitant a yearly sum, whether he come to church or not, but as that sum is only two and a half pence,—five cents—for which he is bound to furnish him with a seat at the church, there is no great harm in it; after this, all sects are tolerated. The women are the greatest knitters in the world, and you will scarcely meet one, without the *needles*, within doors or without; even going to market with baskets with articles for sale, they contrive to carry it on, either by poising the basket on the head, or tying it round the body with a handkerchief; while those who enjoy the luxury of riding to market in the cart, knit all the way; and when they go collecting weeds from the sea, the *knitting goes too*. During the winter evenings, they have what they call *knitting schools*, at their own houses; and at the place appointed the best room is fitted up for the occasion, the floor being strewed with rushes, and lighted with lamps hung from the ceiling; and here the girls come, and knit for life, until ten o'clock, when the young men come to accompany them home, and the girl who is most expert at the work, is frequently sure to get the first husband; it is said that upon some occasions, a man's stocking has been begun and finished the same evening. Many of these girls have a singular *propensity*, which is to spend every cent they can save—and they will work hard for it too—in the purchase of cloth, with which to make shirts for their *hoped for husbands*, years before the time when they expect to meet with them; and some have been known to have hoarded up against that time, many dozens of those *indispensables*, as a marriage portion to their intended lords, without regard to size or length; so that, instead of cutting the garments according to their husbands, they must cut their husbands according to their shirts! and I have known a servant girl, who, speaking of one of her young friends, about to be married, remarked, "why she has but three dozen shirts in the

world, and yet talk of marrying!" but these are the marriages that are sure to wear well; I never heard of a divorce or separation, during the time I resided amongst them; and there too, they still religiously observe, the beautiful ancient custom of breaking a coin, or some article of gold or silver between them, when they betroth themselves; and it is said, there is not an instance upon record, where either party proved faithless to the sacred vow!

For the Farmers' Cabinet.

Nitrate of Soda as a Manure.

In the last number of the Cabinet there is a paper from the Farmers' Magazine, stating the mode of application and uses of this article as a manure, all of which has been verified by the writer of this, last season, though he had not then heard of its application to agricultural purposes either in Europe or this country. It costs from three to four cents per pound by the sack, and is much cheaper than saltpetre. It should be sown early in the spring on the grass sod at the rate of about one hundred pounds to the acre, and perhaps a heavier dose might answer better, but experiment must determine that point.

The nitrate of soda, or cubic nitre as it is often called, can be purchased in quantities of the wholesale druggists. It exists naturally, in inexhaustible quantities, in the desert of Atacama in Peru, South America, from whence it is imported into this country, and is used for various chemical purposes. It forms a bed of variable thickness, covered with clay, of one hundred and fifty miles in extent. This article in the crude state in which it is imported into this country, is in dirty-white, saline lumps, rather soft and friable, and damp on the surface. It attracts moisture from the air, and dissolves very readily by exposure to rain.

From present appearances, it seems probable that this substance will soon be found to be of great importance to the farmer as a manure, and the ease with which it can be transported will be a means of extending its benefits; and the greater the consumption of it, the cheaper it will become, as it will then become an object of commerce on a large scale.

If a number of farmers in different sections of our country would make an experiment the coming spring with the nitrate of soda, and communicate the results for publication in the Cabinet, great good might arise from it, and for the encouragement of those who are disposed to try it, the writer of this can vouch for its efficacy in promoting the growth of grass. It would be well to try the effect of it on corn, applied in small quantities on the hill, and also on potatoes.

The introduction of new manures which admit of easy transportation to distant places at a cheap rate, are invaluable to the agriculturist, and ought to be sought after, and brought into notice by all who desire the prosperity of our country. A.

For the Farmers' Cabinet.

Land Measure.

Whatever you do, do it *well*, not well enough.

I was much pleased with an article headed "A Useful Hint," at page 194, of the last number of the Cabinet, pointing out an easy and simple method of laying out land, so as to enable the farmer to apply lime or any kind of manure evenly at a given rate per acre: this is a very important matter, and many persons for want of a species of knowledge which they do not possess, have made sad work in the application of various kinds of manure, and more particularly lime; sometimes spreading it thicker, and at others thinner than was intended.

This has induced me to point out another method, which some may think less troublesome than that referred to. Lay the land in spaces each way of twenty-two yards or four poles wide. This will form it into squares, each of which will contain the tenth part of an acre or sixteen square perches, and five bushels of lime applied to each of these squares will be fifty bushels to the acre, which is a pretty fair liming, though some apply more, and many less than this quantity; four bushels to the square will be forty to the acre; six bushels to the square, sixty to the acre, &c., and in this way any given quantity may be evenly spread over a field. There should be no *guessing* in matters of this kind, and your boys noticing your care and circumspection in such matters, will come to regard them as things of consequence, which they really are, and it will be a means of inducing habits of accuracy and care, which will be of great consequence to them when they come to act for themselves.

Teach your boys by example, as well as by precept.

C.

For the Farmers' Cabinet.

Poultry.

"Dear me! what a price eggs sell for."

Every person who is familiar with the habits of fowls must have noticed their fondness for animal food. Animal garbage, insects, slugs, and worms are sought for and devoured by them with great avidity. During our long winter season they are prevented by the frost from procuring a supply of animal food, and by many this is supposed to be the cause of their ceasing to furnish us with the usual supply of eggs. Some managing house-keepers, who

know that eggs always bring a good price during the season of frost, boil bran or shorts in pot-liquor, in which meat has been cooked, and which has imparted to it the animal juices, with which they feed their hens, and it is unquestionable that they derive a great advantage from it. Corn and oats parched or browned in a pot over the fire is a kind of food that poultry are very fond of, as well as boiled grain of any kind, and an occasional change of food is found by long experience and observation to be highly important in promoting the health and thrift of domestic animals of every kind. Keep your fowls *dry* and *clean*, give them *good lodging*, provide them with some dry dirt, ashes or old slacked lime to rub themselves in, and give them a plentiful supply of food, a portion of which should be animal, and you will not have to complain for their not thriving or laying eggs.

SUSAN.

For the Farmers' Cabinet.

Improve the Soil—and go Ahead.

No farmer "goes ahead" unless he raises an abundance of grass. Where there is but little grass there is always a short purse, said a man of extensive observation and great experience; the reason of this must be so obvious as scarcely to need an explanation; for of grass comes manure, and manure is the philosophers' stone, which turns every thing into gold, provided it is well husbanded and judiciously applied to the soil. The experiment of trying to raise profitable crops on worn-out lands without manure has been made thousands of times and always resulted in the same way; it is therefore unnecessary to repeat it again, for disappointment and shame will always attend it. But, says the man of the poor farm, how am I to help repeating this everlasting abortive experiment? Why, in the way you help doing any thing else which you know to be wrong; *by not doing it*. Well, how am I to live if I don't go on in the old way? Go to work in earnest, determine to reform and do better; instead of spreading your manure over fifteen or twenty acres; cultivate but one-third or one-half the quantity of land; go just as far as you can to do justice to the soil and to yourself; and no further; don't go one inch beyond, make your land *feel* the effect of the manure; don't tantalize it with a mere smell of it. What would you think of a neighbour inviting you to dine and when the time arrived you were only permitted to smell the good things, but obliged to keep hands off. You would think he was a stingy mean fellow, and you would not go into that trap again I'll vouch for it. Now if your old worn-out fields could talk and tell what they think of their owners, vociferate their griefs, what a tale of woe would

they not develope? It might be something on this wise. That mean, stingy, stupid old fellow has been scratching over me these forty years and more, and though providence has always benevolently furnished me with plenty of drink of the purest and best kind, yet have I never had a *full meal* during somewheres near half a century, and for more than four-fifths of that time I have been left to sniff the air and shift for myself, without any sustenance being offered me, and yet it is expected of me to produce crops equal to what I rendered in the days of my youth, when my belly was full of meat and my bones full of marrow. Vain expectation! it is nearly over with me unless help comes from the dunghill or some other quarter. This everlasting scratching my hide may go on to all eternity with still less and less success, till my owners and all their worthless, lazy progeny to the seventh generation, may be starved out of horse and home, unless an adequate quantity of good, wholesome, nutritious food be furnished me to resuscitate and invigorate my exhausted system, and to enable me to put on my *green mantle* as I was wont to do in my earlier and better days.

Farm *poor* land *poorly*, and *poverty* will be your lot whatever your name may be, but manure the soil, enrich it, farm it well, and keep it in a regular advance of improvement by raising an abundance of grass, and prosperity will smile upon you and yours if so be you are virtuous.

WEST.

For the Farmers' Cabinet.

On Planting Forest Trees for Fencing.

"Aye be sticking in a tree, it will grow while you are sleeping."

In many parts of the old settlements of this country, timber for fencing has become scarce and costly, as those farmers who have it to purchase for current use can testify. There are farms divided into small enclosures by cedar or chestnut rails, where the value of the fence bears a large proportion to the whole value of the property; and some years since my attention was called to a farm of about one hundred acres, which was fenced in an extraordinary manner with cedar, which on examination was found to have sold for less than the fence would have sold for separately. There is always more or less wood land on farms, but in most instances by cutting out, or from other causes, there are many *bald places* or *blanks*, which produce nothing of value either for the present, or expectation for the future; and on most farms there are spaces not adapted to cultivation, which remain *blank*, producing nothing. Now I desire to turn the attention of the readers of the Cabinet to these blanks in their farms, if so be

that they may be rendered profitable to themselves and those who may succeed them. Suppose a few quarts of chestnuts were deposited in proper situations in these blank places, an inch or two below the surface of the ground, at a proper season of the year, (which I should say would be at the time they were ripe in the autumn,) what do you think would be the result? Would they not grow up and become trees, and make rails or posts that would be worth ten or twelve cents a piece? Aye, that's what they would, and that without any further labor or attention on your part. I have often thought that if boys would plant some of their chestnuts instead of eating or selling them, they would gain more by it in the end. There are thousands of acres of land which have had all the marrow taken out of them by ignorant and conceited people; I will not call them farmers, because they are a disgrace to the profession, which it would be much better to plant with chestnuts or some other valuable description of trees, than to attempt to keep it under that species of wretched cultivation which will sooner or later bring its occupant within the confines of the county poor house.

In Scotland and other parts of Great Britain, but particularly the former, the business of planting forest trees has been prosecuted to a great extent for a long period of time, and the profits arising from it have been very great to the proprietors. The planting of course has been on grounds not adapted to profitable cultivation of grass or grain crops. Those who engage in this business either have nurseries where they bring forward the young trees, or they purchase them at a low rate from nurserymen who cultivate them for sale to planters.

"The value of the planted woods of Darnaway in Scotland in 1830, was £130,000 sterling (about \$600,000.) The annual increase in growth of oak and fir, exceeds, in a threefold ratio, the amount of timber thinned or cut out every year; and as the system pursued is, for every fir that is cut down to plant two oaks, in the course of fifty years the whole forest of Darnaway will be one mass of oak. The total number of trees planted in this forest in forty-three years, was 12,187,550, viz.

Oak, - - - - -	1,114,260
Scotch Fir, - - - -	10,346,000
Ash, Elm, Beech, &c. -	723,290

Since the spring of 1829, there has been planted in it 911,000 oaks."

The above exhibits the planting of timber trees on a grand scale, and there are many others in Scotland that fall but little below it; and it is said to be attended with large and profitable annual returns, for the business of

cutting out and replanting is constantly going on.

It is not expected, neither do our situation and circumstances require that we should, at least in the present generation, go to work and plant whole forests, but the destructive propensities of the people of this country have been such in regard to timber trees, that we are already beginning to feel the effects of our folly in the neighbourhood of our houses, when obliged to buy materials for fencing, and the sooner we retrace our steps the better: I would therefore propose to make a commencement by planting of chestnut or other valuable trees in vacant spaces in wood lands, or in situations where profitable cultivation cannot be carried on. The expense will be small, and the profit, I suspect, will not fall below that derived from the raising of multi-caulis trees.

AGRICOLA.

For the Farmers' Cabinet.

Three Millions of Dollars saved to Pennsylvania.

"A penny saved is two pence earned."

Assuming that one-half the population of the state of Pennsylvania belong to the class of Agriculturists, and that on an average each family is composed of six persons, we arrive at the conclusion that there are *one hundred and fifty thousand* farmers with their families carrying on the great business of producing food for man and beast, within the boundaries of the commonwealth. Now if any plan can be suggested by which each of these families can either save or produce twenty dollars a year more than heretofore, it will make an aggregate amount of three millions of dollars per annum, added to the wealth of the agricultural community alone; and this sum would pay the interest on the state debt, and liquidate the principal in a few years. Every farmer who will introduce water into his barn-yard by means of a pump, cistern, or by directing a small rill of water into a trough for the purpose of furnishing a regular supply of water for his stock during the winter season, to obviate the necessity of permitting the animals to wander forth in search of drink, and by that means wasting their manure, will certainly save more than ten dollars worth of the most valuable article that is to be found on a farm annually. Sam Slick would say, "that's a fact;" for animals always make their dejections most copiously immediately after drinking, and being driven. Well then, there we have a million and a half of dollars saved already, for one hundred and fifty thousand multiplied by ten, makes that sum. But perhaps it may be said that it is only made on paper; well, so be it, but now let every

farmer set to and make it on his farm, which will not be an affair of any great difficulty, if he has the least modicum of ingenuity or industry, for every body knows how to dig a well, make a cistern, or dig a ditch.

One-half of the job with which we set out being now accomplished, let us see if we cannot make another million and a half of dollars with equal ease, for an old man of my acquaintance used to say, that when a work was once begun it was half done. So here goes for the balance. A number of farmers, of late years, having grown wiser as they have grown older, have procured large boilers and had them properly enclosed in brick work or masonry, in which to boil or cook the corn and other grain fed to their hogs and cattle, instead of having it ground or fed whole; and the uniform testimony of those who have adopted this plan is, that there is great economy in it, and some think they save one-half their grain by cooking it before it is fed, and that it keeps the animals in better condition. One small farmer thinks that he saves more than twenty dollars a season by following out this practice. Now I put it down that each farmer in the state will save ten dollars by acting rationally, and for his own interest in this particular. This makes exactly one million and a half more, and the two sums added together, makes the enormous amount of *three millions of dollars per annum*, to be saved by the farmers of Pennsylvania alone; a pretty sum this, and well worth looking after in these hard times. What the amount would be if extended to the whole United States, I have not yet had time to calculate, but it would be astonishing no doubt; and if what I have written should be acceptable to your readers, and they should generally adopt the suggestions, after the next census of the United States is taken, which will be during the current year, perhaps I may drop you an estimate for the whole Union; so in the meantime I bid adieu.

AGRICOLA.

January 5, 1840.

For the Farmers' Cabinet.

Boilers.

In some former numbers of the Farmers' Cabinet I have read essays on the subject of the advantages of boiling grain and roots for stock, which arrested my attention and induced me to examine some of the boilers which are in operation, and I find that they far exceed the expectation formed of them. Those who have erected them in a *proper* manner, and have brought them into use for cooking corn, oats and potatoes for hogs and cattle, would not be willing to part with them for three times their original cost. A farmer who has had one in use for some

years, says that he is now sure his stock gets the whole of the grain, and what is of great consequence, it is all thoroughly digested. There is now no going to mill and giving away ten per cent. of the grain, besides the otherwise unavoidable waste which some allege amounts to about four per cent. more. He says the feeding of cows with boiled oats is the most profitable application of it which he has ever made, for it puts marrow into their bones, and in the spring and summer the dairy maids draw it out in the shape of fine rich butter which always brings a good price since these piping days of steam-boats and rail-roads which have set the whole world a travelling. Some have erected expensive structures for steaming, but it seems now to be admitted that a *simple boiler*, set in a proper manner in brick work with a grate underneath to support the fuel is the cheapest and best plan hitherto adopted. The demand for these boilers having increased has induced the manufacturers of them to improve them, and also to sell them at a less price than was formerly given for them, and recently a friend of mine purchased one of great beauty and excellence, at a fair rate, at No. Market street, Philadelphia, just below Second, on the north side; Dilworth, I think, is the name of the seller; those sold there are lighter and handsomer than any castings of the kind I have seen, and come cheaper; Savery & Co., who are the founders, it is said, use the iron which is made at Lyman's furnace, Pottsville, with anthracite coal. P.

For the Farmers' Cabinet.

Mechanics.

"Out of nothing—nothing comes."

The laws of nature, unlike human laws, can neither be changed nor evaded; and, for want of a proper knowledge of simple and unchangeable laws, many men waste time and money in trying to produce great effects by insufficient means.

The mechanical powers, as they are called, do not, and never can, create power—they only modify its application.

The power most easily measured is that of gravity, or weight: and it is the cheapest of all powers, or first movers, when, as in the case of a water-fall, nature constantly winds up the weight for us for nothing.

Suppose then we have one thousand pounds of water falling ten feet in a minute. No human contrivance can make that water raise more than its own weight to the height of ten feet in the same time. It cannot raise quite as much, for the friction of the machinery must waste part of the power: but, as it may be a small part, let us omit the friction from these calculations.

The effect of the mechanical powers is to enable us, while our original power remains the same, and the rate of its motion the same, to exert a greater power with a slower motion, or a lesser power with a quicker motion. But, in all such cases, the power produced multiplied by the speed with which it moves will be found to give the same product.

Thus one thousand pounds falling ten feet in a minute, may be made to raise ten thousand pounds one foot in a minute, or one hundred pounds one hundred feet in a minute, the same power being required in each case; but no man can make it do more, for if he did, he would create something out of nothing, which is contrary to a law of nature.

For this reason all attempts to make a mechanical perpetual motion have failed, and forever must fail; as such a machine would be equivalent to making a weight raise another equal to itself to the same height in the same time, and enough more to overcome the unavoidable friction of the machine, which friction, however small, is certain, sooner or later, to stop the motion, unless an additional power is applied sufficient to overcome the friction.

Therefore, every man who is trying to make a perpetual motion, or any machine which he expects to do more than the power applied to work it, is wasting his time and money in that which will be certain to end in disappointment.

R.

For the Farmers' Cabinet.

Fruit Trees.

Spring will soon be round again, and that is the time for planting fruit trees. Every one desires to have plenty of good fruit, and yet how few resort to the proper means of obtaining it. Many rely on their more provident and industrious neighbours and friends for a supply of it. How many *friendly* and *neighbourly* visits are paid during the period that fruit is in season, that would have been deferred or entirely omitted, had there not been some excellent fruit in prospect. Strawberries, grapes, plums, peaches, apples, cherries, and pears, particularly if they be of a very superior quality, all afford most substantial reasons for visiting neighbour A., B. and C.

If there be no fruit, no visit need be expected for that season; but if it is very abundant and very good, look out for much company, for your *friends* will all remember you; there is no danger of being forgotten while it remains in season.

A very provident, careful, industrious personage who was celebrated for always having

something very nice and good on hand during the season of fruits, and who had been rather intruded upon beyond the point of proper endurance, once observed that "those who never planted a fruit tree ought to make their visits few and far between until they had amended their practice and begun to reciprocate."

Now those who profess to have repented of their procrastination and neglect in the matter of setting out fruit trees, had better begin to demonstrate the sincerity of their repentance by some external and visible sign of amendment, and the approaching spring will furnish a fine opportunity of exhibiting their sincerity to their neighbours and friends.

Determine at once the number and kinds of trees you will set out, the spot where you will plant them, ascertain where you can obtain them, and make every necessary preparatory arrangement before the time of planting comes round, and let no ordinary circumstance prevent the performance of so important a duty to yourself, your family, and to posterity as that of planting a well selected assortment of the best fruit trees.

K.

For the Farmers' Cabinet.

Salmagundi.

Those who are sparing of grass seed, must be saving of their hay.

Winter is the proper season for thinking and contriving about the operations for spring and summer; true it is that many think and contrive but little, and the consequence is that they are brought up all standing.

Fifty or sixty years ago, farmers depended upon the spontaneous growth of the native grasses, and did not trouble their heads about hunting up clover, timothy, orchard grass, or herd grass seeds. The result was, they had but little pasture and less hay; they could keep but little stock, and made but little manure; their funds became more and more exhausted every year as their land became poorer, and by-and-by starvation and ruin began to stare them in the face, and frightened some of the more intelligent of our ancestors into better ways of working things.

Attention was turned to the artificial grasses; clover and other grass seeds were procured and sown, and what is more, they grew and flourished, and produced more than ten-fold the quantity of herbage which the same soil under the previous management was wont to produce. This enabled the farmer to keep more stock, to make more manure, to enrich his land, and to raise more and better crops of grain; and all this tended to put more money in the purse than was ever known before the introduction of artificial grasses. The result was, larger and

better barns were built, prodigious corn cribs were erected, such as were never known before those days; good and substantial houses, replete with every comfort, were seen to grow up all over the country, surrounded with every convenience that the most fastidious could desire.

But of prosperity was born extravagance; gigs, buggies and carriages were substituted for riding on horseback, or for going on shank's mare, which was the mode of locomotion in common use in the days of our great grandfathers, as tradition tells us. Instead of bread and milk, mush and milk, pie and milk, farmers' rice, boiled milk, &c. &c., with which we were daily treated, even in my day, came the everlasting slops, tea and coffee, and sugar, and chocolate, with their long train of nervous diseases, such as were never heard of in the days of my boyhood, and the existence of many of which may be very well questioned even now, otherwise than in the imagination.

The use of such an immense mass of foreign products all over our country, independent of the effect of many of them on our health and happiness, has brought poor old Uncle Sam and his tenantry into a pretty fix, which we had better all join together and relieve ourselves from as soon as possible; and the way to do it is just as plain as the way to market—buy less and sell more.

Only think of it now for a moment: During the year ending the 30th of September, 1839, there was imported into the United States from foreign countries, merchandise, (and a goodly quantity of it was tea, coffee and sugar) amounting to the enormous sum of - - - - - \$157,609,560
Exported to other countries
from this, during the same
time, - - - - - 118,359,004
Leaving a balance against us
in one year of - - - - - 39,250,556

Of the articles exported \$109,921,094 were domestic productions, and \$17,408,000 were foreign articles.

Now don't you call this bad farming; but a thing once done can't be recalled, and it is not worth crying over spilt milk; but let us try not to spill it next time.

But how are we to pay this balance, which amounts to about two dollars and fifty cents for each man, woman and child, black and white, in the Union. The answer is, buy less and sell more, and the balance will soon be transferred to the other side of the ledger. The business of a whole nation works precisely on the same principle as the concerns of an individual do. He who spends more than he earns will soon be out at the little end of the horn.

But I must not forget that I began to write,

not to tell you and your readers about political economy, but to impress farmers with the importance of procuring *plenty* of good, clean grass seed during the winter, so as to be ready at the earliest suitable period in the spring to sow it on their grain fields, and be sure and sow it bountifully, and of several kinds, so that there may be a full crop of it, for it has been truly said, that as we sow so shall we reap, and it is equally true of grass as of grain crops.

AMOS.

For the Farmers' Cabinet.

Plaster of Paris.

There have been many notions and opinions put forth at various times in regard to the mode of action of this article in promoting vegetation; some have supposed that it acted only as a stimulant, and others that it promoted the growth of plants exclusively by its attraction for moisture: But the better opinion seems now to prevail with the more intelligent observers of nature's operations, that it is a positive food for many descriptions of plants, particularly clover, and enters into their composition and structure. This has been ascertained beyond all doubt by chemical analysis. Sir H. Davy obtained from a quantity of clover a proportion of gypsum equal to about a bushel to the acre. This must have been taken up from the earth by the clover as a part of its food, and had it not existed in the earth from which the clover obtained its nutriment it would not have been in its composition.

Where it has been frequently sown it ceases to produce the same comparative effect, for there remains a portion of it in the soil, and the manure made on a farm where it has been freely applied always contains a considerable quantity of it, which is annually returned to the fields, where it renews its beneficial agency. This should not deter farmers from making their usual annual applications of this very useful and important food for plants, for doubtless a considerable quantity of it is dissolved and washed to a depth in the soil that the fibres of the roots are unable to take it up, therefore continue to apply plaster to your grass lands, for to it agriculture is perhaps more indebted for its improvements than to any other single cause.

B.

No one can change his mind to the injury of another.

Thou shalt govern many, if reason govern thee.

A poor freedom is better than a rich slavery.

Regard no man's opinion of what he does not understand.

For the Farmer's Cabinet.

FRIEND LIBBY:—

Some of my neighbours, who have farms on a calcareous soil, and who had intended to cultivate the Silesian Beet the coming season, have been alarmed at the information contained in a pamphlet, published by J. R. on the cultivation of that root; for he observes, "In France, calcareous soils are not considered suited for growing Beets." His attempt to distinguish between a chalk and a limestone soil, is futile, for if *calcareous matter* be the cause of the failure of the crops, it *matters not* of what particular species of formation it consists. He says, "The American farmer must not be deterred from *trying* to cultivate Beets on limestone land." What! after three years *trying*, is it come to this? And after having said, the material may be produced in immense abundance from Maine to Louisiana, and from the Seaboard to the Northern Mountains, are we still left to determine the fact by our own experience?

If J. R., "who arrives at no conclusions without deep research and close calculations," had first made himself acquainted with facts and their consequences, before he began to publish for the information of others, he would not thus have committed himself, and the cause, which he professes to uphold.

Without disparagement to the character which he has earned amongst his *townsmen*, I must be permitted to say, his observations ought not to pass for much in the *country*, for they cannot result from experience. I intend to cultivate, as I have done, the pure species on a calcareous soil, depending upon perfect success, if we are blessed with a fruitful season, for I mean to plough deep, plant thin, and keep clean—all that is necessary.—His observation is calculated to do infinite mischief to a cause which he professes to advocate, and is twin to the highly injudicious step, which he advertises he has taken, namely, to import the seed of the common Mangel Wurtzel, or "root of scarcity" with the seed of the pure Silesian Beet; to do which—if he had called to his aid his "deep research and close calculations"—he would have discovered, was to offer the greatest despite to the culture of the pure species, which—for his information—contains about ten times the quantity of saccharine matter, than is to be found in the "root of scarcity." But I may one day, through the present medium of communication, point out the reason why the *French sugar makers*—not the *Agriculturists*—find that Beets grown on a calcareous soil, are not adapted to the purpose of *making sugar*.

AN OLD SUBSCRIBER.

25th 1st Mo. 1840.

Teach by thine own example.

Cultivation of the Locust Tree.

To the Editor of the Farmers' Cabinet.

DEAR SIR,—I obey your call in the number of the Cabinet just received, and proceed to give your correspondent, Mr. Hand, of Cape May, the result of my experience and observation on the cultivation of the Locust tree.

First, as to seed.—I have had them vegetate well, by soaking for about thirty-six hours previous to planting—throwing over boiling water, and keeping it lukewarm. The grain will swell to nearly double its original size. Soaking is absolutely necessary to insure an early growth, as it is the general impression that without it, at least three years is required for the seed to vegetate, and then there is no certainty of its growing; whereas by soaking, and planting before they dry, I have had them vegetate, and the plant two inches above ground in two months from the time of depositing it in the ground.

As to the best mode of planting, and the time.—I prefer planting in a nursery—to have the ground well pulverized—drills four feet apart and about an inch deep—the seed about two inches apart in the drills, which will insure a tree with considerable certainty every eight or ten inches—should the plants come up closer, they can readily be thinned with a hoe, or with a trowel taken up and transplanted. The best time for planting is as early in the spring as possible. I prefer the nursery, because the plants for the first year are more easily kept free of weeds, which is necessary, as I have discovered that the plant is easily smothered by weeds when small—because the plat of ground being small, is more likely to be well prepared for the seed, and to have a heavy dressing of ashes, lime or marl, one of which is absolutely necessary to insure a general growth of the seed in any soil; and without which, on a soil to which the growth of locust is not common, it will not vegetate at all.

The tree, if carefully taken up for transplanting at two years old, is stunted very little or not at all in its growth, and if carefully planted where it is to remain, not one in a hundred will die.

My advice to your correspondent would be, to adopt the nursery for raising the plants, and during the next two years, while the trees are maturing, to prepare his "ten acres of old worn out ground" for them when ready for transplanting. This he can do, (as his ground is already ploughed,) by giving it a heavy dressing of ashes or lime early in the spring, and then turning under green crops. I advise this course as I know that locust will not thrive in "old worn out grounds."

Should your correspondent, however, prefer depositing the seed in the field, where the trees are to remain, his next best plan will be, to give the ground a dressing of ashes, lime or marl early in the spring—strike out his field in squares ten feet apart, and then deposit four or six grains in each square, covering them about an inch, and sprinkling a handful of ashes over and around them. These hills can be thinned the following spring, and should any have missed, they can be supplied from those hills, when more than one grain has vegetated. In the course of eight or ten years every other tree might be cut down for fence stakes, fire wood, or perhaps the butt end used for board fence. I have had trees ten feet high in two years from the time of planting the seed.

I would again, sir, assure your correspondent, that unless he prepares his "worn out ground" by ashes or lime, it will be labour and time thrown away. We find this necessary in the valley of the Susquehanna on lands not worn out, and remarkably adapted to the growth of locust.

A. O. HLESTER.

Estherton Farm, near Harrisburg, {
January 27th, 1840. }

For the Farmers' Cabinet.

Small Comforts.

Women's work is never done, therefore you ought to lend a hand.

The Cabinet, and other agricultural periodicals, have made our men folks very learned on the subjects of manures, crops, short-horned cattle, sheep, swine, &c. We hear them often discussing these topics, and they really appear to derive benefit from it, for they seem to talk less of politics, and other everlasting subjects about which they could never come to any satisfactory conclusion, since agricultural papers have been generally introduced in our neighbourhood. But there are some matters that we women folks, who constitute a part, and we think no unimportant part of the agricultural community, are desirous should claim a share of the attention of the Editor of the Cabinet; just give us a page or two of your useful journal every month, in which to discuss such subjects as may more particularly appertain to our department of the duties of house-wifery as connected with agricultural life.

If you will agree to furnish us with the use of a chimney corner of the Cabinet for our own use, we will accept it with thanks; if not, we will have a paper of our own for our own use, edited by one of our own number, and then look out, and stand clear when the hot water begins to fly about your ears.*

I will now tell you some of the matters we want brought before the public, with the view of meliorating *our* condition, and promoting the interest and comfort of all concerned. You may call these SMALL COMFORTS, but of small things, great ones are composed; grains of sand make mountains, drops of water constitute the ocean, and little babies make men and women all the world over; no exception Mr. Editor. The great matters of agriculture are ably and amply discussed in your journal, but we want something said about our own wants and wishes.

A year or two ago you published a very good essay about a "wood house," for the convenience and comfort of females; it was much talked of, and every man in our neighbourhood, except an old bachelor, approved of it, and most of the men said they would build a receptacle for keeping the fuel dry forthwith; one even went so far as to get the stuff for it, but afterwards used it for another purpose, and to this day there has not been built a wood house in our township; so we have to burn wet wood, and go out in the rain and snow to get it; sometimes the breakfast or dinner is delayed beyond the usual time in consequence of the fuel being wet and green, and whenever this happens, we are sure to hear of it in the way of complaint, although the fault lays precisely where the complaint comes from. Baking, you know, can't be done right without dry wood, so we want you to write another essay about keeping wood in the dry, and having it cut and split to proper sizes for current family use. Many of us in our neighbourhood are bad off for water, and the men don't take it as much to heart as they ought to, or things would soon begin to mend. Carrying water a long distance is real work, and so is drawing it from the bottom of a deep well, and a tall pump don't work easy. A few of our neighbours have good large cisterns, with pumps in them, that save much time and labour; and besides, the fine soft rain water they contain is so good for washing, that I wish you would give us a lift in the Cabinet, so that every family may be furnished with one, even if it should be thought to be for our sakes alone. Now there is the milking, which you know must be done rain or shine,

tation to other Ladies, who sustain the enviable relation of wives and daughters to the true nobility of the country, to take "Susan's" communication, or their own experience, for a text book, and forward to us their productions. We pledge more than the number of pages for which "Susan" asks, and should there be any want of room, we will publish an occasional extra as a less evil than that of being subjected to a sprinkling of "hot water," or entering into competition with our *Fair Friends*.

* We invite "Susan" to occupy a place in our columns every month; and would extend our invi-

no matter how great the storm, or deep the mud or filth of the path, or barn yard, or stable; try to help us along a little in this important matter; the path might be paved or gravelled, one would think, without much expense or labour; and the stables, can't you teach our *dear masters* how they, as well as the cows, can be kept clean during the winter season. It is said cows give much more milk when they are kept tidy and clean, and I think it stands to reason that they should. If I was a cow I would'nt give a drop of milk unless I was kept neat and clean, and well fed in the bargain, for I hate these lazy, stingy fellows, that are always trying to cheat and get something for nothing: do give them a touch on these subjects, and if you do it handsomely, I will write to you again, and tell you a few more of our grievances, under which we have been long labouring to our great discomfort, and the great injury of our constitutions.

SUSAN.

For the Farmers' Cabinet.

Law.

Good lawyers are seldom engaged in litigation on their own account, and good doctors take but little medicine.

All farmers should know enough about law to keep out of it, or if they should become involved in it, to act understandingly and rationally, under the circumstances in which they may find themselves placed.

The principles of what is called common law always conform to sound reason and common sense, but statute law is often arbitrary in its provisions. Every intelligent agriculturist should become acquainted with the laws of the State in which he is located, so far as they have a bearing on his immediate interests or duties, not to enable him to become a competitor in litigation, but to instruct him in the means of performing his duties to his friends and neighbours, by giving his advice and assistance in cases that unavoidably arise in all communities. The laws which have relation to the poor, the roads, partition fences, county rates and levies, apprentices and strays, should be familiar to, and well understood by every landholder in the state. Those that have relation to the duties of executor, administrator, guardian and trustee, are of vast importance, and there are few persons of property or respectability but what are called upon at some period or other of their lives to act in some of these capacities; it is therefore of much consequence that some general knowledge at least of the laws on these subjects should be possessed by farmers generally; there will always be points of difficulty or intricacy arising where legal counsel will be indispensable, but still a knowledge of the general duties which are

so easily acquired, should be possessed more generally than is at present the case. Every respectable farmer should be the proprietor of a digested copy of the laws of the State; it will add to his knowledge, and enable him to extend his usefulness, and it will be of incalculable advantage to his children, who as they grow up to manhood will be gradually acquiring a knowledge of the laws by which they are to be governed, without any severe study or loss of time from other occupations. If farmers generally possessed more knowledge of the laws on subjects of general interest, pettifogging lawyers would soon become a scarce article in the community; their food would be gone, and they would be obliged to seek some more honest calling for subsistence. This would be a great blessing to those on whom they at present prey, and would tend to promote the tranquillity and harmony of society.

The copying of deeds, mortgages, bonds, notes, leases and other legal forms as exercises when learning to write, would give boys much valuable information, and be as efficient in instructing them in the mechanical exercise of writing, as copying short sentences which give but little general information. The copying off of whole laws on important subjects would impress their provisions on the minds of school boys, so as to render them indelible, and might be of much service to them in after life.

If the effect of these suggestions should tend in the least degree to lead more of the youth of our country to aim at studying a profession, the writer would freely recall them, for *crowding* what are called "the learned professions," is an evil of great magnitude, which has *robbed* agriculture of many promising subjects, without adding any thing to the reputation of the bar.

A large proportion of the suits at law which crowd our courts of justice arise from unbridled passions, by which reason becomes unseated until the party is fairly embarked in a legal contest, and then pride comes in to persuade that to retreat is to be conquered: another most fertile source of litigation is ignorance, which costs much time, money, and vexation before it is rubbed off; full ninety per cent. of all the legal contests which arise in our country have their origin in these two causes.

Curb your passions, let reason govern, and rub off your ignorance, and my word for it, the lawyers will have a *short pasture* in your county.

T.

Avoid a slanderer as you would a scorpion. Never pretend to tell what you do not know.

Trust not a profane person.

Application for Premium.

To the President and Members of the Philadelphia Agricultural Society.

GENTLEMEN:

Seeing in the Farmers' Cabinet a premium was offered for the best five acres of corn, and another for the best half acre of sugar beets, I have taken the liberty of presenting to your Society certificates for the raising of both the above articles. Should they meet your approbation, and prove the most abundant, it will be gratifying to the subscriber.

Respectfully yours, &c.,

JOHN KENWORTHY,

No. 5 South Seventh St.

CERTIFICATES.

November 8th, 1839—measured a patch of sugar beet, on the farm of Mr. John Kenworthy, in the township of Oxford, Philadelphia County, and find the same to contain one hundred and twenty perches, and seven-tenths hundredths of a perch of land.

ISAAC SHALLCROSS.

I do hereby certify that I was present, and did weigh three rows of the sugar beet raised upon the above patch this season, and that the average weight of the said three rows was 886 pounds, which I believe to be the average weight of sixty-one rows which the patch contains, making 54,046 pounds on the whole patch, and at the rate of 71,959 pounds per acre.

THOMAS WALMSLEY.

November 8th, 1839—measured two pieces of corn on the farm of Mr. John Kenworthy, in Oxford Township, and find the same to contain as follows:—One lot contains two acres and one hundred and thirty-four perches, and the other two acres thirty-five perches—making five acres and nine perches.

ISAAC SHALLCROSS.

I do certify, that on the above two lots of corn there was produced this season seven hundred and sixty-two bushels of corn in the ear.

ROBERT J. ROBISON.

Report of Committee on Premiums.

Philada. Dec. 31, 1839.

The undersigned, being part of the Committee appointed by this Society for the purpose of examining crops,—do report, That, according to notice from their Chairman, the attention of this Committee was directed to the examination of crops grown by Mr. John Kenworthy, Oxford Township, Philadelphia

County, and Mr. James Gowen, of Mount Airy; and after an impartial and sufficient examination of them, do report as follows, viz:—

To Peter Keiffer, farmer, for J. Gowen.

For Sugar Beet, - - - 1st premium.
 “ “ Parsnep, - - - 1st premium.
 “ “ Carrots, - - - 1st premium.

To James Gowen.

Spring Wheat, - - - 1st premium.

To John Kenworthy.

For Sugar Beets, - - - 2d premium.

In communicating to the Society the above premiums, they have been governed by a desire to award merit where it has been deserved; this will be made apparent by the examination of the statements of Messrs. Kenworthy & Gowen, which accompany this report. The weight of crop at the time of examination appeared to the Committee to be in favour of Mr. Gowen, but which, by the statement of Mr. Kenworthy, fell short of his. The Committee, without intending in the least to detract from the credit due to this statement, believe that as the whole crop was not weighed, (and that the whole crop of Mr. Gowen's was passed through that ordeal,) notwithstanding the difference in weight in favour of Mr. Kenworthy, shown only by averaging the crop by the weight of three rows—that Mr. Gowen's crop was fairly entitled, from its superior culture, to the first premium.

The crops of Sugar Parsneps and Carrots are entitled to their highest admiration, both from their weight, and use in feeding, as well as from the excellent manner of cultivation.

The spring wheat sown on the 6th April, 1839, and housed 24th July, produced on the half acre fifteen and a-half bushels of wheat. This was raised under the shade of several trees, which increased the tendency to mildew, so prevalent this season, and tended greatly to lessen the crop. The experiment we believe to be fully satisfactory to this Committee that this wheat may be grown to advantage.

Mr. Kenworthy's crop of corn, although very good, and entitled to their approbation, cannot be admitted for premium, in consequence of not growing on five continuous acres, which the Committee deem important, and entirely necessary to attain that distinction.

DAVID COMFORT,

GEO. UHLER,

ISAAC W. ROBERTS.

A Statement

Of the culture and product of Sugar Beet, Mangel Wurtzel, Field Carrot, and Sugar Parsnep on the farm of James Gowen, Mount Airy, in the season of 1839.

Submitted and read by James Gowen, before the "Philadelphia Society for promoting Agriculture," at their stated meeting, Wednesday, 5th Feb. inst.

The land set apart for these roots was part of an old apple orchard, and is a light sandy soil, intermixed with Mica, or Isinglass, and from which a crop of corn had been taken the previous year. It was ploughed as early in the spring as possible, say 19th March, and before ploughing was limed at the rate of thirty bushels to the acre. It was permitted to rest a few weeks, after which it had a tolerable dressing of well rotted stable manure immediately ploughed in. Before harrowing, it was treated with a few cart loads, say about 150 bushels, good street dirt, applied lime fashion from the cart, by scattering with the shovel—then harrowed. The quantity of manure in all was not more than would have been used on similar soil in same condition for potatoes. The labour up to sowing was two ploughings, two harrowings, and one rolling, the last operation deemed indispensable in such soil, and to render the drilling more perfect.

Half an acre was intended for mangel wurtzel—half an acre for sugar beet—half an acre for field carrots, and a quarter of an acre for sugar parsnep; but the seed for mangel wurtzel falling short, and there being an abundance of beet seed on hand, the latter was increased to more than half an acre, while the former stood less by as much as the other was increased.

The drill used when working for beet and mangel wurtzel was provided with three teeth, set two feet six inches apart, cutting three drills of two and a half feet apart at one operation. For carrot and parsnep four teeth were furnished, set two feet apart, cutting four drills, two feet asunder at one operation. Seed sown continuously in the drill by hand, in quantity for all about three times as much as plants would be required. All was sown betwixt the 16th and 18th of April. When well up and properly developed, the beet and mangel wurtzel were thinned to six or seven inches apart, the carrots to three or four, and the parsneps to four or five inches apart.

The hoeing was performed by a cultivator set with duck feet or scalpers; it might be dragged by a stout man, but in the present case a light short-tread horse was used, led by a careful man, while a thorough hand held or conducted the scalper. The holder, or ploughman, should be of quick eye and steady hand, to be prepared for the slightest devia-

tion of the horse which might bring the outline scalpers next the drill, to which the inclination tended, upon the plants, which would prove as fatal to them as to the weeds—the scalpers making clean work of all that come in their way. By this method of hoeing, and of keeping the ground clean and loose, much labour and time were saved, for in two hours as much might be done in this way, as would take a good hand to perform in a week, and then it would be better done by the scalper, than by hand hoeing. An hour or two by the scalper at proper and convenient periods, with now and then a ready hand weeding when coarse weeds were observable among the plants, were all the time and labour bestowed at this important stage of culture. Taking the whole labour from the beginning to the gathering of the roots included, it would not be greater than that which is usually bestowed on a well worked patch of corn; nor can the manure used, be estimated, as to quantity and value, to be greater than would be required for potatoes cultivated in the common and usual way on a patch of ground in similar condition.

PRODUCT.

Sugar beet, less than three-fourths of an acre, having in the patch ten large old apple trees, produced 640 bushels clean and close topped roots; a bushel (as ordinarily filled in manner as the 640) weighed 64 lbs.	Tons.	cwt.	qrs.	lbs.
	18	5	2	24
Mangel Wurtzel, less than three-eighths of an acre, having six apple trees in the patch, 320 bushels,	9	2	3	12
Field carrot, half an acre, having nine apple trees in the patch, 260 bushels,	7	8	2	8
Sugar parsnep, one-fourth of an acre, having seven apple trees in the patch, 120 bushels,	3	8	2	8
Total,	38	5	2	24

In less than two acres.—Would not be over one and three-fourths of an acre, deducting space of trees. If allowance be made for trees and their shade, the above result must prove very encouraging to those who intend to turn their attention to the culture of green crops.

The drill and scalper were constructed at home, by and under the direction of Peter Keiffer, gardener to Mr. Gowen, who superintended the whole process of cultivation, and by whom the principal labour was performed, and this he did while having the care of a large garden and neat green house. This is instanced to show that the time consumed in raising the roots, was not so great as many might be led to imagine, and, to pay a well merited compliment to the skill and industry of Peter Keiffer, to whom the premiums should be awarded, if the crops be deemed worthy of such distinction.

Bots.

Of all the insects that irritate and injure that noble animal the Horse, there is none perhaps more vexatious or more pernicious, in all its stages of existence, than the Bot. Its parent, the Horse or Gad-fly of the farmer, the *Gestrus Equi* of the veterinarian, is common in the autumn, and it is then that the mischief which is performed by its method of perpetuating its species, is usually accomplished. The bot itself is the larvæ or caterpillar of the fly, and the manner of its introduction into the stomach of the horse, where it is to prepare for its final transformation, is a curious illustration of the means provided the insect to effect the end designed.

The male of the gad-fly is rarely observed, but the female, during the season it occupies in depositing its eggs, may be seen, with the extremity of its body turned under and forwards, busily engaged in darting up to certain places about the horse, and at every such movement attaching an egg to a hair, where it usually remains, ready, on the slightest application of the tongue of the animal, to throw open the lid or valve with which it is provided, and leave the minute bot or grub on the tongue, to find its way to the stomach of the horse with its drink or its food. Like many other insects of a similar class, no sooner has the fly deposited its eggs, than it either falls to the earth and dies, or slowly flies away to perish.

The time occupied by the egg in coming to maturity, is partly depending on the temperature, or its position on the animal; but it never exceeds a few days; and at times, the application of a moist warm hand will show they are ready for hatching in twenty-four hours. When, by the action of the tongue, the grub has been removed into the stomach, it attaches itself to the insensible coat of that organ, by the two little hooks with which it will be seen the head is provided. Here it makes a small opening, into which its head or muzzle is plunged, and where it feeds on the juices or mucous which the stomach in that state affords. In this position it remains during the winter, and until the early part of summer, when it detaches itself, and mixing with the contents of the stomach, is voided with the excrementitious matter. As soon as it reaches the earth, it burrows at once beneath it, where it remains in the chrysalis state for a number of weeks, and then emerges a perfect fly, busily engaged in the propagation and perpetuation of its species. Such is the history of the common bot; the one that most frequently falls under the notice of the farmer, and is the most injurious to the animal.

Besides the above bot, there is another,

called from its colour the red bot. It is smaller than the common bot, and the fly which is its parent has never been satisfactorily described. It is generally considered more injurious than the common one, but probably without sufficient reason. There is still a third species, the *Gestrus hemorrhoidalis*, or fundament bot, which makes its appearance within the anus and about the tail, the egg of which, it is ascertained, is deposited by a fly, while the intestine is partially developed in voiding the excrements. These bots occasionally produce a little irritation of the parts, but otherwise do not seem to produce injury. They are generally easily detached by the application of a little linseed oil.

Very discordant opinions are entertained among veterinarians, and among farmers, respecting the effects which the presence of bots in the stomach of the horse produces on the animal. Some contend that the bot is never injurious; that it never perforates the stomach of the living animal; that the deaths attributed to the bot, should be placed to the account of the colic; and that when the stomach is found perforated, as it frequently is, it is done by the insect in seeking to make its escape from the change that ensues after the death of the animal; and that, consequently, all the nostrums that have been prescribed for the dislodgment of the bot, are absurd if not positively injurious. An able and interesting discussion of this subject, was carried on in the 13th and 14th volumes of the *American Farmer*, between Dr. Harden, Mr. Ellis, and others, during which a mass of facts were adduced, proving that if death was not caused by the perforation of the stomach by the bot, it did cause death by clogging up the passages leading to or from the stomach. This agrees with the statements of the best European writers on the diseases of the horse. Thus the *Cyclopedia*, issued by the Society for the Diffusion of Useful Knowledge, says, "In a few instances, the bot has been decidedly injurious; fastening themselves on the edges of the opening into the wind-pipe, they have produced a cough, which no medicine could alleviate, and which, increasing with the growth of the bot, has ended in an irritation under which the animal has sunk. They have also travelled farther than the stomach, and have irritated and choked the first intestine, and thus destroyed the horse; and even in their natural habitation, under probably some diseased state of the stomach, arising from other causes, they have perforated it and caused death."

Mr. Youatt, in his work on the Horse, says the bot "cannot be removed by medicine, because they are not in that part of the stomach to which medicine is usually conveyed; and

if they were, their mouths are too deeply buried in the mucous coat of the stomach, for any medicine that can safely be administered to affect them, and last of all, in due time, they will detach themselves and come away."

That the most useless or pernicious methods are resorted to at times, for the removal of the bot, is evident to all who are acquainted with the treatment to which the horse is subjected in the hands of the ignorant. A correspondent, in the last volume of the *Cultivator*, mentions an instance in which a horse was cruelly killed by turning boiling water from a tea-kettle down his throat, to cure an attack of the bots. That no substance can be given as medicine, sufficiently powerful to destroy the bot, or make him let go his hold, that would not be fatal to the animal, is evident from the following table of experiments, which is copied from the *Medical Register*, and which were performed under the direction of Mr. Green. The bots were about two-thirds grown, were vigorous and active, and were exposed to the action of the several substances for the time stated.

Immersed in,	Lived hours. min.	
Rum, - - -	25 00	} No effect.
Decoction of tobacco, - - -	11 00	
Strong elixer vitriol, - - -	2 18	
Essential oil of mint, - - -	2 5	
Volatile spirit, - - -	0 56	
Spirits of turpentine, - - -	0 45	
Decoction of pink root, - - -	10 00	
Fish oil, - - -	10 00	
Linseed oil, - - -	10 00	
Tincture of aloes, - - -	10 00	
Brine, - - -	10 00	
Solution of indigo, - - -	10 00	

Bots placed in a strong solution of camphor, and in one of corrosive sublimate, lived, in the first, till taken out ten hours afterwards, and in the last, six hours without injury. Strong vitriolic acid alone compelled them to let go their hold on the stomach, but this, as is well known, would be death to the horse, if administered.

From our experience, we are inclined to the opinion that in this case, as in many others, prevention is easier than to cure. If, during the few weeks the horse is exposed to the attacks of the gad-fly, the spots where the eggs are deposited were to be slowly rubbed with a cloth moistened in warm water, or even by the naked moist hand, so large a proportion of the young larvæ would be disengaged at every operation, that little danger or injury could ensue to the animal. Moisture and warmth are required to cause the insect to open its covering, and if this is applied in any other way than by the tongue of the animal, the larvæ is infallibly destroyed.

The cut, (fig. 26,) with the accompanying description, copied from Mr. Youatt's great work on the Horse, will show the appearance of the insects in their several stages of existence, and the magnified eggs show the opening through which the worm is attached to the tongue of the horse in the process of licking.

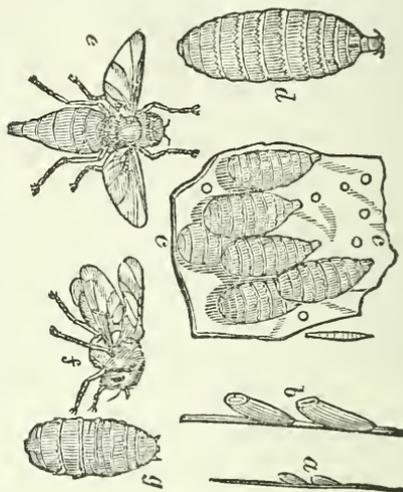


Fig. 26.

a and b, The eggs of the gad-fly, adhering to the hair of the horse.

c, The appearance of the bots on the stomach, firmly adhering by their hooked mouths. The marks, or depressions, are seen, which are left on the coat of the stomach, when the bots are detached from their hold.

d, The bot detached.

e, The female of the gad-fly, of the horse, prepared to deposit her eggs.

f, The gad-fly, by which the red bots are produced.

g, The smaller, or red bot.—*Cultivator*.

Improvement of the Soil by Animal and Vegetable Manures.

The great sources of fertility to the farm, are the refuse of the crops which they bear, modified by the farm stock, and preserved and judiciously applied by the husbandman. There is not a vegetable matter grown upon the farm, be it considered ever so useless or noxious, but will, after it has served ordinary useful purposes, impart fertility to the soil, and contribute to the growth of a new generation of plants, if it is judiciously husbanded and applied. There is not an animal substance, be it solid, liquid or gaseous,—be it bone, horn, urine, hair, wool or flesh, or the gases which are generated by the decomposi-

tion of these matters,—but, with like care and skill, may be converted into new vegetable, and afterwards into new animal matters. To economize and apply all these fertilizing materials, is the province and the duty of the husbandman. To aid him in this useful labour, is the object of this essay. And,

Is. *Of the cattle-yard.* This should be located on the south side of and adjoining the barn. Sheds, substantial walls, or close board fences, should be erected at least on the east and west sides, to shelter the cattle from cold winds and storms—the size and the divisions to be adapted to the stock which it is intended to feed. Excavate the centre, or some other part of the yard, placing the earth removed upon the borders, which may be ten to fourteen feet broad, or upon the lower sides, where there is a descent, so that the liquids will all run to the centre, and the borders, which should be left gently inclining, will remain dry and firm, for feeding the cattle upon. The centre may be from two to five feet lower than the borders. The labour may be done principally with the plough and scraper, and smoothed off with the scraper and hoe. We were employed two days and a half, with two hands and a team, in giving a cattle yard the desired shape. When the soil of the yard is not sufficiently compact to hold water, or is not likely to become so by the tread of the cattle, or the puddling effects of the manure, the bottom should be bedded with six or eight inches of clay, well beat down, and well covered with gravel. This is seldom however necessary. Our yards are upon a sand loam, and yet the liquids never sink into the earth.

When the yard is prepared, the first thing done should be to overlay the whole bottom with six to twelve inches of peat swamp earth, where it is at command; and where it is not, with earth from ditches, the roadside, or other rich deposits. It is then fit for the reception of the cattle, and of straw, coarse hay, corn-stalks, and other litter of the farm; and consequently, as they may be gathered, the weeds, potato and pumpkin vines, and other vegetable matters. These materials will absorb or take up the urine and other liquids, and, becoming incorporated with the dung, double or treble the ordinary quantity of manure. During the continuance of frost, the excavation gives no inconvenience; and when the weather is soft, the borders afford space for feeding the cattle, and for a dry passage to the barn. In this way the urine is saved, and the waste incident to rains, &c. prevented. The barns and sheds which adjoin the yards, should be provided with eave-gutters, which should discharge outside of the yard, so that the waters from the roofs may pass off.

As a further precaution against waste by rains, a cistern or tank may be sunk near the yard, into which an under drain may be made to conduct the liquids, when they are likely to accumulate to excess. These liquids may be pumped into casks upon carts, and employed to great advantage upon grass or arable crops. The Flemings call these liquids the *cooked* food of their crops.

To guard against the wasting influence of the sun in summer, a roughly constructed covering, supported by posts, may be erected over the central depot. This is seldom necessary under our mode of management, which requires a thorough cleaning of the yard every spring, for the corn, potato, and other root crops.

The cattle should be kept constantly yarded in winter, except when let out to water, not only because, if suffered to run at large, they poach and injure the fields and meadows, but because they waste their dung; and the yard should be frequently replenished with fresh litter. Upon this plan, from ten to twelve loads of manure may readily be obtained, every spring, from each animal wintered in the yard. If the manure from the horse-stables, and from stalled neat cattle, be added, the quantity will not only be proportionally increased, but the quality improved. Whenever the yard is thoroughly cleaned for spring crops, it ought to be again bedded with fresh earth, and well littered.

2d. *The Stables*, whether occupied by horses or cattle, may be made to contribute much to the value of the yard dung, by their urine, which may be conducted into the yard by paved or other conduits, leading from the stables to the yard. In these, too, litter may be as profitably employed to increase the dung, and to promote the health and comfort of the animal, as in the yard or open sheds. The dung from the horse-stables, if suffered to lie in a mass, is apt to heat and become *fire-fanged*, as it is termed, which very much impairs its quality. Where there are cellars under stables, the dung is thrown down into them, and is there protected from the wasting influence of the weather; but even here it is liable to suffer injury, unless hogs are permitted to root among it, or unless the cellar is frequently cleaned out. An approved practice is, to scatter the dung from the stables over the cattle-yard, which thus retards fermentation, prevents waste, and produces a homogeneous mass of excellent manure.

3d. *The Hog-Pen.* Hogs are excellent animals for manufacturing manure, if they are furnished with the raw material, as peat, earth, straw, weeds, &c., and a suitable place for conducting the process. The composts of their formation are among the cheapest and the best that are used upon the farm.

The slops of the kitchen, the weeds of the garden, the refuse fruits of the orchard, and the offal of the farm, are readily converted, by these swinish labourers, into meat or manure. Hogs are profitable labourers, and should be employed to as great an extent upon the farm as the proprietor's circumstances will permit.

4th. *The Sheep-fold* may be made an abundant source of fertility to the farm. Economy in its management consists in giving abundance of litter, repeated at short intervals, sufficient to absorb the urine, prevent wasting exhalations, and secure health to the flock—and in applying the dung in its recent or unfermented state.—*Bucl's Far. Com.*

THE FARMERS' CABINET. PHILADELPHIA, FEB. 15, 1840.

It is a circumstance of rare occurrence for us to give obituary notices; but we justify ourselves in setting aside our rule respecting it, to announce the decease of FRANCIS S. WIGGINS, Esq., who departed this life on the 27th of January, 1840, after a very protracted and painful sickness, which he bore with more than the fortitude of a *Philosopher*,—with the resignation of a *Christian*.

With honour to himself, and much advantage to the community, Mr. Wiggins sustained the relation of Editor to this paper, from its commencement to within a few weeks of the close of his life. Long after the inroads of his fatal, but flattering disease upon his constitution had warned his friends of approaching dissolution, he continued with untiring industry to prosecute his studies, and "drive the quill" for the benefit of his readers.

Mr. Wiggins possessed talents as a writer above mediocrity, but they were not extensively exercised in the production of original essays. He possessed, in an eminent degree, the art of *catering* successfully for his readers; and his selections were always judicious and well chosen. His attachment to agriculture in its different branches as a science was *deep and strong*.

No feature in his character was exhibited with more clearness than his uninterrupted cheerfulness; and this happy temperament of mind may be traced to his unlimited confidence in the care of Providence. His severe

and multiplied afflictions did not lead to the indulgence of fretfulness and impatience; but to the last he pursued his calling, to the wonder of his friends, evincing a determination to do good while he lived. *Peace to his memory.*

For several months previous to his death, Mr. Wiggins occupied a large part of his time in preparing the manuscript for a work which he entitled, "THE FARMERS' OWN BOOK, an Illustration of the Principles of Practical Agriculture." The publication of this work is in progress, and will soon be completed, by Mr. Orrin Rogers, No. 67 South Second street, Philadelphia. We have examined some of the proof sheets, and believe the work will be creditable to the author and publisher, and a valuable addition to the library of the young farmer, and the practical agriculturist generally. The work will contain between five and six hundred common size octavo pages, on fine paper with good type.

It will afford us much pleasure to receive the orders of our distant friends for this work, and more especially as we have understood that the pecuniary advantage expected from its publication, are to be appropriated to the author's surviving family.

American Swine Breeder.

We have received a copy of this work from the enterprising publishers, Messrs. Weeks, Jordan & Co., Boston, Mass., for which they will please accept our acknowledgments.

The work is very neatly got up. It is precisely the thing called for by the spirit of improvement prevalent in the community. Every farmer should have a copy; its trifling cost cannot be better expended, for it explains the whole business of pork raising, from the "best breed" to the "sitch of bacon," that might make an alderman's mouth water; besides giving the "true secrets" of making the "hog business profitable." The author's remarks on the "hog-pen" and "manure" will be found in the present number of the Cabinet.

The work is for sale by Messrs. Hogan &

Thompson, No. 30 North Fourth street, and No. 77 Chesnut street, Philadelphia.

Rohan's Potatoes and Tree Corn.

John Dunlap, Esq., proprietor of Effingham Farm, Bensalem Township, Bucks county, Penn., has furnished us with the following statement as the result of his experience in the cultivation of those articles the past season. He planted one Rohan potato cut into twelve sets, in hills, three feet apart each way. The produce was fifty-four potatoes, weighing sixty-four pounds, and measuring one and a half bushels.

The quantity of tree corn planted was one hundred and twenty grains in sixty hills, five feet apart each way—produce three and a half bushels of good sound, well formed ears of uniform growth. Mr. Dunlap has been particular in his experiments, and gives it as his opinion that the article known as the *Chinese Tree Corn* is a valuable acquisition to this section of country. He intends to plant ten acres the coming season, to give it a fair trial, on a more extended scale as a field crop.

He does not think highly of the Rohan potato, as an article for the table; but gives his opinion that from its great yield it will be very extensively cultivated as a food for stock.

We give below the notice for an Agricultural Convention, to be holden in Harrisburg, taken from the *Keystone*, published in that place. We cannot forbear the expression of our hope that this effort to form a State Society will be successful. We hope the numerous friends to agricultural improvement will move in this matter with an energy and spirit becoming its importance.

Agricultural Convention.

The friends of agriculture, throughout the several counties of the State of Pennsylvania, are invited to appoint delegates to meet in convention, in Harrisburg, on Wednesday, the 19th day of February next, for the purpose of forming a State Agricultural Society, and for the transaction of such other business as may advance the cause of agriculture.

MANY.

Berkshire Pigs.

Stock of this valuable breed of hogs can be obtained from Mr. Ralph Davis, of Radnor Township, Delaware county, Penn. Mr. Davis has been to much pains and considerable expense to obtain the right kind of stock, and purchasers may depend upon obtaining the real Berkshire breed.

New Agricultural Society.

It will be seen by the proceedings of the meeting in Bustleton, that the enterprising friends of agricultural improvement in the north-eastern section of Philadelphia county are on the alert, and doing something likely to tell upon the success of the good cause. We have the pleasure of knowing several of the gentlemen whose names we find in the list of officers. The work is in good hands—may great benefit result from their exertions. We hope to have the satisfaction of reporting the formation of similar associations in every county of the Keystone State.

At a large and respectable meeting, held on Thursday, the 16th inst., at 2 o'clock, P. M., at the house of Benjamin Snyder, in Bustleton, for the purpose of establishing an Agricultural Society, for the promotion of agricultural interests, Franklin Comly was called to the Chair, and John Bavington appointed Secretary.

The meeting being called to order, a constitution was laid before the meeting for approval, which was unanimously adopted.

On motion, a Committee of seven was appointed by the Chairman to nominate officers for said society—whereupon the following gentlemen were appointed, viz;—John Fox, Jacob Snyder, James Thornton, John S. Vansant, James Veree, Jacob Shearer, James Holmes.

On motion, the meeting adjourned for fifteen minutes, and the Committee reported the following:

President—FRANKLIN COMLY.

Vice Presidents—James Thornton, Jacob Shearer, James Holmes, Jacob Snyder.

Treasurer.—Jacob Shallcross.

Recording Secretary.—John Bavington.

Corresponding Secretary.—Ralph Ed-dowes.

Executive Committee.—John S. Vansant, Byberry; John Fox, Oxford; John Veree, Lower Dublin; Jacob Shearer, Moreland.

On motion, the officers were elected viva

voce, one at a time, when the former gentlemen were duly elected for the ensuing year.

Resolved, That the Executive Committee have power to receive subscribers to the list for members between this and next meeting.

Resolved, That the proceedings of this meeting be published in all the papers friendly to agricultural interests.

FRANKLIN COMLY, *Chairman*.

JOHN BAVINGTON, *Secretary*.

Remittances by Mail.

The Post-Master General has decided: "That a Post-master may enclose money in a letter to the publisher of a newspaper, to pay the subscription of a third person, and frank the letter, if written by himself." Our subscribers will see by the foregoing that they can remit us their subscription money and save the postage, by requesting the Post-master to frank their letters containing such money, he being satisfied that it contains nothing but what refers to the subscription.

From the Boston Times.

Root Crops.

Of the various root crops, the *Potato* stands No. 1.—It is the *magnum bonum*, whether considered as an indispensable for the table, or for the styre or stall. We do not say that it is the most profitable root crop, labour and every thing considered; but we do say it is the most *indispensable* of all crops raised beneath the surface. Ruta Baga, Sugar Beet, Mangle Wurtzel, and the like, may nominally produce a greater value to the acre, without so great an exhaustion to the land; but all these can be dispensed with, while potatoes cannot without great inconvenience and discomfort.

As a general rule, the actual exhaustion of land by root crops—that is, understand us, by the crops *themselves*—is almost in exact proportion to the quantity of nutritious matter contained in those crops. The quantity of nutritious matter—farina, &c.—in the potato, is nearly double to that of the other root crops we have named. It is, in fact, the connecting link between the root and the grain crop; for by extracting the water, and a certain other disagreeable substance, it may be dried and pulverized into flour of a very passable quality for bread and other domestic uses. None of the other vegetables that we know of are capable of such a mode of treatment. The sugar beet contains about nine per cent. of farina, but little or no other nutritious matter.

It is with some surprise that we have noticed the occasional remarks of the highly intelligent and practical editor of the Cultivator, relative to the potato. He seems to consider it on the whole as rather an unprofitable crop, and a great exhauster of land. We leave him to his own calculations as to profit and loss in the crop itself; but that it is *necessarily* a great exhauster of land we deny. We are no converts to the doctrine of this and that exhausters; but on the contrary we believe that *solstitial heat* is THE great exhauster of soils. Thus, in this part of the country, potatoes are usually manured in the hill, and early in the fall the crops dug for market, the vines and weeds pulled and piled in heaps, and the manure thus thrown out and exposed to the direct rays of the sun for perhaps two or three months before the snow comes to the relief of the poor exhausted, or rather *exhausting* soil. There is a far greater loss of manure in this way than from the crop itself. When potatoes are dug, let the vines be scattered over the ground as much as possible, and so also the weeds, unless they are ripened sufficiently for seed—in which case they should be thrown into the compost heap to gather moisture and decompose for manure at their leisure. In addition to this, farmers would find it greatly to their account if they would scatter the litter of their barns, or leaves scraped from the forest over the potato field, after harvesting the crop. This litter may be raked off in the spring for compost, or ploughed in; in either case it will pay its way, besides preserving the manure already in the soil from its great enemy, the sun.

For fattening cattle, swine, or *children*, the potato is admirable. It contains just about the quantity nutritious matter adapted to the animal stomach in the best estate. True, a little Indian meal mixed with potatoes is a great help, but there is no necessity for it. For horses, in the winter season, it is one of the best antidotes against the common complaint of constipation—as are also carrots, ruta baga, or any other root crops which horses will eat. Horses and cattle should *always* be fed with some root crops during the winter, but not in quantities sufficient to create too great a relax of bowels. They are better for the blood than the cruel and unnecessary practice of blood letting in the spring of the year. Indeed, when a horse needs physic, we are not sure but roots, in a larger quantity than usual, answer every desirable purpose. We have tried it repeatedly, and so far as our experience goes, we are satisfied that such is the case.

When more at leisure, we shall have more to say about the *exhaustion of soils*; also about *alternation* of root crops. We believe

this is a part of farming, whether considered practically or scientifically, that has been too much neglected.

How to make Farming profitable.

The great secret of success in the cultivation of the earth, is thus explained by Judge Buel, in the address which he prepared for delivery in Connecticut, just before his death.

The alternating system of husbandry has not obtained among us that consideration which its importance demands. It is well known that ordinary lands will not bear a succession of the same crops without a successive diminution of product; and that if grain, grass and roots are alternated, or succeed each other, the decrease of fertility is much less apparent. This is ascribed to the well authenticated fact, that different plants exhaust different fertilizing properties of the soil, or in other words, that each species requires a specific food, which other species do not take up. It is now generally conceded that wheat will not do well in a soil which has no lime in its composition—that clover and lucerne require gypsum—that flax cannot be raised on the same ground oftener than once in six or eight years, with advantage. These facts are explained upon the ground that in analyzing wheat, it is found to contain lime; clover, on analysis, has yielded gypsum at the rate of four bushels to the acre; and the supposition is, that a crop of flax exhausts the soil of some property essential to its perfection, by which it takes years to restore. The crops can derive these supplies from no other source than the soil; and if the supplies are not there, the crop will be deficient or defective.

There is still another reason to offer for alternating crops. The soil, if in grass, becomes annually more hard and compact; the roots are consequently restricted in their range for food, the heat and atmosphere become partially excluded, and the decomposition of vegetable food is arrested. The consequence is, that the finer grass gradually disappears, or runs out, as it is termed, and the grass crop gradually diminishes. If ploughed and cropped occasionally with roots, these inconveniences are obviated; the soil is broke and pulverized, and rendered pervious to solar and atmospheric influence, and the vegetable food which it contains, is thereby rendered solvable; and if manure is given to the tillage crops, as it should, and can be once during the course, the soil will become renovated, and fitted again to receive the grass seeds, with the prospect of a greatly increased burthen of hay.

The grasses are, however, not the only system of crops that are improved by the alternating system of husbandry. The tillage

crops, in turn, are alike benefited, not only from the advantages of change, which I have endeavoured to point out, but from the vegetable matters of the sward, which, instead of remaining in a measure dormant and useless, are decomposed, and become the active food of the crop; while the root crops by their pulverizing influence upon the soil, improve it mechanically for both grain and grass.

As a general remark, it may be said, that labour and capital can be expended in no way more profitably by the farmer, than by enriching his lands. God has given to us all the elements of fertility, of plenty, and happiness. He has given to man the capacity of appropriating them to his own use. He has commanded him to exercise these capacities with diligence—and although He has not promised, He seldom ever fails to bestow upon those who honestly keep the command, the highest rewards in temporal happiness.

The great secret of success in agriculture, consists in adapting our crops to our soils, in fitting the soil for the reception, in feeding them well, and in giving them proper culture; and the great obstacles to improvement are, ignorance of the principles or science of agriculture, a blind adherence to old practices, and a parsimony of expenditure. We better understand the economical management of animals than we do of plants. We know that we cannot make fat beef, or pork, or mutton, profitably, without we feed high. It requires a certain amount of food to keep an animal in good condition—all beyond this which the beast can consume, digest, and assimilate, is virtually converted into flesh. Now, it makes a vast difference whether this extra food is converted into flesh in three months, or twelve; because, in the former case, three-fourths of the ordinary food required to sustain life and condition, for a year, is saved to the feeder, besides an equal expense in attendance. It is precisely so with crops. One well fed acre is more profitable than three poor fed acres; because it requires only one-third of the labour, and will oftentimes give an equal or greater profit. Take Indian corn, for example, the average product of which I will assume to be thirty bushels an acre. Now if we make an acre of suitable rich soil, with twenty-five loads of unfermented manure, and tend the crop well, we may get ninety bushels of corn from the acre—and the amount has oftener been swelled to one hundred, and one hundred and twenty. Here, then, is a nett gain of sixty bushels by feeding an acre well, over the nett gain of an acre not fed well. In regard to the cost of the manure, call it if you please \$25, and consider it capital expended. If you deduct this from the profits of the well fed acre, there would still remain a difference

in favour of the latter, according to the common scale of prices, of \$25. If you merely charge the interest on the outlay, this would be \$1 50, and would diminish the difference between the good and bad acre but this amount, or would leave the crop on the rich acre worth \$58 more than on the poor acre. Estimate the farmer's corn crop at ten acres, and you will perceive that the cultivator of the ten rich acres realizes a nett \$580 more than the cultivator of the ten poor acres. Carry out this comparison to the products of the whole farm, and we shall at once discover why the good farmer finds a profit in an outlay every four years of \$20 an acre in enriching his lands. But if we suppose—what is, in fact, the truth, that the long manure which causes this great increase in corn crop, is as good for the next crop as it would have been, had it been summer yarded, as was once, and is now often the case, the absolute additional expense is nothing—the food of the corn crop is absolutely saved to the farm. I might carry these illustrations to other crops, to farms and to districts of country. In my journeying in the states of New York and New Jersey, I have seen many farms, and some districts, where the intrinsic value of lands has been enhanced a thousand per cent., or in a ten fold degree, by the almost magic influence of improved husbandry, based upon the principle of working no more land than can be kept rich and worked well.

These facts suggest to the farmer who would keep the fertility and productiveness of his soil, the necessity of

1st, Consuming his crops, as far as practicable, upon his farm, or returning to it an equivalent in manure for what he carries off.

2d, Of carefully husbanding every animal and vegetable substance which he can command, of preserving it from waste, and of faithfully and judiciously applying to the soil as food for his crops; and

3d, Of studying those laws of nature which govern, to a greater or less extent, the whole business of the farm, and which can never be violated with impunity.

Breeding of Cattle and Sheep.

In an essay on this subject, read at a meeting of the English Agricultural Society, Earl Spencer states it to be the result of his own experience, "that in most cases the qualities of the male parent predominates in the offspring," and that therefore those who pay no attention to the description of males to which they put their females, "consider as a matter of indifference that on which the profitable or unprofitable nature of their occupation mainly depends."

Be always at leisure to do good.

Chapter of Recipes and Hints.

To soften water.—A few ounces of soda will soften a hogshead of the hardest water. It is greatly superior to either pot or pearl ash, giving a delicate whiteness to the linen, without the slightest injury, and it never, unless excess is used, in the least affects the hands.

Sore Throat.—Take a glass of olive or sweet oil, and half a glass of spirits of turpentine; mix them well together, and rub the throat externally, wearing flannel round it at the same time. It proves most effectual when applied early, in curing a sore throat.

To cure Chilblains.—Take an ounce of white coppers, dissolved in a quart of water, and occasionally apply it to the parts affected with chilblains. This will ultimately remove the most obstinate chilblains. This application must be used before they break, otherwise it will do injury.

A salve made of carrots grated fine, simmered in lard till quite brown, and then separated by a strainer, is considered excellent for chilblains.

For a Fellon.—If a fellon or runround be coming on your finger, you can do nothing better than to soak it thoroughly in hot lye.

Yankee Sweet-meats.—The Maine Temperance Gazette says that it is nothing new to convert pumpkins into sweet-meats—and furnishes the following recipe for the same.

"One pound of pumpkin and a lemon to each pound of sugar; a little water to be added to the sugar; the fruit, properly sliced, thrown into the syrup, and prepared like other preserves. Improved by standing a few weeks. Cucumber and water-melon rinds, preserved in the same way, also resemble the West India sweet-meats."

Candle Wicks.—Those who make candles will find it a great improvement to steep the wicks in lime water and saltpetre, and dry them. The flame is clearer, and the tallow will not "run."

Sick Head Ache.—The patient is recommended to take a spoonful of ginger mixed with a lump of sugar, in a tumbler three parts full of water, with the chill off; to sit for a quarter of an hour, with his feet in water agreeably warm, and to apply a napkin wrung out with cold water to the temple or forehead.

To prevent earthen ware from cracking.—It is a good plan to put new earthen ware into cold water, and let it heat gradually until it boils—then cool again. Brown earthen

ware, in particular may be toughened in this way. A handful of rye or wheat bran thrown in while it is boiling, will preserve the glazing, so that it will not be destroyed by acid or salt.

Iron ware.—New iron should be very gradually heated at first, after it has become inured to the heat, it is not as likely to crack.

To prevent chapped hands.—A French writer recommends the use of potatoes three-fourths boiled, as a substitute for soap. They prevent *chops* in the hands in winter, and keep the skin soft and healthy.

Brittania ware.—Brittania ware should be first rubbed gently with a woollen cloth and sweet oil; then washed in warm suds and rubbed with soft leather and whiting. Thus treated, it will retain its beauty to the last.

Salve for inflamed wounds.—Lard which has been melted and cooled in fresh water four or five times in succession, and then simmered with sliced onions, and strained, makes a most excellent salve for wounds inflamed by taking cold.

To clean brass.—Clean a brass kettle before using it for cooking, with salt and vinegar. Brass andirons should be cleaned, done up in papers, and put in a dry place during the summer. Vinegar or vitriol water mixed with rotten stone is a good preparation for cleaning brass of any kind.

Soap.—Use hard soap to wash your clothes, and soft to wash your floors. Soft soap is so slippery that it wastes a good deal in washing clothes.

Horse-Radish.—It is easy to have a supply of horse-radish all winter. Have a quantity grated while the root is in perfection, put it in bottles, fill it with vinegar, and keep it corked tight.

NOTE.—It is very much improved by keeping in this way if kept from the action of the air.

Boil your molasses.—When molasses is used in cooking, it is a prodigious improvement to boil and skim it before you use it. It takes out the unpleasant raw taste, and makes it almost as good as sugar. Where molasses is used much for cooking, it is well to prepare one or two gallons in this way at a time.

To preserve Suet.—Suet keeps good all the year round, if chopped and packed down in a stone jar, covered with molasses.

To prevent woollens from shrinking in washing.—Woollens should be washed in

very hot suds, and not rinsed. Lukewarm water shrinks them.

Under Beds.—Barley straw is the best for beds; dry corn husks slit into shreds are better than straw.

Do not wrap knives and forks in woollens. Wrap them in good strong paper. Steel is injured by lying in woollens.

Never allow ashes to be taken up in wood, or put into wood. Have important papers all together, where you can lay your hand on them at once, in case of fire.

The oftener carpets are shaken the longer they will wear; the dirt that collects under them grinds out the threads.

If you wish to preserve fine teeth, always clean them thoroughly after you have eaten your last meal at night.

For a cold and hoarseness.—Boil a middling sized turnep, lay it in a common saucer, and pour on it three table-spoon fulls of common molasses; the juice of the turnep is extracted, and forms a syrup which will be found very efficacious in removing the hoarseness and sore throat of a common cold.

Corn Lamp Oil.—We have been using corn lamp oil for some time past, and are greatly pleased with it as a light dispenser. It burns freely and clear, affording a strong brilliant light from the common lamp. It is free from any disagreeable smell in burning, and costs a third less than good winter sperm oil. So far as we have tested it, we give corn lamp oil the decided preference.

Pig Trough.—Take two pieces of board or plank of the length that you wish your trough; put two of their edges together at right angles; thus V, and nail them strong. Then take two pieces something longer than the trough is wide, and nail upon the ends. Then take some clay mortar and fill up the chinks to prevent its leaking, and it is done. The food settles down in the angle at the bottom of the trough, and the pig will lay his sharp under jaw into it completely, while the long ends prevent its being upset so easily as the old kind. Any body, who can saw a board off, or drive a nail, can make one. If you have no trough for your pig, just try your hand at making on this plan.—*Gen. Far.*

Every man is responsible for his own acts, and for the acts of his agents, within the scope of their authority.

Promote not an unworthy man; it disgraces humanity.

A moment of time is a monument of mercy.

Philadelphia Society for the Promotion of Agriculture.

At a stated monthly meeting, February 5, 1840. Dr. Mease, Vice President, in the Chair—

The following papers were read:—

1. On the best mode of making mortar, with a chemical explanation of the process, and the theory of its solidification. By Joseph Cloud, Vice President.

2. On the best mode of making plastering for rough casting of houses, with directions for its use, so as to ensure its permanent adhesion, and an uniform surface, without those unsightly patches which invariably follow the addition of new plastering to old. By Dr. Mease. ☞ We shall give this article in our March number of the Cabinet.

Both these papers were required from the fact of seeing the defective and slovenly mode in which mortar and plastering for houses are often made in town and country: hence bricks slightly adhere, and rough castings fall off. Both these positions may daily be verified by attending to the mortar of a wall of a house in which alterations are making in the brick work, and to the rough-casting of others erected within a year or two.

Mr. Cloud's paper was original—that by the Chairman was a copy of one written out for him twelve years since by the late Mr. Thackara, a master plasterer of Philadelphia, and the directions followed with complete success in the case of a church then erecting in Pittsburg. The plastering of the prison in Walnut street was referred to by the Chairman as a specimen of master work: the color was uniform, and from the time of its erection in 1774, until its demolition, two years since, not a foot of the plastering gave way—not a patch in it was to be seen. Can the same be said of modern plastering?

Much verbal information was communicated by various members, of a useful nature, on the subject of the diseases of cattle, the remedies for them, and on the causes influencing their health. Among other facts, it was stated by a member from Delaware county, that a cow in excellent health, and fat, was gambling about a field with others, when suddenly she fell and expired. Upon examining the body, the interior was found filled with blood, which had gradually accumulated in the spleen to an excessive degree, and its walls being thereby rendered very thin by distension, gave way from the agitation excited by the playful pranks of the animal. Farmers should make it a point to examine all the bodies of their farm-stock dying of diseases of an unusual nature, and take notes of the appearances and symptoms of the disease for their own benefit and that of farmers generally. Care should be taken not to cut or even scratch the hand while making these examinations.

It was stated by another member from Delaware county, that he had known a mash of rye meal, given to a cow, great with calf, cause premature labour. The fact, except to the relator, was new to all present, even those farmers of long standing.

There can be no doubt of the effect having been produced in the case referred to, and the attention of

farmers is called to the circumstance. It was ascribed to the well known laxative qualities of the grain, by reason of which, either alone or in conjunction with flaxseed infusion, it is given to cows after calving.

The loss of a calf is an object to all farmers, from the time lost in feeding the dam during gestation, and from the loss of the money obtainable for it if brought to market in due time; but when the precious short horns are in question, and a calf at maturity, worth \$200, is lost, the case is serious.

The Committee charged with the adjudication of the premiums for the best crops of sugar beets, mangel wurtzel, and field carrots, were unanimous in awarding the first premium for each, to James Gowen, of Mount Airy; and a second premium to John Kenworthy, of Philadelphia, for the beets. Also a premium to James Gowen for spring wheat.

Mr. Ronaldson presented a copy of his pamphlet on the Culture of the Sugar Beet; the seed of which he has for sale at No. 200 South Ninth street, near South, at fifty cents per pound for ten pounds.

The Society meet every month, (the first Wednesday.)

Communications are solicited. They may be addressed to either of the Secretaries.

K. SMITH, Philadelphia.

P. R. FREAS, Germantown.

Quantity of rain and melted snow which has fallen since January 1, 1840. Inches.

1st month, 1.85

Philadelphia Hospital, 1st mo, 1, 1840.

Philadelphia Markets.

February 11th.

REMARKS.—The navigation of the Delaware is again open, and vessels are now arriving and departing without any obstruction by ice. A large fleet of vessels detained below in the Delaware, will soon bring their cargoes to our wharves.

FLOUR AND MEAL.—The resumption of our navigation has caused an increased demand for flour, and several parcels have been sold for shipment at \$5 50 per barrel, cash, and \$5 62½ on time, with interest added on Broad street, and \$5 62½ on the Delaware front of the city. The demand for home use is limited. Today, owing to the bad state of the roads and the light stocks on hand, holders generally ask \$5 62½ per barrel. Rye flour is steady at \$3 50, with sales. In corn meal no change.

GRAIN.—No supplies have arrived by water for weeks past. Sales of fair to good red wheat at \$1 11 to \$1 14 per bushel. Rye—no sales—holders ask 65 cents. Corn—a sale of Pennsylvania yellow at 55 cents per bushel. Oats are without change in price, with a limited demand.—*U. S. Gazette.*

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THE FARMERS' CABINET,

Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

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March 16, 1840.

[Whole No. 62.

LIME.

[THE following remarks on the use of lime, are extracted from the Annual Report of the Geologist of the State of Maryland, for 1839, furnished us by a valued and attentive correspondent.]

A very striking experiment that speaks volumes of encouragement to those who still hesitate in the use of lime, is furnished by the Hon. OUTERBRIDGE HORSEY, a part of whose farm, situated at the foot of the south mountain, on the edge of what is termed "The Maryland Tract," consists of a very thin silicious soil. It is this, of two pieces of ground, both of the same geological character and nearly in equal arable condition, one was limed with fifty bushels to the acre, the other was well manured, without lime, and both planted in corn. The limed portion, previous to the operation, was remarkably poor, yielding at most two barrels to the acre. It promised in the month of August, to the eyes of some experienced farmers, to yield to the acre eight barrels of corn, which to all appearances was one third better than on the manured portion. But besides the prejudice that exists against the use of lime, as regards the incapacity of certain soils to receive any benefit from it, it is most generally objected to as too expensive; whereas in truth it is, taking all circumstances together, the cheapest as well as the most effectual means of improving all kinds of soil, which assertion will, I trust, be manifest by these two considerations, namely, that it is the surest and most permanent. If judiciously employed, the directions being simple, as will presently appear, the expenditure of capital in the first year cannot fail to be at least repaid by the additional product of the next, and nine times

out of ten will supply the means of extending its further use in future years. Judgment and reflection undoubtedly must accompany this as well as every other scheme of improvement that could possibly be devised for any purposes.

Having taken especial pains to inquire minutely into the subject, referring not only to the results obtained by experience, but to the cause that may have produced these results, I hazard the following suggestions to the farmers of Frederick county, and the recommendation applies to all other portions of the State. Get lime, at almost any expense, and apply it according to the nature of the soil as is herewith directed. If the soil is naturally a good one, and under good cultivation, it is advisable to apply at once the whole quantity of lime which it may be judged necessary permanently to improve it, and this quantity on such soils need not exceed one hundred and fifty bushels. Should it be impracticable or inconvenient to procure in the same year the whole quantity, from fifteen to seventy-five bushels may be first applied, and the remainder two years afterwards, after the first cutting of the clover. These directions apply to wheat land, on which it appears preferable to turn in the vegetable matter first, then apply the lime, to be harrowed in subsequently. On corn lands the method that has been crowned with the best success, is that pursued by one of the most thrifty farmers of Carroll county, Mr. Jacob Schriver, which is to mix the lime in the soil with stable manure. In this way, he informs me, that he has obtained very heavy crops upon poor land with only from forty to fifty bushels of lime. In general, for unimproved lands, it is always better to turn the lime in with

stable manure, and when not so provided, with any vegetable matter that may lie on the soil. A good plan is to turn the lime in with the sod, sow buckwheat, and when in blossom return it to the soil, furnishing in this way vegetable matter for the lime to act upon. In this latter case, the returns, though certain, are not so speedily to be expected. Those farmers who burn their own lime, should not neglect to use the refuse of their kilns in making composts with alternate layers of it, and of whatever vegetable or animal matter they can bring together. These, when properly mixed up, and comminuted, are to be used as ordinary manures. The foregoing directions apply to all sorts of soil, whether they be on limestone lands, red lands, chestnut lands, or any kind of lands, whatever be their colour, texture, or other physical characters; provided there be soil enough to support any sort of vegetation.

I have in former reports given my theory of the action of lime, and although farmers are more immediately interested in the results of its application, they cannot fail to employ it more judiciously, as well as other manures, when they understand the reciprocal action that takes place between these and the plants which they wish to cultivate. I shall, therefore, introduce here a few simple notions of vegetable physiology, and repeat again what I conceive to be the mode of operation of lime. Every one knows that plants have not the power of creating new elements, which they at most can assimilate and elaborate so as to form new compounds out of those derived from the earth, air and water, in which they live. Accordingly, the result of a chemical analysis shows that all the earthy and saline matters contained in them are traceable to the earth; whilst by their destructive distillations, they are found to yield gases, that form the elementary constituents of air and water. The principal solid constituent of vegetables is carbon, or charcoal, which vegetable physiologists assert they derive in the first place from the carbonic acid gas of the atmosphere, and from the fermentation of the animal and vegetable substances that during their progress of decomposition in the soil also yield this gas, and is supposed to be either decomposed by the leaves of vegetables, or absorbed by their roots when in a state of aqueous solution. It is found that when a plant is allowed to grow under a glass receiver, containing a mixed atmosphere of carbonic acid gas and oxygen, the former gas is gradually absorbed, and nothing but pure oxygen remains, and this process of vegetable decomposition goes on more rapidly under the influence of the solar beams, for during the night the reverse takes place, though the quantity of carbonic gas

which they emit is trifling, compared with that taken up in the day. Thus plants are constantly removing from the atmosphere a gas known to be deleterious to animal life, though necessary to themselves, and replacing it by one essential to both man and brutes, exhibiting a most admirable provision of nature, to which we must refer that healthfulness of a country life, which, combined with active exercise and the enjoyment of rural sports, make the mere consciousness of existence a pleasurable sensation. It is also an admitted opinion among vegetable physiologists, that plants have the property of secreting from the soil that sort of food which is most congenial to their own wants, whilst they at the same time, excrete, or throw off, that which is best suited for their own growths. If this doctrine could be well established by experimental results, the pursuit of the agriculturist would become a science founded upon an immutable basis, and a consistent system of rotation in crops would secure to him a perpetual recurrence of good crops. But it must be acknowledged that this is the most obscure department of vegetable physiology.

As to the action of lime, or rather carbonate of lime, I can conceive it to operate in three important ways. 1st. As a neutralizer of any acidity of the soil which renders it prone to throw out ascendent growths, such as sorrel, pines, briars, &c., that interfere with the production of plants that afford farinaceous seeds, in which case it may be supposed, by a new combination, to give out its carbon to the growing vegetable. 2d. As an amender of soils; since it undoubtedly contributes to stiffen a loose soil, and gives body and consistency to a porous and sandy one, thereby improving its physical condition. And 3d. As a septic, or decomposer of the vegetable matters that may have existed in, or been applied to a soil, reducing them into soluble compounds, fitted to the nourishment of vegetable life. These I conceive to be the most immediate benefits derived from the application of lime; but it would seem to act also beneficially as an absorbent of moisture, for it has been found to protect soils from the pernicious effects of a drought, and when used for making compost, its utility and action are as easily understood as explained. When applied in alternate layers, with stable manure, or vegetable and animal matters of any kind, a powerful fermentation takes place, which gives rise to the formation of a compound called ammonia, and to the production of carbonic acid. A re-action soon takes place between these two substances, and a carbonate of ammonia is thus formed, together with numerous other salts; and the whole mass is converted into a powerful

manure. Lime is further serviceable to the farmer, by enabling him to destroy the insects and the seeds of weeds that frequently accumulate in the barn yard manure; for by applying it in its caustic state in alternate layers with the manure, sufficient heat is generated to destroy them effectually; and this operation produces, moreover, a variety of soluble salts, that increase the action of the manure, if it be used before they have been removed by rain. There is another combination of lime which is very valuable to the agriculturist; it is that in which it exists in bones, that are principally composed of phosphate of lime. Most extraordinary results have been obtained by the use of ground bones, as a top-dressing, especially on buck-wheat crops.

It follows from the above consideration that it is a matter of much importance to the Maryland farmers, to obtain lime at as cheap a rate as possible. Desirous of serving them in this way, I have turned my attention to the subject of lime-burning; and after reflecting upon the theory of the operation, and consulting the practice of the most experienced lime-burners in the State, I think I am enabled to give some simple directions, the observance of which will have the desired effect.

In the first place, as regards the construction of the kiln, I recommend that it should be in the shape of a truncated egg at both extremities, with the butt-end downwards, contracting the upper extremity, so as to make it act in the manner of a reverberatory furnace. Its shape should be very symmetrical with a view of securing a uniform draft in all parts; and it should be built with solidity, of the most refractory material, with an elevation about twenty-two feet, and a bulge at its greatest diameter of eleven feet. A kiln of this size will burn from 1,000 to 1,200 bushels of lime.

Next, in conducting the operation, which, according to the present practice, lasts at the least three days and three nights, all lime-burners agree that on the morning of the third day, their kilns become choked up by something which prevents the formation of fresh lime, and during the whole of which they are burning wood apparently to no purpose. The cause of this choking, when the kiln, in popular language, is said by some to be sot, and by others glued, is owing to the accumulation of that peculiar gas which it is the object of the burning to separate from the lime, in order to bring it into a pervulent state. This carbonic acid gas, as it is termed, is very heavy, so that where it has thus accumulated, it forms a dense atmosphere, binding round each unburnt portion of stone, and thereby impeding the progress of its calcina-

tion. It is true that by urging the fire, the gas finally becomes so rarified as to be expelled; but this is the unprofitable part of the labour, which may be avoided by simply throwing some water over the kiln. The water immediately absorbs the gas, the kiln is relieved, and the calcination proceeds as rapidly as in the first stages of the progress. In corroboration of this view, I have found that it agrees with the experience of several observant lime-burners, one of whom informed me, that on an occasion, when his kiln was in the condition above described, his hands becoming impatient at the delay of their expected results, bethought themselves of ascending to the top of the kiln and fanning it with their hats, and were surprized to find their operations, by this simple act, greatly hastened. The effect was evidently, in this case, to remove by ventilation the dense atmosphere of gas, as previously stated, that by its pressure prevented calcination of the limestone. Another tells me that under similar circumstances, the same phenomenon was produced by the timely occurrence of a shower of rain.

If our lime-burners then will adopt the plan of kiln described above, and resort to the simple device just suggested for expediting their operations, I have not the least doubt that they will find in it a saving of one-third of their time, labour and fuel; and by so doing, they will be enabled to afford this most invaluable material at one-third less than its present cost, putting it thus within the means of a much greater number of farmers, to reap the benefits to be derived from its use.

From the Horticultural Magazine.

On the Cultivation of Celery.

BY J. W. RUSSELL.

As good celery is always sure to meet with a ready sale in the market, and commands a liberal price when found there, I propose giving a few practical remarks on the necessary treatment required, from the first sowing of the seed in the spring, to the taking up of the roots, in the autumn, for use. In the first place, be it remembered, that the writer of this does not claim any greater knowledge than that possessed by gardeners and others, who have had experience in the cultivation of celery; but as this article may meet the eye of those persons who have not acquired the requisite knowledge, to grow it to perfection, it is probable that they may glean something from it, that may be of some assistance to them.

There are six or eight varieties of celery cultivated, and all those who cultivate it, have their favourite kinds; nevertheless, I will venture to recommend the white solid,

and the rose coloured solid celery, to be grown, either for the market or for private family use. The second week in April, if there is a cucumber frame at work, prepare two or three shallow boxes, and fill them with fine rich soil, and sow the seeds on the surface, with a liberal hand; then press it down pretty *solid*, with a piece of board, and cover it, lightly, with very fine sifted earth; this done, give the whole a gentle watering, and place the boxes in the frame, close to the front.

When the plants make their appearance, give them air every day, if possible, by propping up the sash, at the front, where the boxes are placed. As soon as it is perceived that the plants have the least tendency to grow up weak, they must be removed from the frame, immediately to the *open air*, choosing some well sheltered spot. On the approach of foul weather they may be removed to some place under cover, and taken out again after the unfavourable weather is over. If no frame, so spoken of, be at hand, sow the seed on a rich, moist piece of ground, the last week in April, in a sheltered situation: the ground must be well enriched for this purpose, and the older the manure is, the better. Dig it over, and rake the surface very fine and even; then sow the seed pretty thick, on the surface, and with a clean spade beat it *lightly* down, nice and even, and cover it over, about a quarter of an inch, with fine soil.

As soon as the plants are about two inches high, they should be transplanted into a nursery bed—but, previous to this, the ground must be well manured and dug over: then lay a board on the ground, in order to stand upon, and set the plants out in regular order, at least three inches apart, plant from plant. Some may think this last process too much trouble; but I can assure all who have such an idea that it is a process indispensably necessary, and the utility of it will be presently seen. When the plants are taken up from the seed bed, before proceeding to transplant them, do not neglect to rub off all the side shoots, which, it will be seen, are just making their appearance around the base of the plants, and cut off the ends of the roots, if it is desired to produce first rate celery.

About the first or second week of July the plants will be ready for the final planting out—their strong, robust appearance, by this time, I imagine, will give great encouragement to the grower, to go on and end the good work: but, on the contrary, if the plants had not been removed from the seed bed, as before advised, what a miserable appearance would they now make, so much so, that the stems being too weak to bear up the tops, now that they stand singly, they would lie

flat upon the ground. When this is the case, the remedy is to cut off the tops, and leave three or four naked stems sticking up—a disgrace to any person who has the least pretensions to its cultivation. The plants being so weak, it will be found necessary to shade them from the sun, through the middle of the day, for some time, until nature has made a fresh effort, and the plants start to grow: not so with those that have been transplanted; for by removing them with a trowel, on a damp day, they will scarcely feel the change. This is the gain,—for whilst the others will require shading and nursing, these will be making a rapid growth: and however well the former plants are nursed, it is rare that they ever make such good heads as those that receive no check.

If the cultivator has a peat meadow, that is at *no time* overflowed with water, he will find it the best situation of any for the growth of celery; but as there are but few, comparatively speaking, who have such facilities, the next best location would be where the soil is deep and moist, with the sub-soil clay. One sure guide to go by is, always to prefer deep moist soil, whatever the sub-soil may be, for it matters not, however rich the ground is made with manure; if there is a deficiency of moisture, the growth will be stunted.

In preparing the trenches for the final planting, if the soil is deep, dig it out to the depth of eighteen inches by fifteen inches in width; and the length as far as is thought proper for the number of plants; six inches of the trench must be filled up with the best *old* rotted manure that can be procured; as long strawy litter is not suitable, it should never be used. After the manure has been thrown into the trench, it should be dug over, in order to mix the soil at the bottom of the trench, thoroughly with it; this done, cut a little of the soil from each side of the trench, for the purpose of covering it about an inch, and it will then be ready for the plants, which should be set out six or eight inches apart, in a straight line, down the centre.

Keep the celery free from weeds, and earth a little, at different times, until the trench is nearly filled up; then earth it up *no more*, until it is done for the *last time*, which should be the first or second week of September, or sooner, if necessary. I have two reasons for following this process. The first is, that the roots of the plants are already covered as much as they ought to be, if we suppose the sun and air has any effect on them, or is of any benefit to them. My second reason is, that the celery will make a stronger growth, and will be very much superior, both in size and quality, to that which is earthed up every week or ten days, as is generally done.

Good celery ought to be solid, thoroughly blanched, and of large size, and perfectly clear of any blemish, such as *rust* or *canker*.

Professional Life.

The ambition of adopting "professional life," of all kinds, at the present day, is the source of countless instances of misery. Every profession in England is overstocked; not merely the prizes are beyond the general reach, but the merest subsistence becomes difficult. The "three black graces, law, physic, and divinity," are weary of their innumerable worshippers, and yearly sentence crowds of them to perish of the aching sense of failure. A few glittering successes allure the multitude; chancellorships, bishoprics, and regiments figure before the public eye; and every aspirant from the cottage, and the more foolish parents of every aspirant, set down the bauble as gained when they have once plunged their unlucky offspring into the sea of troubles, which men call the world. But thousands have died of broken hearts in these pursuits, thousands who would have been happy behind the plough, or opulent behind the counter; thousands, in the desperate struggles of thankless professions, look upon the simplicity of a life of manual labour with perpetual envy; and thousands, by a worse fate still, are driven to necessities which degrade the principles of honour with them, accustom them to humiliating modes of obtaining subsistence, and make up, by administering to the vices of society, the livelihood which was refused to their legitimate exertion.—*Blackwood*.

Benevolence in Birds—Their Usefulness, &c.

The communication of H. C. in the *Farm-er* of the 5th inst., relative to the canker-worm, in which he says the only effectual remedy against these insects known to him is "the encouragement of birds," brings fresh to our recollection some reminiscences respecting this persecuted, interesting, and useful race, which we think will be pleasing to our readers, particularly to the younger ones. We can hardly say with the writer of the article, that "killing a small bird should be placed in our penal code next to killing a child;" but we do say that it ought to be met with a punishment sufficient to prevent the destruction which annually takes place, in mere wantonness or sport, among the innocent songsters of our groves and orchards. We have been almost disposed in times past to bring the boys before Judge Lynch, and might probably have done it could we have put our hands upon them.

While residing in Lancaster a few years since, we were located near the river which runs through the town, whose banks and intervals are ornamented with numerous fine elms and other trees, which add much to the beauty of this pleasant village: in these trees the birds congregate in great numbers, and rear their young. A gigantic elm, the admiration of travellers and the pride of the village, threw out its wide spreading branches over the cottage in which we dwelt, and while it shielded us from the scorching sun, afforded in its ample head, (a forest almost in itself,) a secure retreat for a great variety of birds, whose movements afforded much amusement for the family. Among these birds were a pair of crow black-birds, who had selected the fork of a partly decayed limb very high in the tree, as a place to build their nest and rear their young. Having in my juvenile days some prejudice against this bird, as I was taught, that with the crow it would dig up the newly sprouted corn, and commit sundry other depredations, I therefore viewed them with a suspicious eye as I saw them in company from day to day upon my newly planted grounds, busily engaged in helping themselves to what they liked best. I satisfied myself soon, however, that they had been vilely slandered, and that they were friends and not enemies: it was evident they were clearing my grounds of grubs and worms at a great rate. They soon found that I was no enemy to them, and consequently became quite tame and familiar, following the plough or harrow with nearly as much confidence as the domestic fowls. It appeared that there was a good state of feeling among the numerous tribes that inhabited the tree, consisting as they did of so many families, embracing the robin, blue-bird, sparrow, golden robin, and a variety of others, and things seemed to prosper among them and go on well, until the night before old fashioned "lection," (a fatal day to the feathered tribe:) during that night there was a very high wind: early in the morning I was awakened by an unusual clamor among the birds, and rose to ascertain the cause—I found that the decayed limb, on the fork of which was the crow-black-bird's nest, had been broken off by the wind, and the nest and contents, (five young ones,) precipitated to the ground, and that four of them were dead or dying. The surviving one was nearly fledged, and could fly a little. I picked it up from the grass, and placed it in a secure situation, supposing the distressed parents would take care of it. The old ones continued their clamor all the morning, which, with the sympathizing cries of the other birds, formed a melancholy concert.

While the black-birds had perched upon a neighbouring tree near the road, still giving

vent to their sorrow, a boy passed with his gun, fired, and brought them both to the ground and carried them away in triumph: luckily for the boy, I did not witness the barbarous deed, but it was noted by one of the family and soon reported to me. As I had become somewhat interested in the unfortunate orphan, I proposed to my children that they should feed it with worms until it could take care of itself, and accordingly placed it in a pen under the tree and returned to my work near by. It was not long before I heard from the young bird its peculiar note which it uttered when its parent brought food, and on looking up, saw that it had hopped up on to a joist to which the board fence was fastened, and to my great delight and surprise, beheld a blue-bird in the act of feeding it. That beautiful passage of scripture flashed upon my mind—"Are not five sparrows sold for two farthings? and not one of them is forgotten before God." My curiosity was now raised to see what would be the issue, and I soon found that any further care on my part would be superfluous, for the young chap had fallen into better hands. It was with the deepest interest I watched the movements of this devoted pair of blue-birds to their adopted one, for it appeared that both male and female had taken part in this work of disinterested benevolence, and devoted themselves with unremitting attention to its wants, until it was able to take care of itself. For a couple of days it remained near the spot where I first saw the birds feeding it, and being near a window, had a good opportunity to see how things went on between them. It appeared that the young one kept his benefactors pretty busy; for their incessant labours could hardly satisfy the young gormandizer, as upon an estimate, after much attention, he received a portion of food every two and a half minutes during the day, which appeared to consist of worms and grubs. The black-bird probably weighed twice as much as both blue-birds, and when it opened its capacious mouth to receive the food, it seemed as though its kind friends were in imminent danger of being swallowed whole. The blue-birds appeared alternately with the food and lit down a few feet in front of the bird on the fence, and viewed with apparent astonishment, the extended mouth of the young one for a second, then hopping up, deposited the food, then as quick back to the first position, regarding for another second with marks of satisfaction, the object of charity, and then away for a new supply.

In a few days the young bird found the use of its wings, and was followed from tree to tree upon the premises by its faithful providers, for nearly a week: it had by that time learned to find its own food; and soon

it fell in company with some of its own kith and kin, and I could recognise it no more. Whether it ever returned to express its gratitude to its foster parents, we have never learned.

Many of my neighbours could testify to the above facts, as some of them called daily to see for themselves. J. B.

From the Boston Courier.

Birds---Canker Worms.

Mr. Editor—I see it stated in your paper of Friday, that the probable reason why the canker-worm commits small ravages in 'Flob,' is found in the care with which the birds are protected. I was reminded of a remark in Peabody's Life of Wilson: "He enters into a deliberate calculation of the exact value of the services of the red-winged black-bird, which certainly bears no good reputation on the farm; showing that, allowing a single bird fifty insects in a day, which would be short allowance, a single pair would consume 12,000 in four months; and if there are a million of pairs of these birds in the United States, the amount of insects is less by twelve thousand millions, than if the red-wing were exterminated." Let any one during the brooding season of robins or of other birds, rise by break of day and count the number of times old ones return in one hour with worms and insects, or, if he can, let him count through the day, and the number will be found to be almost incredible.

The practice of killing birds for mere amusement, is not merely indicative of cruelty and want of feeling, but is exceedingly detrimental to the interests of the community. If the farmers reflected and made calculations upon the subject, they would discourage and oppose it as one of the greatest scourges, and would pay a premium to their boys to let the birds alone, rather than furnish them with powder and shot to kill them.

And, now that I am upon the subject of insects and worms, let me add that there is a very unreasonable prejudice against toads. They are exceedingly valuable in gardens and other places, in consequence of the exterminating warfare they are continually waging against the bugs and worms. Any person who has them in his garden has a treasure there; and if he will watch them closely, he will find them accomplishing more in the way of preserving his squash and cucumber vines, and other vegetables, than he can do with all his troughs of liquid.

S. Y.

Small evils make the worst part of great ones; it is so much easier to endure misfortune than to bear an inconvenience.

From the Farmers' Monthly Visitor.

Wonders of the Honey Bee.

Hon. Isaac Hill:—I am pleased to find your Visitor what I anticipated it would be, the Register of the agricultural improvements of the day. I have read in it one or two treatises upon Bees, that family of insects which is the pattern of industry, system and good order, and which should have their habitations near the dwellings, and before the eyes of every farmer and horticulturist in the country. He who is fond of studying the wonderful works of Nature, will find but few subjects, which will more excite his curiosity, than the history of the Bee.

The bee possesses the united skill of the mason, the architect, the geometrician, and the civilian. Many naturalists of this and other countries have devoted much time in searching out their habits, admiring their sagacity, and in giving to the world the result of their researches. They have learned much, and there is much more yet to be learned of this wonderful insect. I have myself kept bees for thirteen or fourteen years. I long since felt the necessity of preserving these little creatures from the barbarous custom of annual suffocation. For a while I tried the box-hive, but found my bees unwilling to enter it, and I lost several swarms in trying to force them into it. I abandoned this kind of hive, and finished a room in my garret, dark and tight, with a communication through the external wall of the house, through which to give them a passage way. I placed a hive of bees in this room, their entrance into the hive being on a level with the communication, and near to it. To this room I have a door from my garret, never accessible to children or intruders. The room should be made impervious to rats and mice, which are very fond of bees, sparing not even their weapons of defence. This young swarm soon filled their hive, and then commenced their operations, beneath, above, and around the hive, filling in their white virgin comb, without the aid of bars, slats or cross pieces to build to, from the roof of the house to the floor of their room. At times, I stole into this apiary, and by the aid of a light, viewed the progress they were making, and the splendid columns of comb they were erecting. They had the benefit of the labour of all their increase—all their progeny; there was no swarming, no colonizing from this numerous family. Give bees room and they never swarm. Whoever heard of bees swarming from a hollow tree, till the space within was filled? After the second year of their operations, and during the coldest of the winter, while the bees all laid dormant at the centre of their *nectarine pile*, I took my family stores from the external

layers, which always contain the whitest and purest in the store-house, and is the only portion which can be taken without injury to the residue. For many years my table was supplied from this room with the choicest of sweets, from which many a friend has enjoyed a treat, and lingered to admire this simple contrivance for the preservation of the bee, and the store-house so well adapted to receive the fruits of his labour.

In 1834 my dwelling-house was destroyed by fire, containing, in its garret, at least eight hundred pounds of honey, and of living beings a multitude which no man could number.

J. S. KEITH.

Chinese Mode of Making Capons.

The Chinese, who are very expert in the art of making capons, use the following method: The wing of the fowl being folded back till they meet, the left foot of the operator is placed on them, the fowl being laid on its left side: the great toe of the right foot is placed on its legs; the feathers are then plucked off by the side—an incision, about an inch in length, commencing about an inch from the back-bone and extending obliquely downwards, is made with a knife, the cutting part of which is bevelled to a point, like a dissecting scalpel. This incision is carefully carried through the skin, muscles and membranes, till the intestines are laid bare, while flat blunt hooks are put into the incision, which is extended and kept open by the elasticity of a bamboo, or whale-bone: the intestines are then pushed aside with a pair of forceps, which are used to lay hold of the stone, when it is by this means brought into view, while there is passed over it, through a bamboo or elder tube, a horse hair, which is drawn backwards and forwards through the tube till the spermatic chord is cut through; the stone is then scooped out. The other stone is removed in the same manner. No blood issues from the spermatic chords, nor does the animal seem to feel pain. The hooks are then removed, the wound is closed up, the feathers which have been plucked off are stuck upon the wound with the blood, and the wing being put down on it, the animal walks off as if nothing had happened. Young cocks, three month old, are made choice of for the operation, which must, if possible, be performed before July, as it has been remarked that capons made later than this never prove fine.—*Dickson on Poultry.*

He who maintains the rights of private conscience in religion, and individual judgment in politics, will be regarded as a sophist by the bigot in place, and as a radical by politician aware.

Foot Rot in Sheep.

A subscriber wishes to know how to remedy this disease, which has broke out in his flock of sheep.

We had hoped that this disorder would not again be known among the flocks in this State. We saw considerable of it in several flocks about ten years ago, but have not heard of it for several years since, until now. It is a troublesome disease, and requires close and unwearied attention to eradicate it.

It consists in an ulceration of the foot between the claws of the hoof and underneath the hoof—spreading and becoming fetid and gangrenous, until at length, if neglected, the whole foot becomes a mass of disease.

The following method we have seen successfully used. First, cut away, with a sharp knife, the horn of the hoof where the disease is seated—let the part bleed freely. Then, cleanse it well with soap suds. Then take blue vitriol, make a strong decoction of it in water or spirits—but water will do—and plunge the foot in it, or apply it faithfully to every part. This should be done frequently, and the sheep should be kept in a clean place, where dirt cannot get into the diseased parts.

A solution of *Chloride of Lime*, applied to the foot is excellent in destroying the bad smell and bringing on healthy action.

This may be had of the apothecary or of the paper makers for a trifle. Whatever is done should be done thoroughly. It will be of no use to pare away part of the hoof, and leave a little part where it is diseased, untouched; nor will it do to take a part of the flock in hand and leave the rest. Some think that if sheep run in a pasture where others, affected with the disease have been, they will contract the disease from matter left upon the ground or grass. The truth of this we do not know.—*Maine Farmer*.

To the Editor of the Farmers' Cabinet.

SIR:—The very general opinion, that the dialogues which have appeared in the Farmers' Cabinet, would be acceptable to those for whom they were principally written, if they were re-published in book form, has induced the writer to revise and add to their number, with that view. They are now in the press, and will speedily be published. If those editors, who have considered them worthy their regard, would have the kindness to make this notice known, by giving it an insertion in their pages accompanied by their recommendation, they would greatly oblige the writer. Due notice will be given of their publication.

DEDICATION.

To the Junior Members of that most useful class of society, Agriculturists, these dialogues, the reminiscences of a long life, devoted to the pursuits of "Agriculture, Husbandry and rural affairs," and in which the characters are real—not fictitious—for there is a Frank, and a sister Susan—a Grabb, and a Sykes—the circumstances also having a "local habitation and a name"—and the observations and reflections being the result of much experience and investigation, are dedicated, by

Their very sincere and affectionate friend,

JAMES PEDDER.

20th Feb. 1840.

Dialogue between a Father and Son.

Father—Take care Frank, how you lead the horse over this ice; do you see the water flowing underneath it? This brings to our recollection the wise ordination of Providence in the freezing of water, which is in direct opposition to almost every other known law of nature. All other bodies grow heavier while cooling, but if this were the case with water, the ice would, as soon as formed on the surface, sink to the bottom of the rivers, when, the surface again freezing and again sinking, it would soon choke up their beds, and the water, still flowing over and freezing, would cause a deluge of ice over the surface of the earth of incalculable thickness, to the inevitable destruction of every living thing, man, not excepted. The reason of its being lighter in a state of ice than water—which is, you know, the cause of its swimming—is, it contains a great quantity of air, as you might see, by those bubbles which are formed in it; and this air is *ordained* to be the cause of its breaking up at the time of thawing—but for this, a mountain of ice would be the work of a summer for the sun to penetrate and dissolve; and as I told you the expansion of ice at the time of freezing is extremely great, bursting with ease the most solid bodies, so also, the air which is contained in these bubbles, when expanded by warmth is equally irresistible; and in very cold countries, the explosions which take place, occasioned by this expansion, at the time of the breaking up of frost, are dreadful, equal to the loudest thunder! So, thus it is—water contracts in bulk as it cools, until it has reached the freezing point, when, immediately, its nature becomes changed, and it then grows lighter, as it freezes.

Frank—What a wonderful contrivance! I perfectly understand how that, if ice were

to sink in water, it would soon stop the course of rivers, for one of the little streams in the meadow has become frozen to the bottom, and the consequence is, the flowing over of the water, and this again freezing, and the water again flowing and again freezing, there is a sheet of ice twenty yards in width.

I hope, however, the frost will soon break up, for I see that our new plough is just brought home, and I long to try it; its fine wide share and long mould-plate must make great havoc amongst the weeds. I have often been astonished at the variety of ploughs that have been invented, each professing to be superior to every other. Is it not possible to determine which is the *best*, that so a preference might be given to it above all others? There is not only a difference in the formation of the body and mould-plate, but also in the mode of working them; some are with two wheels, others with one; some with a foot, and others with neither: now which is to be preferred, or is there, after all, no essential difference!

Father—A very interesting question; and that we may thoroughly understand the subject, we will go into its examination when we come to use our new plough in turning the two acre field for sugar beet, which was, you know, ploughed very deep in November of last year, preparatory to a spring working; then you will perceive the advantage of practice, when compared with mere theory, and will be enabled to decide which is, upon the whole, best suited for the purpose of *cultivating the soil*—that is the question with us, with many others it is, I believe, *which follows the horses most easily*.

Frank—I have often heard, that the plough which follows the horses the easiest, must be the best; now there might be a great difference in this respect, but as the horses cannot tell any thing about it, how are we to judge?

Father—An instrument has been invented to fix to the end of the beam of the plough by which the horses are made to draw; it is called an *Eidometer*, and has an index, by which may be seen, very exactly, how much power is required to draw it when put to different depths; it is something like the little instrument with which your mother weighs articles in the house.

Frank—I know—it draws out in length in proportion to the weight which is attached to it, and the number of pounds weight is stamped on the little index rod. This is a very clever contrivance, and must decide the question in an instant, for that plough must certainly be the best which requires the least power to drag it, provided the depth be the same; and I wonder why this best plough has not got into general use, to the exclusion of all others.

Father—How easily you have decided the

question, and in the way too, in which many other interesting questions are decided, namely, by mere theory; by taking a statement for granted, and acting upon it; but if the statement be fallacious, so must be the conclusions which are drawn from it—just as if a man were to take for granted that the foundations of a house are good, and build upon them without examination, they might be defective and if they are, so will be the house, when completed, although it might look fair to the eye.

Frank—How well I understand that; I see now that there might be other considerations connected with the subject, and I long for an opportunity to decide by practice.

Father—And as I consider it a question of the greatest consequence, we will lose no time in making the *experiment*, on the breaking up of the frost.

Frank—Well, Father, here is a fine day, and we are quite ready; which plough shall we commence with?

Father—Put the horses to the single wheel patent plough, invented by a person named *Plenty*, which is in very general use in many of the counties in England. Do you know the meaning of the term *patent*?

Frank—Perhaps not, exactly.

Father—The inventor of this plough thinks so well of its merits, that he has asked of the government to secure to himself the making of them for a certain number of years, and the government issues an order, that no other person shall presume to make them for a time agreed upon, under a severe penalty—this is granting a patent, which in England costs about one hundred pounds sterling (five hundred dollars.) But now for our ploughing match.

The weather fine, the season now,

Drive on, my boy, "God speed the plough."

Well Frank, what think you?

Frank—I shall be careful how I say again, what I think. It appears, however, to be a heavy instrument with which to turn a furrow eight inches wide and five inches deep, which is as much as it will do; to be sure it goes straight, and makes what is called good work, but after all it does not turn the land over, it merely sets it on edge, or a little more, and passes on.

Father—But now for your criterion of a good plough, do you not think it follows the horses easily?

Frank—I now understand why you said, the object with us ought to be, to ascertain which is the plough best suited for the purpose of cultivating the soil, and that you thought this was not the object with some—those for instance, who are more careful of

the shinning coats of their horses, than with the proper stirring of the soil.

Father—As there is so little resistance against the mould-plate, in consequence of the small furrow which we are compelled to carry, and the manner in which it leaves it, setting it on edge, or nearly so, and not turning it over, I am inclined to believe that to this circumstance is to be attributed a part at least of its good name; to be sure the length of the beam and handles give great facilities for guiding it straight and steadily, but do you remark the very narrow furrow which it leaves, in which the furrow horse has to walk, and how he treads down the land side of it with two of his feet, because there is not room for him to walk in the furrow? neither is there room for the furrow slice when it is turned, for it lies so nearly on edge as to leave a seam or channel, from whence the weeds will spring with redoubled vigor, if the land is left even for a short time unploughed. This plough is altogether unfit for the use of those who have an interest in the soil, and the unlevel state in which it leaves the bottom of the furrow in some places, called *rastering*, is decisive proof of inefficiency.

We will now try the short and light American plough—but are you aware that the swing plough is managed in direct opposition to that with one or two wheels? for if I wish to go deeper I *lift up* the handles, whilst to cause the plough with wheels to take a deeper furrow, it is necessary to *press down* the handles.

Frank—I was just remarking that you appear sometimes to press upon the handles, which I have often heard you say is improper, as it makes nearly a horse draft difference in the working of a plough, and that I suppose cannot be good at any rate; indeed I never see you do so while using a plough with a wheel.

Father—As there is no wheel on which the beam can rest, the plough is liable to drop a little when the land is soft or wet, and this sends the point of the share so deep into the earth, that unless I were to raise it by pressing upon the handles, the plough would sink so deep that the utmost exertion of the horses would not be sufficient to move it. On the other hand, if the land is hard or stony, it is necessary to lift up the handles to send the point deeper into the soil, and with those ploughs that are short and light, *so high*, that the mould-plate is often raised so much as to be out of its proper position for turning the furrow properly over. And hence it is, that land which has been turned with such a plough, is often found to be less level, and to be full of *baulks*, or parts that are left unploughed, than that which has been worked with a wheel plough. This constant tendency

to rise and sink is exceedingly troublesome to the ploughman, and distressing to the horses, for they are very liable to be galled by the collar—do you see how tenderly they seem to advance in this hard spot, and how the traces shake and jar them?

Frank—Yes I do, and now that I take the trace in my hand, I feel it too.

Father—Nothing could be better adapted to the purpose for which these short and light ploughs were designed; with a short beam and handles, as well as a short bed or waist, they were admirably fitted for turning the earth amongst stumps, and stones, and roots on fresh cleared lands, where, in the hands of an expert ploughman, it takes place of spade, mattock and pick-axe, spudding the earth from amongst them with the greatest ingenuity; but in cleared land, when to go a *little* deeper and to turn the furrow well up and over, is the soul of good tillage, they are altogether unsuitable; for, in consequence of their lightness and shortness they offer no resistance to a thick furrow slice, but, like an unfaithful servant, are always slipping out of their work, leaving it half done. The apology which is sometimes offered, that you can plough nearer the ends and leave a narrower headland, is the most futile that can be conceived, for the headlands should be wide and well defined, thrown up high and round, with the furrow at the head of the ridges, wide and deep, serving the purpose of a water furrow to receive and carry off the drainings of the ridges in wet weather. The shortness of the body of this plough is the cause of its rising and falling so abruptly and so readily, fitting it peculiarly for its working amongst stumps, but for the same reason, unfitting it for every other purpose—they are excellent therefore, but not for general use.

Now, we will try our new plough, which is perhaps, the most perfect for many purposes that can well be imagined. It is either a swing or a wheel plough, but in nine cases out of ten, the wheel can be dispensed with, its length and weight being sufficient to keep it at the depth required, provided the rack at the head is properly adjusted; the objection to its weight is groundless, for in very light land that is of no importance, and in a heavy soil it is necessary, to form proper resistance to a thick and heavy furrow slice; for here, a light plough would *rise up and walk off*.—While, therefore, the length of the body of this plough keeps it steady to its work, every little obstacle is apt to throw a light plough out of it; and its constant tendency to rise, compels the ploughman, as has already been observed, to raise the handles so high to counteract it, as either to lift it out of the ground altogether, or to send the point so deep as to require an immediate and sudden rever-

sion by pressing upon the handles—thus it is ever on the poize, like a pair of scales, demanding of the ploughman incessant care and labor, and performing badly at last.

Frank—How finely the noble mould-plate turns the furrow slice over, burying the weeds, so that there is not one remaining on the surface, and breaking up the land, so as scarcely to require harrowing.

Father—True—but this very excellent quality shows that it is not well adapted to the purpose of cutting across weedy fallows, preparatory to harrowing or dragging; in that operation, the furrow slice ought not to be turned so completely over, for if it is, the harrow cannot act upon so level a surface, so as to drag over the clods to be crushed by the roller; the furrow should in this case be set more on edge, but that you see cannot be done by this plough; it requires one of a different form, with less curve in the mould-plate. Still, however, every plough should throw out a furrow wide enough to permit the furrow horse to walk in it with ease, and without which, it is not possible to plough clean.

Frank—Yes, I have always heard you say, he is not a good gardener who does not keep a good, wide, open trench in digging; and I can now understand the advantage of a wide and clean furrow in ploughing.

Father—Nor is the plough which we are now using suitable for hard or stony land; its wide wing prevents its entering a hard soil, and during a hot and dry season, it would be useless for a considerable portion of the summer; nor is it, for this and some other reasons, the best for turning lay land, preparatory for immediate sowing; on such land the furrow should be narrow, but with a wing so wide, it would not be possible to carry a narrow furrow, so as to place it in a proper position for seeding. A person in England has invented a plough, which for this work is perhaps superior to all others; it is furnished with three spare shares of different widths, the narrowest being used for this purpose, and it is said, a man has turned a furrow of two hundred and fifty yards in length so straight, that, by placing the head in it, a person might see from one end to the other without any obstruction. By some peculiar process at the time of casting, the points and wings of these shares are case-hardened on their *underside*, so that they point and sharpen themselves; the upper surface being soft, wears away by working, leaving the under part sharp as a knife. It is said, they are casted on a bed of sand, sprinkled over with powdered charcoal, which converts the part coming in contact with it, into steel. With a narrow share, this plough will penetrate a hard soil, when no other that

I have ever seen, would even *look at it*; but its great length of waist, with its long beam and handles, fit it for turning up a *turnpike*. It has the quality too, of turning completely the furrow slice, leaving it impenetrable to the harrow—it is therefore unsuitable for following land that is full of root weeds.

So that we ought not to expect to find any one plough with the different qualities of all combined: but every intelligent and industrious man should keep a set of ploughs for various purposes. It is the most important of all implements, and is deserving our most serious regard; but let it be repeated, there is one qualification which is necessary in all, at all times, and in all places, namely, that a furrow shall be left sufficiently wide for the horse to walk in, and to receive the next furrow slice, be that intended to lie at an angle of forty-five degrees or at any other.

Frank—At an angle of forty-five degrees! pray what is that? and how am I to know when it lies at an angle of forty-five degrees?

Father—I will show you—the circumference of a globe, let the size be large or small, is denominated three hundred and sixty degrees. Now, if we cut a circle of paper and call the circumference three hundred and sixty degrees; by folding in half, there will then be just half the number of degrees remaining, namely, one hundred and eighty; if we fold this again, we shall find the number of degrees remaining to be ninety; another folding will give us a wedge-shaped piece of paper which, if it be placed on one of its straight sides on a flat surface, will show you exactly what is an angle of forty-five degrees, if you cast your eye along the upper straight edge, beginning at the point.

Frank—I understand this exactly.

Father—One very serious objection to the general mode of ploughing in this country arises from the hurry with which this most important of all operations is performed; it is a cause of boasting, to be able to turn an acre of land in the shortest possible time, without, I fear, any regard to the manner in which it is done; to this haste is to be, in great part, attributed the irregularities observable at the beginning of the furrows in almost every field we witness, occasioned by the too sudden elevation or depression of a plough of light and short construction, and a desire to make the headlands as narrow as possible; and I have never seen a ploughman turn about to take up that portion of land which has thus been missed—as is always done when proper time and attention are paid to the work—trusting to the next turn when he might take a deeper and larger furrow, and with it cover the defect, thus leaving a solid portion of the earth underneath a furrow that lies too high, but which he thinks might

be levelled by cross harrowing. I once knew a faithless servant of this sort, who got served out in a very unexpected way while practising this sleight of hand: his employer had witnessed what he had been doing from the other side of the fence, and on hearing the fellow exclaim as he passed one of these *baulks*, "that's covered," sprang over, and hitting him over the head with his stick, by which his hat was knocked off, picked it up, and clapping it on him, exclaimed also, "and that's covered!"

But a cause for this hurry in ploughing might sometimes be traced to the weakness of the horses, who, unless it be done by a sudden exertion of their whole strength, are not able to bear a protracted and steady strain, competent to the task: in none of the operations on a farm is it so necessary to have sufficient team power as in ploughing; with a weak team, not even the best ploughman can make good work, nor can land be stirred to a sufficient depth to bring a crop to maturity. It might not, perhaps, be too much to say, many crops depend as much for support on the subsoil, as on the surface, especially in a time of drought; and it is quite sufficient if an acre of land can, under ordinary circumstances, be ploughed in a day's work of eight hours; and as that has been a task which I calculate we have accomplished, we will now quit.

Causes of Seeds not Germinating.

We have known and heard of considerable loss and disappointment from seeds, particularly onion seeds, not growing. We have thought and inquired in reference to the cause, and the result of our cogitation and inquiries may be thus stated:

Without a certain degree of moisture, seeds will not germinate. On dry, sandy soils, and in a dry season, it seems highly probable, then, that seeds may be deprived of the requisite degree of moisture: perhaps receiving just as much as will mould them and destroy their vitality, or being so near the surface as to be injured by the sun's heat and light.

But the seeds may have germinated, and commenced to send out their roots and stem stalks, and yet be destroyed. If the soil is not pressed closely to the seeds, and very dry weather occurs just at this period of the process of germination, the root being too distant from the soil, and too feeble to draw any supply of moisture, the liquid food of the plant contained in the fermented seed may be dried up, and the life thus destroyed.

If you would avoid disappointment and loss from seeds failing to grow, the preventive process is indicated by a knowledge of

the causes most frequently productive of this result, which we think are those stated above. If you sprout your seeds before putting them into the ground, you will preserve them from the first cause of failure, but if you pulverize your soil thoroughly and press in this state with a hoe, spade, or roller, upon the seeds thus sprouted, the root stem will soon and surely derive sufficient moisture from the soil.

In a few instances I have found my neighbours blaming the seeds as useless, particularly of onions, carrots, and parsneps, when I have obtained a little of the seed and found it to sprout quite well. You may easily save yourselves from such reflections, or from the temptation to blame others, by steeping the suspected seed in warm or tepid water, from six to twenty-four hours, according to the size and hardness of the seeds, and then setting it away in a warmish place for a day or two. If good it will sprout in this time; if kept warm in a darkish place, and it does not sprout in this time, the seed is faulty.

In connexion with this subject, I may state that several circumstances incline me to the belief that corn which has been sprouted—no matter in what steep—is safe from the ravages of the red or wire worm. It has been fashionable to steep in strong solution of copperas, and to ascribe the safety of the seed in this state, not to the change which fermentation has produced in the germ or chit which is usually first attacked, but to the change in the taste from the copperas. We have known corn soaked in simple water—in water alone—to escape from the attacks of the worm as well as that soaked in the copperas steep. Until this matter is made more certain, however, I would hold it bad husbandry to neglect the copperas, as, in addition to the change produced by heat and moisture, we have also the disagreeable taste communicated by the salt.—*Cultivator*.

Improvement of the Soil by Animal and Vegetable Manures.

The best way of applying the bone-dust and horn-shavings and horn-piths, that we have tried, is to keep them dry till a short time before they are wanted—then to mix them, in the proportion of a bushel to a load, with unfermented yard or stable dung, to cart to the field, spread broadcast, and immediately cover the whole with the plough. The action of the dung brings on a decomposition of the animal matter, without previous preparation, and its benefits are imparted to the coming crop. We estimate fifteen loads of manure, thus charged with bone or horn, equal to twenty-five loads without it.

Poudrette is the contents of privies, dried, and rendered as inodorous and inoffensive, by

chemical process, as the common earths. This is another species of concentrated manure nearly as powerful as bone-dust; more operative upon a first crop, but less durable in its effects. It is the most efficient, in its immediate effects, of any manure we have tried. It is applied at the rate of forty bushels or less to the acre, upon all arable crops, to be sown broadcast, superficially covered, or placed in the hill or drill of hoed crops. It has long been used about Paris, has become an article of commerce, and is transported to every part of the interior. Manufactories of poudrette have been established in the vicinity of New York, and the demand for the article increases with the supply. Like manufactories will, no doubt, ere long be established near all our large cities; and thus, what would be otherwise a nuisance, and the indirect cause of disease and death, will be converted into vegetable food, and become a source of comfort and of wealth. Let not the sensitive start at this suggestion—the choicest delicacies of the table come from a nauseous mass of animal and vegetable putrefaction!

Urette is animal urine, absorbed and rendered dry by mixture with calcareous earth. It possesses the like fertilizing virtues as poudrette, and is applied in a similar way, and with very similar effect.

Woollen rags, and the flocks and sweepings of woollen factories, constitute a highly-concentrated manure, and are procured in considerable quantities at the woollen mills.

Fish are converted into a valuable manure, and are a main dependence of fertility on some parts of Long Island, and other districts near the margin of the sea. These are most economically used in the form of a compost—the earth with which they are blended absorbing the volatile parts, and permitting a more equal distribution of the fertilizing matters upon the soil.

Sea-weed, or sea-drift, which is so often thrown upon the beach in immense quantities during a storm, is beneficially employed as a manure, not only on account of its vegetable, but of its saline properties. It is employed in composts, in litter for cattle-yards, or is ploughed in in a green state.

Peat earth, or swamp muck, is vegetable food, in an insoluble state, and requires only such a chemical change as shall render it soluble, to convert it into active manure. This change may be effected in the cattle-yard, in the compost heap, or by admixture with alkaline substances, as lime, ashes, &c.

This earth is generally insoluble in the places where it is deposited, especially when saturated with water. It sometimes is rendered soluble by thorough draining, and by the admixture of sand or loam, and always by

being brought in contact with fermenting animal or vegetable matters.—*Bull's Farmer's Companion.*

Kitchen Garden.

A vegetable garden should be in a warm situation; inclosed by a close board fence or stone wall, which serves to protect it from cold winds, to concentrate the rays of the sun, and to secure shade. The shape should be a parallelogram, or oblong, and the beds of the same shape, to facilitate the use of the hand cultivator. The north and west sides should be the lightest and warmest soil. Unless the fence is sufficiently high to prevent fowls from flying over, it would add greatly to the certainty of realizing the productions of the garden to have it located at a distance from the barn and hen roost.

Some variety in the soil is desirable—also, varying from wet to dry, preserving, however, the general characteristic of a sandy loam, deep, rich, well worked, and retentive of moisture.

A soil too sandy is improved by the application of cow manure, lime, and clay; and one too adhesive, by horse manure, lime, and sand. To give permanency to the fertility of a soil, and to secure healthy vegetation, mineral manures should be occasionally applied.

The time of putting the seed in the ground depends on the season, the nature of the plants, and their acquired or established habits, or qualities. Some seasons are two or three weeks earlier than others. Some vegetables will not do well unless they have opportunity to make progress by the first vernal warmth; others become sickly if planted early. To preserve the qualities of particular varieties, much attention should be paid to the history of their culture. Corn, for instance, that ripens in less than a hundred days by planting the last of May, or first of June, should not be planted earlier; this would be the same as transferring from a warm to a cold climate, tending to alter the habits of the plants, and to increase the number of days in ripening. Late planting and rapid maturity are objects of improvement. They both increase the certainty of crops, lessen labour, and probably impoverish the soil less.

Those seeds ripening first and having other desirable qualities, should be carefully gathered. The certainty and continuance of the vegetative power of seeds depend greatly on being fully ripe, well secured, and preserved from too much confinement, heat, and dampness. Some, however, lose their vegetative properties much sooner than others.

Parsnep, rhubarb, and other very thin and

scaly seeds are not to be depended on the second year.

Beans, capsicum, carrot, cress, leek, nasturtium, okra, onion, salsafy, scorzonera, and small herb seeds should not generally be trusted the third year.

Artichoke, asparagus, corn, egg-plant, endive, feticus, lettuce, mustard, parsley, peas, skirret, and spinage, often fail after the third year.

Broccoli, cauliflower, cabbage, celery, kale, radish, and turnep will vegetate well four or five years.

Beet, cucumber, gourd, melon, pumpkin, and squash—also, burnet, chervil, and sorrel, have been known to vegetate freely five to ten and more years.

Some seeds should not be sown the same season they are grown. There is too much of a tendency in biennials to go to seed; and in annuals to vines and unfruitfulness. The turnep, for instance, will not bottom well unless the seed is fully and thoroughly ripened.

Plants that are nearly allied, melons and cucumbers for instance, should be planted at a distance from each other to prevent mixture in the seed through the pollen.

The ground for taprooted vegetables is generally manured the previous year; or with rotten dung well and deeply spaded some weeks before putting in the seed. For vegetables of spreading roots the manure may be applied nearer the surface, and at the time of putting in the seed.

A rotation of crops should be observed in garden as well as field culture. As a general rule, taprooted crops should succeed those of spreading roots; with large and luxuriant leaves, those of less size—requiring much tillage, those needing but little culture. Deficiency in practical and scientific information relative to the proper succession of crops, renders it advisable to sow red clover on alternate portions of the garden, even if it is ploughed or spaded in the same season. The sowing may be at the last hoeing of some crops.

All plants should be kept perfectly free from weeds, any receive frequent hoeings. The dryer the ground the more and deeper it should be stirred. Deep hoeing is said to be injurious to taprooted vegetables. It is advisable not to hoe the melon and cucumber families when they are much wet with dew. In hoeing, the earth should be drawn up around the plants but little.

As many crops as possible, without injury to each other, should, during the season, be obtained from every bed. Manure and labour are thus economised.

Some kinds of vegetables, as soon as they appear above ground, are very liable to be

cut off by insects. The best preventive is to roll the ground immediately after sowing. This should always be done, unless the ground is too wet. The insects are thus deprived of shelter behind the lumps of earth—are more exposed to winds, storms, and extremes of heat and cold. Small chickens, turkies, and ducks, the mothers of which are confined in coops, will destroy many insects in a garden. A mixture of dry wood-ashes, lime, and gypsum put into the hills or drills, and covered with a little soil before dropping the seed, afford protection to the roots from these insects that prey on these parts of plants. Infusions of waste tobacco, lime-ashes, soot, cow-dung, elder, and some other leaves will, when moderately sprinkled over the beds, often drive off insects. Grubs may be destroyed by searching for them; and those insects that adhere to the leaves, may be destroyed with the leaves. Slugs are said to be enticed by slices of turneps on the beds, and early in the morning may be killed. Blazing fires in the garden will, early in the evening, attract and destroy many insects in the winged or butterfly state.

Most of our culinary plants are of foreign origin, and consequently require an adaptation of soil and location. Many of them are either natives of Great Britain, or have become acclimated in that country, whence we obtain the large portion of the seed sown. These circumstances render a comparison of the climates of this and that country of some moment. The growing season of England in particular is long, not subject to extremes of heat and cold; moist and cloudy atmosphere predominating. In the Northern States the vegetative season is shorter; the thermometrical extremes greater; dry scorching sun forcing out the moisture of the soil, and producing excessive perspiration; hence a soil very retentive of moisture would seem congenial to most of our garden products. When deficient in this respect recourse should be to clay, cow-manure, and other manures having a strong affinity for water. A north and north-west aspect also tends to render our climate more congenial to many vegetables, especially if the garden is enclosed by a board fence, or on the north and east by evergreens that render violent storms, and cold and drying winds less injurious.—*Rural Library*.

As many more can discover that a man is richer than themselves, superiority of understanding is not so readily acknowledged, as that of fortune; nor is that of haughtiness, which the consciousness of great abilities incites, borne with the same submission as the tyranny of affluence.

For the Farmers' Cabinet.

Kitchen Garden.

Did you ever see such a fine, nice, clean garden in all your life?

My mother always loved a good garden, and so do I. I never yet saw a person enter a good, well cultivated garden, free from weeds, and where the vegetables and plants were in a healthy, flourishing condition but what was pleased and gratified. Now is the season for entering on the duties of gardening, and be sure and work it right in the beginning; for a good beginning is important in all things, and in none more so than in commencing the operations of the kitchen garden in the spring. I hope the boys and girls will be alive to the importance of having an abundant supply of the best kinds of vegetables at the earliest periods which they are attainable. In order to accomplish this, the very best seeds of various kinds must be obtained; neither plant or sow any that are not first rate, and the best plan that I know of, for procuring them, is to apply to G. M. Coates, No. 49 Market street, or to Landreth's,* Chestnut street, Philadelphia; both of whom have acquired a high reputation for selling the purest and best kinds; and the best evidence of it is, that the gardeners who supply the City of Philadelphia with such fine vegetables generally procure their seeds of them. The quantity necessary for an ordinary garden of all the various kinds, cost but a small sum. Dig your ground deep, and manure it well; see that the soil is thoroughly pulverized. Stint neither the manure nor the labour necessary to bring the ground into the finest tilth, or there will be cause for repentance before the season is over. Bridgeman's Young Gardener's Assistant is a valuable little work, and may be procured at the seed stores; it will instruct and enlighten the young folks on the subject of raising plants and vegetables in the best manner, and there is no danger of its doing injury to their seniors, though they may think book garden-

* We agree with our correspondent that those gentlemen have established a well earned reputation as Seedsmen; and deserve, as they no doubt are receiving, a very extensive patronage. We also recommend to the favourable attention of our readers the establishments of Messrs. HIRST & DREER, Chestnut street, and Mr. MAPPEY, South Fifth street, Mr. D. O. PROUTY, Agricultural Warehouse and Seed Store, No. 87 North Second street. At any of these establishments, purchasers can depend on the seeds being what they are recommended; we have heard several gardeners and others who purchased their seeds at the latter place last season, express their unqualified approbation of the good qualities of the seeds. We perceive by the Catalogue of Mr. Prouty, that a fresh and large assortment has just been received.

ing may be dispensed with, as they have managed to get along so far without it. After the ground has been well manured, and thoroughly dug up to a proper depth and completely pulverised, and your seeds sown in the best manner, you may have a little respite from your labours; and I shall postpone telling what is next to be done to keep things in a right fix, for a future number of the Cabinet.

THOMAS.

For the Farmers' Cabinet.

Preserving Manures, &c.

MR. EDITOR,—The subject which I have chosen for the present communication, has so frequently occupied your columns, that if not for its superior importance, would demand an apology for again introducing it to your notice. But I consider any language that I can use to enforce the advantage of preserving and applying manures to the practical farmer as altogether superfluous. But while all agree that manure when applied to the soil, is the most efficient supporter of vegetation, many diversified opinions exist as to the most economical method of preserving it, to the best time of applying, and whether to apply it to the surface as a top dressing, or to incorporate it immediately with the soil. As there are many different kinds of manure, I intend to restrict my remarks to the most abundant variety, viz. barn-yard manure.

So much as has been written on this matter, and reformation on this branch of husbandry so often urged, comparatively little has been yet done to correct the existing errors and prejudices. Some farmers allow their stable manure to collect in large masses, heat being produced, fermentation takes place rapidly, and the gaseous materials are evolved; the most important of these are ammonia and carbonic acid, both of which substances impart nourishing principles to plants. And the manure not being removed in the spring, but being allowed to remain in the yards until autumn to furnish a dressing for the lands destined for wheat, the frequent rains falling during the summer wash away all the soluble particles that exist in the dunghill, and leave a dry almost worthless residuum, totally unfitted in such a state for the food of plants. By the organization of plants, their food is required to be presented to them in a state of solution, or in a minute state of division, combined with water. Consequently manure is valuable for nourishing vegetables, only so far as it is soluble—or the insoluble capable of being decomposed, and forming compounds that are soluble. By this statement of the food of plants, it will be perceived that manures lying unprotected from air and water during summer must lose much of its

better parts. The principal causes that operate to decrease the quantity, and impair the quality of barn-yard manure, are water, heat and air; consequently, the farmer would increase his wealth much by protecting his manure as much as is in his power from the atmosphere.

I have seen it stated in some one of the agricultural works, I think the Complete Farmer, that the value in nutritious principles of the solid and liquid manures bears about the proportion of six to seven, that the urine of cattle is really worth more than the solid manure—much of which is usually lost to most farmers; for Davy tells us that by putrefaction most of its active nutritive salts are disengaged; but beside this, few barn-yards are so constructed as to contain any of the liquid products of the stables. In France and Flanders, and particularly in the latter, where the soil was formerly very unproductive, the effects of urine and other liquid manures has been truly surprising. In those countries they take particular care to have the floors of their stables so constructed as to carry off all the urine to a vat, or reservoir, adapted for the purpose, and either apply it in its liquid state, or mix with it some absorbent materials, and apply it as other manures. Now I think it would be well worthy the attention of those farmers who have not already adopted some method for preserving the stale of their cattle, to turn their attention to this matter, to examine and to experiment for themselves, by which means if they are sceptical, they may satisfy themselves of the efficiency of this kind of manure.

Yours, &c.,

Radnor, Pa., Feb. 21st.

P.

For the Farmers' Cabinet.

Quince Trees.

Those who love good fruit should aid in its cultivation.

The cultivation of the quince is much neglected, though it may be justly ranked among our most valuable fruits. For preserves it has long maintained a distinguished rank, and the fruit either in a green or dried state, is not surpassed by any other article for communicating a pleasant and agreeable flavour to pies made of apples. It is easily propagated by layers, and also by cuttings, and any approved kinds may be perpetuated by grafting in the usual manner.

It produces the finest, fairest fruit when planted in a soft, moist soil, in a rather shady or sheltered situation. It keeps well if properly managed, and always sells for a very high price; the markets never being overstocked with them, as is the case with many other fruits in plentiful seasons.

The quince derives its name of Cydonia,

from the town of Cydon, in Isle of Crete, whence it was originally brought. There are four kinds of the quince; the pear quince, from the resemblance of its shape; the apple quince; the Portugal quince, which is less harsh and more juicy than the two preceding kinds; and the eatable quince, which is less astringent and milder than either of the other kinds enumerated. The trees being small, they can be planted ten or twelve feet apart along fences, or in places where they won't interfere with other trees, or the business of agriculture.

It is hoped that the present season will not be permitted to pass over without the cultivation of this valuable fruit being considerably extended among our farmers and gardeners. Put some cuttings in a suitable soil and situation, and see how they will grow and flourish; this would be an interesting amusement for the boys and girls who love good pies, and would occupy but a few minutes for their time.

PHILIP.

For the Farmers' Cabinet.

Feed the Hungry.

Free trade enriches all.

The following extract from the Annual Report of the Camden and Amboy Rail Road and Transportation Company, will furnish some information to those engaged in agriculture and horticulture, of the benefits derived from rail roads in carrying produce to distant markets at a cheap and rapid rate.

"Two years since, at the request of some market people, in New Jersey, a line called the Pea Line, with two cars, was occasionally started from Camden, (opposite Philadelphia,) to New York, with no other view or expectation than the accommodation of a very useful and respectable class of men. This line has steadily increased, until it has become profitable beyond all expectation. During the past year, it has been running daily, sometimes taking with it as many as sixteen cars, laden at the appropriate season with peas, peaches, potatoes, asparagus, cabbages, live stock, and upon one occasion, (as incredible as it may seem,) thirty tons of green corn!"

The above line of rail road cars has been the means of carrying from the Philadelphia market to that of New York, weekly, tons of the finest Pennsylvania butter, myriads of eggs, and countless quantities of veal, lamb, mutton, small pork, and poultry, to feed the gourmands of Gotham, and make their hearts glad. This process tends to equalize prices in the two markets, and to benefit both, for though the tendency of it is to raise prices in Philadelphia, yet her citizens are sufficiently well fed, and the increased demand produces an

increased supply, for our thrifty agriculturists are unwilling to permit the demand to outstrip their industry and ingenuity in keeping the supply equal to it. We wish success to the Pea Line in all future time, and trust that the sons and daughters of Gotham will welcome its daily arrival as heretofore.

PETER.

For the Farmers' Cabinet.

Sugar Beets and Preserving the Seed.

FRIEND LIBBY:—I am sorry to find that "J. K." in his pamphlet, on the cultivation of the beet, has let slip the opportunity of urging upon his readers, the extreme care which should be exercised in preparing and planting out the roots designed for the production of seed. In describing the other stages of the cultivation, he has been unnecessarily minute, but in this operation—by far the most important—his remissness has been remarkable, not to say culpable. In his instructions for harvesting the crop, he says, "The person who pulls the roots should cut off the *tops* with a knife," without being particularly careful to say, "Those, intended for planting for seed, should have the *leaves only* removed, for if the top is cut off, the root is totally incapacitated from producing seed, as it is the leading shoot, which is destined to perform that office." And I could point out those, who committed the error which he recommends, the last year, and could obtain no seed from the finest selected roots.

But this is not all—he omits the necessary caution, to plant the roots intended for seed, in some isolated, distant, and open spot on the farm, as far removed as possible from the contagion which is sure to follow, if they are planted in the neighbourhood of the garden beet, or that vile trash the Mangel Wurtzel, or even the other varieties of the sugar beet, which might be in blossom at the same time; and if "J. K." has been accustomed to raise seed without regard to this caution, it is no wonder that he finds "The seed of the white plant producing yellow and red roots." Nor would the plan which he proposes to adopt, for checking this propensity—namely, to change the seed from sand to clay, be of any avail, without this caution; and that he has admitted, by notifying the person who has sown beets *with success*, on the same spot, fifteen years in succession; for if this man, had by this means mingled his crop, he could not be said to have cultivated it for that time *with success*. And I have strong reason to doubt, that this success was owing to the change in the nature of the manure, for if it were according to his own showing, the change of *manure*, is as efficient as the change of *seed*. But all this goes to show,

that "J. K." has obtained his information from books and hearsay, and by these means, has been enabled to draw up a pamphlet, unnecessarily minute in many particulars, for the use of practical agriculturists, while, in the two grand essentials above pointed out, he is totally silent.

He observes "when the object is to make sugar, care should be taken to have seed that will produce white root," but he ought to have added, "And the white or true Silesian is found to contain the saccharine matter, in proportion as ten or twelve to two, in favor of that particular species." Now as the value of the root in stock-feeding is in exact proportion to the quantity of saccharine matter which it contains—and of this "J. K." ought to be aware—that particular variety, for every purpose, should alone be cultivated.

THY SUBSCRIBER.

20th 2nd mo. 1840.

For the Farmers' Cabinet.

Causes of Degeneracy in Plants and Animals.

"And God said, let the earth bring forth the living creatures after his kind, cattle and creeping thing, and beast of the earth after his kind; and it was so."

The instinct of all animals prompts them to select the sweetest, the most nutritious and the best pasturage, leaving that which is coarse and sour, and particularly avoiding every thing which comes under the denomination of weeds. A constant repetition of this procedure prevents the best description of grasses from spreading and extending themselves by means of their seeds which are prevented from ripening, while the weeds and inferior kinds of plants not offering a sufficient temptation to prompt their destruction, grow, flourish and ripen their seeds, which are annually dispersed, and give rise to new generations of their progeny. This is the cause of the running out of the finer and better kinds of herbage, and of their places being so copiously supplied by pernicious and worthless intruders. Many people entertain a very erroneous opinion on this subject, and suppose that *naturally*, there is a constant tendency to deterioration, from good to bad; and from bad to that which is worse; when the fact is, that the good is carefully selected and consumed, and the bad suffered to remain unmolested to propagate their kind. One of the best remedies for this state of things is to sow grass seed thick and of various kinds on the same field, so as not to leave any unnecessary room for unwelcome guests; keep your table full of bidden guests, and fewer intruders will thrust themselves in amongst them. If the weeds were cut off or extirpated as they grow up and not permitted to seed, and the valuable grass protected so that it could propagate its kind, it would be found to maintain the

ascendancy so long as it could procure nutriment to sustain it.

Many farmers are constantly pursuing the same system with their stock, which their stock is pursuing with their grass; selecting out the best for consumption or sale, and propagating from the more inferior or worthless specimens that remain; and the result is the same; a constant down hill progress, from bad to that which is worse; and hence they very unsagely conclude that there is in the *natural* progress of the animal and vegetable kingdoms a constant and invariable tendency to degeneracy. "Look nature through" and you will see that, like begets like, and if the desire is to improve stock, always propagate from the best and most perfect specimens; those that arrive at early maturity, or take on fat most rapidly, or acquire the greatest value in the shortest time, being generally to be preferred. There is no complaint more common than the degeneracy of sheep and swine, particularly among farmers who reside within the range of a good market; the reason is obvious; the temptation to present gain is too powerful to be resisted, and away go the most thrifty and healthy pigs and lambs to market, leaving the scrubs and weaklings at home to propagate their kind, and this agreeably to an invariable law of nature they seldom fail to do. It is in vain that farmers incur expense and trouble to procure fine stock unless they are careful to keep it up, by uniformly propagating from the best and most perfect specimens. How often do we hear complaints of the natural tendency of stock to degenerate, when the fault lies, not with mother nature, but with the very individual who makes the complaint. There are few neighbourhoods within fifty miles of Philadelphia, but what, within the last thirty years, there has been at several different times as complete and perfect breeds of sheep and hogs as could be found in any part of the world; and yet they are constantly running out and degenerating, not through nature's fault but our own; in killing off those that will sell for the best price. The same causes always produce the same effects, and so long as the cause of this pretended deterioration is permitted to exist, just so long will the effect continue to be produced.

During the long and sanguinary wars on the continent of Europe, the men under a given standard of longitude were excluded from the army; but the prodigious consumption of men under the system pursued by Napoleon for universal conquest, obliged him to shorten from time to time the standard height of his soldiers; so that those left at home to till the earth, and keep up the stock were of diminutive stature. The consequence of this system has been that a new race has

been produced of less than the medium height, and an American in travelling through France is at once struck with the shortness of stature of the inhabitants, when compared with his own countrymen, who have not had the taller ones culled out for human slaughter and the dwarfs left to propagate a new race of Lilliputians. The laws of nature are unchangeable, and the same set of principles in regard to propagation have relation to human beings and the brute creation; from bad comes bad, from good, good; according as thou sowest, so shalt thou reap.

JACOB.

For the Farmers' Cabinet.

Manure, and the ill effects of Dirty Stables.

Pure air conduces to health.

The following judicious remarks on the preservation of the urine of animals have been extracted from Hayward's Agriculture, and may be acceptable and useful to the readers of the Cabinet.

"The superior effect of putting the manure on the land as it is produced, as stated by Sir H. Davy to be the case with Mr. Coke, may be accounted for, as arising from the urine absorbed by the litter, which, if left in the usual way, spread in an open yard, would have been wasted and lost."

To show the fertilizing effects of urine, Sir John Sinclair says, "every sort of urine contains the essential elements of vegetables in a state of solution. The urine of a horse, being so much lighter, would be more valuable than its dung, if both must be conveyed to any distance. The urine of six cows, or horses, will enrich a quantity of earth, sufficient to top-dress one acre of grass land; and as it would require four pounds worth of dung to perform the same operation; the urine of a cow, or horse, is worth about twelve shillings, (\$3,00,) per annum, allowing eight shillings per acre as the expense of preparing the compost. The advantages of irrigating grass lands with cow urine almost exceeds belief. Mr. Harley, of Glasgow, (who keeps a large dairy in that town,) by using cow urine, cuts some small fields of grass six times; and the average of each cutting is fifteen inches in length."

In a note to the above, the author observes, that "whilst recommending the careful and effectual draining of stables, for the preservation of the urine, as the most valuable part of animal manure, I will also state a circumstance which cannot be thought unworthy of notice to agriculturists, which occurred to me, to show how necessary this is also to the health of animals.

"I took possession of some stables, with the horses that had been some time kept in them,

and, to my misfortune, in a very short time I found that the horses kept in those stables had been subject to the dreadful disease called the mad staggers for several years. Some horses had died, and the horses then there, and which had been for some time kept in the stables, were in wretched condition. Two fine fresh horses which were put into them, were within a few months seized with the mad staggers, and one of them literally killed himself by knocking his head about against the manger and stall; the other was saved by copious bleeding, and removed into a fresh stable, but was so reduced as to be lessened in value one-half. My neighbours advised the pulling down the stables, considering the disease infectious; but having, on going into the stables early in the morning, been almost suffocated and blinded by obnoxious gas, I examined the floor and drains, when I found the former to consist of large burr stones, laid on a stiff clay; and the floor sunk so low below the drain, as not to admit of the draining away of the urine. This struck me to be a sufficient cause to effect the brain of any animal confined in it, the same as it had the horses. I therefore had the floor taken up, relaid, and properly drained; and the walls and ceiling, manger, cribs, &c., washed with quick lime; and from that time for ten years, I never had a diseased horse."

The mad staggers is undoubtedly a violent inflammation of the brain of the horse, produced in all probability by inhaling noxious, acrid gases, such as are the product of foul stables; for we never see cases of this disease among horses who breathe a pure, uncontaminated atmosphere. Horses which are kept in confined stables in cities, where the manure and urine are deposited in cellars underneath them, are most subject to this disease. The remedy, or rather the mode of preventing the disease is so obvious, that every person who has charge of so valuable an animal as the horse, should be apprised of the importance of keeping a clean stable, so as to insure a pure atmosphere, that the lungs or brain may not suffer injury by inhaling ammoniaical gas, or spirit of hartshorn, which tend to produce irritation and inflammation of the fine, tender membranes, which line the nasal processes and the lungs of all animals.

The disease called hollow horn in cattle, is inflammation of the interior of the head and horns, which communicate with the nasal processes, and very probably proceeds from the same cause which produces mad staggers and glanders in horses; to wit, foul acrid gases, inhaled in sufficient quantities, and for a time sufficient to irritate the very delicate membranous structure of the interior of the

head, so as to excite inflammation, and finally suppurate, mortification and death. This is rendered the more probable as horses and cows when stabled are generally enveloped in one common atmosphere, and the disease does not often show itself till the season is considerably advanced, when the foul malaria has had a long time to operate on the tender parts to which it is constantly applied while breathing. Milk cows are generally more closely confined than bulls or young cattle, and it is believed they are much the most frequent subjects of the disease. It is hoped this subject will claim the careful examination of all intelligent farmers, and it is desired that their observations may be recorded and published, whether they go to sustain the above theory or to destroy it. Of one thing we are all certain, that to breathe pure, uncontaminated air is more conducive to health, than to inhale that which is foul and irritating to the lungs. An occasional smell of a hartshorn bottle may not be disagreeable or unwholesome, if it is not too concentrated; but to be enveloped in an atmosphere of it for half our time, during the winter season, which is the case with a very large proportion of our horses and cattle, cannot be expected to promote the healthy action of the system, but on the contrary to produce disease and premature death.

A lazy, careless, thoughtless lout
Neglects to clean the stables out.

AGRICOLA.

For the Farmers' Cabinet.

The Way to Plant Trees.

Observe nature's plan and imitate her.

As the season for planting fruit trees is now near at hand, it would be well for all to recollect to dig the holes very wide; yea, much wider than the roots extend for the time being; remembering that during the season they will be expected to go in search of provender for the nourishment of the branches; and if the soil contiguous to the tender fibres of the roots be left firm and hard, they will not be able to travel very rapidly, and of course will glean but little nourishment, and will possibly become starvelings, or die before winter. Also be careful not to plant your trees deeper in the ground than old mother nature would do, if she performed the operation herself: she has been engaged in this kind of work ever since the days of Adam, and no doubt by this time has learned how to do it properly; imitate her example, look at some of her planting, and observe how deep she puts the roots in the ground. She don't go to work as if she was making post and rail fence, I can assure you, for I have watched her operations often. She knows

the ground is hard and cold, and often wet down below there a foot or two, and she keeps among the vegetable mould, nearer the surface, where sunshine, and the warm rains of summer help to prepare food adapted to the tender absorbing roots. Many a prime fruit tree has been lost by two deep planting; the roots die by degrees and communicate gangrene to the tree, which never enjoys perfect health and vigour, but gradually declines and dies prematurely, never producing perfectly developed fruit.

POEMS.

For the Farmers' Cabinet.
Wheat.

MR. EDITOR,—“Wheat, in this country, ought never to be sown on a fallow.”* The period to which the sowing of wheat on clover lay might be prolonged, without injury to the crop, is, in many situations, of great advantage; as is also the circumstance, that it might be commenced on such much earlier than on the fallows, without danger of suffering from the root rot, so much complained of, when sown on fallow before rain. This consideration is of double importance, for although it is exceedingly desirable that wheat should be sown early, that it might be strong before winter, yet, if such early sowing is impracticable, the late sown wheat on lay never suffers so much as it is apt to do on fallow, under the same circumstances; nor is it so liable to be affected by rust or mildew, which is almost sure to attack the late sown crops on fallows, unless the situation be extremely favourable.

Tull says, “a wheat plant that is not planted early, sends out no root above the grain before the spring, and is therefore nourished all winter by a single thread proceeding from the grain up to the surface of the ground; and that is the reason why the late sown crops suffer so much from the wire-worm and the slug; for when this thread is bitten off, the plant, having no other support, dies away; besides this, if the land is good and clean, about one-half the seed might be saved by early sowing.” This single observation is worth the rent of a large farm.

B. C.

Edgemont, Delaware county, }
February 24th, 1840. }

A contented mind is a continual feast.
Be timely wise, rather than wise in time.
Business is the salt of life.
Be always at leisure to do good.
Bear your misfortunes with fortitude.

* The late lamented Mr. GEO. WALKER, of Holmesburg.

For the Farmers' Cabinet.

Origin of the name “Potato Oat.”

A farmer's servant observed a remarkably fine stalk of oats growing in a crop of wheat which he was reaping in the year 1789. They were preserved, and sown the next year, when they produced three quarts of seed: the name was given them from an erroneous opinion that they were first found growing in a potato field. This was fifty years ago, but they still maintain their superiority, and are valued above all others; yet it is a fact, that the meal produced from them is not so large in quantity or so good in quality as that produced either from the Scotch or Welsh oats, even when grown in those countries, as any of your practical friends belonging to these countries can testify—pray let them speak to this fact through the pages of the Cabinet.

S. D.

Doylestown, February 24th, 1840.

For the Farmers' Cabinet.
Birds.

The great and the good protect, and the wicked and the vile destroy.

The season for the singing of birds having arrived, let us all unite in their preservation and protection. Let every parent discourse his children on the advantages derived from the feathered songsters in the economy of nature. Tell them of the millions of insects destroyed by a single pair of little birds, during the season of rearing their infant family; and the millions of millions of pernicious insects which would be the progeny of those thus destroyed if they were suffered to survive for a single year. Inform them of the quantities of grain and grass, and fruit which perish annually by the depredations of the insect tribe, and that the birds are the only antagonists which we can avail ourselves of for protection from such insidious invaders of our rights. Remove the smaller birds which keep the insect tribes in check, and the earth would soon become one great desert, uninhabitable by either man or beast, for the food designed by Providence for sustenance, would be wholly swallowed up or destroyed by the myriads of insects which would speedily cover its surface. Beasts of prey and other invaders of larger growth, skill and science can subdue or annihilate, but insects set all the boasted knowledge of mankind at defiance, and we have no protection from them but that which is furnished by our little friends the birds.

Now where is the boy, who knowing that his very existence depends on the industry and vigilance of birds, will be wicked enough to kill, and destroy, and persecute, and break down the habitations of his friends and protectors. Is there one to be found in this

Christian country, who would do this, it proper care was taken to instruct, and enlighten him on this very interesting and important subject? No, not one. Therefore, let parents and teachers be alive to this subject, give the rising generation suitable instruction, enlighten them, convince them of the wickedness, the inhumanity, the impolicy of destroying their best friends, and the great mischief will soon be stayed, and the birds will once more sing in peace and safety.

REBECCA.

For the Farmers' Cabinet.

A Letter from Peter Jones about Boys.

MR. CABINET:—A neighbour farmer who reads the Cabinet with a great deal of pleasure, and speaks highly of its merits, hopes your correspondents will continue to favour the public with a continuation of their favours. He says he is growing old and stiff, and is not able practically to carry out the many valuable suggestions contained in your monthly sheet. He has several boys, as he terms them, though they are all grown to man's estate; yet he insists on calling them boys, and he says, he is apprehensive they will continue to be boys all their days, yet, he hopes they will be benefited by your paper. The fact is, Mr. Cabinet, these boys were not reared right, although they are pretty steady, moral young fellows, but they were permitted when young to fall into desultory, idle habits, working or letting it alone, as best suited their inclinations; the consequence is that having now become men in age and size, they are boys still, and boys likely to be, unless your Cabinet eloquence should arouse them out of their present state of apathy. They know well enough what is right, but they hate to do it; they will sometimes work pretty well for a short time, and then relapse suddenly into their old, idle, lazy habits, and let things take care of themselves. Now this is what I suppose, doctors call a constitutional or chronic complaint that takes time to cure. These are the sort of chaps that are constantly trying to get something for nothing; to achieve great ends with little means; or as a friend of mine observed, to bore an auger hole with a gimblet; which you know is not an easy matter, and requires a full grown man of very considerable abilities to accomplish it, with any kind of decency, so that it is hardly worth while for a common lazy scrub of a fellow to undertake so difficult an operation. Besides there has so many embarked in this mode of getting along through life of late, that the competition is so great, as to produce great discouragement in the operators of latter time.

Agricultural produce has of late in consequence of a concurrence of circumstances,

united with too much legislation, and that of a vicious quality; become much reduced in price, so that it behoves farmers to look sharply about them, and see if they cannot make some improvements in their domestic arrangements, that will counterpoise the low price of the products of their farms. One of the first movements in this reformation, perhaps, ought to be that of more economy, particularly in that valuable commodity called time, "for time is money," as poor Richard said, about one hundred years ago; it having stood the test of a century and it is true still, showing in a remarkable manner the truth of the saying, that "truth is truth to the end of the world."

If people were taxed by the state to the amount of but one-tenth part of the time that is idled away or mis-spent, it would be deemed such an act of tyranny and oppression, that it would soon produce a revolution in the commonwealth; but voluntary taxes are cheerfully paid, whilst those that are imposed on us without our consent are grudgingly discharged.

Those who employ labourers to do work which ought to be performed by their own children, not only give away their money, but are doing a permanent injury to their own offspring; for every boy that is intended to be educated for a farmer, should be put through a regular course of *practical* instruction in every branch of business belonging to agricultural life adapted to his age and strength. There should be no selection of tit-bits for a favourite boy, if his best and permanent interests are truly regarded. There should be no entrance through the cabin windows, as sailors say; if a boy is intended for a seaman, a farmer, or for any other occupation, begin with him at the beginning, and put him through every part of the process thoroughly; if you spare, you spoil him. Many fine children are ruined for life, by the indulgence of foolish fathers or silly mothers, in the endeavour to protect them from what they consider the hardships incident to a life of industry, and yet they are willing to ascribe the result to any other cause than the true one.

Instruct a boy thoroughly and practically in any useful branch of business, implant in his mind a strong sense of religious obligation, instil into him the indispensable importance of industry and economy, and of the necessity of preserving himself free from every moral taint, and you may turn him out into the world without a cent in his pocket or a second shirt to his back, and he will succeed; he will establish a character and a name for himself; he will become a man of business in the true sense of the term; he will raise to eminence in his calling whatever it may be;

whilst those who appeared to have the start of him in the onset of life, being educated in indulgence and ease, with a prospect of ample means and influential friends to set them afloat, will lag behind and finally be lost sight of in the distance.

It is the poor boys of the present generation who are to be the men of business, the rich men of the next; and the rich boys of the present stock, if they don't mind their P's and Q's will be their servants and hirelings, so argues a thinking old man of my neighbourhood.

PETER JONES.

Bucks Co., March 1st, 1840.

For the Farmers' Cabinet.

A correspondent of the Farmers' Cabinet, under the signature of "Agricola," vol. iii., No. 7, requests "any of the readers of the Farmers' Cabinet to suggest a routine of crops compatible with the plan of putting the manure on the Indian corn ground in the spring, so as to make a consistent profitable rotation in the whole."

The application of manure in the spring, and "a consistent profitable rotation" has occupied much of my attention. That the application of manure to the corn crop will, as *Agricola* suggests, double the produce, is I think unquestionable, unless the ground be in high condition. The best evidence I can offer is the fact—that such was the case with my crop the past season—the field was not in good order—and something less than one third was manured; that portion yielded one hundred and fifty bushels, whilst the residue, more than double the extent, gave but one hundred and seventy-five bushels.

I am therefore decidedly in favour of manuring the corn ground in the spring. The manure should not be harrowed in, but ploughed under a sufficient depth, to prevent it from being washed off by heavy rains.

But a serious obstacle presents itself under this system, to a proper and profitable rotation, unless manure or lime can be had on reasonable terms. As that is not the case at my farm, and as we are obliged to depend on our own resources, I intend trying an arrangement somewhat different—as the routine I propose, would, in all probability, require a second coat of manure, if the first were applied to the corn ground.

As the great object with *Agricola* appears to be the application of manure in the spring, I offer the following plan, which I think will, on the whole, prove as profitable a course, as if the corn crop were doubled by the application of manure the first year of the routine, and a second coat become necessary.

The first year I shall trust my corn to the

influence of a good sod turned down in November, and to good cultivation, during the proper season.

The next, or second year of the routine, I purpose applying all my manure in the spring for a root and green crop, viz. potatoes, sugar beets, Swedish turneps, pumpkins, &c., as circumstances may justify. To be followed the—

Third year—By oats laid down with clover; and *Agricola* may rest assured, that a good coat of stable manure from which a crop has been taken will do oats no harm, but insure an abundant harvest, and a fine growth of young clover. At the end of eighteen months the second crop of clover to be turned under, preparatory to sowing wheat for the—

Fifth year of the rotation—grass seeds to be sowed among the wheat; or what I think decidedly preferable, early in August to plough down the wheat stubble and weeds, and then to sow timothy, orchard grass seeds, &c., &c., as a separate crop, and if desired, clover the spring following. This will occasion some additional expense and delay—but the certainty of having the land well set with grass is so much greater, than if sowed late in autumn, or the following spring, with the seeds of the two first mentioned grasses, liable on the one hand to be injured by frosts, and on the other by the droughts and heat of summer, that I greatly prefer sowing such seeds as a separate crop, than incur the risks mentioned; besides winter grain is usually followed by an abundant crop of weeds, which exhaust the soil, and scatter their seeds, if suffered to stand, and the stubble is nearly all lost if suffered to rot on the surface; but by ploughing both under, as a preparation for grasses, they serve as manure, and I think fully compensate for the labour; the land may also be laid smooth, whereas I strongly incline to the opinion, that in addition to the furrows for carrying off the water, the ground for winter grain should be left rough, (and consequently less fitted for the scythe,) as by the action of frost and rain, the clods gradually slack down, and assist in covering the roots, which have previously been thrown out by the vicissitudes of the weather.

Some degree of latitude must nevertheless be allowed, as soils differ, and what may suit one farm or farmer may not suit another; each must be left to select the time for sowing grasses which best suits his case; when this has been done, let the land be appropriated to hay or pasturage, until according to the rotation I have laid down, it shall be again broken up for corn.

It will be observed that by this rotation the land will each year, the third excepted, receive some addition to its store of vegetable matter—and that but one grain crop will be

taken from the same ground in any two succeeding years previous to laying it down with the grass, after the wheat crop.

I have not yet tried the system, but send it that Agricola and others may give it due consideration, and with the hope that they will also give us in return, the benefit of their reasoning on the project.

I may view this offspring of my fancy with undue partiality, but I cannot help thinking favourably of its prospects, if it should receive fair treatment at the hands of those most interested in its welfare.

EXPLORATOR.

December 10, 1839.

For the Farmers' Cabinet.

Yield of Indian Corn.

What thou doest, do well, do thoroughly, and thou shalt have thy reward.

Our Indian corn crop is unquestionably the most important one produced in our country, and it requires no laboured disquisition to convince a farmer of the pre-eminent rank which it holds amongst the productions of the soil. It furnishes an abundance of nutriment, both for man and beast, but it requires a proportionate quantity of food, and much vigilant care, timely bestowed upon it, to render it reasonably productive. It bears starvation and neglect with an ill grace, and it is sure to reward the farmer according to his works, whether they be good or otherwise. It is not considered as an exhausting crop in proportion to the quantity of manure which it returns to the soil, provided it is fed on the farm. Although some farmers raise from twenty to fifty bushels to the acre, yet I suppose the average crop of the country, east of the mountains, don't exceed the former quantity. This is a very small produce compared with what we know the soil is capable of producing under favourable circumstances; and such circumstances, with the aid of a season adapted to a fair yield, it does not appear very difficult to command; at least on a scale of moderate extent compared with the resources of respectable farmers. A question very naturally arises whether it would not be better to undertake to produce a given quantity of corn on a small quantity of land, rather than to produce the same number of bushels on four or five times the extent of surface, and by that means save four-fifths of the labour and enjoy the pleasure of doing something pretty near right in the bargain. As the season for planting will soon be round, I have been thinking and calculating how to raise as much on an acre as is generally raised on five; that is to plant one-fifth the quantity, and "work it right," have the same quantity of corn, save the work, and have the satisfaction of doing right once in a

lifetime to boot. Well, every body knows how to make ground rich, and how to plant and dress corn in the best fashion, though few are found who do it. I have made out a table showing the result of planting in rows of different widths, and giving the number of stalks on an acre under the different circumstances of planting; and I suppose each stalk to produce on an average half a pint of shelled corn, which appears not to be an unreasonable yield for good land well tilled. It is supposed to be planted in rows at equal distances, the rows to run north and south as near as may be, in order to give the sun the greatest possible advantage of extending its rays between, and on all sides of it, in the greatest possible degree, so that none of it may be shaded unnecessarily. Those who object to this arrangement may bring the same number of stalks into hills, and dress in both directions as is most common.

Rows apart. Feet.	Stalks in Rows.	Stalks per acre.	Bushels per acre.
6 by 1 foot		7260 at $\frac{1}{2}$ pint each is	56
6 by 9 inches		9600 do	75
5 by 1 foot		8710 do	68
5 by 10 inches		10452 do	82
5 by 9 inches		11616 do	90
4½ by 1 foot		9650 do	75
4½ by 9 inches		12906 do	100
4 by 1 foot		10890 do	85
4 by 9 inches		14520 do	113
3½ by 1 foot		12444 do	97
3½ by 9 inches		16592 do	130
3 by 9 inches		19360 do	152

The above is the theoretical result from the data assumed for the calculation. Some will no doubt prefer one scale of distances for the rows and stalks, and others another; they are given as above with the estimated product supposed to result, in order to furnish a choice; it being presumed that none would consider it proper to go beyond the extremes of the table, and probably the mean of four and a half feet by nine inches might be considered, where the ground is made *rich*, to be about as close planting as would be safe, unless the corn is of a kind that has not a large growth. Now if one hundred bushels per acre should be the yield, would it not be much more advantageous to cultivate, say three acres, to produce three hundred bushels, than to plant twelve or fifteen acres in order to obtain the same quantity? I think no reasonable man could reply in the negative. But should it be thought too unreasonable to raise one hundred bushels of corn to the acre, though that has often been exceeded, try fifty or sixty, you can certainly go that amount without any great trouble or expense, and whatever that may be, you will certainly be richly remunerated, and obtain some reputation for pretty good farming in the bargain.

Quere, would not the difference of expense between ploughing the ground and cultivat-

ing three acres, and fifteen acres of corn, be sufficient to purchase manure enough to manure the lesser quantity of ground thoroughly!

AGRICOLA.

Philadelphia Co. March, 4th 1840.

For the Farmers' Cabinet.

Root Culture, Fall Planting, &c.

MR. EDITOR,—It is, I believe, not generally known, or considered that the seed of many of our most useful root crops will admit of fall planting; and yet there are few farmers or gardeners who have not had the fact fully demonstrated by the accidental falling of the seeds when they had ripened, and their vegetation in the spring without the least protection from the severity of the winter.

At the instance of a very observing and enterprising gentleman of Philadelphia, who has done much for the introduction of a more general root culture into this country, I made the experiment last year upon a small quantity of sugar beet, parsneps, and onion seed. But as the ground had become frozen before the suggestion was made, I had to embrace the opportunity afforded by a partial thaw in December, to deposit the seed without any previous preparation of the ground; and to supply the deficiency of warmth in the ground from the absence of the freshly applied manure, I gave the beds a slight covering of horse-stable litter, which was raked off in the spring, leaving the finer particles to be dug in as soon as the plants were large enough to admit of it. The result was, that I had a good crop of each, under these unfavourable circumstances.

Now as the cultivation of the sugar beet for stock is becoming an object of great and growing interest with farmers, wherever the experiment has been fairly tried, and, as in many instances much depends upon early planting, that the crop may be as far advanced as possible before the excessive heat of summer and frequent fall droughts, and as nothing that can be advantageously done in the fall should be left for the hurry and bustle of spring—fall planting may, in many situations, be profitably adopted.

If the ground be properly prepared by depositing the necessary quantity of manure in furrows immediately beneath the seed, as has been recommended in spring planting, the fermentation of the manure in the spring, which will have been retarded by the frost of winter, would so warm the ground as to produce vegetation before the earth would be in a suitable condition for planting under ordinary circumstances.

Other advantages would arise from the fertilizing effects of the frost upon the newly made ridges, and the destruction of numerous

mischievous insects by this unnatural exposure to the rigors of winter.

The crop being already in the ground would not conflict with the ordinary spring work, which is frequently, though erroneously urged by the advocates of the *stand still system* of farming, as an objection to the cultivation of roots. I say erroneously, for the culture of roots for stock need not be in addition to the usual amount of labour done on a farm, but as a substitute for a part of that labour. For instance, the farmer who plants his ten or twenty acres of corn, should plant one, two, or three of these acres with beets, or such other roots as his experience shall teach him is best adapted to his soil and situation. If he plant in the spring, he has but to plough his root ground in the fall, if the sward be tough; if not, as a clover clay, spring ploughing will answer. If fall planting be adopted, the same preparation will be necessary. In either case the ploughing should be as deep as the soil will admit of, and the earth be perfectly pulverized before planting.

The beet succeeds well on any medium soil; though fresh liming had in some instances been found prejudicial to its growth. The cultivation of roots for stock on suitable ground, needs but a trial to recommend itself to the favourable attention of every farmer; for amongst the great amount of authentic testimony on the subject, not one item other than the most favourable has been adduced. It not only enables the farmer to support more stock upon the same ground, or sell a larger amount of surplus grain, but it contributes largely to the health, comfort and growth of his stock, and the consequent increase of his profits. The sugar beet is eaten with avidity by all of our domestic animals, but to the milch cow, the sheep, young cattle and hogs, they are particularly advantageous.

The fact that most animals grow and fatten readily upon grass, but will remain stationary or fall away upon hay, (the same article divested of its juice,) is conclusive evidence that some succulent is wanting; that the animal secretions are diminished from the want of green food; and as our climate will not furnish us with a natural supply during the winter, we must supply the deficiency by artificial means.

A. R. M.

Chester Co., Pa. Feb. 20, 1840.

To the Editor of the Farmers' Cabinet.

Improve Your Breed.

SIR.—There is a remark in a note at p. 140, of the 4th vol. of the Cabinet, stating, "If Bakewell had commenced improving his breed of sheep with the best dam, he would have accomplished his purpose in one-half the time," which has brought to my remem-

brance a fact which has passed immediately under my notice, and which I pray you to permit me to narrate.

A few years ago, I had the charge of a number of draught horses, which were used sometimes on farms, and at others on a railroad, for hauling coal and lime for agricultural purposes. These horses I purchased from the adjoining counties: but there was one amongst them, a black mare, which deserves particular mention; she was four years old, the progeny of a cross (accidental, of course,) between a very coarse and ill-formed cart-horse, and a fine blood mare of the highest pedigree. Her head was coarse and heavy, like the sire—her beautiful neck and shoulder were the dam's. The body, including the hips, which were high and bony, the sire's; while the rump, and especially the setting on of the tail, with the thighs and fore and hind legs, to the knees and hocks, peculiarly the dam's. The legs, below the knees and hocks, with hairy fetlocks and large flat hoofs, the sire's; while her coat was black as jet, and slick as a mole. So, you see, she might be compared to John Sniggs' horse, which every body said was *packed up in two parcels*.

But the disposition of this creature was entirely that of the dam; and her spirit and lightness of temper, were superior to anything I ever witnessed—and, as the driver used to say, "she was as handy as a Christian;" always first into the stable, and first out of it; and as furrow-horse of a pair-horse plough, she was unequalled. She would never overstep the trace, at turning; for she was always up with her work, and could judge of the proper distance for turning in, better than many ploughmen that I have had—would stop at the word given, in an instant, and was the first to move at the sound, *Spec*, (her name was *Spectre*,) without ever having felt a whip in her life. She was hardy, and a good feeder; but could never be made to carry much flesh. This, however, was not in consequence of irritability of disposition; for she was never in a hurry: and when at work on the railroad, where three horses had sometimes to move as many as fifteen wagons of lime, she would lay so steadily down to her work, as never to endanger the harness. A child might manage her; and in a light cart, she was remarkably tractable, with great speed and bottom.

Now, I have not the least doubt, that horses of superlative strength, beauty, speed, and disposition, might be bred, by crossing thorough-bred mares with the handsomest cart stallions—of suitable size, of course. The idea might be new, and might appear to some, a sacrifice which ought not to be indulged in; but if carriage horses, worth one

thousand or fifteen hundred dollars each, could be bred by these means, I should like to be one of the first engaged in such a sacrifice. The great advantage would be, that the foal would acquire a lightness of step and disposition, by running with the high-bred dam, while on the contrary, foals, the progeny of the blood horse and the cart or heavy mare, are naturally apt to take up the heavy step and clumsy habits of the dam, of which it is oftentimes impossible to break them. So that, if I were in the way of making the experiment, I should not despair of breeding horses that would prove the truth of the remark, that "If Bakewell had commenced his improvement with dam the best, instead of sire the best, he would have accomplished the end aimed at, in one-half the time."

G. B.

Doylestown, Feb. 23, 1840.

For the Farmers' Cabinet.

OBSERVER, NO. XXI.

Farmers' Mutual Insurance.

It is a gratifying fact a deep interest is beginning to be felt among the farming community in relation to the plan of *Mutual Insurance* against loss by fire, which was recommended in my 15th number. (See *Farmers' Cabinet*, vol. iii., p. 44.)

Since that article was written several local societies have been formed, and are now in successful operation. A number of others are being formed on the same plan. And if I may be allowed to judge from the numerous inquiries which reach me from various quarters, there are many more in contemplation. In order to afford a summary answer to these inquiries, and to extend a knowledge of the plan as wide as possible, I have determined to furnish for the ensuing Cabinet a *Form* of a Preamble and Constitution for such a society, together with some of its most obvious By-Laws, and a few explanatory remarks. If the proposed form does not exactly meet the views of those for whom it was prepared, it may still aid them in the preparation of a better one.

CONSTITUTION

OF THE
FARMER'S MUTUAL INSURANCE SOCIETY
OF
* * * * *

Exposed to the continual liability to loss from fire—a loss always inconvenient, and often irretrievable—we are sensible of the importance, and desirous of securing the advantages of an insurance against such loss. We also believe that the only true foundation of Insurance is Benevolence—and its legitimate object assistance in distress. We,

the subscribers, do therefore associate together under the name and title of "*The Farmers' Mutual Insurance Society of * * **," for the purpose of mutually insuring each other against loss from the destruction of property by fire. And for the accomplishment of the same, we do hereby mutually bind, and severally obligate ourselves each unto the others for the full and faithful performance of our duties as members thereof, agreeably to the following

ARTICLES.

Article 1.—Any person residing and holding property in the township of * * * * may become a member by signing this Constitution—paying twenty-five cents into the treasury—and otherwise complying with its rules and regulations. But any member may be expelled for non-compliance.

Article 2.—The officers of the society shall be a President, Secretary, Treasurer, three Managers, and six Appraisers, who shall severally perform the duties usually appertaining to their offices, and such other services as it may direct.

The President and Secretary shall be *ex officio* President and Secretary of the Board of Managers.

The Managers and Appraisers shall each have power to fill vacancies in their respective Boards.

Article 3.—The members shall enter their property to be insured with a valuation thereof, on the books of the society—and when any property so entered shall be destroyed by fire, such valuation shall be made the basis of a tax to remunerate the loss. *Provided*, That when property is exposed to inordinate risk, the society shall have power to impose an additional tax in proportion to its increased liability.

Article 4.—In all cases of damage from fire, the Appraisers shall determine the amount of loss actually sustained—but the society will in no case pay more than the insured value of the property destroyed.

Article 5.—The insurance shall be considered perpetual, only subject to adjustment when either the managers or owners shall desire it.

Any one may withdraw from the society at the end of the year—not being in arrears.

Article 6.—The society shall meet annually on the second seventh day in the fourth month, at which time the officers shall be elected.

The Managers may call special meetings when necessary.

Article 7.—The society may make any By-Laws, Rules and Regulations for its own government, not inconsistent with this instrument.

Article 8.—This Constitution may be altered or amended with the consent of any annual meeting—*Provided*, such alterations and amendments shall have been minuted and referred thereto by a previous annual meeting.

Done at _____, this _____ day of _____ month, one thousand eight hundred and _____, and signed by _____

The foregoing Constitution is intended briefly to declare the *principles*, and to confer the *powers* of the society. The execution of them must be governed by something like the following

BY-LAWS.

1. The members may enter any or all of their buildings, either with or without the contents. A landlord may enter the buildings—a tenant the property contained in them.

2. All property shall be classed and considered either *ordinary* or *hazardous*, according to its liability to fire.

First.—*Ordinary.*—This class shall include all common farm buildings, such as houses, barns, carriage houses, granaries, &c. *Provided*, That barns unprotected by lightning rods shall be subject to an additional tax of 25 per cent.

Second.—*Hazardous.*—This shall include mills and manufactories, malt stores, breweries, mechanics' shops, stores, &c.—all of which to be subject to extra taxation, according to the following scale.

(This must be fixed by each local society.)

3. In all cases where the rate of taxation is not determined, the Managers shall have power to settle the terms of admission.

4. The managers shall provide suitable books wherein the Secretary shall enter the names of the members, with a specification of their property, designating each building and contents, and the respective values at which they are insured.

When subject to extra taxation, the rate thereof shall also be entered, and the equivalent taxable value carried out.

An entry of the withdrawal or expulsion of a member shall also be made on the book.

The Secretary shall furnish each member with a transcript of his entry if demanded.

5. The liabilities of the members shall commence and determine at twelve o'clock at noon, on the day when their names are entered, withdrawn, or erased.

6. The minutes of the Board of Managers, and a statement of the Treasurer's accounts, shall be submitted to each annual meeting.

7. When any member sustains a loss from fire it shall be his duty to give immediate no-

tice thereof to the President or Secretary, who shall furnish him with an order on the Appraisers, requiring them to view the premises, and after hearing the necessary evidence, to value and determine the amount of loss actually sustained—not exceeding the insured value—and make report within ten days.

Two-thirds of the Appraisers shall be a quorum, provided they all sign the report.

8. On the reception of the Appraiser's report, the Managers shall proceed to levy a *pro rata* tax on the insured value of the members equal to the adjudged damages, and a sufficient *per centum* for collecting the same. They shall also appoint a collector.

The Secretary shall furnish the Treasurer with a duplicate of the tax, and shall give public notice by six or more hand-bills, requesting the members to pay in their respective dividends to the Treasurer within twenty days. The Treasurer shall make a deduction of the *per centage* for collecting in favour of those so paying.

At the expiration of the twenty days, the President shall issue his order to the collector to collect the out standing dividends, and pay them over to the Treasurer within thirty days.

9. The President shall give the sufferer an order on the Treasurer for the amount due to him, payable within sixty days from the occurrence of the fire.

10. If any member shall neglect or refuse to pay his tax—and in due process at law does not settle the same to the satisfaction of the Managers, they may erase his name from their books, and he shall not be re-admitted into the society until he has paid his arrearages with interest, and obtained the consent of two-thirds of the members present at an annual meeting.

The plan of insurance here proposed is at once simple, economical and effectual. Unencumbered by the management of funds or high salaried officers, it nevertheless affords the best possible security for a remuneration of losses from fire, while the insured pay no more money than what is actually lost, and pay it directly to the loser. He contributes nothing to the usurious stockholder in form of exorbitant dividends.

It will be observed that the proposed forms are intended for distinct township organization. I would strongly urge the propriety of this method in preference to more extended associations, even where the number of members in a township may be small. If one such township society should feel too weak to sustain a heavy loss without too much inconvenience, I would advise that two or more companies should form a *union* for their mutual help, so conditioned that they shall each con-

tribute to any loss which may occur, in proportion to the taxable amount on their books. Thus every township will transact all the business within its own limits, and the *union* will possess abundant means to meet whatever losses may occur.

I am happy to find that the plan of distinct township societies, with unions where necessary, has been favourably received by the agricultural community wherever it has been proposed and clearly understood.

New Garden, 2nd mo. 26, 1840.

P.S. Editors of agricultural and other papers, who are friendly to the measures proposed, will please to give this article an insertion.

On the Preparation of Plaster for Rough Casting.

[Read before "The Philadelphia Society for Promoting Agriculture," Feb. 5, 1840, by JAMES MEASE, Vice President.]

As country houses, barns, or the gable-ends, are often rough cast, and it is very common to see the plaster falling off in a year or two after being put on, it seems to me that directions to insure its permanent adhesion, will be acceptable to the society.

1. As to the materials: The lime ought to be recently calcined, or at least in a perfectly caustic state, and the sand sharp and coarse, and entirely devoid of clay or earth of any kind; but if none free from this admixture is to be obtained, it must be washed repeatedly until all the earth is completely removed. Then, to four bushels of the sand, add one of lime: if sharp sand cannot be procured, five bushels must be used.

2. Slake the lime as if intended for white-washing, in a box which may be six feet long, by four feet six inches in width, raised eighteen inches from the ground; and when well mixed, it is to be strained through a sieve, and the wash let off at one end of the box through an aperture, which is to be commanded by a perpendicular slider, directly on the sand, previously made into a circular heap and hollow in the middle; and then faithfully mixed. But no more is to be made in the morning than will be used in the course of the day. That portion of the lime that does not strain is core, and may be used for stone work, or for lining joists to keep out rats and mice, or for the floor of a milk-house. Molasses, in the proportion of a quart to a bushel of lime, thoroughly incorporated with the mass, tends to harden it and promote its adhesion.

3. The first coat must be perfectly dry before the second is laid on; and before the second is commenced, the first must be passed over with a white-wash brush dipped in water. Two coats are enough; and if the stone

work of the building be cracked, the thicker must the first coat be.

It is judicious to make up some mortar with as much sand as the lime will take up, and plaster a yard or two with it, previously to commencing work. If in the course of three days the plastering should crack, add more sand; but if no cracks be perceived, then proceed to use the proportions employed, and these should be noted as a guide in future.

After the second coat has been put on, it must be faithfully hand-floated; this is essential, and is done by wetting the wall with a brush, and then rubbing it with the float. This tool consists of a piece of board a quarter of an inch thick, ten inches long, and five wide, with a handle on the middle of the back.

Plaster should not be connected with wood, unless protected by the eaves of the house, because the wood shrinks and lets in the rain. A fascia should extend under the eaves along the whole length of the wall, and the plastering should only descend to the base, as in the old prison, Walnut street.

Remarks.—The foregoing was kindly written out in 1828, at my desire, by the late Mr. Thackara, plasterer of Philadelphia, and an estimable citizen, on the occasion of a friend from Pittsburg requesting information on the subject for the benefit of a church then in progress in that city. I visited the church in the year 1834, and was pleased to find the plaster perfectly sound—a proof that the directions were faithfully followed, as I was confident they would be from the business habits of the gentlemen who was one of the building committee.

Thirty years since, my attention was called to the rough casting on the walls of the prison, by that most ingenious man, the late John Dorsey, who ascribed its durability, beside the excellence of the plaster, to the circumstance of a stone fascia immediately under the eaves of the building, and to the plastering having been done up to its lower side, which left no vacancy for the intrusion of rain-water; and which, he remarked, always happens when the plastering touches a cornice or fascia of wood, owing to the shrinking of the wood in hot, dry weather. The water trickling down from the roof, soon found its way behind the wood, rots the mortar, destroys its cohesive power, and causes it to tumble. In that admirably constructed prison, as regards workmanship, from the year of its erection in 1774, to that of its demolition in 1837, there was not the smallest appearance of the plastering having given way; whereas, in modern structures, rough-cast, it is rare for a year or two to pass after they are finished, without some of the plastering falling off, causing when repaired, a

permanent and ugly patch. The base of the prison walls was faced with granite slabs, to which the plastering of course firmly adhered.

Hints and Recipes.

LABOUR SAVING SOAP.

The following is a recipe for making the labour-saving soap, (so called,) which is an excellent article for washing, and a saving of labour. The recipes for making have been sold at from \$5 to \$10, and the soap seven cents per pound; but can be manufactured for about two cents. Take two pounds of sal soda, two pounds of yellow bar soap, and ten quarts of water; cut the soap in thin slices, and boil all together two hours, then strain it through a cloth; let it cool, and it is fit for use. Directions for using the soap:—Put the clothes in soak the night before you wash, and to every pail of water in which you boil them, add one pound of soap. They will need no rubbing; merely rinse them out, and they will be perfectly clean and white.

FOR MAKING VERY FINE COLOGNE WATER.

Oil of lavender one drachm; oil of lemon two drachms; oil of cinnamon eight drops; tincture of musk ten drops; oil of bergamot one drachm; oil of rosemary two drachms; oil of cloves eight drops; rectified spirits of wine one pint. Have ready the spirits of wine in a clean bottle. Then get at an apothecary's the above mentioned oils and the tincture of musk, having them put together in a small phial; pour them into the spirits of wine, shake the bottle well and cork it tightly. It will be immediately fit for use, and will be found far superior to any cologne water that can be purchased, and more economical.

TO TAKE A RANCID TASTE FROM BUTTER.

Melt and simmer it; then dip into it a crust of bread well toasted on both sides. Bad butter may be cured by melting it in a considerable quantity of hot water, skimming it off, and working it again in a churn, with the addition of salt and fine sugar.

BEE MOTH.

Mr. James Thatcher, author of the "American Orchardist," &c. &c., in a communication to the New England Farmer, says: "I will embrace this opportunity to communicate for the benefit of the cultivator, what I believe to be an infallible remedy against the bee moth, which has proved so destructive to bees throughout our country of late years. The remedy is simple and easily applied. It consists merely of covering the floor board on which the hive stands, with common earth about an inch thick. A hive set on earth

will nevet be infested with worms, for the bee moth will not deposit her eggs where the earth will come in contact. She naturally resorts to a dry board as her element. The remedy has been employed by a number of persons in this vicinity for several years, with the most complete success."

PRESERVING BEES.

These industrious insects have been successfully preserved from the miller by having tubes projecting some ten or fifteen inches from the hives, instead of holes cut in the sides for their passage way into the hives. The miller will not light on the end of the tube, and is unable to find an entrance.

A correspondent of the Genesee Farmer buries his bees under the ground in winter—digs a trench in light elevated ground, the bottom having a gentle slope to guard against standing water; places the hives on small stones, and then covers them with straw and earth. Of thirty to forty hives thus buried, he lost none. They consumed less honey than when kept in the usual way.

CHINESE MODE OF PROPAGATING TREES.

A small rope of twisted hay or straw filled with cow dung is repeatedly wound round a suitable branch of a tree. Above this a gourd or other vessel is suspended, having a small hole that will keep the hay rope continually moist. Three-fourths of the circumference of a narrow strip of the bark is removed. In about a month half of the remainder of the bark is removed. In another month, or less, the mass of straw rope will be filled with roots. The branch is now very carefully separated and placed in the situation desired.

TO DAIRY WOMEN.

To prevent that rancid nauseous flavour which is too often prevalent in cheeses, even when made of the richest milk, and which, otherwise would be delicious, salt the milk as soon as it is taken from the cows: I mean the evening's milk, which is kept in pans during the night, in order to be mixed with the new morning's milk. The quantity of salt to be used on the occasion, is about a table spoonful to each gallon of milk, and is generally sprinkled on the bottom of the pan, and the milk poured upon the salt, and they soon become incorporated. This early salting has enabled many dairy women, whose cheese was before always hoven and detestably rank, now to produce excellent and well-flavoured cheese, and on farms that had been pronounced totally unfit for the dairy system.

CEMENT.

To make cement for glass and earthen ware, take unslacked lime, the fresher and

finer the better, pulverize it in a mortar, and sift it through a fine sieve or coarse muslin. Mix this thoroughly and rapidly with the white of eggs, so as to form a thick paste, and use it immediately. Broken dishes may be mended with this cement, and if neatly and skilfully done, adhere very strongly. Isinglass dissolved in alcohol is also strongly recommended as a good cement for this purpose.

SODA.

A few ounces of soda will soften a hog's-head of the hardest water. It is greatly superior to either pot or pearl ash, giving a delicate whiteness to the linen, without the slightest injury, and it never, unless excess is used, in the least affects the hands.

Profitable Farming.

The following facts are stated in the last number of Governor Hill's Monthly Visitor:

James Hill, of West Cambridge, has taken, in ninety successive days, five thousand dollars in cash, in Boston market, for articles raised on his farm.

Isaac Locke, of the same town, has raised the present year, thirty barrels of quinces, which sold on the ground for seven dollars a barrel; he has also sold in the present autumn, several barrels of Baldwin apples at three dollars per barrel.

The value of the strawberries raised in West Cambridge, and sold in the Boston market, is more than was taken thirty years ago for all the agricultural products of the town put together.

The apple orchards of this town are extensive. Two hundred, three hundred, five hundred, and sometimes a thousand barrels of carefully picked apples are produced in a single year by one farmer.

George Pierce of the same town, cultivates only seven acres, and yet he has taken in the market for produce, the present season, as by memorandum kept, nearly or quite four thousand dollars.

This season, very early, among his articles for market, was about one-third of an acre of the dandelion, which grows spontaneously in many mowing fields—these he with some difficulty obtains from the seed; but the crops turn out very profitable. He had about an acre of strawberries, from which upwards of two thousand boxes of that fruit were picked last summer; these at 37½ to 50 cents a box, for which they readily sold in the market, produced not a small profit on a single acre.

G. Pierce also cultivated the raspberry, which thrives with great luxuriance. He thinks he could make of the blackberry, which grows in the hedges and amongst piles of decayed wood or rocks in neglected fields, a profitable article.

Theory of Dew.

Notwithstanding the researches of Dr. Wells, and others, upon the subject of dews, there are many who still remain either in total ignorance of the principles of the deposition of the moisture, called dew, or hold to the old theory that it is caused by the *air alone becoming colder*. The ancient Greeks observed the fact, that dew was deposited in clear nights, and not in windy or cloudy ones, and every barefooted boy who goes out early in the morning, knows that it is much more abundant on the grass by the wood side, than it is upon the sand or gravel in the road itself. Dr. Wells, of England, made many experiments upon the subject; and from the facts thus ascertained, explained the cause of the phenomenon, in a treatise which he published some time ago. He ascertained the cause of the deposit of moisture in the form of dew, to be the radiation or throwing of the heat imbibed by the sun, which thus cools the particles of air that come in contact with it, and causes the moisture which was in the warm air, to be condensed. It may be well, for the better understanding of the theory, to state, in the first place, that as all bodies receive heat more or less easily, so they part with it, or *radiate* it more or less easily. Some bodies will part with, or radiate the heat which they have received, as fast again as other bodies. Hence they become cooled before the others. Warm air will hold more moisture than cold air: therefore, the body which radiates heat fastest, becomes cool first, and cools the particles of air which surrounds it, which deposits the moisture or dew upon it first. Grass parts with its caloric, or heat, much faster than sand or gravel—hence it has more dew upon it.

The following experiments may not be uninteresting to some of our readers. After a long period of drought, when the air was very still, and the sky serene, Doctor Wells exposed to the sky, twenty-eight minutes before sunset, previously weighed parcels of wool and swandown, upon a smooth, unpainted and perfectly dry fir table, five feet long, three broad, and three feet in height, which had been placed an hour before, in the sunshine, in a large, level grass field.

The wool, twelve minutes after sundown, was found to be fourteen degrees colder than the air, and to have acquired no weight. The swandown, the quantity of which was much smaller than that of the wool, was at the same time thirteen degrees colder than the air. In twenty minutes more, the swandown was fourteen and a half degrees colder than the surrounding air. At the same time, the grass was fifteen degrees colder than the air four feet above the ground. From such experiments, he established the proposition,

that bodies must become colder than the surrounding air, before they become dewed.

He also explained the reason why there was no dew in cloudy nights. It is because the clouds act as reflectors, and throw the heat back again; in the same manner as the bright tin top of a tin baker throws down or reflects the heat down upon the bread. A blanket, or umbrella, put over any body, would prevent the dew settling on that body for some time, although it was falling all around it.

On this principle, vines, and other things are protected from frosts, by putting a blanket or covering over them, at night.

Frost is dew frozen. By putting the covering over the body, it reflects heat back, and prevents, for some time, the dew being deposited upon what it covers.

[Maine paper.]

Change of Soil Effecting a change in Plants.

A change of soil may be effected either by removing a plant from one spot of earth to another, differing from it in fertility, or by the addition of manure, producing a change in the character of the soil in which the plant grows, without changing the location of the plant. The effect of removing a plant from a comparatively barren to a more fertile soil, is to increase the size of all its parts, and often to convert its organs of one kind into those of another. Experience has taught us, that it is advantageous to supply food to plants artificially. Where increase in the size of vegetables, without reference to their number, is desired, it can almost always be accomplished by affording an increased supply of all the ingredients of the food of plants, distributed in a well pulverized soil, in such a manner that the roots of the plants can easily reach it. The effect thus produced can be greatly increased by additional heat and moisture, and by a partial exclusion of the direct rays of the sun, so as to moderate the evaporation of fluids from the plant. Experience alone can determine to what extent this may profitably be carried in the case of such species of vegetable. The results which have been produced in some instances, are truly remarkable. Loudon states, that cabbages have been produced, weighing half a hundred weight, apples a pound and a half, and cabbage-roses of four inches in diameter, or more than a foot in circumference. By cultivation and a change of soil, the appearance of many trees has been entirely altered. The wild crab-apple, the original stock from which all our vast variety of apples have sprung, has its stem and branches set thick with thorns. On removing it to a more fertile soil and more favourable circumstances,

all these thorns have disappeared, and their place has been supplied by fruit-bearing branches. Yet all the distinctive characteristics of the tree, the structure of its wood and bark, the shape and arrangement of its leaves, the form and aggregation of its flowers—indeed, all that a botanist would consider characteristic of the plant, have remained unchanged.

Perhaps the most remarkable changes which result from a change of soil, are those of organs of one kind into those of another. It is by such changes that all our double flowers have been obtained. The organs which are most commonly converted into others, are the stamens, and next to them the pistils. In the hundred-leafed rose, and some other double roses, almost all the stamens have been converted into petals: in the flowering cherry, the pistils have been converted into green leaves—in the double columbine, a part of the stamens have been converted into petals, another part into nectaries, whilst a third part have retained their original form. The perfect regularity with which the changes have taken place in the last mentioned flower, is worthy of notice. Wherever one stamen has been converted into a petal, a corresponding one has always been converted into a nectary; and so regularly have these changes proceeded, that by careful dissection, you may separate one of these double flowers into several single ones, each perfect in itself, and destitute of none of its appropriate parts. Where flowers have been doubled by art, the only sure way of propagating them, is by some means by which the new plant should be nothing more than a continuation of the old one, as by slips or cuttings. Whenever the seed is resorted to, there is danger that the plant will revert to its original type, and the flowers appear single again. A change of colour also frequently results from a change of soil. Respecting the nature of this change, no fixed laws have been yet discovered. As a general thing, however, the brightness of the colours of a flower is injured by enriching the soil in which it grows; and hence florists, when they wish to procure tulips of very bright colours, prefer planting the bulbs in a light sandy soil, which is rather poor than otherwise.—*Farmer's Register.*

Scurrilous epithets are like fowl birds, which transiently disturb and disfigure the foliage of the trees on which they light, but whose nature is never mistaken; for they carry on their feathers the pollutions of the nest in which they were hatched.

THE FARMERS' CABINET.
PHILADELPHIA, MARCH 16, 1840.

Cabbage, as Food for Hogs.

A gentleman remarked, in our hearing, a few days since, that cabbage was a valuable food for store hogs. The idea was new to us, and we inquired the manner of feeding. In reply, he gave us the following as the result of his experience, the last summer. Having a fine patch of plants, and observing the bottom leaves beginning to decay, he directed his farmer to procure a water-tight cask, and gather a bushel of the lower leaves from the cabbage plants, and deposit them in the barrel, with a handful of salt, and one quart of corn meal. On this was poured the contents of the kitchen swill-pail, and the whole was suffered to stand undisturbed for twenty-four hours, when the process was repeated, with the exception of the salt—and so, every day, until the cask was filled with a mass of wilted leaves, about six quarts of corn meal, potatoe peelings, crumbs of bread, &c., from the kitchen; all in a state of partial fermentation. He now commenced feeding it to the hogs, and they eat with greediness, leaving other food for this. They were evidently as fond of this kind of mush, as ever "Mynheer" was of *sour-kROUT*.

While the hogs were consuming the contents of the first barrel, a second was in course of being filled, and so alternately, till the stock of leaves was exhausted, which was about four weeks.

This gentleman gave his opinion, that he could not have prepared any other kind of food for his hogs, known to him, at double the expense, that would have produced results so decidedly beneficial. An increase of appetite, improvement in their general appearance, and better heart, was the result of this method. The cabbages, he thinks, were greatly improved by plucking the redundant foliage; and he intends to plant a large patch of cabbages, the coming season, more fully to test the advantages of this kind of feed for hogs. We invite him, and others who may "experiment" in the business, to give us the results, for publication.

Davis' Patent Dirt Scraper.

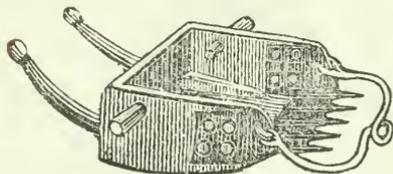


Fig. 27.

The Road or Dirt Scraper, invented by Shadrach Davis, differs from all others, in the construction of its points, which resemble those of a plough. They enter the ground easy; fill and discharge themselves—are adapted for horses or oxen—and can be used to great advantage in removing dirt or gravel.

We consider it a great improvement on the common road scraper, and can with confidence recommend it to the public, as being superior to any implement of the kind we have ever used, particularly in sandy and stony land; being so constructed as to load itself without the use of ploughing, which is common in using the old fashioned dirt scraper. We consider it one of the greatest labor-saving implements to road making, that can be used; and as such, we fully recommend it to the public.

This article can be obtained at the agricultural ware-house, 87 North Second street, Philadelphia. Price, \$12.

C. J. Wolbert, Esq., has invented a harrow for marking out sugar-beet ground, preparatory to planting. It is a simple and cheap affair—will save much time and labor—and

requires the first or starting row, to be drawn true, to insure even planting of twenty-seven inches, however large the field.

Persons intending to plant the sugar-beet, this season, can have an opportunity of examining it at the auction store, in Carpenter's Court.

**For the Farmers' Cabinet.
Quantity of Rain.**

Table, showing the quantity of rain and melted snow which has fallen for 30 years: the first 14 years by the rain gauge of P. Legoux, of Springmill, and 16 years by the gauge kept at the Pennsylvania Hospital, in the city of Philadelphia.

	Inches.		Inches.
1810.....	32.656	1825.....	29.570
1811.....	34.968	1826.....	35.149
1812.....	39.300	1827.....	38.500
1813.....	35.025	1828.....	37.970
1814.....	43.135	1829.....	41.850
1815.....	34.666	1830.....	45.070
1816.....	27.947	1831.....	43.040
1817.....	36.105	1832.....	39.870
1818.....	30.177	1833.....	48.550
1819.....	23.354	1834.....	34.240
1820.....	39.619	1835.....	39.390
1821.....	32.182	1836.....	42.660
1822.....	29.864	1837.....	39.041
1823.....	41.815	1838.....	45.289
1824.....	38.740	1839.....	43.739

The above furnishes an annual average of nearly 37½ inches, for 30 years. The person who makes the above returns, has good instruments, and the observations are made with great care—so that it is believed the results may be relied upon as being very correct. It would be very desirable that a similar set of observations should be made in every state in the union, and published annually, for comparison.

Quantity of rain and melted snow which has fallen since January 1, 1840.

	Inches.
1st month.....	1.85
2d month.....	3.01

Philadelphia Hospital, 2d mo. 1, 1840.

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THE FARMERS' CABINET,

Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

Vol. IV.—No. 9.]

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(Whole No. 63.)

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

VALEDICTORY ADDRESS.

WITH the present number of the Cabinet, our connection with that work is at an end, having disposed of our entire interest in it, to Messrs. KIMBER & SHARPLESS, of this city, by whom the work will hereafter be published. It affords us much pleasure to announce those gentlemen as the future publishers of the Cabinet. Their well earned reputation as business men, of sterling integrity in their transactions, and the fact that whatever they do, as publishers, *is well done*, furnishes a sufficient guaranty that our subscribers, and the public, will lose nothing by the change of proprietorship.

To a large portion of the community, these gentlemen are too well known to require any commendation from us; but we would say, to our personal friends, and others of our readers, who have not made their acquaintance, that they possess every desirable facility for making an agricultural publication useful and interesting, and to print it in the best style of the art. We feel assured that their able superintendence will enhance the value, and improve the appearance of the Cabinet.

The editorial supervision of the work has been committed to Mr. JAMES PEDDER; in our opinion a very happy and judicious selection. Mr. Pedder has been bred a farmer, and is a practical man; his opportunities for study and observation have been extensive and well improved.

As a good, plain, practical writer, Mr. Pedder is well known to most of our readers, and to them we can pass no higher encomium upon his capability to fill the station assigned him, than to announce the fact, that a large part of the best articles which have appeared in the Cabinet from its commencement, have emanated from his pen.

On retiring from our connection with the Cabinet, we may be permitted to remark, that our success in the enterprize has far exceeded our expectations. The first number of the work was issued without a single subscriber, under circumstances of much discouragement, by almost entire strangers in the state; and our obligation to the public, and the light in which our humble labours have been estimated, may be inferred from the fact that our circulation has exceeded an average of seven thousand annually.

Those correspondents whose communications have enriched our columns, will please accept a repetition of our thanks, and oblige us by transferring their kind attentions to the future publishers.

To our brethren of the press, we present our acknowledgments for their many acts of courtesy, and expressions of good will. We shall cherish a grateful recollection of the favours bestowed upon us, and trust the Farmers' Cabinet will continue a favourite with the intelligent community who have hitherto so nobly sustained it.

We leave our friends and patrons with our best wishes for their prosperity and happiness; and the publication of an agricultural journal, for one more congenial to our habits and feelings, and one for which we consider ourselves better qualified.

JOHN LIBBY.

EDITOR'S ADDRESS.

Brother Farmers:—

I congratulate you on the change which has taken place in the prospects of our favourite, "The Farmers' Cabinet;" it has passed into the hands of gentlemen who are willing, as they are able to sustain it, until it has acquired the character of a work, worthy of the state and country.

As a subscriber, reader and contributor, I have been closely connected with this publication since the time of its birth, and have attended it through the stages of its parentage and education with anxious solicitude, and fervent wishes for its welfare. Its excellent, gentle and intelligent founder and sole editor to the end of the past year, the late Mr. F. S. WIGGINS, was my intimate friend, from whom, in my frequent intercourse, I obtained much information relating to the detail of its publication; and his impartiality, urbanity and industry, were virtues which it will be my endeavour to imitate—peace to his memory!

My appointment, as editor of the "Farmers' Cabinet," is as gratifying as it was unexpected—it will be my pleasure—my pride—to fulfil its duties to the satisfaction of all connected with it, as far as I have the ability; and the unlimited confidence which the proprietors repose in me, will operate as an incentive to caution, circumspection and assiduity on my part; and if our friends will support me with their counsel, assistance and forbearance, I have no fear for the result.

Arrangements have been made for me to visit, at those seasons when I can be spared from the immediate duties of editor, our friends in different parts of the state and country; this will afford an opportunity to consult and contrive for our mutual benefit, and from thence much good, and extensive usefulness will accrue, as well as occasion to register interesting events, which might afterwards be communicated to the public through the medium of the "Cabinet," to great advantage. An important object will be, to induce *real, practical* men to communicate their ideas upon every branch of their profession—on the breeding and rearing of stock, the *agriculture* of the soil, and the *husbandry* of their crops—and if they will put pen to paper, much good must result therefrom; some, perhaps, might be unwilling to do this, through fear of not being able to guide the pen as straight as they guide the plough, but let not this deter them; *practical knowledge* is the thing most desired; so, if they will set the coulters of the pen well to land, put it to a good depth, and turn the furrow well up and over, without regard to the roughness of the work, we will do our best to

harrow and roll, and put a smooth face upon it, calculating to reap a crop of a hundred fold from such a soil so cultivated: it will be a pleasure to visit such persons, to share in their labours, to make them acquainted with what their neighbours are doing in other parts of the country, and to profit by their experience; and this, rather in preference to giving long extracts from foreign agricultural journals; the soil, climate and circumstances of our country, often operating as an interdiction to the introduction of the modes of management adopted in those countries, where circumstances, climate and soil are so different. Let it not, however, for one moment be supposed that this is said in disparagement—nothing is farther from the intention—for it is the determination of the proprietors to spare no expense in procuring the best foreign and domestic works on agriculture, from which to enrich the pages of the "Cabinet," as occasion might offer.

The present disastrous state of the times, will lead thousands of individuals to emigrate from the rank of respectable citizens, and bend their minds to the cultivation of the soil; these will be a most valuable class of well educated men, with a taste for reading and study, and having no means of becoming acquainted with the art of managing their farms, but through the aid of agricultural publications. And this is not all; they will form an enlightened band of correspondents, enquiring of, and communicating to the pages of the agricultural periodical works, whatever of importance occurs to them, giving and receiving at the same time, an immense mass of information, and greatly contributing to the formation of a new era in the science of agriculture and rural affairs. The "Cabinet" will be open to such, and they are most cordially invited to contribute to its pages: their communications will be highly valued, and command particular attention.

The handsome manner in which the late editor, and my friend, Mr. John Libby, has introduced me to your notice, leaves me nothing more to *say*, but a great deal to *do*—may I not be found wanting.

I am, gentlemen,

With respect and esteem,

JAMES PEDDER.

Philada. 15th April, 1840.

A BEAUTIFUL COMPARISON.—"The damps of Autumn sink into the leaves, and prepare them for the necessity of their fall; and thus insensibly are we, as years close around us, detached from our tenacity to life by the gentle pressure of recorded sorrows."

For the Farmers' Cabinet.

Deterioration of Grain.

Complain not of results which your own negligence produces.

HAVING recently read in the March number of Hovey's Magazine of Horticulture, published in Boston, an essay entitled "Some hints upon the growth and selection of superior varieties of seeds, by Dr. G. Watson, Philadelphia," in which it is stated that "the farmer ought to be aware, when he is desirous of obtaining superior kinds of grains for seed, such as wheat, oats, barley, &c. that he should select only that which is of the best quality, from any neighbouring farm; if imported, so much the better." He also states that, "the farmer should never sow his own wheat above two years, at most; a change of the seed is beneficial, although it may be only procured from the farm of the nearest neighbour; more especially if the soil is materially different from that on which it had been grown; as grain taken from one soil, and planted in that of a different kind, will produce better, and there will be much less chance of deterioration. By this practice, the farmer will find the quantity increased, and the quality much improved. Let any cultivator continue to sow one kind of grain for a series of years, and it will run out, as the term is; that is, it will be almost entirely useless. Many farmers complain that certain kinds of wheat will not produce now as they did formerly; the reason is obvious, from what has been stated above."

I think it would be difficult to show that benefit would be derived simply from changing of seed, unless you obtained a kind that was *superior* to what was previously possessed; and in relation to the difference of soil, it might or might not be advantageous, for the chances would be equal either way, unless experience had indicated that a removal from a particular soil to that of another given kind was attended with favourable results; for it is far from certain that any random-shot exchange would be beneficial in any case whatever. The injunction to select "only that which is of the best quality," is good advice, and should be pertinaciously adhered to in all cases whatever; but that resort should be had to any "neighbouring farm," or "if imported, so much the better," is not quite so clear. The venerable Joseph Cooper, late of Camden, N. Jersey, was as successful a cultivator as our country furnished an example of; he survived to a great age, and he commenced a series of experiments at an early period of life, founded on rational principles, which led to most unexampled success in his agricultural and horticultural operations. The results of his expe-

rience, with the principles on which they were founded, were published in the agricultural societies' transactions, and in the almanacs and newspapers of the day, under his signature; and it is believed, no instance can be produced where the plans suggested by him have been carefully carried out, but what the same beneficial results have been witnessed. He was not a believer in "dear bought and far fetched;" but he resorted to his own grain field, when the grain was beginning to ripen, and passing through it, he carefully selected such heads as appeared to him to be superior to the rest; these he reserved to raise his seed from, and in this way in the course of three years, he would propagate sufficient to seed his field; and he constantly persevered in this mode of selection of seeds of every kind for his own planting and sowing. The celebrated "Cooper corn" was annually selected on this principle, and continues to preserve its well earned reputation, on the farm where the selection was first made and in its neighbourhood, although it is now nearly seventy years since he first commenced the planting of it, and it has been carefully preserved from admixture with other varieties. The writer of this, procured seed-corn of him more than thirty years ago, and having within the present week examined some of the ears of the Cooper corn raised at Camden, they do not appear to have undergone any deterioration or change.

The principle adopted by J. Cooper in selecting his grain and corn, he carried out to its fullest extent with his garden seeds, preserving those *only* of the best and finest specimens that ripened earliest for seed; and he never found it necessary to change his seed to prevent its "running out;" for he kept the stream constantly running the other way, by judicious selection from *his own stock*. But, although *he* never changed his seed, *others* did, for those who were careless and negligent, were annually resorting to him to purchase a fresh supply of his superior selections of seed and grain.

The scientific and practical who carefully scrutinize what is going on in the world of plants and animals, no longer believe in the doctrine of deterioration, provided care is taken to breed constantly from the best and most perfect specimens. Be careful in selecting your grain, seeds and roots, and it will not be necessary to go from *home* to procure a supply of the *best* every "two years."

A good farmer never goes abroad to seek that which, by industry and intelligence, he can procure at home.

AGRICOLA.

Affectation is at best a deformity.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

MID-WINTER.

Frank.—Oh! father, what a dreadful night it is! the wind blows a hurricane, and the snow comes down in whirlwinds! I fear our beautiful fruit trees will suffer very much, for I hear their branches break with the weight of the frozen snow upon them. This is mid-winter truly! how I pity our poor neighbours who are unprepared for this trying season; many of them are, I know, very scantily provided, and to them the roaring of the elements must be frightful! As I passed farmer Bowen's this evening, with the heifers from the lower pasture, I saw his poor wife screwing the pieces of old garments tighter into the broken windows, and poor John shovelling the snow from a few logs, that he might take them into the house for their evening's fire; while the wretched cattle were creeping around the fences for shelter, moaning so piteously; and the dog, who was chained, was howling so frightfully, for the snow was beating full into the house upon him—but poorer than all, and more to be pitied was the farmer himself, who, with both hands thrust down into his pockets, his teeth hard clinched, and his face drawn into wrinkles, was crouching behind the old pear tree, with his eyes fixed upon the warring elements, the picture of despair! oh, it was a perfect scene of desolation!

Father.—It must have been a heart-rending sight! but you know I have often told neighbour Bowen how it would be with him: and when I saw him wasting his time in the summer, and caring so little for the future, I could not help expressing myself strongly, which is the cause, you know, of the coolness that is between us. If the winter should prove such as we have reason to expect, from its early and violent commencement, he and his poor cattle must starve, for I know that he has made but little provision, either for them or himself. Poor man! he must think, as Grabb says, that the pleasure and independence of a farmer's life are all a *hum*; and it is a serious fact, that a farmer's life, unless he take time by the forelock, and be even with the seasons, is, of all lives the most miserable, for the short days and long nights of winter in the country, have but little to cheer them, unless there is *sunshine within*; and to be met at every turn with the dull and black and reproachful countenances of every creature about you, hungry, cold, houseless, and wretched—oh! I know of nothing so forlorn and woe-begone. On the other hand, to us who enjoy the pleasure of witnessing, on such a night as the present, our horses and cattle comfortably housed and well

fed, with plenty of food and fuel for ourselves, no employment would seem to offer such a source of real happiness! What, for instance, can equal the pleasure of visiting our stables before going to bed, on such a night as this, to hear the cows chewing the cud, while lying on their warm beds of clean straw; and the horses grinding their hay in such exact time and tune—for the grinding apparatus of each horse has, you know, its own peculiar key-note—I declare I know of no music more sweet, and I once had a friend, an old farmer, who passed an hour in the stable every night after supper, to enjoy it, declaring there was no *Play-house* music to be compared with it!

Frank.—And I too have often enjoyed it; and it is, as you say, on such a night as this, peculiarly sweet.

Father.—This is, however, a luxury which those only who have sunshine within can enjoy, according to that most beautiful song:

Sigh not for summer flowers—

What, though the dark sky lowers?

Welcome, ye wintry hours—

Our sunshine is within.

Though to the west retreating,

Day-light so soon is fleeting.

Now, happy friends are meeting,

And now our joys begin!

Sigh not for summer flowers.

Round us 'tis deeply snowing,

Hark! the loud tempest blowing!

See, the dark torrent flowing,

How wild the skies appear!

But can the whirlwind move us?

No! with this roof above us,

Near to the friends that love us,

We still have sunshine here.

Sigh not for summer flowers.

Frank.—That is beautiful indeed! But, father, I have sometimes thought that the difference which there is between such *good* and such *bad* management, must arise, in part, from the systems pursued; and which might, therefore, be denominated the *old* and the *new* systems; for until latterly, it was the custom, with many, and still is I believe with some, to farm with as little expense as possible, supposing that the business of agriculture would not pay for good management.

Father.—Well, I believe there is truth in the observation, for I have known some who have changed their plan of cheap farming, and confess that they are gainers by it in many ways, and chiefly, in reaping more profit and enjoying more pleasure.

Frank.—And I suppose these considerations ought to be reckoned worth something?

Father.—Certainly—the last, not least. When I visited my friend Starkey, in —

county the last autumn, I was struck with the *ability* of himself, and his land, which were of the highest order; but also at the same time, with the strange manner in which things were conducted; and all "according to the custom of the country, too." "They do so here," was the reply, when I animadverted upon what I saw, with the freedom which one friend is apt to take with another. For instance, when I pointed out the weedy state of the crops—weedy in proportion to the natural fertility of the soil, I was answered, "But the people here find it will not pay the expense to clean them." Or, the turning in of a heavy crop of weeds in full seed—"Oh, the people here find there is no harm in that; the grain will grow and come good." Or, the wretched bad ploughing, on light land, with a very short and light plough, which was oftentimes no sooner *in* than *out* of the soil; with the furrows too large and high, and sometimes too low; with baulks and correspondent hollows, large enough in which to bury a sheep; with no well-defined headlands, and a crop of couch beyond any thing that I ever before witnessed—"Oh! that's well enough; the harrows will make all level, and we find it will not pay to be too particular."

His stock of cattle was very large, and truly delightful was it to see with what kindness every animal upon the farm was treated—a whip was not permitted to be used on any occasion—and when my friend and his amiable partner would walk amongst the cows and heifers, calling them by endearing names, and feeding them with salt, with which upon these occasions he would always provide himself, it was pleasant to see the animals run and thrust their noses into his pocket, to obtain a lick of the precious morsel—follow him all over the pasture, and into the house if they should! All this was lovely, and spoke a language which could not be misunderstood: but when I saw that the cattle were of the coarse, wiry-haired breed; of a colour and feel in the handling, that indicated any thing but milk and butter and beef, and heard that they had been selected from amongst the most valuable stock in that part of the country—"for they would winter cheaply"—I was satisfied that my excellent friend had imbibed the prejudices of the ignorant people about him, and had adopted the *old system* of cheap farming. And oftentimes, when I took the liberty of representing to him the advantages of a different course of management, I was answered—"But it won't pay, my dear sir; the people here find that it won't pay."

He had no stock of hay for the winter, for the people in that part of the country found that it would not pay the expense of making!

Now, my friend, with bodily and mental powers of the highest order, with a capital sufficient to manage a farm of unprecedented richness and fertility, and all his own by late purchase, with an elegant partner and two lovely children, had permitted himself to be influenced in his judgment by about as ignorant a set of men, calling themselves agriculturists, as I ever met in my life. One of them told me they had tried lime, but it would not do in that part of the country. That to plant potatoes in any other way than in hills four feet apart, and by hand, would not answer in that part of the country: that although it might do very well to plough them in and plough them out in some other places, yet—although he had never known it tried—he knew very well it would never answer in that part of the country! That it was a bad plan to weed the crops, for it had been tried, and found that such management would not pay in that country. But amidst plenty of land of the very highest fertility, requiring only good management to produce a return of a hundred fold, he was a strong advocate for draining the most beautiful natural fishpond in front of my friend's house, for *he conceived* it would make "a most almighty meadow." This man was a smith also, and as the shoes of my friend's horses were always dropping off before they were half worn, I took the liberty of recommending a plan of clinching the nails, which I had known practised elsewhere, and by which they would be sure to be secured; he replied, he had never known that done, but he supposed it would not answer, for it was not the practice in that part of the country!

Frank.—Now that is the "old school," and a wretched one it is! I do not wonder that such farmers should have the character of being, and I am sure they deserve it, the most unenlightened class of the community. Why, it is a downright insult to say of any art or science "It won't pay for good management;" did any thing in the world ever pay for *bad management*?

Father.—Good—but we have known a case which will prove that good management will pay in *any country*. There is our friend Daniel Finley, who took the farm of Shields, in ——— county, in the midst of the most ignorant and besotted class of farmers that can be conceived of! they had already driven off two very respectable men from distant counties by their persecutions; terrifying and threatening their servants, and driving away their cattle to distant parts of the country. Daniel's coming amongst them was a source of merriment to them, and they nick-named him "The New-School." Fortunately, he was a man of strong mind and body, with a determined will, which would have required

the united force of half a dozen of their weak teams to move from his purpose: and what was better than this, he was blest with a wife, almost unequalled in the experience of the necessary duties of a farm, and a family of six children, some of both sexes, able to assist their parents, both within doors and without.

On coming to the farm, as he found the neighbours would not call upon *him*, he made a point of visiting *them*; told them candidly, he meant to manage his own concerns; that nothing would give him more pleasure than to be on good terms with them, while to have it in his power to assist them, he should consider a real luxury—but he must be permitted to follow his own way—that was all he stipulated for. At parting, he would offer them his hand, which, when they grasped—about the size, as one of them declared, of a small shoulder of mutton—and received a grip in return, which made them feel it to the elbow, they perceived that he was not a man to be played with. He was compelled to hire help from the neighbourhood, and on meeting these men for the first time, said, “Now, my good fellows, I am come a stranger amongst you, and I dare say you will think my ways strange also: all I expect of you is, to do exactly what I shall tell you to do, and leave the consequences to me. Never care how ridiculous my plans may appear to you; ’tis I alone who must answer for them; and if you get tired of me, or I should grow tired of you, let us not be afraid to say so, and part good friends. As I have the fullest confidence in my own abilities, I do not wish you to take the trouble to tell me how they do things in this country, or even to mention the way in which others proceed; all I shall ever require of you is, obedience, while you are with me; so God bless all our endeavours to do what is right!” And on separating with them, he gave each a shake by the hand, which reminded them of the squeeze which *Jack Sharp* got in the horse-mill! He was up the first in the house, and the last in bed; was always upon their backs, as they expressed it, but cheerful as a lark, and always pleasant in manners, but *very distant*—that was the secret of his management—like the captain of the ship, who, on first coming on board, said to his men—“I wish to treat you well, but look in my face, and say if you think I am a man you can take liberties with.”

In the midst of a country, where the greatest recommendation of a cow was, that she would winter cheaply, or in other words, would bear *starving*, he introduced a dairy, that would pay for keeping—for shelter and good food in the winter—and a portion of these cows being winter milk, he was enabled to supply the market with—what had never

before been seen there—excellent fresh butter in winter, for which he obtained his own price. And while his neighbours were killing off their sheep before winter, and disposing of them for about the value of their skins, he would stall-feed his, and have mutton in the market about Christmas, that almost made the poor farmers about him fat, even to look at.

Frank.—Ah, I see how all this was done; it was by good management in the summer: by preparing for such weather as that which we now experience.

Father.—Exactly—his object was to *keep* his stock in the winter and make them pay for it: and instead of boasting that he had wintered his cattle for almost nothing, and in return, to have but little besides a bag of bones for his pains. I have often heard him declare, that he would not exchange his winter dung-heap, for the whole dairy of some of his neighbours.

One remarkable mode of his management was, to grow large quantities of oats, and the silesian, or white sugar beet; never to thresh any of his oats, but to cut them all up in the straw, by means of a chaff-cutter attached to his threshing mill, and to feed them, with plenty of the beets, to his horses, fattening cattle, cows in milk and fattening sheep—a plan of fattening stock in the winter, about as near perfection as can well be conceived of—so, he never sold any oats, but all his corn, and fed the stalks to his young stock. His greatest care was, to provide most abundantly for all his stock during winter; and I have known him purchase capital cows of his neighbours during that season for a very small sum, and sell them to them again in the summer, as they had not the means of keeping them: and instead of fattening stock in the summer, he would mow as much hay as possible, grow abundance of oats and beets, and purchase lean stock in the autumn for winter feeding; by which means he obtained better prices for his fat cattle, and, what he valued much more, mountains of dung for spring-dressing—this he called *the moving principle of his machinery*.

He had not been on his farm a year, before the natives were astonished, and no more was heard of “the new-school;” but they yet stick to their old prejudices, and cannot believe that *their* farms will *ever* pay for good management; for, as the smith said, although they never tried it, yet they are fully convinced it would never pay the expense in their part of the country to manure, and weed the crops, and house cattle in the winter, and feed them.

Frank.—Then the new system is simply this, to *feed* stock in the winter, instead of *starving* it.

Father.—Just so—and a very short and satisfactory definition it is. But to be enabled to do this, the greatest exertions must be made in summer, to secure abundant resources for that season; and by cultivating the silesian beet-root, we are enabled to do what we wish and *all* we wish.

Frank.—The cultivation of that root must be of the utmost importance to the stock-farmer, as well as to the stock-feeder and dairy-man; what astonishing accounts of its produce we hear and read of! and the hold which it has obtained on public estimation it keeps, for sugar beet beef, and mutton and butter, are all the rage. Were you not engaged in the first introduction of that crop into this country?

Father.—As “Agent to the Beet Sugar Society of Philadelphia,” the seed which I selected in France, and sent to this country, proved to be of the *purest kind, and of the best quality; if it had been otherwise, it might not so readily have obtained the favour which it now enjoys; a circumstance of trifling consequence to appearance, but very important in its results, for to this might, in a great measure, be attributed the enormous crops that have been raised the last year, amounting to forty, fifty, and even sixty tons per acre, with roots of twenty-seven pounds each in weight!

Frank.—Well, now, would it not be very easy for you to sketch a mode of farming upon paper, and make a map of a convenient sized farm, with arrangements for suitable buildings, and every thing as it should be! To be sure, it would only be *farming upon paper*—which is, however, as many of our poor neighbours would *now* confess, the easiest mode of farming—but still, a life of practical observation must afford the means of rendering *even that* interesting to many.

Father.—Well, then, suppose we see what can be done in the way of *farming upon paper*. You see we shall enjoy great advantages—first, we shall be able to obtain, without money, just as much land, and of the quality we wish, and in the pleasantest situation imaginable; with facilities for fencing and cultivating it to our hearts content; no impediments to our progress, and within reach of every desirable object, churches, schools and markets—as the advertisements say. Still, I believe, although only upon paper, that such a plan might be made interesting, even to the practical agriculturist, and from which he might possibly be able to gather a new idea, which would be doing much.

Now, at the outset, I must tell you I mean to farm according to the “new-school!” the first rule being, *to possess no more land than you can properly manage*; and as I know at this time a farm of twenty-five acres which yields more produce, greater in quantity and infinitely better in quality, than the adjoining farm of one hundred and fifty acres, of exactly the same natural quality of soil, I shall confine myself to a square of land of one hundred acres; pleasantly located of course, and of good quality; cleared (for I fear we should not be good at chopping) but not fenced—(see the plan at p. 52, of vol. iii. Cabinet.)

Frank.—Well, father, I long to be at it.

Father.—You see already the advantage of farming upon paper, for by taking a square of land, with nothing to obstruct our plans, we shall be able to throw all our enclosures into the most convenient form and size, without the least difficulty: namely, in the first instance, into four fields of sixteen acres each, four of eight acres each, and one of four acres, exactly in the centre of the farm, in which are to be placed the buildings of every description, farm-yards, garden, orchards, &c.

Now a square of land, measuring seven hundred yards each way, contains one hundred acres, and about an acre and a quarter, as space for fences. The outer fence should be made first, after which, the four inner fences; by which simple operation, the whole land will at once be divided into four fields of sixteen acres, four of eight acres and one of four acres. Cultivate at first the four fields of eight acres each only, the course of crops being beets, oats, clover, wheat. The four fields of sixteen acres each, may, in the mean time, remain in grass, being top-dressed with lime, marl, or compost, and fed with sheep or cattle; these to be regularly changed from pasture to pasture, upon those fields not devoted to the hay crop, one or two of them, however, being reserved for this purpose; and when, at a future time, it should be desirable to subdivide these fields, to bring them into cultivation, two fences will do the business most effectually and conveniently, bringing four more fields, or double the quantity of land, into cultivation.

Frank.—Well, this would be a large farm—four fields of sixteen acres each, and four of eight acres, under good management—why who need require more?

Father.—I admit that as much produce could be obtained from these one hundred acres, highly cultivated and heavily manured, and devoted to useful crops—not weeds—as from farms of five times the size, whose owners conceive that “land won’t pay for good management,” and where one-half is devoted to weeds, and what is sometimes called *tim-*

* The difference in the quantity of saccharine matter contained in the varieties of the beet, is oftentimes as twelve to two in favour of the true silesian or white beet.

ber, which is often mere rubbish. So far our first rule of the "new-school," namely, to possess no more land than you can properly cultivate. The second rule is, never to go out of the reach of society and good markets, two things of incalculable weight and importance. I have many friends who have gone and buried themselves, their families, and their talents, not in a napkin, but in a desert, because they were determined to get *cheap land*, without considering that in these places produce is cheap likewise. Poor Joe B. who went some time since to Michigan Territory to farm, because there, every thing is so cheap—beef, three and a half cents per pound—butter, eight cents per pound—wheat, fifty cents per bushel—mutton, dog cheap, and wood for cutting! before this, Joe has *found* his wits, if he has not *lost* them. Always remember,

The worth of a thing
Is as much as 'twill bring,

and no more; and if land sells for a dollar an acre, 'tis a clear proof that it is worth no more, else it would bring it. I calculate, that land very near a good market is worth, to an intelligent and industrious man, many times the mere rent, on the simple account that the farmer need be but little from home. I declare I have known the time when I would not leave home a day for a quarter's rent; and then only calculate the value of the time spent in travelling *by night and by day*, a distance of perhaps seventeen or twenty miles to market, to say nothing of the extreme irksomeness, pain and suffering attendant upon such a *pilgrimage*, exposed to the vicissitudes of the seasons—heat and cold, and rain and wind! Oh! it is sickening to think what a great portion of such a man's life is thus disposed of.

Frank.—Well then, as we are, you know, *farming upon paper*, we can fix our farm just where we choose; it will be in no one's way: now, how near a good market would you like it to be?

Father.—Say six miles—an easy hour from market. And now, as we find we can do pretty much as we like, what do you say to the following mode of farming one hundred acres of land, so as to make the most of it, and at the same time not to make a toil of a pleasure. We will suppose that we have erected upon our middle compartment; 1st, a comfortable dwelling house, with dairy, &c. attached; garden, orchard, &c. 2nd, A good barn. 3rd, Warm stables. 4th, Cow sheds. 5th, Sheds for young stock. 6th, Fattening sheds for sheep. 7th, Fattening stalls for oxen. 8th, Hog sties. 9th, Granary and tool house. 10th, Cart and implement shed, and plenty of yard room. Now, as I should be desirous

of going gently forward, and as, after all this, our means might be slender you know, I would propose to cultivate at first the four fields of eight acres only: top-dressing with lime or compost the four fields of sixteen acres at our leisure, feeding and mowing them alternately. And if by *tip-top* management we could raise, on the first of these eight acre fields, three hundred and twenty tons of sugar beets—forty tons per acre—on the second field, a crop of oats four feet high, which, if threshed, would yield sixty bushels per acre; in all, four hundred and twenty bushels. On the third field thirty tons of clover hay at two cuttings; and on the fourth, eight loads, of forty bushels each of threshed wheat, with plenty of straw for the bedding of horses and cattle of all kinds, would you not think we had done well?

Frank.—Well? ah, but then—'tis only on paper you know.

Father.—True—but "nothing is impossible to a willing mind," *you know*, such crops have absolutely been obtained, and "what man *has* done, man *may* do." And as our exertions would be so concentrated, and we should be called so seldom from home, I should not despair of doing likewise; and I would not willingly go for less than the *whole hog!* Now, as the stock would graze during the summer the four fields of sixteen acres each, except that part which might be set apart for mowing hay, we should be able to reserve the whole of the crops of the four cultivated fields for winter use—an enormous mass of food, and yet grown on a very small quantity of land.

So, you see, the only crop we should have to take to market, would be the threshed wheat—the most saleable of all the crops, requiring only to be delivered at the mill.

Frank.—Well, this would be simplifying the system, truly.

Father.—Yes, but I should not doubt of perfect success in this "new system of farming," for the feeding of such a quantity of winter food, would produce manure sufficient to make the land *as rich as a cucumber bed*, as the saying is; for I should propose to expend it all on the beet and clover crops, sixteen acres only; thus, the oats would have none, for they would not require any; nor the wheat, which would be injured by it; and thus our system would be perfect, according to the rules of modern husbandry, namely, "two grain crops not to follow in succession, and the manure to be applied, solely for the production of food for the cattle,"—the two *golden rules* of the "new-school." The produce of such a farm in the shape of beef, mutton, veal, lamb, and butter, would be contained in small compass, and be marketed with little expense and labour, time and trou-

ble; while the expenses of cultivation would be comparatively very small, as the only threshing would be the wheat crop, and that, the only part of the crops to be carried to market. The necessary quantity of ploughing would be singularly small, it being, for the beets, four times; oats once, and that before Christmas; none for the clover, and once only for the wheat—forty-eight acres only, during the year. The only hoeing would be on the beet crop, which must not have a weed growing on it, requiring the labour of the horse as well as the hand hoe; while the harvesting would be light and easily accomplished.

Frank.—Well, the hours of attendance in this "new-school" would be few.

Father.—True, but they would be fully occupied still, although, I grant you, pleasantly. And as soon as the four fields of eight acres each have been made as rich as possible by culture and manure—instead of becoming exhausted—then will be the time to take a portion—say one field of sixteen acres—of the pasture land into cultivation; which, having been dressed with lime and compost and fed, will come under the plough in so fresh and unexhausted a state, as to produce enormous crops, the first being oats.

By a plan such as the above, I calculate that a man would be able to obtain, even from one hundred acres of land, the means of living, and I guess be ought to be happy, for his labours would be very much lightened by the simplicity of the course pursued.

J. P.

For the Farmers' Cabinet.

Loss of Calves.

During the past winter, numbers of cows in Montgomery, Bucks, and Delaware counties, have lost their calves prematurely; and in several instances, a single farmer has lost three or four. From the distance and remoteness of situation of those who have sustained these losses, it would seem probable that some general cause had operated to produce the effect; and, as I have not heard of any attempt being made to ascertain what circumstances have given rise to this extensive evil, I forward this for insertion in the Farmers' Cabinet—that if any knowledge be possessed by any of your numerous subscribers, which will throw light on this subject, it may be published in a future number, for the benefit of the agricultural community generally.

Chester county.

J. A.

Many are philosophers in great misfortunes—who lose their equanimity in trifles. Their troubles resemble streams which ripple most where water is shallowest.

For the Farmers' Cabinet.

Plant Trees.

If you want to thrive, plant trees: they are money at compound interest, which increases while you sleep.

In the year 1758, ninety-two fir trees were planted upon a piece of poor ground, about three-quarters of an acre in extent. The ground was waste, and poor: no extra expense was incurred, and no further attention was paid to the young trees. In 1813, they were cut down and sold for three hundred and sixty pounds, (about eighteen hundred dollars,) which was equal to an annual rent of thirty-two dollars, during the intervening fifty-five years, or upwards of forty dollars per acre.

A gentleman in England, whose lands were more extensive than fertile, planted fifteen hundred trees, on the birth of every daughter, upon his waste grounds—which were, on an average, worth one pound sterling, on her coming of age: thus enabling him to give a handsome fortune to each of them on arriving at the age of twenty-one, without any extraordinary economy on his part; the regular thinning of the trees, at proper seasons, with barking, &c., paying off all the current expenses, besides yielding him a small rent for the land.

In Scotland, a piece of waste land was planted with sycamores—and at the end of sixty years, sold for a sum which paid fourteen pounds sterling (nearly seventy dollars) the acre, per annum, during that long period.

The planting of the *basket willow tree*, in wet, waste places, or along the margin of streams, yields more profit, proportioned to the outlay, than raising of wheat, or making of butter; and when once started, requires no further trouble than annually to cut the twigs.

It is a shame to put it in print, and yet it is true, that annually there are large quantities of willows for baskets, imported into this country, from Holland. We also import annually, thousands of dollars worth of baskets, ready made to our hands, from France and other countries!! Truly ours must be a rich country indeed, to enable us to perpetrate such an amount of folly every year.

S.

For the Farmers' Cabinet.

Rolling, a Protection from Fly.

It is said, that the best protection to very young plants against the fly, or insects that destroy them as soon as they appear above ground, is to roll the surface immediately after sowing, so as to make it as smooth as possible. The plants *vegetate quicker and better*, by having the earth brought in close contact with the seed, and the insects are deprived of shelter, by having the clods broken

down smooth. Every farmer should have a small, light roller for his garden, and a large, heavy one for his fields, to be used as occasion may require. And if, in addition to rolling turnip ground, the seed be sown four or five times as thick as would be proper to stand for a crop, then there would be an abundance for the fly to feast upon, and enough left to satisfy the farmer—and if the fly should not thin them sufficiently, cut them out with a hoe, or run a harrow through them, to reduce them to proper distances, to favour their growth.

The advantage of compacting the earth to the seed, is exemplified in planting corn. The corn first makes its appearance where the impression of the foot is, and with more vigour than it does where the soil covers it lightly.

C.

Delaware county.

Milk-pans and Butter.

To the Editor of the Farmers' Cabinet.

SIR,—I beg to present you with a sample of *bona fide* sugar-beet butter, made by Mr. Homer Eachus, of Edgmont, Delaware county, according to the method described at page 91 of the Farmers' Cabinet for October last, and to which I refer your readers. The pans which he has adopted, are double, and made of tin; but the milk does not flow away by a tap, as in those made of zinc, and there described: he is, however, so perfectly satisfied with the result, that he raises all the cream of the dairy by means of the hot water bath, and has verified the statements contained in the above account, to his entire satisfaction. I add an assurance, that the colour of the butter is natural, not artificial.

Respectfully,

C. D.

Philade phia, March 16, 1840.

With the above, we received a sample of beautiful butter—an article of which we profess to be a judge—better looking we have never seen; and its flavour corresponded with its appearance. In our opinion, Mr. Eachus stands high as a dairyman, and his dairy has the right kind of *fixins*, no doubt: that he keeps good cows, and feeds them well on sugar-beets, the butter sent us bears ample testimony. We remark, it would be utterly impossible to communicate to butter the clear and delicate colour which this exhibits, by any artificial means whatever.

Accompanying the above, we received from our friend Benjamin Cooper, of Camden, a quantity of flour, made from spring wheat of

his own raising—the bread from which was sweet, white, and very light; and we made an excellent breakfast on bread of the first quality, well buttered. The spring wheat cultivated by Mr. Cooper, is of the variety called tea wheat; and to the circumstance of his great care and attention in the selection of his seed, much, no doubt, of his success in the cultivation is to be attributed. A sample of the above spring wheat may be seen at our office.

Since writing the above, we have seen, in the columns of the Public Ledger, the following notice, acknowledging the reception of a sample of the butter above mentioned. Our *tastes and feelings* accord so exactly on the subject, that we cannot forego the pleasure of copying it. The editor of the Ledger will please accept our thanks for the favourable notice which he has taken of our publication.—Ed.

“SUGAR BEET BUTTER.—We acknowledge the reception of a specimen of the richest article of the butter kind that we have almost ever had the good fortune to meet with. It is of a bright yellow hue, which we are told is *natural*, and not the effect of artificial colouring. The flavour of the butter is not to be surpassed, and we must freely acknowledge that we have seldom known it equalled. This luxurious article of diet was made by Mr. Homer Eachus, of Edgmont, Delaware county, Pa. Mr. Eachus does his work scientifically; and those farmers who sneer at “book directions,” would find their infidelity staggered by the examination of such specimens of country produce as that now before us. Mr. E. has adopted the mode of butter-making described in the Farmers' Cabinet for October, and that he has been eminently successful, we can bear witness. Farmers and dairymen are recommended to peruse the article just referred to in the Farmers' Cabinet: they will find there some hints respecting milk-pans, which will be worth at least a year's subscription to the work.”

For the Farmers' Cabinet.

TO PRESERVE POTATOES.—Potatoes may be preserved good all the year, by immersing them in boiling water for a minute or two, so as to destroy the germinating principle, and then drying them before they are packed away. If they were put in a basket, they could be immersed and withdrawn quickly, and in such quantities as would give but little trouble.

I. T.

For the Farmers' Cabinet.

Sugar Beet vs. Rutabaga—Lime.

* In my last communication on sugar beets, I was unprepared to say fully, whether I considered that or the rutabaga the more preferable crop for general cultivation, as a winter feed for stock. With another winter's experience, I am now willing to assert, that I consider the beet crop worth fifty per cent. more than the rutabaga turnip, comparing acre with acre. The results of the different roots, when fed to the cattle the past winter, have been very similar to those of 1838 and '39, namely—when the stock of beets was exhausted, and the cows fed the same quantity of rutabaga per day, there was no apparent diminution of the quantity of *milk*, but the quantity of *butter* was about *one third less*. Now, if subsequent experiments, or other men's experience confirm these two results, I am altogether safe in making the above estimate of comparative value, as the beet crop with me has been by far the most productive; and, I believe, as a feed for hogs, their value would support the same estimate as for cows. So much has been said on the subject of their culture, selection of soil, manure, &c., as to deter some good farmers from experimenting with such troublesome affairs: to these, I will just say, my *experience* justifies me in saying, these rules are all stiff; and any man who raises beets in his garden, can raise them in his field with equal facility, and he may manure the ground with whatever animal or vegetable matter he pleases—fermented or unfermented, just as is most convenient: plant *plenty* of seed (well soaked in hot water,)—keep down the weeds, and the crop will be almost certain.

Grant me a little more room, Mr. Editor, if it be not already engaged, and I will pick a bit of a quarrel with the Maryland State Geologist's Report, as published in the last number of the Cabinet. He says, "Get lime at almost any expense, and apply, if the soil is good and under good cultivation, at once, the whole quantity necessary to permanently improve it, and this quantity need not exceed one hundred and fifty bushels,"—I suppose he means per acre. I would recommend those who would follow this advice, to do it with caution, and offer them two instances to support my views. My father had a field of twenty-five acres of as good wheat soil as could be found—a deep loam. Its produce for years stood almost unrivalled: he, wishing to make it still better, applied to a part, fifty bushels to the acre—to the balance (excepting half an acre), about sixty-five or seventy bushels per acre. The result was as follows: in 1837, wheat crop, not much more than the seed; 1838, corn, about ten bushels per acre,

on the heaviest limed part—on the other, forty bushels per acre; 1839, oats, good, where there was the least lime—on the other part, fifteen to twenty bushels per acre. The half acre above alluded to, received fifty bushels; the result was as follows: of wheat, not a handful—of corn, some stalks three feet high, and two bushels of nubbins—of oats, a growth of straw sixteen inches high, which refused to show any symptom of ripening, and was cut to get it out of the way. The whole is now well set with clover, and most probably will be restored in another year to its former state of thrift and usefulness.

The second case is that of John Green, of Penn's manor, than whom we have no better farmer. I am credibly informed, that he says he has applied, at different times, fifteen hundred dollars worth of lime to his farm, and has lost more by its retarding the ripening of his wheat crops—thus keeping them longer exposed to rust—than all he has gained from its application to his farm. I have other results similar to these, but do not think it necessary to offer them; and, in conclusion, would say, I believe a dressing of twenty or twenty-five bushels of lime per acre, an all-sufficient quantity to last five or seven years, and will bring the farmer better returns than much larger dressings applied at longer intervals of time.

M. S. KIRKBRIDE.

Morrisville, 3d mo. 22d, 1840.

P. S.—Can any of the city correspondents inform me where I can purchase the book, called "The Young Man's Travelling Companion on Farriery." It has been recommended to me by a distinguished veterinary surgeon, as "worth all the other similar works," as a book of general reference for the farmer.

M. S. K.

For the Farmers' Cabinet.

Way to Produce Male or Female Chickens.

It has been handed down from ancient authors, that hens' eggs that are round, produce, when hatched, female chickens, and that those that are long and very pointed at one end, produce males. This has often been confidently stated to be a fact—yet, so far as the writer has knowledge, it has not been tested by experiment in this country. Will some of the raisers of poultry be pleased to make a decisive trial this season, and inform the readers of the Cabinet of the result, so that there may no longer be doubt on the subject?

B. S.

Be temperate and industrious, and happiness, health, and fortune, will be thine.

For the Farmers' Cabinet.

Anti-Lime.

MR. EDITOR—Being informed by a neighbour, that you offer to publish experiments made in agriculture, for the information of your readers, I take the liberty to send you an account of the following, which I made last summer, to test the relative value of several different manures in raising corn. I selected five acres of worn out land, in one piece, and of a quality as much alike as possible, and ploughed it flat, some time in April. On one of these I spread one hundred and fifty bushels of marl, procured from Woodstown, in this county; on another, one hundred bushels of drawn ashes; on the third, fifty bushels of fresh slacked lime; and on the fourth, forty bushels of bone-dust, so called—that is, bones ground, say three parts into small fragments, and one part into a coarse dust or powder—which I procured at a button factory in the neighbourhood of Bridgeton. The fifth acre I left without manure of any kind, in order to test the actual value of the different manures used on the other four acres. Cost of the manures was as follows: the marl, which I hauled about ten miles, I put down at ten cents per bushel, including the carting, that is, fifteen dollars for the first acre; ashes, ten cents per bushel, or ten dollars for the manure of the second acre; lime, sixteen cents per bushel, including the cost of hauling, will make eight dollars for the third acre; and bone-dust, for which I paid forty cents per bushel, to which add four cents per bushel for hauling, makes seventeen dollars sixty cents for manure used on the fourth acre. The cultivation of the whole five acres was the same; and the result of the crop taken and measured, from each acre, was as follows:

Bone-dust produced twenty-six bushels; ashes twenty-four bushels; marl twenty-two bushels; lime only six bushels; and the unmanured acre *six bushels also*.

Much has been written in favour of lime. As far as my experience goes, and I have tried it on several occasions, I have never found any, or but very little benefit from it the first season: but in two or three years, it will generally produce a very sensible increase on some of the crops following, especially on oats and on clover. I do not therefore, consider lime as the poor man's friend; though in those parts of the country where ashes, marl, or bone-dust, are not to be readily procured, I should recommend its use.

ABBOTT ATKINSON.

Pittsgrove, Salem co. N. J. }
Feb. 10, 1840. }

Alas, for the vanity of human enjoyment! we grow weary of even our own perfection!

Farmer's Frocks.

We are honoured with the following notice. Will our esteemed friend accept our thanks for enabling us at the outset of our editorial duties, to record so pleasing an instance of generosity—surely it augurs well for the success of a work devoted to the best interests of mankind—may he live to continue to grace the pages of the Cabinet with his elegant pen—he has already received the reward of his benevolence in the luxurious feeling of “doing good.”

The French frock is peculiarly adapted as a dress for the farmer: they are worn almost universally in the agricultural provinces of France, by all classes of the community, and we ourselves have experienced the convenience and economy arising from their use for the last four years. We beg strongly to recommend them to the notice of our farming brethren.—Ed.

The subscriber has for sale at his Dry Goods Store, No. 14 North Sixth street, *Farmer's Frocks*, made after the French pattern. No profit is charged on the cost of manufacture, the object being to give employment to females, who have no other adequate means of support.

B. M. HOLLINGSHEAD,
No. 14 N. Sixth St.

Care of Horses.

There are many farmers who take but little care of their horses in the winter season. In the short days they have water before dark, and then have to go without till nine or ten o'clock the next morning, or if they have water early in the morning, they will not usually drink, as their time of thirst is past. Horses seldom refuse water after they have eaten their evening meal, though, if they do not have it then, they will usually drink but little the next morning. It is no indication, however, that they have not been thirsty the previous evening.

We have been particular in our observation on this point. We have turned a horse out to drink at nine or ten o'clock in the evening, and seldom know him to fail in drinking heartily. Then for experiment we omitted to give him water at night, but attended to it in the morning before he was fed, and he would seldom drink. If it be the best for animals to have free access to water at all times, as is generally allowed, then they ought surely to have a supply immediately after eating, when they are usually

thirsty; though the superficial observer who finds that they will not drink early in the morning may think that all has been well.

There is not a man, probably, who has not, at times, been very much in want of drink, and yet, without being able to obtain it, his thirst has gradually abated. In this case the juices from other parts of the body are, in a measure, put in requisition to supply moisture when it is wanted; so by an equalness, the thirst is abated or done away; but there is a deficiency of moisture in the system, a drought less severe but more extensive, which if experienced daily will prove unfavourable to health and strength; and in animals it will injure the growth of the young and operate against the fine, healthy condition of every creature. They must have water when they need it, or they will not drink. They do not, like men, eat and drink according to fashion.

Many a farmer's horse that is now stupid, lazy, and of a miserable appearance, would, under the care of a good hostler, without extra keeping, become so changed in his appearance and spirit, in a few months, though performing the same amount of labour, that his owner would hardly know him.

For the Farmers' Cabinet.

Lime and Lime Burning.

The last number of the Cabinet contains an extract from the annual report of the geologist of the State of Maryland for 1839, in which there are some opinions which do not correspond with the experience of the farmers of Pennsylvania, who have long been in the practice of using lime in large quantities; and as the Cabinet has an extensive circulation among agriculturists, many of whom are just beginning to use this very important and valuable article, perhaps it may not be out of place to make some remarks on parts of the report, which do not correspond with the results of experience in this state. He says, "on such soils the quantity need not exceed one hundred and fifty bushels," per acre. Now if he alludes to shell lime, it will do, for it is a very loose, light article, and it is not easy to apply too much of it; or if he intends to apply the remark to fallen or slacked lime, two bushels of which correspond with one bushel of stone lime, it is not so unreasonable; but if he means one hundred and fifty bushels of unslacked stone lime, as it is usually measured at the kilns, the quantity is too much. Forty or fifty bushels per acre being considered a good dressing, and more than that, is often injurious, unless the ground is very rich in vegetable matter, or its application is made as a top-dressing on a grass sod, when the quan-

tity may be increased with impunity, and perhaps often with advantage; but where it is so applied, it ought to remain two or three years before it is ploughed down; the very worst mode of application being that of ploughing it under immediately; and the very best that of putting it on the grass after harvest, or in the autumn, and letting it remain till the sod is turned under for corn two or three years afterwards, when it will be found that the lime has descended nearly plough deep, and that portion of it which remains undissolved is again brought on to the surface, to be dissolved and passed by rains through the soil. It is believed that lime does but little, if any good in promoting vegetation, until it is brought into a state of complete solution, by the action of water holding carbonic acid gas in solution dissolving it; and then it immediately becomes incorporated with the soil, and begins to act beneficially; so that as long as the lime can be seen in small lumps it is comparatively useless.

Where he speaks of the action of lime; his first and second modes as stated, will be acceded to; but the third must be dissented from; it is in these words, viz.—"As a septic, or decomposer of the vegetable matters that may have existed in, or been applied to a soil, reducing them into soluble compounds, fitted to the nourishment of vegetable life." Hot, unslacked lime applied to any combustible matter will soon reduce it to ashes, and much of its useful properties as a manure will be lost by the process, for it is found that the gradual decomposition of vegetable matter is preferable to combustion in making food for plants. And it remains yet to be proved, that cold, slacked lime in the state in which it is usually applied to land, does, either in large or small proportions, when applied to animal or vegetable matter, tend to promote or hasten their decomposition or putrefaction. It has often been said and written that it does; but it is believed that the fact is precisely the reverse; and that those who have made experiments or observations with the view of determining this important matter, have arrived at the conclusion, that lime retards putrefaction or decomposition in a remarkable degree. Does it not uniformly preserve wood work and timber from decay? Has it not been observed that when it has been put on corn-stalks and straw on dung-hills or elsewhere, that they have been preserved of a beautiful yellow colour by it? and when it has been applied to beds of compost, is it not the general opinion that the vegetable matter does not rot so soon? Is it not applied to masses of putrescent matter to prevent the bad smell, and does it not effect this object by arresting the putrefactive process?

John Davy, who edited the last edition of his brother Sir Humphrey Davy's agricultural chemistry, states an experiment made by him to determine this point, which resulted in showing the anti-septic effects of lime; and Hayward, who wrote a very interesting and valuable work on agriculture, states unequivocally that lime is an anti-septic.

Davy says, "the manner in which lime acts in agriculture, requires further and minute investigation, and is a most important subject for inquiry. From the experiments I have made, I have satisfied myself that it arrests, equally, vinous and putrid fermentation, and that in close vessels it may be used for preserving both animal and vegetable substances."

Further information on this very important and interesting subject may be had by reference to pages 27, 60, 77, 152 and 250 of the third volume of the Farmers' Cabinet, to which the reader is referred.

The difficulties with the lime kiln, detailed in the latter part of the essay, have occurred in the lime burning districts of Pennsylvania, and they arise mainly from building the kiln by plausible theory, instead of referring to experience. The kiln is too high (22 feet) in proportion to the diameter on the top; it should be contracted but very little at the top, otherwise it will choak; and when the waiste is much wider than the top, towards the latter part of the burning the stone settles down and leaves an opening around it, so that the fire passes on the side of the kiln instead of through the lime, and leaves it imperfectly burnt. In the lime-burning district of Plymouth, Pennsylvania, fourteen miles from Philadelphia, from whence comes the principal supply of the city, the kilns burn from 1500 to 2000 bushels at a time, and are forty-eight hours in blast; which is twenty-four hours less time than the Maryland kilns are stated to be in burning, from which it is inferred that there is something wrong in the construction of the kilns or in their management, that ought to be rectified; besides which, there must be a great waste of fuel used in the process, where it is so long procrastinated. This is a subject well worthy of close examination, as in proportion to the cheapness of lime will be the extent of its application to the soil.

AGRICOLA.

March 26, 1840.

Men are so dependant on one another, and the vicissitudes of fortune are so great, that it should make people cautious whom they offend, as accident may lay them under a necessity, at some future time, of applying to those very persons for their friendship and assistance.

For the Farmers' Cabinet.

Mortar for Plastering.

Communicated to the Philada. Agricultural Society.

BY JOSEPH CLOUD.

As hard, durable and adhesive mortar or plaster, is of such importance in the arts, perhaps a few hints on that subject may be useful in calling the attention of those who have the direction of its preparation, and serve to aid them in bringing the process to a higher state of perfection than that in common use. Probably, the object desired can only be obtained by proper care in the selection and perfection of the materials of which it is composed. The substances necessary for the composition of hard, durable and adhesive mortar or plaster for building walls, or covering the exterior of buildings, appear to be pure silicious sand, and pure, fresh-slacked lime (hydrate of lime.) The sand should be tolerably fine, with the surface as rough and angular as possible—that used by the stone-cutters, (commonly called stone-cutter's sand,) answers very well. The sand should, in all cases, preparatory to its admixture with the hydrate of lime, be perfectly freed from earthy and all other impurities, by washing with water. The hydrate of lime should be prepared from pure, fresh, wood-burnt lime, which after being slacked, must be mixed with water until it forms what is usually called milk or cream of lime, then passed through a fine sieve for the purpose of freeing it from unslacked particles and impurities. At this stage of the operation, the sand and lime are to be mixed together in such proportions as to form a compound consisting of *nine* parts sand and one part lime, with the addition of as much water as may be required to reduce the mass to a plastic state of such consistence as may be proper for application. As much of the perfection of the mortar will depend on the mixture, due attention should be paid to the complete incorporation, so that no two particles of sand shall exist without having the space or interstices between them completely filled with hydrate of lime. From the moment that lime is slacked it acquires a strong affinity for carbonic acid, and a union is formed such as existed in the limestone before burning; consequently, mortar is obtained possessing nearly the hardness of *flints*, with the durability of silicious sand and marble, both of which are impervious to, and insoluble in water, and equally unaffected by the influence of the atmosphere.

The spaces between the particles of sand having been completely filled by the hydrate of lime in the effectual mixture of the materials forming the mortar, the subsequent union of the lime with carbonic acid, and the

consequent displacement of the water that held the lime in the state of hydrate, will rather produce an increase in bulk, than otherwise—the carbonic acid taking the place of the water, a minute crystallization, the result of the re-formation of the carbonate of lime, produces a firm attachment between the particles of sand, and also between the mortar and the substance to which it is applied; the whole necessarily becomes a solid mass. The addition of a greater quantity of lime than what is absolutely necessary to fill the spaces between the particles of sand, would be worse than useless, inasmuch as it would require more than a proportionately longer time to become restored to a state of carbonate, and consequently longer exposed to the influence of the atmosphere and water: and when the lime has arrived at a state of carbonate, the hardness and adhesiveness will be lessened in proportion to the increase of the softer material forming the mortar.

As no change can be effected on the particles of sand, the whole chemical influence will necessarily be exerted on the hydrate of lime. By a union of carbonic acid from the atmosphere with the lime, and the consequent separation of the water that held the lime in a state of hydrate, a new chemical compound is formed, possessed of different properties: the hydrate, which appears to be destitute of the property of hardening, and retains considerable solubility in water, when changed by a union with carbonic acid, forming carbonate of lime, it assumes the properties of induration and insolubility. Hence, mortar cannot be considered as having arrived at its most perfect state of hardness, adhesiveness and durability, short of a complete decomposition of the hydrate, and the formation of a carbonate has been effected. The time required in producing the change, will be more than proportionate to the quantity—the particles exposed on the surface being first changed to a carbonate, they serve as covering, and protect the deep-seated particles, to a considerable extent, from the influence of the carbonic of the atmosphere: consequently, any excess of lime beyond what is necessary to fill the spaces between the particles of sand, will tend to retard the hardening process; and when it has arrived at the utmost extent of hardness and adhesiveness, it will be lessened in proportion to the increase of the lime used.

The opposition against book-farming, rests on the shoulders of two monsters—ignorance and prejudice.

All the energy of the hero, and all the science of the philosopher, may find ample scope in the cultivation of a farm.

Zoology.

Why are certain animals called Mammalia, or Mammifera?

Because they have breasts, (*mammæ*) with which the females suckle their young.

Why is the class of mammifera placed at the head of the animal kingdom?

Because, that not only we ourselves belong to it, but it is that class which possesses the most numerous faculties, the most delicate sensations, and the greatest variety of action; and in which the assemblage of all these qualities appears so combined as to produce an intelligence more perfect, more fertile in resources, less the slave of instinct, and more capable of progressive perfection, than what is to be found in any of the other classes.

Why are mammalia and birds called warm blooded?

Because their blood is of a heat about one hundred degrees, more or less.

Why are other animals called viviparous?

Because they produce their young alive and perfect, (from *vivus* and *pario*), as man, quadrupeds, &c.

Why are certain animals called vertebrated?

Because they have a cranium, or bony cavity, containing the brain, and a succession of bones called the spine, and the divisions of it, *vertebræ*, proceeding from the cranium, and containing a prolongation of the brain, denominated spinal marrow.

Why are other animals called invertebrated?

Because they have no vertebræ.

Why does the faculty of instinct differ from intelligence?

Because instinct makes animals perform certain actions, necessary to the preservation of the species, but often altogether foreign to the apparent wants of the individual; and often, also, extremely complicated.

We cannot attribute these actions to intelligence, without supposing a degree of foresight and understanding infinitely superior to what we can admit in the species that perform them. The actions performed by instinct are not the efforts of imitation, for the individuals that execute them, have often never seen them done by others: they bear no proportion to the common intelligence of the species, but become more singular, more skilful, more distressed, in proportion as the animals belong to the less elevated classes, and are, in other respects, most stupid. They are so much the property of the species, that all the individuals perform them in the same manner, without any improvement.

The working bees have, since the beginning of the world, built the most ingenious edifices, agreeably to principles of the high-

est geometry, and destined to lodge and nourish a posterity which is not even their own. Solitary bees and wasps form also very complicated nests for their eggs. From the egg there springs out a worm, which has never seen its mother, which does not know the structure of the prison in which it is enclosed; but, when once it is changed into a wasp or bee, it constructs a similar nest, equally perfect, for its own egg.

BONES.

Why is fossil osteology, or the knowledge of bones dug out of the earth, an important branch of anatomy?

Because it not only brings to our knowledge races of animals, very different from those with which we are acquainted, but supplies many intermediate links, in the gradation of structure, which are wanting in the present creation; and, therefore, makes it probable that when the two are sufficiently investigated, one regular, connected chain will be formed, each class of animals imperceptibly running into that which is next to it.—*Sir E. Home.*

Why are bones excellent manure?

Because of the large proportion of lime which they contain.

Why are teeth important in identifying different animals?

Because, by the largeness of the tooth, the naturalist can judge of the real size of the animal which bore it; and by the form of the tooth he can tell whether it was fitted to grind grass, or to tear flesh; and therefore, whether it belonged to an herbivorous or carnivorous species. Pursuing his inquiries from this point, he could decide in a great degree as to the structure of the stomach and viscera: the extremities, whether armed with claws or protected with hoofs; and, farther, he can judge of the vivacity of the senses which belonged to the animal, and the habits which it derived from its peculiar conformation—knowing, beyond a doubt, that there was an intimate agreement in all the properties of its existence, and that every thing in its organization was regulated by an undeviating harmony.

Why are the lives of wild animals shortened by the loss of teeth?

Because, as old age increases, the teeth fall out, and the means of obtaining food thus failing, the body sinks to rest. Man is the only animal that can counteract the fatal consequences of the loss of teeth.

Why are the incisors or front teeth of gnawing animals always sharp?

Because, as the teeth are covered by an enamel only on their anterior or convex surface, and the bone wears down much faster than this harder covering, the end of the

tooth is a sharp cutting edge. No animal exhibits this structure better than the rat.

Why do carnivorous animals masticate their food very imperfectly?

Because their lower jaw can only move upwards and downwards, and is incapable of that horizontal motion which constitutes mastication.

Why do other animals which live on vegetables, masticate their food thoroughly.

Because they can move their lower jaw backwards and forwards, and to either side, so as to produce a grinding effect, necessary to bruise grass and to pulverize grain. The teeth may be compared, in the carnivorous animals, to scissors; in the other animals, to the stones of a mill.—*Blumenbach.*

Why do carnivorous animals prey on those which derive their food from the vegetable kingdom?

Because the food of all animals either mediately or directly, is derived from the vegetable kingdom.

Why are the teeth of some animals, as the cow and sheep, darker in the centre than elsewhere?

Because the cement which should fill up the teeth, is sometimes not completely deposited before the tooth cuts the gum; hence cavities are left in the centre of the tooth, which become filled with a dark substance, composed of the animal's food.—*Blumenbach.*

Why are bullets sometimes found imbedded and concealed in ivory tusks?

Because they have been lodged there by the muskets of the hunters; and as the tusks are continually growing during the animal's life, the bullet becomes surrounded by new layers of ivory, while no opening exists between it and the surface, to account for its entrance.

Why does the dog, while changing its teeth, appear to have the canine teeth doubled?

Because the permanent ones cut the gum before the old ones have fallen out.

THE STOMACH.

Why are certain animals called ruminating?

Because they first imperfectly chew and swallow their food, and subsequently return it through the œsophagus or gullet, in small quantities at a time, to the mouth, there to be thoroughly masticated, and then swallowed a second time.

Why do certain animals ruminate?

Because, it is supposed, of a voluntary power in the œsophagus; and, indeed, the influence of will throughout the whole process, is incontestible. It is not confined to any particular time, since the animal can delay it when the paunch is quite full. *Blu-*

menbach knew four men who ruminated their vegetable food, and assured him they really enjoyed the process; and two of them had the power of doing, or abstaining from it at pleasure. The final purpose of rumination, is, however, unexplained.—*Blumenbach.*

Why do some animals, as the dog, vomit very easily, while others, as the horse, scarcely ever can vomit?

Because of a peculiarity of the opening of the œsophagus or gullet, into the stomach, both in size and mode of termination.—*Blumenbach.*

Why are hair balls found in the stomachs of some animals?

Because the animal has licked off his own hair, which thus gradually accumulates in the stomach.

Why is hair found in balls?

Because the motion of the intestines in which it is found is rotary.

CLOTHING.

Why does the fur, wool, or feathers, of quadrupeds and birds, vary in quantity and quality, in different countries?

Because, generally, of the temperature of the region which the animal inhabits. Thus, the dogs of Guinea, the Indian sheep, and the African ostrich, are so thinly clothed, that they may be considered almost naked. The temperature of their bodies is thus necessarily diminished in proportion to the heat of the climate in which they live. The Iceland sheep and the Esquimaux dog, on the contrary, are covered with a warm coat both of hair and wool, which enables them to bear the most intense cold, without much inconvenience.

Why are the skins of hares and rabbits seldom ripe in their fur till frosty weather has set in?

Because the growth of the hair is dependent upon the temperature of the atmosphere: previous to the winter, the hair of all animals is increased in quantity and length, and the more they are exposed, the greater is the increase.—*Zoological Series.*

For the Farmers' Cabinet.

Moths.

The perfume of any of the essential oils, or the effluvia of dried plants from which they are extracted, will drive away or prevent the approach of moths. Wormwood, lavender, walnut leaves, rue, or black pepper, in grains or pulverized, placed in contact with woollens or furs, will protect them from the ravages of these destructive intruders. Whatever remedy is resorted to, ought to be applied early in the season, before the moths begin to deposit their eggs.

R. W.

To the Editor of the Farmers' Cabinet.

Sir—I am a native of England, and have emigrated to this country to experience, in reality, the liberty and happiness which I have enjoyed in anticipation for many years. My life has been spent in the pursuits of agriculture; and it is a subject with me, that, like some kinds of music, never cloy, because it is, in my case, a *natural taste*, or *feeling*, or *sentiment*—which you will.

A residence of two years has brought me acquainted with many things which, without the step which I have taken, I should have remained ignorant of all my life; for I can look back to the country which I have left, and examine, by cool reflection, the state of things which I did not once consider so desirable as they now appear—for I was then situated too near them to be able to take so comprehensive a view as I now enjoy; while, I must be permitted to say, I perceive in this, the country of my adoption, a *few* others, which do not appear *quite* so perfect as my fond expectations had painted to my imagination. But I am willing to attribute this *discrepancy* to the same cause, namely, my inability to take so comprehensive a view as I ought, from the contracted medium through which I am compelled to observe them: I stand too near. But having seen both sides of the picture, I may be permitted, perhaps, to hope to form a better judgment from this circumstance.

I have devoted myself to my favourite pursuits with such ardour, that I have not permitted any of the exciting topics of the day to possess my mind, even for an hour. I have given notice of my intention to become a citizen of this country, but have never *given a vote* upon any occasion whatever. I am so blissfully ignorant as not to know the difference between a democrat and federalist, and have therefore never taken upon me to pass judgment on any "men or measures" connected with the government. It is quite enough for me, if the people will permit me to take a situation amongst them; and I am perfectly willing that they shall legislate for me, at the time that they legislate for themselves; and, from what I observe around me, this will be well done—for the irrepressible ardour with which they enter on these duties, convinces me that it is not done carelessly, or without examination. I have never, therefore, experienced any difficulty with my new friends—on the contrary, I have always received at their hands the most courteous treatment, and the kindest attentions; and for this I beg them to accept my grateful acknowledgments.

With these feelings, which are, I am sure, reciprocal, perhaps I may be allowed to enter

your pages as a gratuitous correspondent, under the signature of *Vir*. My wish is, candidly, to receive and to communicate information, on the Scripture principle—"Iron sharpeneth iron; so doth the countenance of a man, his friend:" and from all that I have seen, and felt, and understood of this country, I have no reason to expect any but the most pleasing results from such a connection. I am free to confess that many of my countrymen have failed in their pursuits of agriculture in this country, through pride, vain-glory, but not hypocrisy. I have always been aware of this rock, upon which so many have split, and have hitherto steered clear of it: it will be my study to give it a wide birth; and it will afford me very great pleasure, at all times, to show that I am actuated by very different motives. With your permission, then, I take my leave for the present, wishing your publication the most perfect success—plenty of correspondents, warm friends, and constant readers, and a subscription list of twenty thousand—by no means too large a number to expect from so highly cultivated and richly endowed a portion of this vast, this wonderful country.

VIR.

April 2d, 1840.

We accept the offered services of "*Vir*," and shall be happy to enrol his name among the number of our numerous and well appointed list of contributors. Will he accept our thanks for his good wishes, which, with such assistance as his, and others of which we can boast, we fully expect to see realized.—Ed.

A Farmer's Life and Duties.

If we were ever envious, it was of the farmer—the intelligent, independent farmer, who owned his land, his house and barns; who was free from debt, whose family were growing up prosperously around him, upon whom God smiled and blessed. We have seen such a farmer; and in truth, we know of no man so happy, and no business so permanently profitable—none that makes the owner so independent. An independent farmer has his house to live in—it is his own—he has earned it by the labour of his hands. He has his granaries filled with the production of his farm, his barns with the stock reared, and the hay raised upon his farm. His cellars are filled with the necessaries and comforts of life. Almost every thing necessary to feed him and his family, grows around him. He may raise his own pork, fatten and kill his own sheep, eat his own poultry and his own eggs—live upon his own

home-made bread—weave his own cloth—raise his own wool—knit his own stockings, through the agency of his wife and daughters—make his own butter and cheese; in short, live and dress comfortably, without going off his own homestead. This is no fiction; and it is a fact, that the farmer is the most independent man in the community.

But in order to be happy, and make his life useful as it ought to be, he must be intelligent—in possession of the means of knowledge—especially that kind of knowledge which relates to his own profession. He must use the means which God has given him, to be happy himself, and to contribute to the happiness and comfort of those around him. In justice to himself, he will employ his evenings in the acquisition of knowledge. He will be a reader of useful books, and a supporter of the public press, which brings to his door the newspaper, which gives him the history of the world. Such a farmer as this will fulfil his duties to his God and his fellow-man, and is the happiest and most independent among the best of men.—*Providence Courier*.

To the Editor of the Farmers' Cabinet.

SIR—In the present posture of our Boundary question, will you permit me to hand you the following extract—with a holy wish, that every one would read, mark, and inwardly digest the momentous truths contained in it.

H.

N. J., April 1st, 1840.

"WHAT MIGHT BE DONE WITH THE MONEY WASTED IN WAR.—Give me the money that has been spent in war, and I will purchase every foot of land upon the globe. I will clothe every man, woman, and child, in an attire that kings and queens would be proud of; I will build a school-house upon every hill side, and in every valley, over the whole habitable earth; I will supply that school-house with a competent teacher; I will build an academy in every town, and endow it—a college in every state, and fill it with able professors; I will crown every hill with a church consecrated to the promulgation of the gospel of peace; I will support in its pulpit an able teacher of righteousness, so that on every Sabbath morning the chime on one hill shall answer to the chime on another, around the earth's broad circumference—and the voice of prayer, and the song of praise, shall ascend like a universal holocaust to Heaven.—*Stebbins*."

Let every farmer, who has a son to educate, believe and remember that science lays the foundation of every thing valuable in agriculture.

From the Franklin Farmer.

Culture of the Beet Root.

As the time is now come, when those who intend growing and cultivating the sugar-beet, should be ready for it; and believing it the duty of every one to contribute what he can to the general stock of information, upon a subject which so vitally concerns the interest of our country, I have obtained the following facts from my friend, Mr. Francis Taylor, who resides a couple of miles above this city. Although I made an experiment with the beet culture, the same season, which I was entirely pleased with, yet I did not note down the particulars as my friend did. I now send you, for the benefit of your readers, the result of his experiment.

Mr. Taylor had a blue-grass calf lot, containing one-third of an acre, which he determined to plant with the sugar-beet. Accordingly he broke up the sod about the first of February, with a large plough, to the depth of ten inches.

On the first of March he cross-ploughed it with a small plough, and on the fifth day of April he ploughed it again, and harrowed over twice: he then, with a small plough, threw up two furrows together, so as to form ridges about two and a half feet apart, which he afterwards opened with a hoe; and for want of a drill, the seed were dropped by hand, about three inches apart, and as the beets came up, they were thinned out, and sold in our market to the amount of considerably upwards of *fifty dollars*, for table use.

The crop was ploughed twice, and weeded out twice with the hoe, which is all the cultivation they received; and in the fall, when they were harvested, he gathered twenty thousand and three hundred pounds off the third of an acre, being upwards of thirty tons to the acre. The largest beet weighed twenty-one and a half pounds, and was exhibited at our annual fair. Many others weighed nineteen to twenty pounds. Mr. Taylor thinks that it is not as troublesome a crop to raise, as corn; and he is of the opinion also, that his third of an acre of beets went as far as three acres of corn would have done towards feeding his cows. From my own experience, I believe that the sugar-beet mixed up with a little chop, is the finest food for cows, that can possibly be given them, as it increases the quantity and richness of the milk, and gives the butter a beautiful rich colour. I am also informed that it makes the finest kind of mutton.

Having grown a few of the beets on a small spot in my garden, by way of experiment, I am inclined to think the best distance for the plants to stand in the ground, is from four to ten inches.

The farmers in old Mason are preparing to grow the beet very largely this season; and if the particulars I have here given you, should induce any of your readers to try the experiment, I shall be amply compensated for the trouble I have taken in the matter.

Respectfully,

H. P. PEERS.

Maysville, Ky., March 5, 1840.

For the Farmers' Cabinet.

Milk.

From careful experiments and observations made by Dr. Schubler, professor of chemistry, applied to agriculture, in the celebrated institution of Fellenburg, at Hofwyl, in Switzerland, he says, he found the morning's milk commonly to yield some hundredths more cream than the evening's, at the same temperature; and that in milking cows, this singular phenomenon is observed, that the milk obtained from one and the same milking, differs considerably in quality: that, contrary to what might be expected, the milk first extracted, is not the best—but that which is obtained the last, contains invariably the largest proportion of cream. To satisfy himself thoroughly on this point, he caused a meal's milk of one cow to be milked into five vessels of the same size, and then separately examined the milk in each, in the order in which it was taken.

No. 1, or that drawn first, gave 5 per cent. of cream.
" 2,..... gave 8 .....do.....
" 3,..... gave 11.5.....do.....
" 4,..... gave 13.5.....do.....
" 5,..... gave 17.5.....do.....
Making an average of the whole of 11.05 per cent.

He extended his experiments so as to test the quantity of caseous or cheesy matter obtained from different drawings of milk, which displayed a similar result—proving, in the most satisfactory manner, that the last drawings of the milk were constantly much richer, both in butter and cheese, than the first; and demonstrating in the most conclusive manner the vast importance to the farmer, of having *trusty* milkmaids, who will tug away as long as a drop of the precious fluid remains in the udder.

LAC.

Newark, N. J.

HOME.—The only fountain in the wilderness of life, where man drinks of waters totally unmingled with bitterness, is that which gushes for him in the calm and shady recess of domestic life. Pleasure may heat the heart into artificial excitement, ambition may delude it with its golden dreams, war may eradicate its fine fibres, and diminish its sensitiveness, but it is only domestic love that can render it truly happy.

For the Farmers' Cabinet.

Manufacture of Cider.

(From the papers of the late Joseph Cooper, Esq.)

Cider is an article of domestic manufacture, which is, in my opinion, the worst managed of any in our country, considering its usefulness; and perhaps the best method to correct errors is to point out some of the principal ones, and then recommend better.

One of the first is the gathering of apples when wet; the next, to throw them together, exposed to sun and rain, until a sourness pervades the whole mass; then grind, and for want of a trough or other vessels sufficient to hold a cheese at a time, put the pomace on the press as fast as ground, then make so large a cheese as to take so long a time to complete and press off, that fermentation will come on in the cheese before the cider is all out; and certain it is, that a small quantity of the juice pressed out after the fermentation comes on, will spoil the product of a whole cheese if made therewith. When either of the above circumstances will spoil the cider, which I know to be the case, don't wonder at the effect of a *combination* of the whole, which is frequently the case.

As I have very often exported cider, and sold it to others for that purpose, to the West Indies and Europe, without ever hearing of any spoiling, and as it is my wish to make the productions of our country as useful as possible, I will give an account of my method. I gather the apples for good cider when dry, put them on a floor, under cover, have a trough sufficient to hold a cheese at once, when the weather is warm; grind them late in the evening, spreading the pomace over the trough to give it air, as that will greatly enrich the cider, and give it a fine amber colour; then early in the morning press it off, the longer a cheese lays before pressing off, the better, provided it escapes fermentation until the pressing off is completed. The reason is evident from the following circumstance, take a tart apple and bruise one side, and let it lay till brown, then taste the juice of each side, and you will find the juice of the bruised part sweet and rich, though a tart apple. So, if sweet and sour apples are ground together, and put immediately on the press, the liquor therefrom will taste both sweet and tart, but if let lie till brown, the cider will be greatly improved. I always take great care to put cider in clean sweet casks, and the only way to effect this is to rinse or scald them well as soon as the cider is out, and not let them stand with a remnant or lees to make them sour, must or stink. When my casks are filled, I place them in the shade, and exposed to the northern air. When fermentation

takes place, fill them up once or more a day, to cause as much of the filth as possible to discharge from the berry bung; when it discharges a clear white froth, put in the bung stack, or bore a hole and put a spile in it, and thereby check the fermentation gradually; and when it has subsided, take the first opportunity of clear cool weather, and rack it off into clean casks; to effect which, when I have drawn the cider out of a cask in which it has fermented, I first rinse the cask with cold water, then put into a hogshead two or three quarts of fine gravel, and three or four gallons of water; work it well to scour off the yeast or scum, and sediment which always adheres to the casks in which the cider ferments; and if not scoured off as above directed, will act as yeast when the cider is put in again, and bring on a fretting, and spoil or greatly injure the liquor; after scouring, rinse as before.

I find benefit in burning a brimstone match in the cask, suspended by a wire, after putting in two or three buckets of cider; the best method for which process is to have a long tapering bung, with a large wire drove in the small end with a hook for the match, which for a hogshead should be sufficient to kill a hive of bees. If the cider stands a week or more after racking, previous to its being put into the cellar, rack it again and rinse the casks, but not with gravel, and put it immediately into the cellar. The late made I put in the cellar immediately after or before the first racking, agreeably to circumstances as to the weather. The cider I wish to keep till warm weather, I rack in clear cool weather the latter part of February or beginning of March; it is best to keep the cask full and bunged tight as possible.

To refine cider for exportation or bottling, take of Russia Isinglass about an ounce to a barrel, pound it as soft as possible, pick it into fine shreds, put it in a clean earthen pot, pour on about half a pint of boiling water, stir and beat it with a stick split in four parts at the end, and something put in to keep it apart; when it has got thick add a pint of good sound cider, set the pot in a place the most safe and handy, but not too warm; as it grows stiff, add cider as before in small quantities, and repeat the stirring, the oftener the better, if fifty times a day; in two or three days, if it is well dissolved, rack off the cider which is for refining, add of it to the isinglass prepared as above, stirring it well till fit for straining, which do through a linen cloth; then mix the fining and cider together as well as possible, and set it in a proper place for drawing off, giving some vent for some days. If it is not sufficiently fine in ten days, rack it off and repeat the fining as before; but it is best to rack it, fine or not,

in ten or twelve days, lest the sediment should rise, which I have known to be the case.

The foregoing operation should be performed *previous to the apple trees being in bloom*; but I have succeeded best in the winter, in steady cool weather. I have likewise had good success in putting the fining in the cider direct from the press, and set in casks with one head out, taps put in and set in a cool place properly fixed for drawing, and covered; when the fermentation subsides, and the scum begins to crack, take it off carefully with a skimmer, then draw it carefully from the sediment. If it is not sufficiently fine by the middle of winter proceed as before directed.

The settlings of cider spirits, reduced with water cider, being put into cider, in proportion of from two or three gallons to a hogshead, answered the purpose of fining, full as well as the isinglass.

JOSEPH COOPER.

2nd mo. 1803.

For the Farmers' Cabinet.
Premiums for Crops.

At a meeting of the Philadelphia Agricultural Society, held April 1st, 1840, the following report was directed to be published in the Farmers' Cabinet.

It was agreed to offer premiums for the following crops; the amount of the premiums to be fixed and determined at a future meeting of the Society.

For the best field of Indian Corn, not less than five acres.		
For the second best	do.	do.
For the best crop of Spring Wheat, not less than two acres.		
For the second best	do.	do.
For the best crop of Potatoes, not less than two acres.		
For the second best	do.	do.
For the best crop of Sugar Beet, not less than one acre.		
For the second best	do.	do.
For the best crop of Mangel Wurtzel, not less than one acre.		
For the second best,	do.	do.
For the best crop of Ruta Baga, not less than half an acre,		
For the second best	do.	do.
For the best crop of Field Carrots, not less than a quarter of an acre.		
For the second best	do.	do.
For the best crop of Sugar Parsneps, not less than a quarter of an acre.		
For the second best	do.	do.

Competitors will be required to notify the

Committee at least one month previous to housing their crops. Each competitor must furnish the Committee with a written account of the manner of cultivation, kind and quality of manure; character and kind of soil, as nearly as practicable; and expense of labour bestowed on each crop. They must also furnish satisfactory evidence of the quantity produced per acre.

GEORGE W. ROBERTS,
ROBERT T. POTTS,
JAMES THORNTON,
ISAAC NEWTON,
ISAAC W. ROBERTS,
DR. GEORGE UHLER,
Committee on Crops.

Sugar Beet.

To the Editor of the Farmers' Cabinet.

SIR:—On the first introduction of this invaluable crop to notice, a portion of the imported seed was of the yellow species. This has given place to the white, or Silesian, the only kind now cultivated. The writer wishing, however, to have an opportunity of testing the quality of the yellow species, for a particular purpose, is desirous of knowing if any of the friends of the Cabinet still retain any of these roots—and if they do, to ask of them to forward to the office of the Cabinet, (No. 50 North Fourth street, Philadelphia,) a few—if not more than two or three, they will be very acceptable—for the purpose above mentioned. The kind desired, are globe shaped, rather than tap-rooted; and they will be best for the purpose required, to retain their tops—by which is meant, not their leaves, but the crown of the root. The success of the contemplated experiment will be made known through the pages of a future number of the Cabinet.

W. R.

Philadelphia, April 6, 1840.

Clay Soils.

All clay soils intended for spring culture, should be turned up in the fall, to receive the benefit of the action of the winter's frost, which mellows and reduces it infinitely better than any treatment which man is susceptible of giving it. If very tenacious, its condition may be greatly improved by simply adding sand to it, after the ploughing, and so harrowing it as thoroughly to mix the two together. Instances of the success of this practice are numerous in Europe, and are said to have been so decidedly striking as to excite surprise. In numerous cases, the advantages have been equally great as if the clay had been heavily manured.

A farmer should never forget that it is his duty to treat God's creatures with kindness.

The object of Agricultural Papers.

We have greatly misconceived the design of the agricultural periodicals of the day, if one of their leading objects is not to afford the practical farmers of the land an opportunity of communicating and comparing their several methods of tillage—thus embodying the opinions and experience of the whole reading community, for the mutual benefit of all. It is a great fallacy to suppose that when an individual becomes the editor of an agricultural paper, he necessarily constitutes himself a dictator of opinion and practice to his readers. His opinions, although they may be highly enlightened and judicious, are at least the opinions of a single individual, and entitled to no more *extra* consideration than his advantageous position for the acquisition of valuable information may justify. The common objection, therefore, to subscribing to an agricultural paper—that he, the objector, knows as much about farming as the editor, is the clearest proof of a deplorable ignorance; ignorance even of the very objects and intentions of the publication he rejects.

As the world waxes older and wiser, the useful arts keep pace in their improvement, with the progress of society. But these improvements, which are advancing almost daily, are not, perhaps, in themselves more important than the facilities afforded by the periodical press for making them known, with almost magic celerity, to the ends of the earth. Thus an important discovery in farming, which, without this aid, would probably be years in travelling beyond the limits of ten square miles, is taken up by the agricultural papers, and circulated throughout the country in a very few days—whilst a distant periodical repays the obligation by recording an equally valuable idea of similar character, and destined to a like extensive and rapid circulation. But if all practical farmers were, in surly silence, to keep their discoveries and improvements all to themselves, how disastrously would the value of all the agricultural papers of the land be curtailed! And this brings us to the point we had in view in adopting the caption we have placed at the head of this article, and that is an appeal to the friends of this paper for communications on the various topics connected with the interest of agriculture in the land.

Many of our agricultural exchange papers from other states, come to us regularly freighted with exceedingly interesting communications, embodying a great fund of information, practical and scientific, and constituting a large proportion of the value of those publications. Now, could we prevail on our subscribers to yield us a like efficient

aid in our labours, the benefits of such an interchange of opinion and experience, would redound alike to them and to the general advancement of the great interests which it is the object of our little sheet to advance. Let our friends then make it, if not a matter of patriotism, at least of personal interest, to enter upon this mutual comparison of practice and opinion, which cannot fail of the happiest results to all.

In these communications, the drapery of highly polished diction is by no means necessary, though certainly not unwelcome. Let no one therefore be deterred from communicating valuable matter which may be in his possession, because he may not happen to think his style of writing sufficiently classical. All original communications, embodying useful information, will be gladly received and cheerfully inserted, in preference to any other matter.—*Tennessee Farmer*.

From the Yankee Farmer.

Fermented Food.

MR. EDITOR,—I observe an article in the Farmer of Dec. 14, on the cooking of food for animals, as a matter of economy. These remarks appear to be rational; and if the method there described should be carried into effect, no doubt the farming interest would be very greatly advanced. But the mere cooking of food for animals is not all that may be done to advantage. All food, after being cooked, may be rendered much more valuable for animals by being fermented before feeding it out to them. The reasons are simple, philosophical, and plain, though probably very few are aware of them. Digestion of food in the stomach is performed on the same principles as is distillation. It is well known as a settled fact in chemical philosophy, that distillation cannot be had from any thing without a proper state of fermentation, and that must be performed before the liquor goes into the kettle.

So in digestion. The digestive process cannot proceed until after fermentation in the stomach, if the food is taken in an unfermented state. Thus we see that all this labour must be first performed by the stomach before healthy and nourishing digestion can take place. For it is only by a proper development of the proper gases, that digestion and nutrition take place at all. And this is the reason that creatures are often killed by over-eating certain articles. Hogs have been frequently killed by giving too much at a time of sweet whey. The reason is, that before healthy and digesting fermentation takes place, an unhealthy fermentation takes place, by which the stomach and other intestines are so distended that digestion

cannot take place, and death very soon follows. These evils have often happened to cattle by eating too freely of green clover, and various kinds of grain. The stomach in such cases not being able to subdue and neutralize the over quantity of food to produce digestion.

If all cooked food should be properly fermented before it is fed to animals, their appetites would probably never induce them to take any more than their stomachs would naturally and easily digest. Another advantage would also be realized: less food would satisfy, and still produce more nourishment. It might cost a little trouble, but the owner would probably be well paid for it, both in his saving of food, and in the growth, health, and safety of his animals. Creatures of all kinds, at first, probably would not like fermented food as well as unfermented. They should therefore be brought to it by degrees, which would not be much trouble; and when used to it, they would like it better. The way that this should be done, would be to have several tubs of proper size, into which to throw the cooked food, and let it lay until it ferments. Then when the first tub should be fed out, fill it again, using from the next one, and so on. In this way fermented food could be kept without extra expense or trouble, when the proper apparatus is once supplied.

This method of feeding may perhaps appear trivial and useless to those who are unacquainted and inexperienced in it. But it is undoubtedly well founded in the principles of animal and chemical philosophy, and therefore is not a subject of mere speculation. I have made these remarks, not expecting that the farmers will generally accede to, and practise them; but in the hope that some who are curious to know and ready to adopt the best methods of growing and fattening animals, will be disposed at least to make the trial.

Books.

There is, I may well say, no wealth, there is no power, there is no rank, which I would accept, if in exchange I were to be deprived of my books; of the privilege of conversing with the greatest minds of all past ages, of searching after the truth, of contemplating the beautiful, of living with the distant, the unreal, the past, and the future. Knowing, as I do, what it is to enjoy these pleasures myself, I do not grudge them to the labouring men, who, by their honourable, independent, and gallant efforts, have advanced themselves within their reach; and owing all that I owe to the soothing influences of literature, I should be ashamed of myself, if I grudged the same advantages to them.—*Macaulay.*

From the Franklin (Ky.) Farmer.

The Horse.

We owned a thorough-bred mare by a colt of the Winter Arabian; and though small, she had a fine constitution—sound, flinty limbs—was hardy, durable, easily kept in order; possessing great muscular power and capacity to perform constant heavy labour, which rendered her greatly an overmatch in ploughing, for any of the large Ohio mares on our farm, sometimes worked with her. And this superiority was strikingly manifest in warm, sultry days. She could undergo a hard day's ride, and finish it with more spirit than any thing we ever rode. The stock want size; but many of them possess the same qualities with our mare.

We have noticed in our railroad cars, some horses by a thorough-bred stallion, called Pocotaligo, brought to this state by Dr. E. Warfield. This work is particularly severe and trying to the legs; and we have been informed that this stock has worn very decidedly better than any other ever used for the purpose: they were deep in the blood, if not thorough-bred. Since the completion of our turnpike roads, it is found that even slow travel upon them, soon knocks to pieces the limbs of our common horses: rapid driving or riding produces the same effect more quickly. This is a serious matter, and requires attention. In our own notice, the blooded horse on these roads has clean, sound limbs, when those of the scrubs at his side, are stiff, sore and puffed. By blooded, here, we mean from half-bred to thorough-bred. We think any stock should be held in high esteem, that can stand the travel on the turnpike roads with sound limbs. It has seemed to us, that the Cleaveland Bay was well calculated to give us this breed. In the "History of the Horse," it is said, "the principal points in a coach horse, are, substance well placed, a deep and well proportioned body, bone under the knee, and sound, open, tough feet. The origin of the better kind of coach horse, is the Cleaveland Bay. The Cleaveland mare is crossed by a three-fourth, or thorough-bred horse of sufficient substance and height, and the produce is the coach horse most in repute, with his arched crest and high action. From the thorough-bred of sufficient height, but not of so much substance, we obtain the four-in-hand and superior currie horse. From less height and more substance, we have the hunter and better sort of hackney; and from the half-bred, we derive the machiner, poster, and the common carriage horse."

If you cannot speak well of your neighbours, give your tongue a resting spell.

News-Making.

Can any thing, dead or alive, more pitifully unhappy be conceived, than a jaded scribbler for the public press—sitting down to his task at the last moment, with an aching head and an empty stomach—or, *vice versa*, which is exactly the same in effect. Imagine the forlorn drudge's sensation, as he doggedly lifts the quill stump, and moves instinctively towards the fountain of good and evil, the ink-pot, surcharged with both the gall of bitterness and the honey of adulation. He is destitute of topic: his overgrown brain has exhausted its stock of image; and he can fancy nothing but the ghost of ideas already hackneyed through all the changes of the alphabet—no object that has not been hacked to death by the hungry scissors of borrowers and imitators. Yet must he continue to feed the iron jaws of the press! There is no release from the undertaking. He is in for it, and sterile or fertile, feasting or starving, his imagination must be wrung daily, yea, hourly, for the wherewithal to meet the merciless demands of the demon at his elbow!

Other men may eat, drink and sleep—may live, move, and have a being like decent creatures: the merchant may relax in time of sickness, or retire at seasons of enjoyment; the mechanic can forego a job when he breaks a limb, or chooses to go a fishing; the mariner has frequent intermissions amidst the toils and the storms of his career, and the world wags without confusion, nevertheless; *they* only, comparatively, feel the consequences. Not so with the slave of types: for him there shines no holiday. No repose, no retreat awaits his tired powers. When he skulks, the world comes to an end, and chaos riots!

Nor is it merely indispensable that he shall labour at brief and stated intervals—the most irksome sort of employment, from its very constancy, and regularity, and unceasing occurrence: he must also put forth his efforts at something new. The reading public has become a spoiled child, with a depraved appetite, perpetually hankering after novelties, monstrosities and impossibilities. In the fabrication of these crudities for *quidnuncs*, a renewal of intellect, once a year at least, should be provided for. There is an end, even to “the spider's most attenuated thread,” and what maker of long yarns can be required in reason, not only to spin out, like the spider, the substance of his body, but that of his brains also! Truly this is a cruel world, and the man that meddles with paragraphs is a miserable piece of caraneous machinery.

Follow fashion, if reason leads her; when she don't, kick fashion out of doors, or else—she will turn you out.

Book-Farming.

Do *the words* produce a sneer? Be that as it may—the *thing*, or what is often stigmatized as *that thing*, is not contemptible. For, what is it! Not an attempt to comply with the advice and copy the example of every one who furnishes an article for an agricultural journal; not the adoption of every method of husbandry that is recommended in print; not a departure from all the usages of our fathers and neighbours; not a preference of the theories contained in books, to the results of experience. No! I pity the stupidity of the man who thinks that if we use books, we must close our eyes against the light that is beaming upon us from other sources; or that we must become mere theorisers, and the victims of ruinous experiments. What! does a man lose his own common sense, his prudence and his judgment, whenever he takes up an agricultural paper, or opens a book upon husbandry? Cannot one make himself acquainted with the doings of others, without losing his power to judge whether it would be well for him, in his circumstances, to copy their examples! Our brains are not so weak as this. The knowledge acquired from books does not make us all mad. But if it did, there would be more zest, and true enjoyment in the learned mad-man's course, than in that of him who has learned out, and who thinks that books cannot make him wiser. I ask what book-farming is! Common book-farming is, learning by means of books, new facts, opinions, results of experiments, *modus* of operation, and the using such parts of the information as can be turned to profitable account in our individual situations. If this be folly, we are content to be called fools. An agricultural paper will be worth to you every month, if not every week, more than its annual cost.—*Mr. Putnam's Address.*

WASHINGTON'S OPINION OF AGRICULTURE.—The following is an extract of a letter from General Washington to Sir Arthur Young, who was very fond of agricultural pursuits:

“The more I am acquainted with agricultural affairs, the better I am pleased with them; insomuch that I can no where find so great satisfaction as in those innocent and useful pursuits. In indulging these feelings, I am led to reflect how much more delightful to an undebauched mind is the task of making improvements on the earth, than all the vain-glory which can be acquired from ravaging it, by the most uninterrupted career of conquests. The design of this observation is only to show how much, as a member of human society, I feel myself obliged to your labours to render respectable and advantageous an employment which is more congenial to the natural dispositions of mankind than any other.”

The Cloud.

I bring fresh showers for the thirsting flowers,
 From the seas, and from the streams ;
 I bear light shade for the leaves when laid,
 In their noon-day dreams.
 From my wings are shaken the dews that waken
 The sweet buds every one,
 When rocked to rest on their mother's breast,
 As she dances about in the sun.
 I wield the flail of the lashing hail,
 And whiten the green plains under,
 And then again I dissolve in rain,
 And laugh as I pass in thunder.

I sift the snow on the hills below,
 And the pine trees groan aghast ;
 And all the night 'tis my pillow white,
 As I sleep in the arms of the blast.
 Sublime on the towers of my skiey bowers,
 Lightning, my pilot, sits ;
 In a cavern under, is fetter'd the thunder
 Which struggles and howls at fits.
 Over the rills, the crags and the hills,
 Over the lakes and plains ;
 I all the while bask in heaven's blue smile,
 While earth is dissolving in rains.

The sanguine sunrise with his meteor eyes,
 And his burning plumes outspread,
 Leaps on the back of my sailing rack,
 While the morning star shines dead.
 As on the jag of a mountain crag,
 Which an earthquake rocks and swings,
 An eagle alit, and a moment may sit
 In the light of its golden wings.
 When the crimson pall of eve may fall
 From the depth of heaven above,
 With wings folded I rest, on mine airy nest,
 As still as a brooding dove.

That orb'd maiden, with white fire laden,
 Whom mortals call the moon,
 Glides, glimmering o'er my fleece-like floor,
 By the midnight breezes strewn ;
 And wherever the beat of her unseen feet,
 Which only the angels hear,
 May have broken the woof of my tent's thin roof,
 The stars peep behind her and peer ;
 And I laugh to see them whirl and flee
 Like a swarm of golden bees ;
 When I widen the rent in my wind-built tent,
 Till the calm rivers, lakes and seas,
 Like strips of the sky fallen through me on high,
 Are each paved with the moon and these.

I blind the sun's throne with a burning zone,
 And the moon's with a girdle of pearl ;
 The volcanoes are dim, and the stars reel and swim,
 When the whirlwinds my banner unfurl.
 From cape to cape with a bridge like shape,
 Over a torrent sea,
 Sunbeam proof, I hang like a roof,
 The mountains its columns be.

The triumphant arch through which I march
 With hurricane, fire and snow,
 When the powers of air are chain'd to my chair,
 Is the million-colour'd bow.
 The sphere fire above its pure colours wove,
 While the moist earth was laughing below.

I am the daughter of earth and water,
 And the nursing of the sky ;
 I pass through the pores of the ocean and shores,
 I change, but I never die !
 For after the rain, when with never a stain
 The pavilion of heaven is bare,
 And the winds and sunbeams with their convex gleams,
 Build up the blue dome of air.
 I silently laugh at my own cenotaph
 And out of the caverns of rain,
 Like a child from a room, like a ghost from a tomb,
 I arise, and unbuild it again.

PERCY B. SHELLEY.

Bees.

Mr. Keith, of Maine, in a communication to the *Monthly Visitor*, after describing several modes of managing bees, and the ill success that attended them, thus in substance gives the result of an experiment made by placing them in a garret. He finished a room in his garret impervious to rats and mice, to which was a door secured against children and intruders. In this room was placed a swarm of bees, the hive on a level with and near the places made for their egress and ingress. The young swarm soon filled their hive, and then commenced building all around it, filling in with the finest comb, and without the support of slate or bars, the space from the roof to the floor of their room. Mr. Keith, by the aid of a candle, was able at any time to inspect the progress of his apiary, and witness the formations of the column of comb. There was no swarming, and of course the work had the benefit of all their increase in numbers. After the second year of their operations, Mr. Keith commenced taking honey from the room, doing it in the winter when the bees were dormant, in the central parts of the mass ; these external combs always composing the best and purest part of the store. For many years Mr. Keith's table was abundantly supplied in this way with the choicest of sweets, until in 18—, his dwelling house was destroyed by fire, and his bee-hive, "containing at the least eight hundred pounds of honey, and of living beings a multitude which no man could number," shared the common fate.

From what we have seen, and have been able to learn on this subject, the mode of treating bees as above described is superior to most others, for the following reasons. It prevents in most cases any swarming ; the

bees are not as frequently attacked and destroyed by the bee-moth; there is no necessity of destroying the bee as is the common but cruel practice; and the store of honey is always at command. The honey bee is one of the most valuable of our manufacturers; and that and the silk worm almost the only insects that contribute by their industry to the comfort of man.—*Cultivator*.

From the Rochester Advertiser.

On Sowing Horticultural Seeds.

Much of the complaint which is made of the failure of seeds, is owing to the want of proper care in sowing them, or to other circumstances, than their bad quality. Many kinds of seeds are very small, and if these have more than a slight covering of earth, they will not vegetate. And, on the other hand, when slightly covered, one or two days of hot sun will dry the earth, so that if they have sprouted they will be inevitably destroyed. Some kinds of small seeds will not vegetate well unless the earth is rolled or pressed firmly in contact with them. (Thus it will be seen that small seeds should be sown in fine earth, covered lightly, and rolled or pressed down; and the bed should then be shaded from hot sun, and watered frequently in dry weather.) Some seeds have a hard shell or pericarp, and require several days *soaking* before sowing, in order to cause them to vegetate freely. If these are sown without any preparation, and dry weather ensues, they will invariably fail. Other kinds, natives of warm climates, will be sure to rot if sown when the weather is cold and moist; and some even require a good hot-bed to cause them to vegetate. On the other hand some kinds require cool moist weather, and will not grow if sown late, when the weather is hot and dry. Again, sometimes the seeds vegetate well, and before the plants have become fairly visible, they are destroyed by the myriads of insects which often infest the ground in summer. These are a few of the many causes which every experienced gardener knows frequently prevent the growth of seeds; but the failure of which is often attributed to their bad quality.

Whoever quarrels with a man for his political principles, is himself denying the first principle of freedom—freedom of thought, moral liberty, without which there is nothing in politics worth a groat; it is therefore wrong upon principle. You have on this subject a right to convince, if you can; he has the same. Exercise your rights, but don't quarrel.

Keep a clear conscience.

On Feeding Stock.

Little and often, says experience; in feeding all kinds of domestic animals particular care should be taken to avoid placing too much food before them at a time, for it is observed that food which has been long *blowed* upon, is never relished afterward, and will only be eaten from the most pressing necessity.

It is well known that the exhalations from the lungs of all animals contain great impurities, which have been thrown off from the blood; and these coming in contact with the food renders it unpleasant if not injurious, and the instinct of animals prompts them to reject all poisonous substances offered them as food. The true maxim is, *little and often*. Never crowd the trough with food, or the rack with hay, to avoid the trouble of soon replenishing them again, if you wish your stock to thrive and do well; and particularly if you desire to economize your winter store of provender. Lazy boys always fill the trough and rack the fullest, in order to save the trouble of doing it soon again.—*Mississippi Farmer*.

The Sugar Beet.

The editor of the New York American, who "dabbles a little in farming," gives the result of his own experiments in the culture of this root. We give the result in his own words:—

"A patch of three-quarters of an acre was twice ploughed very deep, and very richly manured with stable manure, after having been well limed (one hundred bushels to the acre) the preceding year. The seed was planted by hand in drills, and when the plants were up they were thinned out by hand, so as to leave them about a foot and a half in the drill. The ground was kept tolerably free of weeds till the plants had attained considerable growth, after which they were not much attended to. The beets were gathered during the first week of this month, and the produce was six hundred bushels—weighing fourteen tons six hundred. The hogs and cows eat them greedily, either raw or boiled. The horses as yet refuse, although mixed with meal, or sprinkled with salt, or whether raw or boiled. The value, however, of these vegetables for milch cows is very great. It improves both the quantity and quality of the milk, without imparting to it any disagreeable flavour."

Instead of looking down with contempt on the crooked in mind or body, we should thankfully look up to God who has made us better.

For the Farmers' Cabinet.

"Well," say many that I meet, "I suppose we are going to learn all that is important and necessary, to our happiness and worldly prosperity, by perusing the Farmers' Cabinet." There we are informed, all that is requisite is just to improve your farms, by sowing clover, and ploughing it down—by enlarging your pig-pens—improving your stables and hen-roosts—your horses and cattle. Again, some maintain that we have been expending double the amount of lime and labour necessary, and therefore there will shortly be nothing in the way of every one having a farm, and living just as he pleases.

Well, I hope this may all prove true, but I tell you I yet have my doubts. Again, we hear on all hands the loud complaints about bank suspensions and bank resumptions, bank rags and bank vaults, bank frauds and bank fears; and also the hubbub about sub-treasuries and annulled charters, state debts and state insolvency, hard times, scarcity of money, high taxes and low price of wheat and corn, and the burden of heavy oat crops and nobody to take it as a gift, scarcity of hands and high wages, high price of poor stock, while the well-fed and fat is a drug, low prices of bacon, eggs, butter, and potatoes, &c. All of which seem to alarm and discourage the farmer, as though there was no hope for him; and unless he can enrich his land at less cost, under such a mountain "pressure," he must sink.

Now, have not all these theorists failed to arrive at the main causes of at least, much of the "derangement" prevalent in the community, and failed to discover the cause of unhappiness and lack of prosperity, much more important to every class than "bank suspensions:"—I mean "suspensions" of that devoted regard, attachment and confidence which should ever be manifested in the domestic circle—the fire-sides of the married, where mutual rights, interests, and hopes give birth to reciprocal efforts, for the attainment of happiness and prosperity.

* Not being engaged in the moneyed transactions of the country, for the very best of reasons (possessing no money to trouble me,) I have therefore looked upon bank suspensions with a degree of indifference; but I confess, as a bachelor, and a *middling old one too*, that I have long observed with a kind of despondency, this latter sort of "suspensions." I confess *they* give me much the most trouble, and could I suppose that "resumption" was impossible, I would go against union, or else for the national administration doctrine of "divorce." Look at the consequence of such suspensions. No concert of action

reigning in the household, but on the contrary, "all parties" weighed down by the "pressure" of hard thoughts and feelings, unkind looks and words, the manager of the household has no stimulus to render every thing in and about her house pleasant and agreeable to the husband or their friends; and likewise he, on his part, has no motive to effort in furnishing and preparing conveniences for his family, or in fitting up his farm, barn, out-houses and every thing about him in that comfortable style which ever marks the man of energy, that also enjoys a "par circulation" of the affections, for he is then always blessed with a "sound currency." Where there is not a "healthy state of this currency," "suspension" is the inevitable result, and the consequence a "deranged state" of the household community which is ever followed by a "a pressure" of the feelings the most to be lamented and dreaded. Such "pressures" and such "suspensions" may be truly regarded as "public calamities," and none can prosper under their influence. I go then for "resumption" at all hazards, like a real "loco foco," as the only method of "relieving the pressure" which has already rendered "bankrupt" the happiness of many. With a "permanent currency in free circulation" of this character, it would be found eminently "suited to the wants of the people," and so far superior to a "metallic or paper circulation," that we should witness peace, plenty, and universal prosperity, notwithstanding banks should entirely "suspend operations," and the government also. I do hope that this subject may receive a large share of attention in your valuable paper, as one of the most important requisites, even to the improvement of your farms, for without the prevalence of such a currency, your liming will prove of no avail to your prosperity—nor will improved stables, hog-pens, stock, modes of farming, high prices of stock, grain, bacon, eggs, butter, reduced taxes and labourer's wages,—promote your happiness, unless you are blessed with a large share of that which is certainly the "basis" of all successful enterprise.

Let us then begin our system of improvement by rendering every one happy about us, and that will give the most effective motive for successful exertion in their allotted field of labour; and this in turn will re-act upon ourselves, and propel us forward to renewed and redoubled efforts in *our* sphere of operations, and then may you improve your fields to advantage, for then their increase will not be mismanaged or wasted by a heart-broken, carelessly indifferent or estranged wife—nor will that increase be misapplied or squandered by a censurable, but discouraged husband in the rounds of petty and contemptible pas-

times, the sure result of unhappy domestic relations at home.

Thus I have tried to show that the farmer may labour under "a suspension," and consequent "pressure," far more detrimental to his interests, social and pecuniary, than that so much discussed in the community, and under which he cannot expect to prosper,—but relieved of which, he may flourish, be happy and prosperous, notwithstanding "Davy P," should sign the "resumption bill" to-morrow. I must stop for the present, and continue again when I shall have more leisure, as I wish this question to have a hearing as well as other subjects, for if we cannot bring about an "early resumption" of affectionate regard among those particularly concerned, it would be prudent for all those to go for "suspension" who are in honesty compelled to subscribe themselves bachelors.

ONE OF THE OLDEST KIND.

Chester county, Pa., March, 1840.

To the Editor of the Farmers' Cabinet.

SIR,—Permit me to call your attention to the following interesting remarks on the seasoning of wood—they contain the most valuable information, based upon purely scientific principles. Your subscriber,

JOHN REDMOND.

Montgomery county, 5th April, 1840.

"Wood, when seasoned by the air, is left in the same state as when seasoned by water, which is, with the loss of its sap or juices, these being washed or evaporated away: and this is sooner effected by water than by air. The wood then, only consists of its fibrous and solid parts, which are considerably concentrated by being dried; yet the mass is not without numerous interstices or cells, from whence the sap has been expelled by the air or water, and in dry weather these contain little else than *dry air*; but in moist weather, they become charged with humidity from the atmosphere, to such a degree at times as to swell and even burst the boards so seasoned. Now, the shrinking and swelling of boards happen according as moisture is absent or present; but if seasoned wood can be defended from the impressions of water, it never will swell. I effected this while painting a landscape on seasoned poplar, which warped or became straight according as were the changes in the state of the atmosphere, by covering the back, sides and ends with painter's drying oil, at a time when the board was straight, and it never afterwards warped.

Equal parts of rosin, turpentine and bees wax were melted together, well skimmed, and with a brush laid boiling hot on a board six feet long and eighteen inches wide, which was then kept in water nineteen months,

without having imbibed any water, or having its coat of cement damaged.

Wood seasoned quickly by fire whilst green or full of sap, does not afterwards imbibe water, as air and water seasoned wood does, because, as it seems, the sap is inspissated by the sudden heat, so as to fill, or mostly to fill up the interstices, and being so fixed and hardened, it excludes the water; and the sap thus cured or cooked, is prevented from fermenting, and thus rotting the inside of the wood, and from flying off in vapour.

A pair of cart wheels, soon as made, were thickly covered with tar, and set up, resting against the side of a house for a year or two—when put to use, the fellows broke, and showed a sound external *surface*, all the rest being a dark, rotten, coarse powder. Here the *unseasoned* wood, being coated over, so as to obstruct the sap from evaporating, it fermented, it is presumed, and rotted the inside of the solid parts of the timber; the shell, or outside having been dried and seasoned, and lost its sap before the tar was applied, remained sound.

I remember once sleeping in a room of a one story house lately built by Dr. Wharfield, of Elkridge, Maryland; in the morning I could not but admire the wainscot and ceiling of the room, which were of poplar boards, in which the joints could not easily be discovered; the work was not painted, and I supposed the boards must have been seasoning for many years in a tobacco house. The doctor pointed to two lengthy pits on the side of a hill, and said, the trees were felled and cut into logs, which were immediately hauled to the pits, over one of which a log at a time was sawed into boards, and immediately, *while full of sap*, a fire was made, and kept burning under them, until the boards were perfectly cured; some of the wainscot being put up with these boards, within two weeks of its having been in the growing tree: the pits were alternately employed in sawing the logs and firing the stocks.

Recommending to a ship-carpenter the trimming timber roughly in the woods, and thus seasoning the pieces by fire, he objected, because it would render the timber hard to cut and work—perhaps too, some might think it would render the timber too durable; it may, however, some day be thought proper to contract for its being so seasoned, especially for national ships."—*Bordley*.

P. S. From the above, we learn the necessity of dissipating, thoroughly, by the action of fire, or some other means, every portion of the sap, before covering the wood with any body, that would prevent the evaporation of such, should any be left remaining—a consideration of the utmost importance. J. R.

For the Farmers' Cabinet.

MR. EDITOR,—While at the house of a friend, in Jersey, a few days ago, I observed, on walking with him in his garden, of which he is justly proud, that some mischievous scoundrel had rung one of his favourite apple trees to the width of four inches, leaving that space perfectly clear of any bark whatever. My friend was excessively hurt, and could not but believe that the tree would die—that nothing could save it. A thought struck me, which was put into practice in about a minute; and, as the case is novel to me—although possibly very familiar to others—I should like to detail it for the guidance of that portion of your readers who are unacquainted with it, but who might be called upon to put it into practice at some future time. We selected the useless limb of an adjoining apple-tree, from whence we removed the bark in as large portions as we could, cutting it the exact length to fit the opening in the other tree, allowing, I should say, for the *shrinking* of the bark, which would naturally take place on removal, and placing each piece very carefully into the cavity of the wounded tree—*observing that the course of the bark ran in the same direction with that of the tree*—and making the joints as close as possible, we bound it about with a soft strip of woollen cloth, and over it a covering of pasteboard, the edges made air tight by a dressing of shoemaker's wax. Is there any danger of perfect success in the cure?

Finding that the pasteboard case fitted the part exactly, and made so complete a covering for the wound, we next applied, by way of experiment, a bandage of it to the limb from whence we had removed the bark, without any other dressing whatever—being exceedingly careful to bind it at the edges only, and well dressing those parts with the wax, to keep it impervious to the atmosphere. What will be the result? and will not the edges of the bark more readily approach and form an union, not being impeded by any foreign matter, which it is usual to cram into the wound on such an occasion.

CALEB FERNEY.

Eastern Shore of Maryland,
April 3d, 1840.

Internal Improvements.

Now, Messrs. Politicians, don't be alarmed, for our system of internal improvements, though attended with much toil and expenditure, will not require a state tax, nor much, if any, legislation. It is essentially a *Democratic* system—to be commenced by the people, and carried on by the people, for the exclusive benefit of the people.

Our system is very simple. It is only for

every farmer to mend up his fences, till his ground well, have it well prepared for planting, have the crops in seasonably, tend them well, keep down the weeds, see that his horses and cattle are fed and treated so as to make them thrive, keep his implements in order and in their place. For every father to rule his family well, govern his children, form their minds and manners by good instruction, train them up in habits of industry, honesty and sobriety, provide them with comfortable clothing, send them to school, pay for their tuition, and have a care to the company they keep. For every husband to treat his wife as a bosom companion: for every woman to love her husband, and to prove a helpmate for him, to keep from gossiping, to spin more stocking than street yarn, to keep the house tidy, and the family clothing clean and well mended. For every damsel to keep all grease spots from her clothes, darn the heels of her stockings, remove beauecatchers from her head, to do much with needles, and store her head with useful ideas. For every young man to go decent, but to buy no more clothes than he can honestly pay for, work hard, behave courteously to others, especially to old men, to guard against self-importance and insolence; if much in company with ladies, to black his shoes, trim his hair, throw away his segar and quid, attend preaching regularly, and hold his tongue if he cannot talk sensibly, and to get married when he is twenty-five, if he can find any one to have him. For magistrates to execute the laws. For tavern-keepers to keep better food than brandy. For towns to have clean streets and good side-walks, to remove every nuisance, and every thing injurious to health; favour good morals: for every district to support good schools. In fine, for it is impossible to enumerate all the objects embraced in our scheme—for every body to cease to do evil, learn to do well, attend church on the Sabbath, mind his own business, and subscribe for an agricultural paper.—*Sunday Morning Atlas.*

Useful suggestions to Young Men.

In the course of my travels, I have seen many a promising and fine young man gradually led to dissipation, gambling, and ruin, merely for the want of means to make a solitary evening pass pleasantly. I earnestly advise any youth who quits that abode of purity, peace and delight, his parental home, to acquire a taste for reading or writing. At every place where he may reside long, either in England or on the Continent, let him study to make his apartments as attractive and comfortable as possible; for he will find a little extraordinary expense, so bestowed at the beginning, to be good economy in the end. Let him read the best books in the lan-

gnage of the place in which he lives; and above all, let him never retire to rest without writing at least a page of original comments on what he has seen, read, and heard in the day. This habit will teach him to observe and discriminate; for a man ceases to read with a desultory and wandering mind, which is utter waste of time, when he knows that an account of all the information which he has gained must be written at night.—*Clayton.*

Female Loveliness.

It is not the smiles of a pretty face, or the tint of complexion, nor the beauty and symmetry of thy person, nor the costly robes and decorations that compose thy artificial beauty, nor that enchanting glance, which thou dartest with such lustre on the man thou deemest worthy of thy affections.

It is thy pleasing deportment, thy chaste conversation, the sensibility and purity of thy thoughts, thy affable and open disposition, sympathising with those in adversity, comforting the afflicted, relieving the distressed, and above all, that humility of soul, that unfeigned and perfect regard of the precepts of Christianity. These virtues constitute thy loveliness. Adorned but with those of nature and simplicity, they shine like the refulgent sun, and display to man that the loveliness of thy person is not to be found in the tinsel ornaments of the body, but in the reflection of the rectitude and serenity of a well spent life, and soars above the transient varieties of this world; and when thy days are ended here upon the earth, thy happy spirit shall be wafted to regions of eternal bliss.

Sugar, or Silesian Beet.

We beg to call the attention of our readers to an article at page 275 of the present number of the Cabinet, on the comparative value of the sugar-beet, as winter food for all sorts of cattle. It is from the pen of a practical agriculturist, and a highly valued friend and correspondent, from whose communications we hope to derive much useful knowledge, and valuable assistance. Such testimony, from such a source, speaks volumes.

We agree with him, that too much has already been said on the mode of culture of so simple a crop, and yet, venture to propose another method, which, it is probable, on lands which have been well worked, and in suitable seasons, might, in the end, be preferred to all others. The mode has been adopted in the cultivation of the potato crop in many parts of England, with very great success.

The sugar-beet should be sown on land well pulverized by deep ploughing, in the autumn, and a thorough spring working. Ridge up the land with the plough, into onc-

about ridges, at the distance approved of for the rows, and in the trenches place the dung, in as large a quantity as can be afforded: then split the ridges with the plough, throwing the earth right and left on the dung; and on the ridges so formed, drill the seed, and roll it in—real hot-bed culture.

When the plants are sufficiently grown to admit of thinning, the plan pursued by the late Mr. Geo. Walker, of Holmesburg, is, perhaps, the best that can be adopted. A man with a broad hoe, goes over the row, when children follow, and, selecting the strongest plant at the distance determined on in the rows—take it in the left hand, by way of security, and pull away the remainder with the right—and set the single plants upright by a gentle pressure about it: thus completing the work as they go. The expense is not great, when spread over a crop of forty-five tons of roots per acre—but the profit is. The after flat hoeing must, of course, be well attended to: not a weed must be permitted to stand—*true multicaulis management*—but no moulting up is necessary.—Ed.

P. S.—The reason why the sugar, or Silesian beet is preferable to every other crop that can be grown, as food for cattle, is simply this: because it contains more saccharine matter than is found in any other plant, the cane excepted—and more even than this, in *acreable produce*.—Ed.

To Save Seeds.

All seeds keep better in their seed vessels, but this can rarely be done, on account of the great space occupied. As soon, therefore, as the pods of cabbages, turneps, radishes, &c., turn brown, and a part become dry, the stems should be cut and laid on a cloth or floor to dry, and afterwards thrashed out, and hung up in bags in some open airy place. Lettuces should be pulled up with the roots, as soon as there is the least appearance of maturity, and hung up, and the plants will ripen all of their seeds, nearly at the same time. If left in the garden to ripen, the earliest and best will be lost; in fact, except under very favourable circumstances, very few will be obtained, as every shower and every strong breeze will lessen the quantity, and scatter those which are mature over the whole garden. The same course should be pursued with leeks and onions. It is a prevalent opinion that the bush squash cannot be perpetuated among us, as such have a strong tendency to run, and will in one or two seasons become a vine. This is a mistake, and originated, no doubt, in the manner of saving the seed. If the first squashes which appear be retained for seed, there is no danger of the plant running the next season; but if these be used, and those which are borne at the ex-

tremities are preserved for this purpose, they will run, and moreover will be later in bearing. To have early fruit of either the squash, cucumber or melon, the very first should be reserved.—*Southern Agriculturist.*

Professional Life.

The ambition of adopting professional life of all kinds, at the present day, is the source of countless instances of misery. Every profession in England is overstocked; not merely the prizes are beyond the general reach, but the merest subsistence becomes difficult. The "three black graces, law, physic and divinity," are weary of their innumerable worshippers, and yearly sentence crowds of them to perish of the aching sense of failure. A few glittering successes allure the multitude; chancellorships, bishoprics, and regiments figure before the public eye; and every aspirant from the cottage, and the more foolish parents of every aspirant, set down the bauble as gained when they have once plunged their unlucky offspring into the sea of troubles, which men call the world. But thousands have died of broken hearts in these pursuits, thousands who would have been happy behind the plough, or opulent behind the counter; thousands in the desperate struggles of thankless professions, look upon the simplicity of a life of manual labour with perpetual envy; and thousands, by a worse fate still, are driven to necessities which degrade the principles of honour with them, accustom them to humiliating modes of obtaining subsistence, and make up, by administering to the vices of society, the livelihood which was refused to their legitimate exertions.—*Blackwood.*

The Farmer's Choice.

"A little house well fill'd,
A little wife well will'd,
A little land well till'd."

Our ancestors were fed on bread and broth,
And wou'd their healthy wives in homespun cloth;
Our mothers, nurtured at the nodding reel,
Gave all their daughters lessons on the wheel.
Though spinning does not much reduce the waist,
It made their food much sweeter to the taste:
They plied with honest zeal the mop and broom,
And drove the shuttle through the noisy loom.
They never once complain'd as we do now,
"We have no girl to cook, and milk the cow."
Each mother taught her red-cheek'd son and daughter,
To bake, to brew, and draw a pail of water:
No damsel shunn'd the wash-tub, broom or pail,
To keep unsoil'd a long-grown finger nail,
They sought no gaudy dress, no wasp-like form,
But ate to live, and work'd to keep them warm.
No idle youth, no tight laced, mincing fair,
Became a livid corpse, for want of air—
No fidgets, faintings, fits of frightful blues;
No painful corns from wearing Chinese shoes,

We acknowledge the receipt—through the kindness of Mr. Orrin Rogers, the proprietor and publisher of the work, No. 37 South Second street—of a most valuable publication on agriculture, husbandry, and rural affairs. It is denominated "The American Farmer's Instructor, or Practical Agriculturist," and contains within the limits of five hundred pages, octavo, the condensed matter of thousands of pages, scattered through scores of volumes, on the science of which it treats; of the highest standard of merit, both ancient and modern, as well foreign as domestic.

The compilation of the volume was the work of a *Master*, performed by *dying hands*. By means of a copious Index, any article sought for, can be found in an instant; and this arrangement, to a practical man, who has "a place for every thing, and every thing in its place," will be properly appreciated. Such a work has long been called for, and now that it has appeared, may it be welcomed by every farmer in the United States. There are additional reasons why it should be particularly cherished by the friends of the "Farmers' Cabinet." First, it is the work of the late Mr. FRANCIS S. WIGGINS, the founder and sole editor of that publication to the end of the last year, and whose early death, all connected with it must sincerely deplore. And second, his amiable and bereaved family have a deep interest in the success of its publication. We shall have frequent occasion to enrich our numbers with extracts and observations from its interesting and valuable pages.—*Ed.*

N. B.—The above work is sold also by Messrs. Kimber & Sharpless, No. 50 North Fourth street, Philadelphia, the proprietors and publishers of the Farmers' Cabinet; of whom may be had the works of the best writers on agriculture, foreign and domestic.

The man of genius thinks for himself. His opinions are sometimes contrary to those commonly received: he therefore shocks the vanity of the greater number. To offend nobody, we should have no ideas but those of the world; as man is then without genius and without enemies.

Notice to Subscribers and Agents.

It will be seen by our valedictory in this number of the Cabinet, that our interest in it is transferred to others; and so far as we are concerned, the settlement of its affairs is indispensable. Although advance pay has been our terms, yet we had many names on the books as *permanent* subscribers, who have not paid for the fourth volume. But in transferring the books to the new proprietors, we have made out bills on all those against whom our books exhibit claims, which will be sent to them enclosed in a number of the Cabinet.

The amount can be remitted by mail to our address, or if more convenient, sent to the Agricultural Ware-house, No. 87 North Second street, Philadelphia, by private conveyance, where bills may be found, properly receipted.

Mistakes may have occurred in making out bills against so many names. In such cases, it will afford us pleasure to make the required corrections.

Subscribers will please take notice, that all who now receive the Cabinet, are **MARKED PAID** on the books, to the close of the present volume, July, 1840, and the claims against those who have not paid, are in the shape of **BILLS DRAWN OFF**, which can be paid as above.

Agents will observe, that they will make their arrangements with the present publishers, if they desire the continuance of their agencies; and they are requested to

examine their accounts, **SETTLE UP**, and **REMIT BALANCES** to the subscriber, who is duly authorized to settle the business of the firm of John Libby & Co., and the late firm of Prouty, Libby & Prouty. Agents, by observing this notice, will save us *trouble*, and themselves the *expense* of a more *formal* notice.

We have in our possession, many volumes left to be bound, which the owners may obtain at my residence, in Noble street, third door above Eighth, north side.

JOHN LIBBY.

Philadelphia, April 9th, 1840.

Quantity of rain and melted snow which has fallen since January 1, 1840. Inches.

1st month, January, 1.85

2d month, February, 3.01

3d month, March, 2.62

JOHN CONRAD.

Pennsylvania Hospital, 4th mo. 1, 1840.

The King of Saxony is a farmer. The Electoral flock of Rensendorf, his private property, consists, it is stated, of four hundred breeding ewes and rams.

Gorgias, when he was 108 years old, being asked how he could support the burden of life so long, replied, that "he regretted nothing that he had done, and felt nothing of which he could reasonably complain. My youth," he continued, "cannot accuse me, nor can I accuse my old age."

They who occupy the most eminent station, have the most at stake, in preserving the public tranquillity; for, in popular convulsions, as in earthquakes—the highest objects are the first to topple and fall.

THE FARMERS' CABINET,

A monthly newspaper, is published by

KIMBER & SHARPLESS, No. 50 N. FOURTH STREET, PHILADELPHIA.

PETER B. PORTER, No. 97 MARKET STREET, WILMINGTON, DEL.

The Farmers' Cabinet is published on the fifteenth of every month. Each number will contain thirty-two 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. By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage; that is, one cent on each number within the state, and within one hundred miles of the place of publication, out of the state,—one

cent and a half on each number to any other part of the United States.

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N. B. All subscribers must begin with the volume, No. 1, or with the half volume, No. 7.

THE FARMERS' CABINET,

Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

Vol. IV.—No. 10.]

5th mo. (May) 15th, 1840.

[Whole No. 64.]

KIMBER & SHARPLESS,

PROPRIETORS AND PUBLISHERS,

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

NOTICE TO SUBSCRIBERS.

THE FARMERS' CABINET having passed into the hands of the present proprietors and publishers, they are determined that no reasonable exertions shall be wanting on their part, to render the work worthy of the notice and support of the agricultural community, and creditable to the state and country.

Numerous complaints having reached them respecting the very irregular manner in which the work has hitherto been supplied, they will endeavour to do away all ground of such dissatisfaction for the future; and they wish that those persons who shall not receive their numbers regularly would inform them, mentioning those which may not come to hand, and they shall immediately be forwarded to their address.

They would, at the same time, commend to their notice their Editor, James Pedder, a practical Farmer, who will, at all times, feel pleasure in communicating with practical men on those subjects connected with the work, and be glad to receive from them contributions for the purpose of publication, whenever occurrences of general interest offer. Arrangements have been made for his visiting them in person, so far as his immediate duties will enable him so to do, and the most satisfactory results are confidently expected from such an interchange of personal correspondence.

The amount of subscription to the work being so small, the necessity of forwarding it in advance will, it is thought, be evident to all: to a want of attention to this condi-

tion, is to be attributed the embarrassment and failure of many of our best periodicals, the price of which is too small to justify the employment of a collector.

Subscriptions and communications connected with the work, if addressed, post paid, to the Publishers or Editor, No. 50, North Fourth street, Philadelphia, will meet with prompt attention.

Just published, by Kimber & Sharpless, Booksellers and Publishers, No. 50 North Fourth street, Philadelphia—FRANK, OR DIALOGUES BETWEEN A FATHER AND SON, ON THE SUBJECTS OF AGRICULTURE, HUSBANDRY, AND RURAL AFFAIRS—by JAMES PEDDER, Editor of the Farmers' Cabinet.

DEDICATION.

To the junior members of that most useful class of society, Agriculturists, these Dialogues—the reminiscences of a long life devoted to the pursuits of Agriculture, Horticulture, and Rural Affairs, and in which the characters are real, not fictitious, for there is a Frank and a Sister Susan, a Grabb and a Sykes; the circumstances also having "a local habitation and a name," and the observations and reflections being the result of much experience and investigation—are dedicated, by their very sincere and affectionate friend, James Pedder.

On Blight.

In the Linnean Transactions, (observations on the Apis Fly,) we are taught that "those flies are the principal cause of blight, and the sole cause of honey-dews." Dr. Darwin also espoused implicitly, I have reason to suppose, the same opinion: these positions are, however, in direct opposition to the whole tenor of my observations. The assertion, indeed, that aphides, caterpillars, or any other insects making a prey of trees or plants, may cause them to wither, no observer will deny; but such assertion is as foreign to the general question, as those insects themselves are distinct in their genera to the proper insects of atmospheric blight. The general and well-known affections called blights, are as easily traced by the faculties of sight and feeling, to an atmospheric cause, as any other effect whatever, can be traced to its cause: the blight ever precedes the insects, by a considerable length of time, and the

case is precisely the same with the honey-dews, which ever precedes the insects, and frequently comes, continues, and passes away without their company. Darwin was not aware of the ludicrous dilemma which his hypothesis involved, when he determined the honey-dews to be the excrement of the aphides! This dew oftentimes supervenes, and lines the leaves universally, in the course of a few, or even of one hour, and long *before* the aphides are visible: the excrement, however, of the aphides, as well as other insects, is doubtless, often blended with the honey-dew. To the best of my recollection, I had previously learned from Sherroek, Nales and Miller, "that insects are not the *first* cause of blights, as imagined by some," but I have since discovered, to my entire conviction, that *instead of the insects being the cause of blights, blights are the real cause of insects.*

Similar arguments, deduced from facts of invariable observation through a long course of years, by many competent, and some learned individuals, are fatal also to the analogous hypothesis of Fontena, that "blight in grain is occasioned by the growth of a minute parasitic fungus or mushroom, on the leaves, stems and glumes of the living plant." Now, nothing can be more clear to the attentive observer in the field—his only proper theatre—than that the Italian philosopher's proposition must be *converted*, in order to render it consonant to truth: for the parasitic fungus (to adopt an idea perfectly harmless in any point of view) is assuredly, the *effect*, and not the *cause* of blight; and had not the parasite clung to, and seduced the brains of Fontena, inspiring them with the rage of system and speculative science; and had he substituted a patient and general attention to the meteorological and morbid phenomena of his subject, instead of an elaborate account of pure curiosity and untenable hypothesis, he might have furnished one of pointed, substantial, and practical use.

I know of no particular objection to styling the morbid eruptions on either plants or animals, fungus or mushroom growths; the creeping tetter, scabies or parasite upon the plant may, without any breach of propriety, be so denominated; even the seminal part of the hypothesis—that the fungus propagates its like by seminal generation—may be very easily admitted, and when admitted, will be proved a fact of minor and trifling consequence. Without denying the simple possibility, that the seed of the fungus or scab upon the stalks of grain might infect and produce the disease in other stalks adjoining, common observation teaches us, that such is not in the ordinary course; for we often see fields of grain affected partially, or in stripes, which chanced to stand in the line of the at-

mospheric stroke; whilst the grain immediately adjoining shall remain to the end totally unaffected; and even one side of an acre shall remain sound, and the other blighted; or the stalk shall be affected, and the ear untouched. The disease—originally caused by atmospheric affection—depends entirely on the *subsequent state of the weather* for its increase, decrease or annihilation; nor are the seeds of the supposed parasite, of the smallest future consequence, since we invariably find that, whether the vegetation of the succeeding year shall be blighted or not, depends simply on the course of the winds and the condition of the atmosphere; and that whatever store of the seeds of the parasite may be supposed to remain after the most blighting season, they are still found perfectly harmless in warm and genial seasons; and after the interval of a number of years of exemption from the malady, one shall suddenly occur, in which the disease shall be epidemic, and its cause, an *atmosphere unfavourably changeable*, so obvious, that if a blind man cannot see, he shall be sure to feel it. In the interim, what betides the seed of Fontena's favorite parasite plant? Does it remain floating in the air, buried in the earth *beneath*, or in the waters *under* the earth? partially holding itself in readiness to obey the summons of that boisterous *Eolus, East-north-east*, and to nestle in the body, now prepared for its reception, in order to suck up its life-blood! Surely, this is no unapt example of the absurdities into which men voluntarily plunge, when they become determined upon the formation of a *system at any rate*, and whether or not they may have been able to provide the necessary materials for its support.

The dry rot in timber also affords a fine ground for systematic and scientific display: here again, we are all *seed and fungus*, and those *effects*, scientifically thrust into our view as *causes*, so totally absorb our mental vision, that we have not a ray left for the real cause of the malady. Hence, the gainful trade of publishing dry-rot cure by wood doctors, who are furnished with infallible washes to kill or resist the seeds of fungus. Now the downright common sense of the business appears to me to be this—if you have, *internally* and from the foundation, a stagnant vapour, or *externally* unventilated and unabsorbed damps, you will, most probably, grow the vegetable *fungi* of both the dry and the wet rot: replace your rotten timber with sound, if you please; dress it with some of the various washes recommended—little matter which—and the new wood will temporarily resist the rot, or the varnish will destroy the fungus and its seeds, both which, however, will be reproduced in due time by their original cause, *stagnant humidity*: ven-

tilate and keep all dry, and you will radically cure both the rots, the vegetable of which, being transplanted to a dry situation, will perish. Thus, in the case of dry rot in timber, if our *curiosity* be attracted by the generation of the fungus, our *serious attention* ought to be bestowed on those humid exhalations which are its original cause.

The general explication of the terms employed in this subject, which I propose, is as follows:—By *blight*—in Latin, *uredo*—is understood a morbid affection of vegetables from some external cause, by which they are at once withered and destroyed, or suffer a change of colour and gradual decay. *Mildew*—*crisphe*—is the *mucor* or mould deposited on the surface of vegetables and other substances during the act of evaporation. Mildew is of various colours, and when it appears upon the stalks and ears of grain, and assumes the state and colour of the rust or mould of iron, it is denominated *Rust*—*urbigo*—and when black, *black rust*. *Brand*, *burnt*, or *blast*—*ustilago*—is the partial or total disorganization of the ear of grain, so that it may be reduced to powder by the touch. *Red-gum* is a viscous substance, generally exuding from the joints of the stalks, and often found upon the leaves of green grain. *Smut* is the pungent scent of vegetable putridity, issuing from smut-balls or kernels of wheat or other grain, withered, decayed, and in a putrid state; or from entire kernels slightly infected, and contaminated by the putrid material. *Honey-dew* is an unctuous and sometimes sweetish moisture, covering the leaves of trees and plants; it is the usual concomitant of blight. *Curl* or *cling*, is a contraction of the vegetable leaves—one of the most constant and invariable effects of blight; leaves are also curled by the action of caterpillars and other insects, and by stagnant moisture.

Now, it will appear from this arrangement, that although the above terms have been, in the popular way, supposed to denote different diseases, yet, in fact, they are merely the different effects or stages of one and the same disease, namely—*atmospheric blight*;—I repeat, the *atmospheric disease*—nestling and depredations of insects, which we know survive through the winter—the caterpillar most particularly—will cause a sickness and withering in vegetables, which assumes the *appearance*, and is usually *denominated* blight: this species of blight is, however, of trifling importance when compared with the atmospheric, and is distinguished with the utmost facility by the practised eye. The probable reason for that multitude of caterpillars produced in a blighting season is, that such seasons are usually preceded by a mild winter: hence, the direful

ravages of Locusts, Hessian Flies, and various genera of insects in warm climes, or countries within the flights and migrations of winged insects.

But our most material business is, with grain under the influence of blight; and singular enough it is, that in the *general* supposition, wheat alone should be liable! Doubtless, the superior importance of that precious grain has absorbed the public attention; yet every other species of grain, rye, oats, barley, beans, peas, are also liable to the disease in all its forms, although not to be affected by smut in an *equal degree* with wheat. Oats have been, this summer, much affected by *ustilago* or brand, and the smutty scent of the ears gathered in the field has been, occasionally, very pungent: these defects, observed in samples of barley and oats, known by the name of *mow-burnt*, *foxed*, &c. frequently originate in atmospheric disease. *Mildew*, I have observed, may with propriety be divided into two varieties, which, until better terms can be found, may be denominated the dry and the wet—a liberty which I have previously taken with the rot in timber; in truth, there is much analogy in the cases. The dry mildew is that which is brought upon the vegetable surface by the atmospheric stroke or blight, appearing at first like a high blooming blue colour, and even as the harbinger of health and luxuriance, but afterwards progressively degenerating into a plainly morbid but deeper blue; this is the bottle-green, formerly pointed out by various writers as the precursor of smut; and most undoubtedly, so it is. The wet mildew, or the mould of damp, is matter of every one's observation, amongst others, of the bad housewives, who leave their linen to continue for a long time so closely packed together, that it becomes mouldy; but a still more apt example is, the mould of hay, stacked in too moist a state; this mould or *mucor* is a fungus production from stagnant moisture or humid vapours, and seems to originate in a precipitate from the decomposition of moisture or of humid air, and is seen on the surface of cold and wet land, and of unventilated water; its general appearance is green and mossy, but on some land of a rusty colour. A material of mildew is also under heaps of wet vegetables or in the damp earth, in the form of white filaments, of a strong mushroom smell: thus grain may suffer from the wet mildew even whilst in the grass, if it stand very thick on the earth or be beaten down, and remain wet and unventilated, and is afterwards far more liable to be affected; and continued rains or dews, especially in the autumn, may have the same effect; the vegetable juices becoming chilled, *obstructed*, *stagnant*: hence, according to the

old Boerhaavian style, *error loci*, or extravasation takes place; the eruption puts on the form of discolorations, scabs and blotches, on the stalks of grain, called *rust*: and, to use another old-fashioned term, the vegetable, like the animal body, has *caught cold*, and produced an eruption—a case common to both—and it is in course of nature for this eruption in both cases, to give birth to *pediculi* or *animalcule*. These insects intercept, exhaust, and vitiate the juices of the plants, as does also the *scabies*, fungus or parasite, whence the ears, deprived of nourishment, are not filled, and even if filled, and the kernels perfect, they almost immediately degenerate into an atrophy or consumption, the crop decreasing in a frightful degree, and the sample rising lean, steely, discoloured, cold in hand, and of a musty swell. There is sometimes, necessarily, a complication of blight and mildew, and a coincidence in the phenomena or effects which are common to both; but the wet mildew may be far more calamitous and fatal than any other disease, from its *universality*, whereas it is the nature of blight and smut to be *partial* in their effects. The mildew prevailed to a most unfortunate extent in Scotland in the year 1799, when, according to my memorandums, we had incessant and cold rains for *full thirteen weeks!*—*Lawrence's New Farmers' Calendar.*

For the Farmers' Cabinet.

Fruit and Vegetables.

That upon which we feed has an important influence on the disposition and character.

Mr. Editor :—

Travellers inform us that there is no part of the world in which the inhabitants consume so much animal food as in the United States, if we except the Esquimanx and other northern Indians, who live mostly on blubber, bears' grease, and fish. It is observed, that as nations become more civilized and refined, and as the arts and sciences become more extended and improved, and particularly as improvements are made in agriculture and horticulture, the consumption of animal food diminishes, and that vegetable increases. The eating of large quantities of animal food in warm climates, or in warm weather, is admitted by medical men to be decidedly prejudicial to health and longevity; and hence, those who desire to protect themselves from inflammatory diseases should resort to a regimen, consisting of a large proportion of vegetable food. In the neighbourhood of our large commercial cities, in the eastern section of the United States, for twenty or thirty years past, great efforts have been made by industrious and intelligent garden-

ers, and horticulturists, to improve the quality, to increase the variety, and enlarge the quantity of the vegetables and fruits which constitute part of the food of the inhabitants. In this respect they have been eminently successful, both in promoting their own and the public interests: for it is supposed, that at the present time there is full one-third more vegetable food eaten in proportion to the population, than there was twenty years ago, and consequently, there is a proportionate diminution in the consumption of animal food; at the same time saving expense, and promoting the health of the inhabitants. Gardening, in the neighbourhood of large cities and towns, has long since become a very interesting and profitable trade, giving rise to extensive competition, and, consequently, stimulating those engaged in it to adopt all the most approved modes of rearing, forwarding, and preserving, the most profitable and useful vegetables. It has, therefore, become a matter of vast importance for gardeners to be able to introduce the products of their industry into the market at as early a period in the season as possible, so as to obtain the highest prices for them; ten days or two weeks difference in the time making a large difference in the year's profits. The expedition of transport furnished by steam-boats and rail-roads has enabled those who have suitable locations for gardens and truck-patches at a distance, to avail themselves of the advantages of disposing of their produce at prices which brings them into a fair competition with those who are situated near the cities of Philadelphia and New York.

The middle and lower parts of the state of Delaware, near to or on navigable streams, appear to possess advantages admirably adapted to the purposes of cultivating fruits and vegetables for the Philadelphia and more eastern markets. The soil is light and warm, and the climate several weeks earlier than that in the neighbourhood of the city; besides which, the country is underlaid with strata of the best green-sand marl, of the same character as that which has been so extensively used for enriching the soil in New Jersey. A steam-boat has been running during the last season from the neighbourhood of Smyrna and Dover to the city; and if the articles for transportation were increased, boats would increase in due proportion.

The neighbourhood alluded to appears to possess greater advantages for the enterprise of the horticulturist, than any other region connected with the city, and it is understood that there are persons owning sites suitable for the purpose, who design to avail themselves of their natural advantages by cultivating fruit and vegetables for the city market.

Asparagus, early peas, strawberries, and early green corn, all of which can be raised and brought to market two or three weeks before the usual supply arrives from other quarters, might be cultivated to the extent of some hundreds of acres, and sold in Philadelphia and New York at an immense profit; for those markets are never fully supplied with these very desirable refreshments till late in the season. Peaches also present a fair article of traffic from Delaware, and those who have already embarked in their cultivation are understood to have been handsomely remunerated for their enterprise.

If the females in the neighbourhood of Dover and Smyrna would exert but a *small* proportion of the influence which they possess over the men, they would in a few years convert the whole country into a garden, beautiful to look upon, and profitable beyond all comparison with the present mode of occupation. The influence of women in matters of business, and in some other matters, not proper here to touch upon, is much greater than most of them are aware of: and we ardently desire that in relation to this affair, which so intimately concerns the prosperity of their district of country, they will be up and doing. Don't permit the men to sleep over it; start your gardens, and your fruit orchards; let the men of Kent see that you are in earnest; that you intend to have something accomplished, and that quickly; and it will be done, and well done too, for women seldom like to see important business half done.

JAMES BROWN.

March 24, 1840.

Dialogue—Dairying.

Frank.—Father, if you were to describe in the Farmers' Cabinet the way in which you manage your dairy, I think it likely that some persons would consider about it, and take the trouble to try your plan, and see if it would prove more advantageous than their own.

Father.—In that I think you are mistaken. In the business of the dairy there is, I believe, more confidence felt and expressed, than in any other branch of husbandry; every one thinks his own mode of operation the best, and often, without the means of knowing how others perform that branch of their calling, have long determined upon a plan for themselves, which they would feel it very unpleasant and even difficult to relinquish. And you must have observed with what determination our neighbours stick to their own methods, although they see that we always sell out our butter at the market before them, and at an uniformly higher price.

Frank.—I have observed that; and although I last week heard John Ross's mother make the same remark, and wonder how it could be, I am sure she knew why it is, but cannot determine to quit the old method which she has pursued through life. I am led to think about this just now, from the observation which I heard one of our customers make last market day. He was recommending our butter to a friend, and assured him he had kept some of it six weeks, and at the end of that time it was perfectly sweet and good; when his friend said, "Ay, and I have kept it longer than that, and still it is as good as ever." So, I wish you would describe your method, which might be made applicable to our snug little farm of one hundred acres, you know; there are some, perhaps, who would put it into practice, if it were only for the curiosity of the thing.

Father.—Well, if from no better motive, I should be quite content if they would do so, only out of curiosity, for *I, too*, think my own way the best.

But I consider that the business of the dairy commences with the stables in which the cows are kept: these are often placed in some damp and shady situation, for the sake of being near to water, and by this the health of the cows is often very seriously affected,—this is highly improper. The situation of the stables should be dry and airy, and facing a little towards the east, so that the sun might shine full into the door at eleven o'clock; sufficient shelter can be obtained by good high fencing about the yard; and the best water is that which is supplied from a pump in the stable, so that the cows might drink warm water—not iced-water—in the winter, and cool water in the summer, and always get it sweet and clear—an important item in dairying. The approach for feeding should always be at the heads of the cows, and they should stand on a platform, a little sloping, about three or four inches in height, with a wide gutter passing behind them, well paved, along which the dung might easily be swept and conveyed away to the pit, outside the building. Each cow should be furnished with a rack and manger, and a short partition at the head of each forms the best security. The sliding ring on an upright pole, attached to a leather collar and buckle, is preferable to every other mode of tying.

Frank.—Well, this is just the plan of our cow stables, and we know how convenient they are, and how clean our cows are kept during winter, compared with those of our neighbours.

Father.—True; this is the first step in the business: the next is, never to keep a cow in the dairy that is not decidedly profitable; few persons are aware of the immense differ-

ence there is between cows, in the products of the dairy, even when fed and managed in every respect in the same way. A very few unprofitable cows will soon reduce the whole concern to poverty. And I am something amused to read the statements in books, of the profits of a dairy, without the knowledge and experience on the part of the writers, that there is often about one hundred per cent. difference in the value of cows in the same dairy. Now, there is our neighbour, Ross, in general a man of excellent judgment, but, upon this subject, as thoughtless as a child; for he does not, I am sure, obtain from his large dairy half the quantity of butter that we do from ours, while the quality and the price which we obtain are still greatly in our favour. On examination, his cows are, one half of them, worse than useless, for they do not pay for their keep. These are those that he has reared from old favourite cows,* of no value in the dairy; but, as *members of the family*, have been looked up to with veneration for many years, exhibiting all the marks of an unprofitable breed for milk; hardy, perhaps, with a tendency to fatten; and to this purpose they ought to be consigned without mercy. Now, compare these animals with our Judy, Kate, and Nell, from which, as you know, we have, for many weeks past, made twelve pounds each of butter; and who exhibit in their forms every quality of great milkers, namely, the thin and soft skin and hair, light limbs, small head, and thin neck, and above all, narrow loins and rump; for, according to our friend, the Dishly sheep-breeder, this must be a mark of the greatest importance, if, as he says, "When an animal is narrow across the back, the juices flow over it, and settle in the belly, while on a wide and full-grown loin they remain, and go to produce flesh and fat," with udders large and full, and after milking, more like white leather bags to the sight and touch—these are the cows for a dairy, and will pay for *keeping*, but not, even they, for *starving*.

Frank.—But the pure Durhams, of which we hear so much, and which cost so much, too, are very different in their forms, and yet the accounts of their yield of butter and milk are enormous.

Father.—True; they might be called artificial cows, and by treating them artificially, they have been made to perform wonders; but I would not fear comparison with those of ours above mentioned, under the same circumstances—quantity of butter, for food consumed—and there would be a very peculiar difference observable in the quality of the

milk and butter of those enormously fat beasts, when compared with that from ours,—extremely rich of course, but with a peculiarity of flavour, and partaking of a meaty consistency, very discernible to a delicate taste—no disparagement, however, is meant; they are noble animals, but, in my estimation, better calculated for the cheese than the butter dairy, and only pay when their keep is high and strong.

Frank.—Then, I begin to see that a great difference in the advantage and profits of a dairy must arise from the kind of cows which are kept, independent of the cost and kind of food which they consume; and I can now understand why it is that our neighbours have remarked the peculiar fragrance of our butter, observable on opening the churn, just as the butter has "come." They have attributed it to the fine pasture of our cows, which, as they remark, being free from weeds, the butter must, of course, be free from bad taste or smell.

Father.—This is, no doubt, the fact, but with a different breed of cows, even this grand and important item would not make all the difference, for it is but natural that the milk of an animal should partake, in a very especial manner, of the juices and peculiar constitution of that animal; and it stands to reason that the produce of a large, fat, *beefy* cow, must be more coarse and strong-flavoured than that of such as Judy, Kate, and Nell, whose very breath is like the newly-mown hay.

Frank.—I have often been astonished to see the cows that are generally kept by our neighbours, when driven into their yards to be milked, and to observe no difference in the size of their udders after the operation, when they are again turned to pasture. I believe that some of them do not produce two pounds of butter each, a week.

Father.—I dare say they do not—but this is only a part of the evil; it is almost uniformly the case, that the milk of cows which yield so little, is inferior in quality, and oftentimes extremely nauseous in flavour, being produced from a different part of the system of the animal than that which is drawn from great milkers; and it is often contaminated with the impurities of that system, drawn off at the time of milking. Now, there are our neighbour Tacey's cows, they are all large and half fat, but when I compare his dairy account with mine, I find they do not yield near the quantity of butter that ours do, and are dry for three months in the year, while you know that ours would never go dry of themselves.

Frank.—Yes, I know that; for you remember that Kate calved within two days of

* Old proverb—"The calf of a young cow, the pig of an old sow," i. e. for the purpose of rearing stock.

our ceasing to milk her, and all the while her milk was perfectly sweet.

Father.—True; and when I have endeavoured to persuade Tacey to exchange his large cows for those of a smaller breed, he has said, "But only calculate their value for fattening, after I have *done with them in the dairy.*" "Yes," said I, "three or four years hence; but after I have obtained eight, ten, or twelve pounds of butter per week from a cow for seven or eight years, I can credit her a little on that score, while you *do nothing* with yours for about that time." No man in his right senses will keep a bad milker to rob him of his profit; better sell for almost *nothing*, and buy for almost *any thing*, and keep an account of the profit and loss of the transaction.

Frank.—Well; now for the milk and butter account—I long to come to that.

Father.—And so it seems. But you are forestalling the business; you have forgotten that the cows have not yet been fed and properly attended—two little items in a dairy account, that, insignificant as you might consider them, are, I assure you, of great weight in our future calculations.

And now I consider that I should be at a loss to know how to provide through the winter for a dairy of cows on so small a farm as thirty-two acres arable, were it not for the introduction of the sugar beet into cultivation; that crop has, however, enabled us, as I have said, to do what we wish, and all that we wish; for by proper management, a store of roots might be raised for the full supply of at least two-thirds of the year—from September to May—or longer, if it should be found necessary. Much has been *said and sung* about the best method of preserving them for winter use; nothing is easier, for if they are buried so deep as to be out of the influence of the atmosphere, they might be kept perfectly sound and good for any length of time, and without vegetating. For the purpose of sugar-making, it is quite necessary that fermentation, whether arising from heat or vegetation, should be guarded against; for the feeding of cattle, this is of but little importance; this, however, as well as injury from frost, might be totally prevented by burying deep. To this end, therefore, I would propose to dig a cellar under the cow stables to receive those roots that are to be fed during the autumn and early part of winter; while another cellar, immediately adjoining, and to which access might be had by means of a door from thence, deep and arched with brick, and covered thick with earth, and of sufficient capacity to contain the remainder of the stock of roots, should be formed outside the stables, with a round hole in the crown of the arch, through which the roots might be

let down carefully, as they are brought by the carts. This hole should be closed and well covered with earth, as soon as the cellar is filled, and over it a low and slight shed might be built, in which to fodder young stock and sheep.

After the roots in the first cellar—that under the cow stables—are expended, a quantity, sufficient for a week or so, might be taken from the inner cellar, and deposited there for present use; so that the door need not be opened oftener than about once a week, care being taken to block it well with earth, after being properly closed. With such a stock of roots and hay, and cut oats in the straw, no one need dread a winter of any length or severity. It will not be necessary to cut the roots, even for the young cattle or sheep, but an attachment might be made to the threshing mill, if there be one, for cutting the oats; and the same gearing might be used to churn the butter; or a small horse wheel might be erected for these purposes, which would be found a most valuable appendage to the establishment, saving much expense and labour.

And now for the milk and butter—or rather for the milk-house, which it is not indispensable should be erected over a spring, for with my method this is not necessary, as you know. The milk-house must be on the shady or north side of the dwelling, and should be well shaded with trees, with the means of having a thorough current of air when necessary; and during the heat of summer, a current of cold air might be obtained, by means of a bricked arch, or tunnel, running for some distance under the ground, and communicating with the external air in some shaded situation, passing under the wall of the milk-house, and rising by a grated aperture in the centre of the floor. No arrangement might be made for the introduction of water, for—and here is the peculiarity of our method—no water is ever permitted to come in contact with the milk or cream or butter, at any stage of the process. The utensils and every part of the milk-house, shelves, and even the floor, are to be washed clean with hot water and rubbed quite dry, not being left to evaporate the moisture in the dairy, every part being kept as dry as possible at all seasons of the year.

The milk pans, three only in number, made of zinc, after a peculiar pattern, and managed in a peculiar way, according to the method described in the *Farmers' Cabinet*, p. 91, vol. 4, take but little room in the milk-house, and are found a vast improvement upon the old plan, "for all the cream and none of the milk is obtained in the most convenient manner imaginable, and with an incalculable saving of time and labour." The pump churn,

which we use for 25 or 30 pounds of butter, is of the Welsh pattern, with swelling, not straight, sides; this gives the cream more space, and the agitation is greater and more easily communicated; and when the cream thickens, still there is room for the plunger to work, and consequently the labour is much lessened.

In putting the cream into the churn, it is very customary to wash the cream pans with water, and add it to the cream in the churn; this should be avoided, *as you would avoid poison—not a drop of water must come in contact with the cream or butter, from first to last.* And when the butter is “come,” it is customary to pour off a part of the butter-milk, add water, and churn again, to beat the butter together, and in part to wash it; *this is worse still*, for it carries away with it the fragrance of the butter, and gives it a propensity to early rancidity. If the butter requires to be beaten together in the churn, no water should be added on any account, after letting off the butter-milk. On taking the butter out of the churn, it should be beaten, in lumps about two pounds each, on a thick piece of hard and smooth board, with the edges rounded off, held in the left hand, by a knob on the under side, with a flat and thick piece of very smooth, hard wood, with a handle; and on a single trial every one will be convinced that every particle of the milk can be driven out without washing with water. After this, it is to be spread on a smooth board or table, and salted, then rolled together and divided into lumps about a pound each, and beaten again; and it is then fit for the print.

And now, if those who think that the buttermilk cannot be extracted without washing with water, will try the above mode of management and working, and put a portion of the butter away for a month or two, and examine it at the end of that time, they will be quite convinced of a good many things.

Frank.—Is not the island of Jersey famed for good butter? our friend, William I. told us, you remember, that while he resided in Rio Janeiro, they ate Jersey butter, as fresh as though it had been made but the day before: now, how could it be conveyed to such a distance, and into such a hot climate, without becoming rancid and oily?

Father.—I was told of a captain of a vessel who engaged to take butter from the island of Jersey to Rio Janeiro, and that it might be as much as possible out of the influence of the heat of the climate, especially on crossing the line, he placed the barrels containing it at the bottom of the hold of the ship. On arriving at his port, and looking for his butter, he found that not a drop of it remained in the barrels! it had all escaped, and was found amongst the ballast, from

whence it was removed by means of shovels. The way they now transport it is, to press it, with very little salt, into light barrels, well headed up, and these are then placed in larger barrels, with a coating of salt well rammed in;* they are then carefully headed, and it is found that no heat will penetrate through a covering of salt, even during the longest voyage.

The quality of the Jersey butter arises rather from the delicacy of the breed of cows, than from the food which they eat, for on some of their very small farms the supply is so short, that at certain seasons they are compelled to put up with very coarse fare. The high-bred Durhams show their origin and aptitude for milk and butter, which they inherit from the *Alderneys*, as they are called; although the handsomest and most valuable animals of this breed come from Jersey, an island within sight of those of Guernsey and Alderney, but the breed of its cattle is very different from that of either of them.

The Hog.

Considering his extraordinary fecundity and adaptation to all climates, the ease and cheapness with which he is reared, (thriving almost equally well on animal and vegetable food,) and the facility with which he is conveyed from one place to another, it is indeed surprising that so little is known in this country of his history and habits, and such slight attention paid to the improvement of so valuable an animal as the domestic Hog. To a great extent, among many of our farmers, has the hog been considered as a subordinate species of live stock—a mere consumer of the refuse of the kitchen, whose presence must be tolerated as a necessary evil. The vast improvement to be effected by the importation of new varieties, or judicious crosses among those easily procured, seems to have almost culpably escaped the attention of those with whom the improvement of all other kinds of stock has been a subject of intense and constant reflection. Natural History abounds with singularly minute details of the habits of many rare, and in an agricultural point of view, apparently useless animals. Volumes have been written on the breeds, the treatment, and the diseases of sheep. Treatise after treatise on cattle has been multiplied, exhibiting in detail the change effected by judicious and continued crossings, to so great an extent that the distinguishing characteristics of the parent stock are scarcely to be recognized in their

* Smoked hams may thus be preserved during the summer, if they are packed *quite dry* in boxes of *dry salt*, taking care that they do not come into contact with each other, or with the sides of the box.

descendants; while, with perhaps a solitary exception, little has been offered to the public, calculated to furnish practical information in regard to swine. It is true that now and then we find articles discussing different points connected with these neglected animals, scattered amid the pages of our valuable agricultural periodicals. It is also true, if enjoying free access to books and sufficient leisure, that we can, as the result of prolonged investigations, gather at one time much of interest, regarding the origin and habits of swine as the subjects of Natural History; at another, many facts calculated to aid or govern our estimate of the comparative value of improved varieties; and again, sound practical directions as to the best mode of treatment to secure the utmost limit of perfection. But the attainment of knowledge by a process involving such expenditures of time and research, is impracticable to the many, and sufficiently irksome to the few whose situation authorizes, and whose wishes lead them to attempt it, to excite a deep regret, that instead of scattered truths, and disconnected facts, though important in themselves, no plain, practical, and connected treatise on a subject so important can be found.—*Maine Farmer.*

For the Farmers' Cabinet.

Apprentice by Proxy.

"There is no royal road to Geometry."

Mr. Editor:—

The following authentic anecdote was brought to recollection on reading, in a late number of the Cabinet, "Peter Jones's letter about boys." It shows one among the many ways which are adopted by affectionate but foolish parents, to make boys useless incumbrances, instead of useful members of the community.

Nearly half a century ago, the late W. S., a tanner and currier of Philadelphia, and an eminent minister of the Society of Friends, was travelling in the southern states, where his piety, intelligence, and benevolence of character, caused him to be received and entertained with much hospitality and kindness; and amongst those who manifested their esteem and regard for him was a planter, who had a son that he was desirous should learn the art and mystery of tanning and currying. He proposed sending his son to Philadelphia to be put apprentice to his new acquaintance and friend, to acquire a knowledge of his occupation. Some time after W. S.'s return home from his southern visit, there appeared at his house the youth above alluded to, who had been sent on to enter on his apprenticeship; and accompanying him was a black man, a slave, who was intended to remain

with the apprentice boy to do the drudgery and work, while the lad looked on to learn the trade.

The novelty and incompatibility of the arrangement was such as to prevent the intended master from complying with this new mode of teaching a boy a trade, and both he and his labourer were returned from whence they came.

"He that by the plough would thrive,
Himself, must either hold or drive."

O.

To the Editor of the Farmers' Cabinet.

On Breeding in and in.

SIR.—The article at page 267 of the Cabinet for April, is calculated to do much service, both to that work, and to the cause of agricultural science generally. In the first place, there are so many men of celebrity—men of observation and reflection—who can speak from experience on the subject; and their numbers are so equally divided on the *doctrine of breeding in and in*, that I doubt not you will obtain many valuable papers from this source, and by them the readers of the "Cabinet" will derive much useful information, *pro and con*. After all, however, we must not expect that the question will be quite decided, for from the beginning, you know, doctors have always differed;—this, for myself, I do not deplore, for, as some one says, "truth will bear towzling," and light is elicited from collision.

It is remarkable, however, that the question should be left, at this distant day, so remarkably undecided; for if you go over the great names of both parties—men, all of whom profess to have drawn their convictions from experience alone—there will appear such a *balance* in the weight of evidence, as would make a plain man stagger in his faith. Now, there is Sir John Sinclair—a host in himself, is so decidedly opposed to the system of breeding *in and in*, and has made the analogy between the animal and vegetable kingdoms to appear so striking, and reasons so closely, and draws such decisive inferences therefrom, that thousands would as soon think of doubting holy writ, as founder in their faith in Sir John's theories—while Sir Joseph Banks' *experience* was all the other way. There is, therefore, a clear field, Mr. Editor; the combatants are strong and active, well balanced in point of numbers, and the prize is worth contending for—all that they require at your hands is, *no favour*.

I cannot close this, however, without copying from Sir John Sinclair's works a few sentences on the subject, which will, I calculate,

set many persons to *thinking*—and *acting*, too —if I am not mistaken :—

On the subject of breeding, he says : “ The art of improved breeding consists in making a careful selection of males and females, for the purpose of breeding stock with fewer defects and with greater perfections than their parents ; in which their mutual properties shall be continued, and their mutual faults corrected. The objects of improved breeding, therefore, are to obviate defects, and to acquire and perpetuate desirable properties ; hence, when a race of animals have possessed, in a great degree, through several generations, the properties which it is our object to obtain, their progeny are said to be well bred, and their stock may be relied upon. It was upon this principle of selection that Bakewell formed his celebrated stock of sheep, having spared no pains or expense in obtaining the choicest individuals from all the best kinds of long, or combing woolled sheep, wherever they were met with ; and it cannot be doubted, that any breed may be improved in the same manner, namely, by putting the best males to the finest females. After a superior breed, however, has been thus obtained, it is a point that has been much disputed, whether it is proper to raise stock, 1st, from the same family ; or 2d, from the same race, but of different families ; or 3d, from races entirely different.” He says afterwards, “ On breeding from the same family—this method is called *breeding in and in*, or putting animals of the nearest relationship together ; and though this plan was for some time in fashion, under the sanction of Bakewell’s authority, *yet experience has now proved that it cannot be successfully persevered in*. It may indeed prove beneficial if not carried too far, in fixing any variety that may be thought valuable, but on the whole, it is only in appearance. Under this system, the young animal comes into the world on comparatively a very small scale ; by keeping it fat from the first moments of its existence, it is made to attain a greater size than nature intended ; and its weight, in consequence, will be very great, in proportion to the size of its bones. Thus, a generation of animals of an extraordinary form, and saleable at enormous prices, may be obtained, but that does not prove that the practice is eligible if long persisted in : on the contrary, if the system be followed up, the stock becomes tender and delicate ; they become bad breeders ; and though they retain their shape and beauty, they will decrease in vigour and activity ; will become lean and dwarfish, and ultimately be incapable of continuing the race.” “ Sir John Seabright tried many experiments by *breeding in and in*, with dogs, fowls and pigeons, and found the

breeds uniformly to degenerate.” “ A gentleman, who tried the experiment with pigs, brought them at last into such a state, that the female gave over breeding almost entirely, and when they did breed, their produce was so small and delicate, that they died as soon as they were born.” “ Mr. Knight’s experiments with plants, have fully convinced him, that in the vegetable as well as in the animal kingdom, the offspring of a male and female, not related, will possess more strength and vigour than when they are of the same family, which proves how unprofitable such connexions are.” “ A change of seed is in general advantageous, in regard both to animals and vegetables ; hence, many farmers are induced, not only to change the seed of the kind of grain they cultivate, but to procure males from the flocks and herds of those who have the same, or similar with their own. It has been remarked, that those farmers have, in general, the worst flocks, who breed from rams produced on their own farms, and that an interchange of males is usually beneficial.”

Your subscriber,

JOHN MATTHEWS.

Chester County, 29th April, 1840.

For the N. E. Farmer.

Zoology important to Farmers.

A righteous man regardeth the life of his beast.
SOLOMON.

This language, though uttered many centuries ago, and by one to whom wisdom was granted in compliance with his request, inasmuch that he has been reputed as possessing it in a superior degree through all intervening ages, is, nevertheless, by many of our enlightened day, considered as highly figurative, or else, as so far partaking of the mistaken ideas of those old-fashioned times, as to deserve being held in remembrance only as relics of antiquated notions. Hence we see men of every tribe and nation—every sect and party—of all ranks and in all situations—setting aside its injunctions, and treating the animals which Providence has created for their convenience, enjoyment, and as the pioneers of wealth, as though they had actually been placed at their disposal as subjects on which they were to exercise all the rigours of spite and vengeance which their “ little brief authority ” can command. How strange must the infatuation be, which prompts or tolerates such conduct !

The beasts of the field were evidently created for the benefit of man, and in forms and for purposes adapted to his convenience. “ The ox was formed for labour, and much increase is by his strength.” The horse, adorned with beauty, is endowed with qual-

ities for speed. And so the chain is filled up with links varying as the variations of his wants require. In return for the benefits which man receives from the beasts at his disposal, he has obligations towards them, which if he fail to perform, he is held reprehensible by the moral, and should be by civil law, while at the same time he is suffering pecuniary losses from his negligence towards them, inasmuch as the animal subjects itself to vicissitudes which it does not meet with in a wild and unsubdued state, by becoming his servant. Among these changes may be noticed the liabilities to disease, which we believe, in most instances among the brute creation, arise in consequence of an exchange from a wild to a domesticated state. As long as an animal ranges the fields or forests in native freedom, it is the judge of its own necessities and provider of its own wants. It eats such things as are congenial to its nature, drinks, lies down and rises up when it pleases;—but when brought under the jurisdiction of “the lord of this lower world,” it must obey the injunction of eating “such things as are set before” it—“and learn therewith to be content,”—while in drinks it is often brought under principles of “total abstinence,” yet sometimes allowed to drink to excess, and this at times when abstinence might be salutary. Fatigue in the animal is often rewarded with the whip, and as its strength decays, the excitements to go forward in its compulsory path are increased. Who can wonder, under such circumstances, that many animals are subject to sickness, and that many, very many, do not “live out half their days.” Now, can man be a guiltless being when inflicting cruelties on his beasts, or when placing food before them which is calculated to create disease and pain in them? Justice, mercy, indeed every noble virtue which can warm the breast of philanthropy forbid it. And we, in charity to our fellow-men, believe that they would never be guilty of such outrages upon them, were they not ignorant of their nature, habits, &c.

Hence we infer the utility, if not the necessity, of those interested, making that science which has special reference to them, a part of education.—And first their anatomy. Whoever investigates this science will learn that like ourselves they are “fearfully and wonderfully made,” and are admirably adapted to the circumstances in which our convenience may require them. Although they possess a general formation and habits of much hardihood, yet there are delicate springs in their structure which, if roughly touched, will throw the whole machinery out of order. Thus in certain seasons, a moderate rap on the horns of an ox will in-

duce a disease, for which, comparatively, no one can apply an efficient remedy. And it is so through all their varieties, and in all the circumstances through which they are continually passing: they are liable to injuries at all times, and in a variety of ways, which a knowledge of their structure and habits might lead us to prevent. The constitutional habits of the animals which come within the range of man’s care, must necessarily be various as the different varieties. The fine sheep of Saxony will not bear the same management as the South-Down, or the “old-fashioned” sheep of our own country. Of course they will not succeed with such management. The difference may arise, to some extent, from change of climate, which may be remedied in a proper way; but there is a habitual and constitutional difference beyond this, which must be closely observed, and its peculiarities regarded, by doing which, not only their health may be secured, but their pacific qualities developed and realized.

Loudon says, that, “of all mammalia, man in a demoralized state is most injurious. The remedy is furnished by law,—preventive, good education, civil and kind treatment.” The remarks which apply to man, as far as preventives are concerned, are four-fold applicable to his beasts, inasmuch as the latter never swerve from the habits which education has enforced, and always reciprocate the civil and kind treatment which they receive from their boasting lord and master. The importance of early kindness to domestic animals is fully developed by the growth and the kindness of disposition which, thus early encouraged, characterises them in after years. So an ox which is accustomed to the yoke, even while yet a calf, is broken into his employment with less labour, and makes a firmer and more valuable ox than one whose disposition is unchecked, and whose corporeal form is allowed unrestrained growth for two or three years. He possesses more strength of bone and sinew. These remarks apply also to the horse, and indeed they extend in their proper application to all domestic animals. The cow, which has always been kindly treated, is a gentler, better cow, and of course rewards her owner more liberally. So with the sheep, and even the swinish multitude. The domestic animals do not confine their obligations to kind masters by mere labours of gentleness and servitude; they carry expressions of gratitude in their countenances for all the goodness manifested towards them, and look up to him as their benefactor and friend. In health, they meet our carresses with joy, and in sickness, with looks demanding our compassion, they demand our aid. How great is our ob-

ligation to make them happy, so far as happiness can be theirs, and how guilty if we neglect and abuse them!

But the *domestic* animals are not all which motives of *policy* require should invite the study of the farmer. There are others which, mayhap, partake more of the nature of man, that demand his attention, and which, if left "unnoticed and alone," will enter largely into the blighting of his hopes, and destruction of those things for which he has laboured. The sly, insinuating fox, the wolf, with many others, not excluding those of lesser character, such as squirrels, rats, mice, moles, which build railways with more than human speed through his meadows—weasels, that infest his poultry-yard, &c. &c.,—all well enough in their places, but exceedingly apt to get out of their orbit. The invasions of these are to be remedied, and how? By making that acquaintance with their instincts which will subserve the end; not by a long and tedious course of observations—though observations should be as constant as the circumstances which invite to them—but by making their history a subject of investigation, as we do arithmetic and every other study, from "the notes and observation" of others, to whom circumstances have afforded more favourable opportunities to become proficient in these matters than we can expect, with our diversity of cares, to possess.

W. B.

Mount Osceola, March 10, 1840.

Sugar Beet.

MR. JAMES PEDDER :

SIR,—I beg you to accept my thanks for the polite manner in which you favoured me with several articles on the cultivation of the beet, especially for the one contained in the Farmers' Cabinet, drawn up by yourself. I am now more satisfied than I was before of the very great importance to the farmer, and the country, of cultivating this almost invaluable root. I shall use all my influence and exertions in extending its cultivation. I have succeeded in inducing several farmers to enter upon its cultivation the present spring.

With thanks for your kindness, and best wishes for your success in your noble enterprise,

I am, Sir, yours respectfully,

JAMES KAY.

Northumberland, March 31, 1840.

N. B. I had the pleasure of a personal acquaintance with Mr. Samuel Parkes,* with whose establishment you were connected.

For the Farmers' Cabinet.

Analysis of Limestone.

Mr. Editor:—

The present extended application of lime to land has given rise to various conflicting observations and opinions, in regard to its more immediate effects, though all admit that great benefits ultimately result from its copious application. Most farmers consider lime, as *lime*, without entering into any consideration or examination of the different ingredients, or the different proportions of the ingredients which compose that well-known substance. The difference of composition of lime may, and no doubt does, materially affect the result of its application to land, and produces an effect manifestly variant on different crops; the difference of seasons, as regards heat and moisture; the time of year, and the manner of making the application; as well as the difference of composition, and state of the soil to which it is applied, all conspire to produce results somewhat differing. The quantity applied, and the state of the lime when the application is made, no doubt affect the result very materially; and there may be other circumstances, not here enumerated, which might have an influence in producing different opinions in regard to the good expected to be derived from its application. Every intelligent and observing farmer ought to be attentive to every circumstance connected with the use of so important and valuable an agent in agriculture as lime, and carefully to note down in the "Farm book" every circumstance calculated to throw light on this very interesting subject; and by no means leave important observations to treacherous memory, but put them down in "black and white" while the recollection is perfect, and note particularly all the attending circumstances. In order to ascertain the component parts of the limestone obtained from several different localities, a few years since, specimens were obtained, which were subjected to a rigid analysis, and this was repeated again and again, by an able chemist, in the most careful and accurate manner, and with results but slightly differing from each other. These results are here detailed, in the hope that they may lead to other and more extensive examinations of the limestones used for agricultural purposes in various sections of our country.

The first specimen analyzed was from a celebrated quarry in Montgomery county, Pennsylvania, from the range of limestone that has always furnished the lime for the Philadelphia market, and which has supplied vast quantities for agricultural purposes to an extensive district of country. It corres-

* Author of the Chemical Catechism.

ponds in character with the great limestone range of Bucks, Montgomery, Chester, and Lancaster counties, and, no doubt, that found still farther west presents the same general characteristic marks.

No. 1. Colour, light bluish-grey, with dark streaks, interspersed with small surfaces of crystalline lustre. Lustre, dull. Fracture, in one direction straight, somewhat splintery, in the other, smooth, with a tendency to the conchoidal structure. Very compact; streak, greyish white. Specific gravity 3.028.

ANALYSIS.

Carbonate of lime	- - -	57.05
Carbonate of magnesia	- - -	41.36 *
Iron and alumina	- - -	1.80
Silica	- - - - -	.73
		100.94

No. 2. A clouded marble from Dager & Potts's quarry, near Spring Mill, Montgomery county.

Colour. It presents irregular interlamina-tions of dark grey, with white, the whole interspersed with crystalline surfaces. Fracture, irregular. Lustre, the crystals shining, pearly. Structure, compact, granular. Streak, very light grey. Specific gravity 2.646.

ANALYSIS.

Carbonate of lime	- - -	96.6
Iron and alumina	- - -	3.6
Black insoluble residuum	- -	1.0
		101.2

No. 3. Marble from John R. Thomas's quarry, near Downingtown, Chester county. Texture, granular. Fracture, in one direc-tion roughly conchoidal; in the other irregu-lar, somewhat splintery. Colour, white, with a light shade of grass green. Specific gravity 2.71.

ANALYSIS.

Carbonate of lime	- - -	93.40
Carbonate of magnesia	-	4.22
Iron and alumina	- - -	1.00
Silica, chlorite, &c.	- - -	3.80
		102.42

No. 4. An impure limestone from Joseph Smith's, East Whiteland, Chester county; a surface specimen.

Colour, dark grey, coarsely mottled with white, and exhibiting much talc. Fracture, very irregular. Structure somewhat compact,

and (where free from talc) granular. Streak, lead grey. Specific gravity 3.667.

ANALYSIS.

Carbonate of lime	- - -	85.30
Carbonate of magnesia	-	5.23
Iron and alumina	- - -	3.00
Silica and talc	- - - -	8.80
		102.38

The above specimens were analyzed by John F. Frazer, during the winter of 1837-38, with great skill and care, and from the num-ber of examinations made there is every reason to believe the results are substantially correct. Some of our farmers are probably not aware that marble is only a finer variety of granular and compact limestone, which, being of a closer grain, is susceptible of a superior polish; and where marble is quar-ried there is a great accumulation of refuse stone, which may readily be converted into a very pure lime, for agricultural or other pur-poses. This description of lime falls much more readily than that burnt from the magne-sian limestone, and when fallen, it has the appearance of coarse sand, which easily slacks by the application of water, when it is reduced to an impalpable powder. It is very desirable that a series of accurate experi-ments should be made with this description of lime, in order to compare its advan-tages with that burnt from the common limestone.

Should any of the correspondents of the Farmers' Cabinet possess information calcu-lated to enlighten farmers on the subject of the advantages of the different kinds of lime, they would confer an especial favour by communicating it for public use.

AGRICOLA.

An estimable correspondent suggests the propriety of setting apart a *very large* room in the Patent office at Washington, in which to deposit the numerous machines which have been patented, and found not to answer the end designed. The keeper should be instructed to attach to each a written state-ment of its defects; and every one applying for a patent should be required to visit this room, and examine its contents, before a patent is granted. He thinks the money saved by this plan, both to the patentee and the community, would soon amount to a very large sum.—Ed.

* Every farmer should ascertain the nature of his lime before he uses it in agriculture, as there are many extensive districts where the lime is contaminated by magnesia, which renders it injurious to the growth of vegetables.—Parke's Chemical Catechism.

It is said that fresh meat may be pre-served free from taint for many months, by keeping it immersed in molasses.

For the Farmers' Cabinet.

On the Mixing of Corn.

I wish to remark, on an article "On the Mixing of Corn," which was copied into a late number of the Farmers' Cabinet, from the New England Farmer, in which the erudite author, with a heroism deserving of all praise, "differs from all he has read or heard spoken on the subject." "The common opinion (says he) is that the blossom on the top stalk falls on the end of the ear and causes the mixture." This he thinks is "hardly possible" for and because. Catching the prevailing spirit of the times, he then "takes the responsibility on himself," and offers a *new theory*. "My theory—and I believe it to be the true one, is—that there is a silk from the bottom that is next the cob of every kernel of corn; the silk is hollow—a tube, so to express it."

Here the reader will perceive that our ingenious author (like many other *modern discoverers*) has *discovered the old theory*, and not a new one: one, in fact, which has been known to every body but himself for a century. This, however, is a small mistake, and of no consequence to any one but himself. But this *new discovery of the old theory*—this maiden effort of his powerful genius—is only the beginning of wonders. For says he, "go into a field with a good glass when this gendering takes place, and I believe there will be seen a vapour—or myriads of vapours—resembling so many spiders' webs, leading in all directions from the top stalks to the ends of the ears. I saw it once with my naked eyes. This, in my poor opinion, is the way in which corn mixes; it is by sympathy, or attraction, or whatever name the learned may call it by." I wonder it did not occur to our observer, that it would be better to lead those *vapours*, or streams of *sympathy*, or cords of *attraction*, or *spiders' webs*, into his silken tubes, and so down to each kernel of the corn; then to land them on the *end of the ear*, as in the exploded theory. But this account he must settle with himself.

Those "good glasses" which render this *sympathy* or *attraction* visible by transmuting it into real *spiders' webs*, must be an invention of his own. They will no doubt prove an invaluable acquisition to the philosophical inquirer, and must speedily yield us the most prodigious results. But, to come more seriously to the task. The reader who is not acquainted with botanical principles, may be informed that plants are of both sexes. In botanical language, the male parts are called *stamens*—the female *pistils*. Thus in a lily, for example, you will perceive a central column rising in the middle of the cup. This is the

pistil or female organ. The protuberance at the top is called the *stigma*; the young seed vessel at bottom, the *germ*; and the connecting portion, the *stile*. Around the pistil stand six other erect bodies of about the same height, each bearing on its extremity an oblong body, the *anther*, and covered with a yellow substance, which is the *pollen* or fecundating dust. The pillars which support the *anthers* are called *filaments*. The *anthers* are more properly the male organs. When arrived at maturity, they burst open and discharge the *pollen* or prolific dust, which falls upon the *stigma*, and through the medium of the *stile*, impregnates the germ at its base. This arrangement of parts applies only to the lily and a few other plants. It must be recollected, that both the male and female organs of reproduction vary greatly in number and position in the various species of plants, so as to form the basis of the elegant system of classification of Linnæus. In some species the male and female parts are each solitary, or the one solitary, and the other by pairs, or in greater number; in others, there are more than one of each, but the numbers do not often vary in the same species. Sometimes the two sets of organs are on different plants; sometimes in different flowers on the same plant; more commonly they are united in each flower, as I have described in the lily.

The garden strawberry, and the Lombardy and the Athenian poplars, are familiar examples of the male and female flowers being produced by distinct plants. Such plants do not produce fruit unless planted near each other. The female of the lombardy, and the male of the athenian, have never been introduced into this country; hence they do not propagate seed.

In many species, the male and female parts exist in distinct flowers, but on the same plant. As examples, I may mention the hickory, walnut, chestnut—the grasses generally, of which the Indian corn is a notable instance. The tassel on the top contains a profusion of staminate or male flowers, and the silk on the ear consists of as many pistils as there are germs connected with the *receptacle* or cob. Each thread of the silk must receive a portion of *pollen* from the tassel in order to have the germ at its base impregnated. The inconceivable number and minuteness of the particles of pollen which are constantly dispersed over the field for some days, affords the greatest facility for effecting this end. This teaches us how corn mixes, and explains the fact that a mixture may take place as far as the *pollen* is carried by the wind. White and yellow corn may be planted in contiguous fields. The *pollen* from one may be blown upon the

other in such quantity, as to impregnate many of the *germs* producing grains of the description cultivated in the adjoining field. This is the *old theory* of corn mixing, and I believe it is the true one—the correspondent of the New England Farmer to the contrary, notwithstanding.

It is of practical importance that we should understand the true theory of “corn mixing,” for the same theory must also apply to the mixing of many other kinds of plants. The squash and pumpkin, the cabbage and turnip, the garden and sugar beet, and the mangel wurtzel, and many other vegetables, are ruined when allowed to blossom and produce seed near each other.

Before concluding these cursory remarks on the mixing of plants, I will address an inquiry to my more intelligent readers, hoping that some will be able to answer it satisfactorily, which I believe has never yet been done.

It seems to be an admitted fact, that when two *varieties* of the potatoe, one red, the other white, are planted in contiguous rows, they will produce piebald roots partaking of both colours. It is not known that any other plants do intermix in the root. The *old theory* teaches us how the *seeds* produced from potatoes so circumstanced, may propagate mongrels; but a *new theory* which will account for this *mixture in the root*, remains to be a desideratum to the botanical physiologist. The principle which is referred to in the relation of Jacob’s peeled rods, is inapplicable to the present case; for although the potato has many *eyes*, it cannot *see*; yet, like the flocks of the good old patriarch, it produces ring-streaked and spotted roots. Will some of your able correspondents be so good as to *clear up* this matter, either by giving us a satisfactory explanation of the process, or showing that it is only one of Dr. Franklin’s fishes?

A NOVICIATE.

We have received, through the kindness of a friend, a delightful little work on the Horse, which contains in a few pages the substance of a large volume. It is a recent London publication, and we shall feel pleasure in laying its contents, from time to time, before our readers.

The Horse.

The contents of the following pages are the results of long practical experience, and have been written with a view to the benefit of persons not thoroughly practised in the proper management of horses, and to whom the knowledge now imparted may be useful.

To men of business in particular, whose time is too much occupied to admit of leisure for much study, beyond their every-day pursuits, the present work may afford information not so easily acquired in other forms. A few minutes devoted to the perusal of it will probably compensate them for their trouble, as the whole is comprised in a small compass. It will be found that the entire treatment of the horse, that is, the useful, or road horse, is fully considered in the subsequent pages. The publishers, also, are not ashamed to confess, that one part of their object has been to induce greater humanity than is usually practised in the treatment of so noble an animal; and it is melancholy to reflect, that the “high-mettled racer,” in the words of the song, is not unlikely to become “food for the hounds.” But those who are not susceptible of the finer feelings of our nature, may be influenced by considerations of self-interest; and it would not only evince humanity, but it would be a pecuniary gain, if the owners of horses paid more attention than they usually do, to that kindness of treatment which is dictated by nature herself.



In all nations and in all ages, the horse has been esteemed as one of the noblest and most valuable animals of the brute creation. It is unnecessary for the object of the present work to make any particular allusion to the pride and admiration in which he was held in ancient Greece and Rome, and indeed among every warlike people. Caligula invested his horse with the dignity of a first consul. Innumerable passages might be quoted from the poets, descriptive and illustrative of the qualities of this beautiful quadruped; but we shall confine ourselves, in this introductory matter, to a citation from the Book of Job. The following verses are so applicable to our subject, and so sublime in conception and expression, that it would be almost an unpardonable omission not to lay them before the reader, who need not be told that the apostrophe is to the Deity.

“Hast thou given the horse strength; Hast thou clothed his neck with thunder? Canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible. He paweth in the valley, and rejoiceth in his strength; he goeth on to meet the armed men. He mocketh at fear, and is not affrighted; neither turneth he back from the sword. The quiver rattleth against him, the glittering spear and the shield. He swalloweth the ground with fierceness and rage; neither believeth he that it is the sound of the trumpet. He saith among the trumpets, Ha, ha; and he smell-eth the battle afar off, the thunder of the captains and the shouting.”

Such is the description given in holy writ of this superb animal; but it is now our task to treat of all that relates to the use of him, in a plain and familiar style, adapted to all capacities.

The value of horses mainly depends upon their soundness and capability for work. It is, therefore, of the utmost importance to keep them in the most healthy condition. Yet, this being universally allowed, it is a constant and general complaint that so few of these valuable animals are preserved in a proper state. But it is surprising that those who so complain do not perceive that the blame principally rests with themselves, as the remedy lies solely in their own hands, so far, at least, as any remedy can be applied. There can be no doubt that persons who employ horses wish to get all the work they can from them, without decreasing their value; but that they do not effect this desirable object is evident from the prevalence of the complaints made upon the subject. The general employers of horses, more particularly men of business and commercial men, seem to think that a knowledge of the horse is implanted within them by nature; and this overweening confidence leads them into an infinity of errors, and prevents them reading what better-informed persons have said upon so important a topic. Nor do such persons take even common precautions in the treatment of these animals, by attending to experience or example; but they trust the care and health of their horses to ostlers and others who have but a secondary interest in preserving them in good condition. It is only fair, however, to admit that the little benefit derived by persons keeping or entrusted with horses from works already published regarding their treatment, may be partly owing to the expensiveness, or voluminousness, of such treatises, requiring either more money or time than it may be convenient to afford for that purpose. To which may be added, that hitherto there has not been a single work issued from the press of general and complete utility on this subject.

Here, then, the reader may ask, What am I to do? I take every possible care of my horse; he has abundant food; yet he is not what I could wish him. Another may say, —I do not think great feeding good for the health of a horse, from an idea that too much food causes broken wind, or from an apprehension of bringing on inflammatory disorders. To go through the reasons, pro and con, that people might urge in vindicating each his own particular mode of treatment of the noble animal subject to their charge, would be a mere waste of words. Ask them to explain why they do this or that, and although they may give you an answer perfectly complacent to themselves, they never succeed in making converts of others. Hence it is apparent that their judgment is not based upon any rational foundation. To correct erroneous opinions on this interesting question, to qualify horses to work with ease to themselves, and also to contribute to the pleasure of their owners, constitute the intent and object of this little tract.

That horses ought to remain sound, and would do so, to a much later period of life than is the fact at present, will, it is hoped, be demonstrated in the course of these pages. That everything animate must decay by the progress of time, is an axiom too trite to be dwelt upon; but trees, or men, may decay prematurely for want of proper culture; and so may horses. Transplant a tree to an uncongenial soil, or situation, and it will cease to thrive; or it may perish through some injury to the roots; or from other causes operating against the laws of nature; whereas under different circumstances, it might continue to prosper much longer. The writer of this remembers the grief of a friend at the decline of an ornamental and valuable timber tree, in consequence of his driving a large spike nail into the trunk, not thinking at the moment it would do the least injury. In another instance, a person, in order to improve his grounds, raised a bank of earth around some elm trees, which, to his astonishment and regret, died. So it is with men and other animals: climate, soil, situation, and the nature of their employments, have the most important bearings upon their health, soundness, and capacity for usefulness.

Our present object, therefore, is to recommend the most judicious method of treating the horse, with the view of correcting false notions and of increasing the value of that beautiful animal. Analogy will show us that this project is not so impracticable as many persons might imagine. The gardener has brought many tender plants from the East to flourish, even in the rigour of a northern winter. The Ethiopian will live in Greenland; the Laplander in Africa; but they would pro-

bably not do so, without due attention to the change thus made in place and circumstance. It is science that is their instructor.

Morgan, in his Treatise on Horsemanship, published about two centuries back, tells his readers to "put one bottle of sherry into a pint of water, as the ordinary drink of a horse, with much bread. The blood being derived from horses originally brought from the East, the wine is necessary to keep up the heat of blood required in this country." This treatment would now be laughed at as injurious; and it is to be doubted whether the grooms of those days did not appropriate the greater portion of the wine to their own share, and no less to the advantage of their horses.

Finding, then, that not only man, but birds and flowers, as well as many things, intended perhaps less for use than ornament, are capable of undergoing mutations of various kinds, it would be folly to suppose that animals adapted and given to man for his necessities, are not capable of similar changes without detriment to their strength and constitution. It is true, that, like the plants before alluded to, those animals would degenerate without proper care; but the all-seeing Providence that has so bountifully provided these "creatures to our uses," has also endowed us with reasoning faculties, so as to enable us to reap the full advantage from them. Although it is impossible to prevent the infirmities of age, it is at all events in our power to avoid or protect the beasts of the field, sent as they are for our good, from wanton or inconsiderate ill-treatment. Much of their present sufferings, without any maudlin sensibility, might be alleviated by the diffusion of more knowledge on the subject amongst persons who ought to feel interested in such matters. It is our duty to use, not abuse, the creatures made for our service, and for that purpose to avail ourselves of any means best calculated to prolong their existence. Such must be in fact the wish of every reflecting man, who keeps, in particular, a horse, or horses, not only from feelings of humanity, but also for the sake of profit; and we may feel assured that in all cases the best and wisest policy is to treat a horse with kindness and gentleness. The tendency to act wrong in this respect proceeds less from hardness of heart than from the absence of competent knowledge upon the subject, as we have already hinted, the mass of information concerning it being spread over, or scattered through, so many extensive works, that few people have leisure for the perusal of them.

Every man has in his own life follies enough—in his own mind, troubles enough—in the performance of his duties, deficiencies enough, without being curious after the affairs of others.

Haymaking.

To the Editor of the Farmers' Cabinet.

SIR,—As the season for haymaking is near at hand, I feel desirous of bringing your numerous readers acquainted with a *practice*, which is based on so true a *theory*, that—as ought always to be the case—they go hand in hand to the end of the chapter. As so much of the happiness of the farmer depends on the stock of hay which he can prepare for his winter consumption, any information, tending to facilitate the process, and at the same time lessen the labour and expense and hazard of the business, I consider of great importance. The following observations, reflections and instructions, are therefore presented to their notice, by their friend and well-wisher

JONAH CORBIT.

N. J., 1st May, 1840.

"Having observed, that in a season where there was no rain whatever, and the hay had been made with rapidity, and carried within a short time after it had been cut, that a greater quantity had been injured by being over-heated and burnt, than in a catching, irregular season; that when hay had not heated in the stack, it was frequently mouldy; that as hay lost its native green colour and approached a brown, it lost its nutritive qualities; and that, altogether, the making of hay, as usually conducted, was a very precarious and troublesome operation; I determined on trying to arrange a system on more regular and certain principles, and in which I succeeded: and by adopting a certain and regular course of operations, was enabled to make my hay of a uniform good quality; and, let the weather be as it might, at a pretty regular expense for labour, and considering such a process not only of importance, as it insures a more perfect quality, but as it affords a more certain protection against the injuries usually consequent on the uncertainty of the weather, and over-heating in the stock, and that it thus removes two great causes of anxiety, it may be well worth the public attention."

In the first place, then, as to the state of the weather—it generally happens at this season of the year, that there are three or four rainy and three or four dry days; * therefore, on beginning to cut the grass, as it is well known that grass may be cut and suffered to remain in the sward for several days without injury; and it being desirable, where hands are plenty, to have a good quantity, or as much as will complete a stack in a day, in the same state of forwardness, I should prefer, rather than to wait for fine weather,

* In England.

to begin to cut in rainy weather. However, be this as it may, the swarths should not be opened but on a fine day, and when this is done, the grass should be well shaken apart and equally spread over the ground; and as soon as the upper surface is dry, turn it well over, and in this operation great care should be taken to open and spread any cocks that may not have been divided in the first opening: this being done, commence raking into wind-rows in time, that the whole may be made into small cocks before the night. *The second day these cocks must remain untouched, let the weather be wet or dry.* The third day, if the weather be certain and fine, throw the cocks open; but if the weather be wet or threatening, they may remain another day, or until the weather is certain to be fine for the day. The cocks should then be thrown, according to the crop, into beds of two or three rows, and after three or four hours exposure, turned over, and taking time to gather the whole into wind-rows and cocks before night; let this operation commence accordingly, and *none be left open.* The day after this, which in fine weather will be the fourth, *the cocks must again remain untouched, or not be opened, whether the weather be wet or dry.* On the fifth, or the next dry day, these cocks will only require to be opened for an hour or two, after which time they will be fit for the stack.

The novelty of this mode, consists only in suffering the hay to remain in cock the second or third, or alternate days; and at first sight it may appear that so much time in fine weather must be lost, but this is by no means the case, for whilst the hay remains in cocks, a slight fermentation, or what is termed sweating, will take place; and in consequence, after it has been opened on the third and fifth days, it will prove to be just as forward as if it had been worked every day; and the advantages resulting from this, are obviously the following:—By shortening the time of open exposure, the colour of the hay is more perfectly preserved, and consequently, the quality; and the fermentation or sweating which takes place in the cocks, proves so much to have diminished the principle or inclination, as to prevent its heating injuriously in the stack; and the whole operation of making, whether it takes four days or eight, requires three days' labour only; and the hay being left in that state every night, in which it is the least possibly exposed to the injuries of the weather, and in which it may remain for a day or two in uncertain weather, without injurious exposure, most painful anxiety and useless attendance of labours are obviated."

Hayward's Science of Agriculture.

An Agent's Suggestions.

To the Proprietors of the Farmers' Cabinet.

I congratulate the friends of the Cabinet on the change of proprietorship of that very useful work; it will now go on and prosper. The arrangement which has been made for the editor—a practical farmer—to visit the country in his official capacity, is the best that could be devised, and is exactly that which was adopted by the "Albany Cultivator;" and had it not been for the sudden death of its excellent editor, it is the conviction of all its friends, that infinite good to all parties would have been the result.

I am, and have been, from the time of its commencement, one of the agents of the Cabinet; and living in a district surrounded with a number of excellent farmers, all of whom will, I trust, now become subscribers, I have the means of knowing what would be required to make it, not only a general, but an universal favourite with the agriculturists throughout the country. The price, I know, is low, but that is no reason why the book should not be continued at the present price; nor is it anything against its becoming still more valuable in its arrangements, both in the matter as well as the manner; and in the hands of its present proprietors and publishers, I trust it will so become—depending upon its great sale for remuneration, just as the bible and other standard works are now furnished, and at a profit too, for less than it would be possible to issue them without a circulation of tens of thousands. Allow me, then, to speak my sentiments candidly, and with the sincere desire to promote the circulation of a publication on a subject which requires only to be known, felt, and understood, to rally round it the *warm hearts and right hands* of the agricultural community generally—individually.

In the *first place*, then, let its appearance be punctual as the promises of a *friend*: this, I am convinced, is not a difficult arrangement; for suppose the day of publication be as heretofore, on the 15th of the month—I dislike the word, *about*—it looks suspicious; well, then, let this day to the publishers be the 12th; there then is exactly the same interval to them, from the 12th of one month to the 12th of another, in which to prepare for the publication, and then every farmer would obtain his book at the time specified,—a matter of more moment than almost any one would imagine; for often have I known of late, that when the subscribers have called upon me for their numbers, coming from a great distance for the purpose, they have declared their determination to quit taking it, it was so irregular in its publication,—ob-

servicing, if they cannot get it at the time specified, the taste for it passes away, and before they have it again in their power to call, they care nothing about it. 2d, *Paper*. This ought to be thick and good; for if the Cabinet becomes so great a favourite as I intend, it will be read, not only by the farmer, but by his wife and family also—and not only read, but *examined*, and unless the paper is good and strong, it will soon become in an unfit state for binding at the end of the year,—an object of much importance, as my wish is, to form of it an agricultural library and book of reference; and to that purpose the subscribers may look with confidence, now that the work is in the hands of men, “who are as willing as they are able, to make it a work worthy of the state and the country.”

MATTER.—The observation expressed by the editor, that “the people of this country would prefer to know rather how their neighbours in other parts are doing, than of these countries, where the soil, climate, and circumstances are so different,” is good; and, with the understanding that this is not to deprive us of the knowledge of what is *really valuable* from foreign sources, has met with universal approbation: it must not, however, be forgotten, that practical agriculturists are capable of digesting strong food—real practical knowledge and information, drest and served up in a plain way, with but little of the garnish—this is what they prefer, and for which they have a relish, and would *rather take than leave*—that is the criterion. My wife and daughters, however, the latter of whom are of an age to read and understand, remind me, that I promised to put in a word for them; they believe there is room, if the super-garnish be left out, to admit a little of that sort of lighter food, which would be more palatable to the female portion of your readers,—a new class, perhaps, but which, if I mistake not, will be found henceforth to be pretty numerous: and they hope that poetry of the best and purest kinds, *very small* in quantity, and not foreign to the character of the work, will sometimes find its way into your pages. And I must add, I trust the time is coming when, if the farmer has not leisure to read the Cabinet, it will not be found lying on the window or book-shelf uncut, till the next month, but that the wife and daughters will feel so far interested, as to cut and stitch it into paper covers, ready for his use, when he retires to his arm-chair, after the labours of the day. But let me just whisper,—my wife thinks that the wives of farmers generally, ought to be supposed able to make johnny-cakes and molasses gingerbread, without printed instructions in the Farmers' Cabinet.

MANNER.—Little and often, as all good far-

mers say; and upon this principle it is that I take upon me to say—and this I do from observation—Farmers in general like best those articles which treat on subjects in a plain and concise manner, in *short*—for it must be said—they like *short articles*; they suit the reading of the general class of agriculturists, who have often not time or inclination to peruse a long article, even if to their interest so to do; and the preference for short articles may be traced in almost every one, who will admit that *they* at least are read *first*, while the sight of “To be continued,” is a poser to most, who, despairing of knowing where to take up “the thread of the discourse,” decline entering upon the subject at all. Now, this is not meant in disparagement of essays of any length on important subjects generally—by no means—it is only intimated that such are better calculated for the pages of standard works relating to their particular subjects, rather than to those of a periodical newspaper, consisting of 32 pages only, monthly. It has been said, nothing is more difficult than to cater for the public taste; I dare say it is difficult, but that is no reason why it should not be done; but in an agricultural work, the *taste* of its readers is very much the same, and confined pretty much to the same dishes, and this narrows the difficulty much: one thing is quite certain, all have a relish for real practical knowledge; and if a farmer has experienced the disappointment of his hope, in realizing a large return from extra management, there is not a farmer, far or near, who will not enter into the subject, and listen attentively while he records the circumstance from end to end; this might be termed “weeping with those who weep,” while the account of enormous crops from peculiar management, stating time, place, and circumstances, would be sure to *interest* every one, and this would be “rejoicing with those that do rejoice,”—proof positive of good fellowship.

EMBELLISHMENTS.—I see it advertised that engravings will be given on suitable occasions; and for once, I believe that the readers of the Cabinet have fair grounds to expect that the promise will be redeemed: they, it must be admitted, have of late been woefully disappointed in their expectations in this particular, and I have sometimes wondered how they have submitted so quietly; but such quietness is often the worst sign of disease. I would, therefore, respectfully propose to the proprietors to make the Cabinet, in this particular, “a thing to be coveted.” I would place it by this, and every other means, beyond the possibility of competition. There is a grand field open, and they ought to take possession of it. They could give us real portraits of the horse, cattle, sheep, hog,

&c., in all their *native varieties*, and engraved in such a style as would be creditable to themselves, and to the work, especially if it were known that the individuals were *real portraits*—not mere prints; this is of the greatest importance, and would, I am convinced, bring to the ranks of its subscribers tens of thousands; and I would suggest that at the foot of each print be placed the name of the particular breed, and it may sometimes happen, notice of the *individual* also. From the plates of these, may be struck off prints of the different animals, male and female, which might be disposed of as engravings for ornamenting the house of the farmer, every one of which would act the part of an "agent," and of the best kind too, in procuring an addition to the subscription list of the "Cabinet;" engravings of agricultural implements, architectural drawings, entomology, &c., might also follow at intervals.

Now, I am aware that to carry this plan into execution, will require energy, and *capital*, without which the energetic spirit alone would be but of little avail; fortunately, however, we are assured that both these requisites are in the possession of the present proprietors, and it is only for the agriculturists to determine to make the work *their own*, and the subscription list will soon render easy the most sanguine wishes and the highest expectations of its friends. Respectfully,

J. S.

Gloucester County, N. J.

Root Culture.

If the representations made by the friends of root culture are to be relied on, a great change is to be made in our crops by it. Some say these things do very well for the "little truck patches" of the North, but 'tis all idle for a large farmer to think seriously of making roots a part of his crop. This may be so, but if, with the same labour or more, an acre of ground can be made to yield in roots thrice the quantity of food for cattle that it produces in grain, the "truck-patch" cultivators will soon become the most prosperous, if not the largest landholders.—All are aware of the value of succulent food for stock in the winter season, particularly the young and milch cows. Look at the effect of our early rye pastures upon every thing that feeds upon them. Our cattle are fed in winter upon food which has lost much of its nutritive matter, and the juices of the rye pastures are very nourishing to them. It is very essential to the full perfection of cattle that they should be constantly fed upon food of this character. The superior keep of the English cattle is from their roots. The process of drying, to which much of our com-

mon winter food is subjected, takes away a large quantity of nutritive matter, and nearly all that water which certainly enters largely into this nutritive matter. In England, grapes lose in weight by drying 66 to 70 parts out of the 100, in this country more, 70 to 75 out of 100. Roots retain their juices, and if they can be raised successfully, must form an admirable substitute for green grasses. It may be that turnips do not answer a valuable purpose here—they may be uncertain; we have known two hundred bushels gathered from half an acre in this county, with no more labour than was applied to a corn crop; and though they have some seasons failed entirely, in places, yet not ten miles off good crops have been made by others the same year. We would not recommend to any one to do more than make an experiment upon an acre or two. We have great confidence in the value of the sugar beet, and are pleased to learn that a number of judicious farmers in our county intend to plant from one to three acres this season. Carrots are cultivated in some parts of the county, particularly for colts, and are very highly esteemed.—*Franklin Farmer.*

The Stream of Death.

There is a stream, whose narrow tide,
The known and unknown worlds divide;
Where all must go;
Its waveless waters, dark and deep,
'Midst sullen silence downward sweep,
With noiseless flow.

I saw where, at the dreary flood,
A smiling infant prattling stood,
Whose hour was come;
Untaught of ill, it neared the tide,
Sunk, as to cradle rest, and died,
Like going home.

Followed, with languid eye, anon,
A youth diseased, and pale and wan;
And there alone

He gazed upon the leaden stream,
And feared to plunge—I heard a scream,
And he was gone.

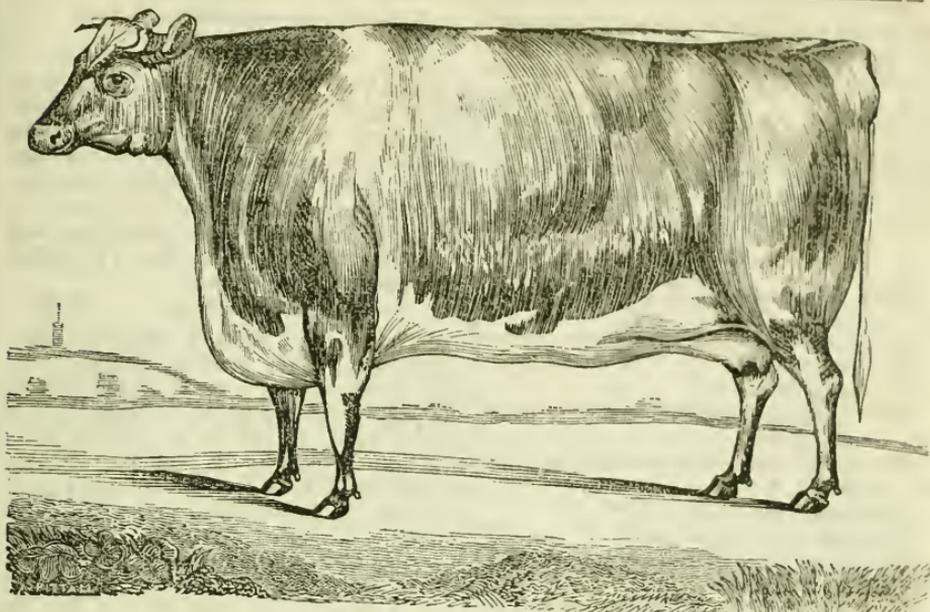
And then a form in manhood's strength,
Came busting on, till there at length
He saw life's bound;
He shrunk, and raised the bitter prayer
Too late—his shriek of wild despair
The waters drowned.

Next stood upon that surgeless shore,
A being bowed with many a score
Of toilsome years;
Earth-bound and sad, he left the bank,
Back turned his dimming eye, and sank,
Ah! full of fears.

How bitter must thy waters be,
O death! How hard a thing, ah, me!
It is to die!

I mused—when to that stream again
Another child of mortal man,
With smiles, drew nigh:—

"'Tis the last pang," he calmly said—
"To me, O Death! thou hast no dread;
Saviour, I come;
Spread but thine arms on yonder shore—
I see!—ye waters, bear me o'er!
There is my home!"



MISS POINTS,

By Aid-de-Camp. Calved in 1823. Bred by C. Champion, Esq.

The above engraving is an excellent Portrait of the high-bred Durham "Miss Points." It is the intention of the Proprietors of the Farmers' Cabinet, periodically to enrich its pages with portraits of other individuals of the same breed, as well as those peculiar to the breeding counties of England and Scotland; as also the Horse, in all his varieties, Sheep, Hogs, &c. as circumstances shall permit.

Agricultural Census.

We congratulate the agricultural community on the approaching census, and join in the hope that every farmer in the country will be ready and willing to assist in the important work which is to give a mass of information of the highest importance to all classes of the community. The following we copy with much pleasure from the Cultivator:

We are happy to perceive that this important subject has been taken up in the proper quarter, and that we are at last to have such an enumeration of the agricultural products of this country, as will furnish some safe estimate of the quantity produced, and the districts in which they are grown. In reply to some suggestions made by us on this subject, MR. DEBERRY, the chairman of the committee of agriculture, has kindly forwarded us a copy of the instructions for the use and direction of the marshals and their assistants, from which we find that the following series of inquiries are to be propounded to every farmer. Although there are some products that would be perhaps desirable to render it

complete, yet it contains all the most essential items, and if carried out in the spirit in which it seems to have been conceived, it will be a collection of vast importance and value to the country. Had such a census of our agriculture been taken every ten years, the comparison of the tables at different times, would be of the greatest interest, as determining the increase in the product of our friends, and the districts in which the greatest fluctuations have taken place.

We have one suggestion to make in regard to this matter, which we consider of very great importance. It is this: Let every printer of a newspaper in the country, and all in the cities that print journals for distribution in the country, give a place to the questions which we copy below, and which will be propounded to every farmer in the United States. As it is to be hoped that there are few or no farmers who do not receive some journal agricultural or otherwise, such a course would be the means of bringing the subject to their notice, and enable them to prepare their answers with greater correctness than they might otherwise be able to do. If every farmer who receives a copy of these interrogatories, would at his leisure sit down, and write against each one

the proper reply, not only would the labours of the marshals be greatly expedited, but, which is of more consequence, a greater degree of accuracy would be secured. The marshals will commence in June next, and proceed through their districts as soon as consistent with accuracy. The interrogatories refer to the crops of 1839, and to the products of that year must the answers relate.

AGRICULTURE—INTERROGATIONS.

What is the number of your horses and mules ?
 How many neat cattle have you ?
 How many sheep ?
 How many swine ?
 What is the estimated value of your poultry of all kinds ?
 How many bushels of wheat did you grow in 1839 ?
 How many bushels of barley ?
 How many bushels of oats ?
 How many bushels of rye ?
 How many bushels of buckwheat ?
 How many bushels of Indian corn ?
 How many pounds of wool ?
 How many pounds of hops ?
 How many pounds of wax ?
 How many bushels of potatoes ?
 How many tons of hay ?
 How many tons of hemp and flax ?
 How many pounds of tobacco ?
 How many pounds of rice ?
 How many pounds of cotton have you gathered ?
 How many pounds of silk cocoons ?
 How many pounds of sugar ?
 How many cords of wood have you sold ?
 What is the value of the products of your dairy ?
 What is the value of the products of your orchard ?
 How many gallons of wine have you made ?
 What is the value of your home-made or family goods ?
 As intimately connected with these, may be added those relating to horticulture—which are as follows :
 What was the value of the produce of your market gardens in 1839 ?
 What was the value of the produce of your nursery and green house ?
 It is hoped that editors friendly to the cause of agriculture, or who have readers in the agricultural districts, will give a place to the above interrogations, and invite the attention of those interested, that they may be in readiness with their replies. Let the first effort for an agricultural census of the United States, be met in a manner that shall insure the desirable accuracy of the measure.

To the Editor of the Farmers' Cabinet.

Dam the Best.

Sir.—Your correspondent, G. B., at page 256 of the Cabinet, is right. I have experienced the truth of the observation, "If Bakewell had commenced with dam the best, instead of sire the best, he would have accomplished the end he aimed at in one half the time," and I copy a few sentences from a very popular work on the Horse, as farther corroboration of the axiom.

Your Subscriber,

J. D.

"There are two rocks on which the farmer often strikes in the breeding of horses: he pays little attention to the mare, and less to the proper nourishment of the foal. It may be laid down as a maxim in breeding, however general may be the prejudices against it, that the value of the foal depends a great deal more on the dam than on the sire. The Arabs are convinced of this, for no price will buy from them a likely mare of the highest blood; and they trace back the pedigree of their horses, not through the *sire*, but the *dam*; and the Greeks, long before the Arab horses were known, held the same opinion. "What chance of winning have I?" inquired a youth, whose horse was about to start on the Olympic course. "Ask the *dam* of your horse," was the reply, founded on experience. The farmer, however, too frequently thinks that any mare will do to breed from, for if he can find a great prancing stallion with a high-sounding name, and loaded with fat, he reckons on obtaining a valuable colt, and if he fail, he attributes the fault to the horse, and not to his own want of judgment—far more depends on the mare than is dreamt of in his philosophy."

For the Farmers' Cabinet.

Seasoning of Wood.

A constant reader of the Cabinet is led to make a few remarks and enquiries on reading the article at page 292 of the present month, "on the seasoning of wood by the means of fire," a subject which he considers of much importance.

1st. He wishes to inquire, whether it is not the external pressure of the atmosphere which renders fresh cut wood, when submitted to the action of the fire for seasoning, more compact, harder, and of course heavier, than it can become by air or water seasoning.

2d. And if it be so, is not the most proper season for cutting timber for this purpose when the sap is in full flow, as it is then most abundant, less glutinous, and more readily evaporated; and the vessels which contain it being softer and more easily ope-

rated upon by external pressure, the contraction would be greater, and the exhaustion more complete, leaving no space by which the external air can re-enter: the sap-vessels being, as it were, *crushed* by the pressure, the wood would thus be rendered impervious either to air or moisture.

3d. He would ask, whether there would be any benefit, in submitting wood that had already received air or water seasoning to the action of the fire for that purpose? the sap having already been dissipated, and the vessels become too dry, hard, and rigid, to be operated upon by such means.

4th. Will it not appear to the advocates of summer-cutting timber, that much of the benefit derived arises from the influence of the sun and air at that season when the heat is greatest, and by which a more complete exhaustion of the sap takes place, than can be obtained in a cold winter atmosphere; this heat operating, in a measure, as does the firing, causing internal evaporation and external pressure, great, in proportion to the heat of the atmosphere? the bark from such timber being removed the instant it is cut, exposing it more immediately to its influence.

It would be easy to construct drying kilns for fire seasoning; they might be built of common masonry, deep, round or square, with iron pipes instead of bars near the bottom, on which for the boards, &c., to rest on their butt ends: these pipes, projecting through the sides of the kiln, and placed so as to radiate to the internal centre, like the spokes of a wheel, and open at both ends, would create a rush of hot air, which, united with the heat arising from the fire immediately beneath, would cause an evaporation, and consequent pressure, equal to an immense force, and do the business most expeditiously and effectually.

Your Subscriber,

JOHN JENKS.

Bucks County, 28th April, 1840.

Would our intelligent friend, and valued correspondent, Captain James Cooper, of Haddonfield, oblige us with his opinion on this important subject?—*Ed.*

Pay as you go.

To deal for ready money only, in all the departments of domestic arrangement, is the truest economy. Ready money will always command the best and cheapest of every article of consumption, if expended with judgment; and the dealer who means to act fairly will always prefer it.

Trust not him who seems more anxious to give credit, than to receive cash. The former hopes to secure custom by having a hold upon you in his books; and continues al-

ways to make up for his advance, either by an advanced price, or an inferior article; whilst the latter knows that your custom can only be secured by fair dealing. On this point, however, every one's experience will convince him.

To the Editor of the Farmers' Cabinet.

Corn Stalks.

SIR,—I take up my pen to redeem my promise. Since my former letter, I have travelled towards the South, and have been struck with the different modes of management practised by the agriculturists of the districts through which I have passed, and upon which I propose to speak somewhat in order, as occasion might offer. In some instances I have been highly gratified with what I have seen, and have treasured up knowledge that might be of great utility to me on some future occasion, and have verified the observation, "There is something to be learnt in every country," while at the same time I must say, in others there may be some amendment. And nothing has appeared to me more deserving the general notice of the farmers of this country, than the universal custom of permitting the stalks of the last year's crop of corn to remain upon the land, to the great injury of the present crop, and the inconvenience at the time of the next harvest, when the mower will be compelled to leave a large portion of the straw of the crop in the shape of stubble, behind him, by which the dunghill is robbed the next winter, and so a double or treble loss is sustained; all of which might be changed into a lasting benefit by the simplest means imaginable. On my route, I fell into conversation with a farmer, a Friend—who admitted the unsightly appearance on an oat field which we were examining, where thousands of these stalks were standing up all around, which had been dragged up by the heavy harrow, and on removing some of these we found spaces of eight or ten inches in diameter which had not a single blade of oats growing upon them; and many of these roots were standing at least a foot in height, with large masses of the soil attached to them, showing that about a foot of the straw must be left on those places at harvest in the shape of stubble—a dead loss to the farmer, as well as to the land. On inquiring of my friend why they were not removed from off the crop, he told me it was a labour that would not pay the expense; "I have known it done," said he, "and have myself put them into large heaps, and given them time to rot, and have carried abroad the decomposed mass, but never have I experienced the least benefit from such a dressing."

Now, I have it in my power to inform my adopted friends of a mode that will be of the utmost value to them in ridding the land of this incumbrance, which costs them at present about as much as the parson's demand in England, a tythe or tenth of the crop, and show them a way of converting this evil into at least as great a profit as it is now a loss.

All know the value of the ashes of vegetables as a manure, and how that when they are mixed with earth, they operate as leaven, leavening the whole lump. Now, if these corn stalks are gathered from off the land immediately after harvest, and are deposited on some rich bank of earth—say the head-land of a field, &c., or if on meadow, the sward must first be removed, and upon this naked spot be heaped, first some brush wood, then bushes, grass, weeds, leaves, chips, decayed timber, old logs, &c. &c., intermingling corn stalks, the parings of bush land, grass clods cut from the sides of roads or the margins of rivers, with bog earth, &c. &c., building the mass round and compact in a conical shape, until the heap be, if you please, as large as a house, covering the whole at last with grass sods, and finishing with a thick covering from the rich bank of earth beneath, leaving an opening at the top to act as a chimney;—the mass might then be fired through the holes at bottom, which ought to be built with loose bricks,—these holes, serving as draught holes, by which equal combustion can be carried on and regulated as circumstances might require, are at length to be entirely closed, as well as the chimney, so that the combustion might be conducted as slow as possible, else much of the richest portion of the mass will be driven off and dissipated. This heap, consisting of thousands of bushels of ashes, if you please, must be protected from rain, which would wash the alkali from it, to its great injury; but if covered thickly with earth, it might be left uncovered during the whole winter, and in the spring, be turned over and well mixed; then, after a few days, it might be carried abroad—a mass of the richest compost, worth hundreds of dollars, created at little cost, *but a great deal of pleasure*. Let this operation be considered the clearing up of the premises for the year; and during every season of leisure, the materials might be collected and removed to the spot, preparatory for operation. The parings from the angles of the snake-fence, the more rough and weedy the better, will make a valuable addition to the heap; and if these are taken off during the hot weather, they will soon be dry and take the part of so much brush wood, for conducting the fire to different parts, as might be required.

The corn stalks should be collected, with

all the earth adhering to them, as soon after harvest as leisure might serve, for they will then be found to contain much saccharine matter, which, after fermentation, will be easily dissipated by the winter rain; and the heap should be fired while all the articles are dry, as much more of the rough earth and rubbish can be mixed and burnt with it; thus adding exceedingly to the quantity of the ashes. According to this plan, every farmer's heap of ashes ought to be worth to him a great portion of his rent; one great item of value being, they are upon the spot, without expense, labour, or loss of time on carriage.

The carcasses of animals dying during the year, can be preserved for the purpose of combustion, by removing them to the place appointed to receive them, and covering them with a thick coat of lime, spreading a layer on the ground before placing them. Lime being antiseptic, this would add exceedingly to the value of the compost.

Here follows a table of the produce of ashes from the burning of one thousand pounds of the following woods and weeds, which shows at one glance, the striking and surprising superiority of the corn stalk for this purpose. And by another table is shown, that the yield of salt or alkali, is astonishingly great in its favour. After this, will our agricultural friends permit corn stalks to *rise up in judgment* against them on every crop that succeeds, to the loss of the land, and of their character as neat and cleanly managers.

VIR.

April 20th, 1840.

Table of the produce in Ashes and Alkali, of 1000 lbs. of the following woods and weeds.

	Yield of Ashes.	Of Salt or Alkali.
Stalks of Corn	88.6	17.5
Sunflower	57.2	20.
Vine branches	34.0	5.5
Box	29.0	2.26
Sallow, or Willow	25.0	2.85
Elm	23.5	3.9
Oak	13.5	1.5
Aspen, or Poplar	12.2	0.74
Beech	5.8	1.27
Fir	3.4	0.45
Fern, in August	36.46	4.25
Wormwood	97.44	73.0
Fumitory	219.0	70.0

Would some of our practical friends calculate the quantity of corn stalks on an acre, burn them, *upon paper*, and find the quantity of ashes per acre, and the yield of alkali?—
ED.

“In the cultivation of France, I was greatly disappointed; the sword has scarcely even yet had time to be beaten into the ploughshare: the soldier finds it hard to stoop to the labour of the plough and the hoe, and seems disposed to leave this drudgery to the women.”

For the Farmers' Cabinet.

On Breeding in and in.

Sir,—The remarks of your correspondent (p. 267 of Cabinet) on this subject, although chiefly applied to vegetables, induces me to transcribe from a very valuable work, "On the Science of Agriculture," by Joseph Hayward, some observations which seem to put the matter beyond controversy.

I am, your subscriber,

JOHN SNEID.

Montgomery County, 25th April, 1840.

"A difference of opinion may always be expected to exist, as to form and colour that constitutes the *beauty* of animals, as well as vegetables, but it cannot be denied that the grand object of agriculture should be, a *profitable produce*. The mode of attaining this object, no doubt, will be determined in a great measure by peculiarity of situation and circumstances; but taking it for granted that every agriculturist must be desirous of *keeping up* the good qualities, if not of *improving* his stock, the only questions that can arise are,—What is an *improvement*? and what will produce *profit*? And, let this be determined as it may, *perfection* can only be obtained by a selection of breeders. If a greater or less size be required, stronger propensities or greater and more perfect health and vigour, the object must be obtained by selecting and pairing those males and females which possess in the greatest degree the requisite qualities, whether *crossing* be resorted to, or breeding *in and in*. When left to nature, this is always determined one way; those which are rendered the weakest, from whatever cause, are driven off, or down, by the strongest and most vigorous; and as all have to contend with the same climate, lodging and food, those possessing the best habits must always prevail, and consequently, the breed must be kept up to its greatest perfection. And in adherence to these principles—that which is the most congenial to the laws of *nature*, is the most *profitable*—is clearly established by practical demonstration.

It is well known that there are many farms, and many large districts that never do fatten their stock, and indeed are considered and found inadequate to it. And what other cause can be assigned for this, but that the stock are bred by continual crossing with males reared under advantages of superior lodging, food, and climate, to what such farms and districts naturally produce? As Sir John Sinclair observes, animals bred from the same family and selected for their peculiar propensities to fatten, have a large proportion of flesh, and but little bone; so on the contrary, animals bred from meagre fe-

males, living in a harsh climate and with a scanty supply of food, by crossing with males of the largest size, produced by superior food, and in a climate more congenial, have a large proportion of bone, and but little flesh, and possess withal a more delicate and precarious state of health. Any land whatever, that will furnish food enough to maintain two animals in a state for breeding, and with a climate and lodging requisite to sustain health and vigour, will be found equal to the fattening an animal that had been naturalised to it by breeding *in and in* for several generations. Every farm may be considered as having its peculiar advantages and disadvantages, compared with others; and profit can only arise from a skilful observance and management of these.

There does not exist a more mistaken notion, than that the stock of one farm may be kept equal to every other, by crossing and changing the animals and seeds only. It has been well observed, that 'nature provides every creature with a shelter from the storm.' If a male and female of any species of animal or plant, be bred under circumstances of a congenial climate, and a liberal supply of food, and afterwards placed in a situation where the climate is harsh, and the supply of food scanty, they must of necessity decline in flesh, and in health, and vigour; but their young, bred under those circumstances of privation, will acquire habits, and be reduced to a size more conformable: and these again breeding *in and in*, the habits of their progeny will still become better adapted, until by degrees they will become perfectly inured and naturalized, and capable of making the utmost return the farm is equal to, and at the least expense. But if, on the other hand, the breeder chooses to contend with, and oppose nature, and instead of submitting to her laws, he still persists in attempting to keep up the size, by a fresh supply of males and females from the original quarter, he inevitably must be subjected to the consequences of a want of health and vigour, and incur great hazard and extra expense. That the above principles equally govern the vegetable, as well as the animal world, has been demonstrated by Sir Joseph Banks, who says, that by repeatedly raising plants from the seeds grown on the spot, he has so naturalized to this climate vegetables that were natives of a warm climate, and which, on their first introduction into this country, could only be kept alive in conservatories, that they are now enabled to flourish in the open air, without artificial protection."

Again: "After a perfect stock has been obtained, how is it to be continued? This seems to be the grand question, and it only can be answered on the principles before ex-

plained, viz. by duly attending to their qualities and habits, when selecting the breeders; and again, to the means by which these qualities and habits are sustained. If great size be the valuable quality, and the utmost which nature will admit of has been produced by an artificial climate and lodgings, and a selection of food, it must be obvious, that with the same climate, lodging and food, the same stock may be kept up by breeding *in and in*; but with a less congenial climate, lodging and food, the progeny of such animals must decline, and become less in size; and at the same time it might be observed, that under these circumstances, no *crossing* can keep up the size and properties. And again, if animals or vegetables, of whatever size, bred in a certain climate, and with certain lodging and food, can be furnished with a lodging, climate, and food, more congenial and nutritive, they may be increased and improved by breeding *in and in*."

Preservation and use of Roots.

The following remarks, which we copy from the American Farmer, are from Mr. John Barney, of Philadelphia, one of the most eminent graziers in the country.

I commenced two years ago to improve a large tract of land on the river Delaware, about three miles below my former residence, and if spared a little longer, intend spending most of my time there. I want to give you a few hints on my success in raising and manner of preserving and feeding the good Roots, the sugar beet in particular, mangel-wortzel and ruta бага. I succeeded in raising a large crop last season of all the three kinds, and fed them to a large number of cattle, sheep, and horses; they are incalculably valuable to all kinds of stock, judiciously fed. I use them as follows:—*Cut hay of the very best kind, oats in the sheaf, the roots chopped fine, a small quantity of Indian meal and oats ground, two-thirds oats, and one-third Indian meal, or bran, a small proportion of pure water, just to make it moist.* I preserved them in a large stone wall cellar, commencing as follows:—Provided a number of cart loads of sandy lime, placed it so as to be handy, placing my beets three tiers thick against the wall all round the cellar, between every stack of beets a little lime sand, and so on as high as a man could pack them, the middle of the cellar left for the turneps. I have been taking them out ever since the middle of December, from five to six bushels per day, and expect to do so till grass takes their place; as my *ewe sheep* begin to lamb, I expect my roots will allow me to increase the number per day. In warm weather, I open

my cellar doors and windows, but am careful in having them closed in cold frosty nights. In this manner I have preserved my roots for several years, and I feel persuaded it is worthy of patronising. I wish you much success in your useful calling.

JOHN BARNEY.

From the N. E. Farmer.

Cultivation.

SIR,—I have been a dependent farmer, standing in need of the avails of my fields for defraying the necessary expenses of the farm and family; therefore it has caused me to experiment (though not extensively,) more or less every year, and especially in ploughing, and that too in the commencement of my farming system. Deep ploughing, where the soil is thin, either naturally or made so by shallow ploughing and tillage, calls for 40 or 50 cords of manure to the acre, to prepare it to bring a good crop of corn. If a dry season ensues, and the manure is not incorporated with the soil, the plant suffers for the want of moisture, and the crop is light. The farmer in the country where his means are limited for making or procuring manure by purchase, can do justice to but a few acres; and therefore cannot raise one quarter of the grain or roots necessary for fattening their swine and beef cattle, and for family consumption. Of course he cannot meet the demands that will come against him, and consequently he must fall in arrears. Should he have one or two hundred acres of thin tillageable land, much of it must lie a number of years in a dormant, useless state, before he can, by ploughing and manuring, bring it into a state of fertility, which would require surplus funds to some considerable amount to carry on his business. "Necessity," with me, has been to some extent, "the mother of invention." This plan, therefore, I have adopted, and as rigidly as I have been able, have pursued the method of ploughing which I have stated in my communication to the committee of the Massachusetts Society on farms; that is, to make all the manure I can, plough deeper and deeper every year, accordingly as I can manure, and bring my lands in a steady progression up to a high state of cultivation. I would explain myself more fully by giving you a statement of the management of one lot of twelve acres, which had been ploughed shallow; being rather cold clayey land, as much so as any I have.

The first years after it came into my possession, it was almost useless to me. It had no sward and yielded no production of much value. The sight of this lot gave me pain every time I crossed it, though my neighbours would sometimes say to me they had

seen good crops on this ground for some years after it was cleared off. In the year 1837, I made up my mind to see what I could do with this dormant piece of land; I therefore stacked upon it some hay, peas, and straw; foddered them out on the land, drew on and spread twelve cords of manure to the acre, mostly compost, and in the spring of 1838, I ploughed it carefully to the depth of five inches, which brought up some yellowish dead loam. I then barrowed and planted it to corn about the 10th and 12th of May. It came up appearing rather sickly, being on this dead loam. I then had it plastered and hoed; and until the roots had reached the manure, it wore the same forbidding appearance that the lot had shown for years past. It was ploughed and hoed three times. It finally returned me fifty-eight bushels and some quarts to the acre. In the following spring of 1839, I sowed it to spring wheat and oats, after ploughing it six inches, which was an inch deeper than it was ploughed in sward. It gave me twenty bushels wheat and forty-five bushels oats to the acre. For the wheat on this land, the Committee of the Berkshire Agricultural Society gave me the first premium.

J. K. LAWTON.

The Day for Labour, the Night for Rest.

This is the arrangement of Providence, and our observance of it in its leading principles is essential to health of body, strength of mind, and the most perfect exercise of the moral faculties. I do not believe that an instance can be found where a wilful and long-continued departure from this principle has been indulged, and the transgressor not experienced some sensible inconvenience from it. It is no less important to the labouring part of animal creation than to man. I have many facts which I could produce as confirmation of this, but one among these will amply express the conviction of my own mind, as made up from personal observation. For a number of years I had occasion to travel considerably. I used my own horses. At first, if I had a long or hard day's ride to make, I was accustomed to rise quite early, and go on some distance, feeding my horse or breakfasting myself; but finding, as I supposed, that my horses suffered inconvenience, and perfectly confident that I did myself from this course, I changed my manner, gave my horses time to eat, took my own breakfast, drove probably faster, and made shorter stops, the result of which was, or I was unaccountably deceived, my horses would get through the service with less exhaustion, and I am sure that I experienced much less fatigue.

There are other reasons, I know, beside

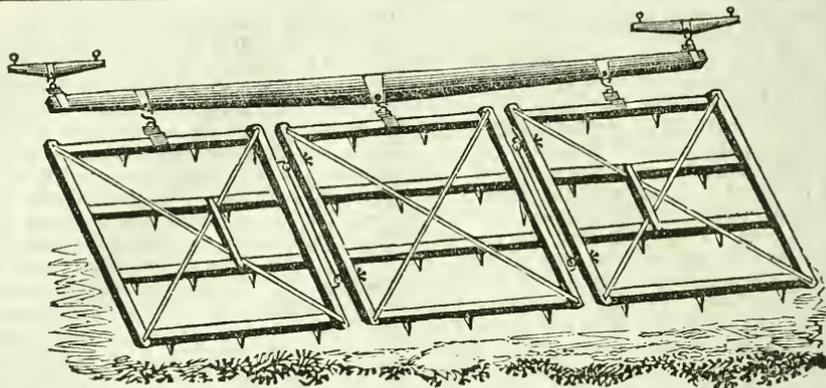
the one first suggested, why travel must be more exhausting to the horses and labour of all kind to cattle in the night than the same would be by day: these come in as additional considerations, and should not be overlooked in reasoning upon the subject; but it must not be forgotten that the great governing consideration is to be found in the fact that the wise and benevolent Governor of the universe has so constituted the labouring portion of the creation, that when the sun ariseth, they should go forth to their labour until the evening; while those who sleep so as to gain the refreshment which this wonderful principle in our nature is designed to afford, must, as the apostle observes, sleep in the night. If Jehovah, in accordance to our necessities, does stay the evils which an occasional departure from this order would naturally produce, we have no encouraging grounds to expect he will do it when these departures are habitual or consulted. Therefore it must be an act of ignorant or foolish presumption for any to expect the best success in any business, while the laws by which God directs the universe are disregarded. Apparent exceptions there may be to this observation; these, however, could the real causes of the exception be fully searched out, would be found to originate in other causes, and their existence not in the least possible degree to invalidate the general truth of the observation.

The laws of the physical, mental and moral world just as certainly bring poverty, in the wide sense of the expression, poverty in substance, bodily health, mental vigour and moral discernment, upon those who work unreasonably by night as upon those who sleep unreasonably by day; and there are as many considerations why persons should be regular in their hours of rest, as there are why they should be regular and fixed in their hours of business. The Maker of all has so planned his works, while the reason and experience of men both bear testimony to the general wisdom and goodness of such arrangements.

—*N. E. Farmer.*

Dry rot may oftentimes be prevented in living trees if the wounds are carefully covered with a composition made of rosin, tallow, beeswax, and ochre, melted and mixed well together—and where it is necessary, for want of time in the spring, to resort to winter trimming, this method of prevention should be resorted to. It is cheap, simple, and adheres to the wood, excluding moisture, until it is healed over.

Every person who has any thing to do with cooking ought to know, that when water is once made to boil all that is further necessary, is just to keep it up to that temperature; any additional fuel added is wasted, for water heated in an ordinary culinary vessel, cannot be made more than boiling hot.



Compound Harrows.

These harrows are in general use in some of the agricultural districts in England, where they are highly approved. They are simple in their construction, and very durable. The usual size of each is three feet square; thus the three harrows cover a five turn ridge at wheat sowing, the horses passing along the open furrow on each side, by which the treading of the seeded land is prevented. The joints of the harrows permit them to operate on a concave, convex, or plain surface, with equal correctness, making better work than is possible with those of a different construction. If at any time an extra weight should be thought desirable, a piece of wood the length of the width of the harrows might be made fast across them, by which their efficacy would be much increased. By unscrewing the nuts, a pair, or one, or three single harrows, can be obtained in an instant. They are excellent for harrowing in all kinds of grain on land that is cleared, expediting the work, and performing much better than any other at present in use.—*Ed.*

Quick as Magic.

In the presence of seventy-eight persons in London, a parcel of rags were recently taken, made into paper, dried, and printed on, in five minutes! When this celerity becomes universal, loafers will have to dodge paper mills, or their ragged vestments will be whipped off and exhibited under their noses in the shape of a hand-bill, advertising them as vagrants before they know it!—*Western Farmer.*

The writer remembers the time when a pen of sheep were shown as candidates for a prize at a public exhibition in England, after which they were shorn, and the wool was scoured, carded, spun, died, made into cloth, cut and made into a coat, which was worn by one of the officers of the society at the public dinner-table on the same day!

For the Farmers' Cabinet.

Wine.

From the papers of the late Joseph Cooper

I think if my fellow-citizens would consider the great expense, risk, and uncertainty, of being supplied with wine from the usual source under the present prospect of affairs in Europe, and with what ease and trifling expense a wholesomer and better wine (if they would discard prejudice) may be made from the materials of our own country, they would use greater exertions for that purpose than heretofore: and as I have heard of many who have tried, and had their wine to spoil, I will give you a brief account of my method, which has always succeeded well.

I gather the fruit when dry and fully ripe, viz: currants, gooseberries, morella, cherries, (I make no doubt but the common red pie cherries would do as well, but have not tried them,) mash them and extract the juice, using as little water as is really necessary for that purpose; then add sugar to the juice till it is agreeable to the palate. I find a pound or a pound and a half is sufficient for the tartest fruit; when the sugar is dissolved put it in a clean sweet cask for fermentation, filling it up two or three times a day, till it discharges a clear froth, then check the fermentation gradually by putting the bung in slack; when the fermentation has nearly subsided, rack it off into a clean cask, or return it into the same, after rinsing it well with gravel, or something with the water to scour off the yeast which adheres to the inside. Before the liquor is put in, I burn a sulphur match in the cask; then put in it one or one and a half pints good apple or French brandy to a gallon, the former is the best. In about a month it should be racked as before, and repeated several times in a year; and if it is let dribble slowly each time of racking it will facilitate its age, as its passing through the atmosphere gives an opportunity of evaporation.

Lime—Ruffin on Calcareous Manures.

MR. COLEMAN—Sir,—I have perused with very great interest your weekly reports of the agricultural meetings during the session of the legislature; and as most of the gentlemen that have spoken upon the subject of agriculture are practical farmers, their experience is of great value to the farming interests generally. They pursue some different courses, and have different views in the cultivation of their corn and other crops, but upon the whole it will have a good effect, and excite to inquiry and investigation many farmers, and stimulate them to step aside from the old beaten track they and their fathers have pursued, and imitate the courses pointed out at your meetings.

Upon the use of lime, there seems to be much difference of opinion. In my own vicinity, within four years past, there has been much money expended in the purchase of lime for agricultural purposes, at from \$2 50 to \$3 per cask for Thomaston lime: it has been applied in various ways, and as far as my knowledge extends, no one can tell whether he has derived any advantage from it or not. They have not been careful to *make and note* experiments, but in true Yankee style, *guess* it is good as a manure. Some farmers have applied it to their growing wheat, and have raised good crops, which was mostly attributed to the lime: others have grown equally as large without it. Dr. Jackson, I believe, thinks it of great importance in agriculture. Dr. Dana says, “a bushel of ashes is equal to a cask of lime.” B. V. French, Esq., in his remarks upon the cultivation of wheat, at the eighth agricultural meeting, stated that he used 150 bushels lime per acre; his own experience was unfavourable to it, and some others had not derived much if any advantage from its use.

So also the Berkshire marls have not proved so beneficial as was anticipated, from the great amount of carbonate of lime they contain.

I have lately had the perusal of a work on the calcareous manures of Virginia, by E. Ruffin, Esq., who after many years' experience, and with the most careful, accurate and numerous experiments, has proved, I think beyond all question, their great value in agriculture; and as the shell marls of Virginia, the Berkshire marls and the lime from the state of Maine, are almost the same thing, that is, the carbonate of lime, I can conceive of no possible reason why lime and marl may not be as useful and as profitably employed in Massachusetts as in Europe or Virginia or New Jersey. But I think every farmer who purposes to use lime or marl, should procure Ruffin's Essay on Calcareous

Manures, and carefully peruse and study the work, which will enable him to apply his labour and means more understandingly. There are, without doubt, many soils upon which lime would be of but little or no use, but if there is any reliance to be placed upon chemistry, it must be of much use upon soils containing oxide of iron and sulphur, as the lime will combine with the sulphate of the iron, and form the sulphate of lime, or gypsum. It may be equally useful upon *acid* soils, or such as grow sorrel and pine luxuriantly.—*N. E. Farmer.* B.

March 30th, 1840.

Every Thing in its Place.

But this cannot be practised unless a place be provided for every thing. When a man takes possession of particular premises, he should make a general then a particular survey of the various implements which are on hand, and the conveniencies afforded for the disposal of them. This done, he should determine upon the place which each article shall occupy; and if there are many persons in the family, some designation should be made, so that no mistake be made about it. When this is done, then he should himself be very particular not to transgress his own arrangement, and that others shall not do it. The axes, the shovels, the iron bar, hoes, rakes, baskets, wheelbarrow, each, every one, and all, should have its hook, nail, location, and when not in use, kept there. It may sometimes be thought unnecessary to be so particular. It may be supposed just as well to leave them where you expect to use them next; but before this *next time* comes, you may alter your plan, or some other of the family may have occasion for them, and you at the moment be out of the way; or you may have forgotten; then comes the inquiry, the hunt, the general wonder where the article can be; then follow mutual suspicions that each other has been in the fault; next, recrimination; then evil surmises that some neighbour has without leave *borrowed* it, and neglected or forgotten to return it; and in the end, besides all the excitement, recrimination, and evil surmising, twice the time and labour is lost in searching that would have been required to put the article in its place at first. I have presented no overdrawn representation here: all and more than all of the evils above numbered, I have known many times to have grown substantially out of what many would think hardly worth a notice. A hoe or some other utensil had been left where it was last used instead of being put in its proper place, and a whole family set in confusion thereby. How serious then

must be the inconveniences, how many the excitements in those families where nothing has a place, or where if things have their places, the members are negligent about putting them there.—*New England Farmer*.

Order and Regularity.

The patriotism of men may be doubted, (or at least their state pride questioned,) who have no order, taste, nor convenience, about their homes. Men cannot be happy, (at least married men,) whose families are subject to perpetual change of residence. Females are not likely to form attachments to their homes, without something to ornament and adorn it, which may be rendered doubly dear by their assistance in that decoration. Hence, until the people of Mississippi look on their residences with that soul-cheering emotion inspired by the poet, of "home, sweet home,"—in vain may we look forward to permanent improvement, from the efforts now on foot in the state, through the state and county agricultural associations. In travelling through the country, you are forcibly reminded, at almost every plantation by the way, of the commendable enterprise and industry every where to be met with, and yet equally impressed with the reflection, that apart from the wide-spread cotton fields and gin houses, that the inhabitants are but the tenants of a day. But few farmers present to the eye of the traveller the neat country cottage, partly hid by the ornamental shrubbery surrounding it, with the apple, the peach, and other necessary fruit trees, "standing in bold relief," feasting the eye and the appetite. Though this part of the culture may not be a source of much profit to the owner, yet it may well be questioned whether without it there can be those endearments to our homes that follow with it; will not the family ties be strengthened by that which may be the joint care of all its members?—our daughters pointing to the woodbine, the honeysuckle, the jessamine, and other vines which they have trained; and our sons to the "trees they planted." If the education of our sons as farmers be desirable, may it not with propriety be asked, how there can be a plan better calculated to teach the "young idea how to shoot?" How essential then, that order and good taste should surround the dwelling, either in ornamental or vegetable culture! Whether we intend them for farmers or for professional life, is it not more likely that being thus surrounded, their minds will become better systematized, than when confusion, or no order at all prevails?

"Train up a child in the way he should go, and when he is old he will not depart

from it." Train them up as farmers, and whether we are fond of the ornamental, or the more profitable portions of culture, let order and good taste abound—thereby laying the foundation of a proper system of education for the young farmer.—*Mississippi Farmer*.

To the Editor of the Farmers' Cabinet.

A word for *Morus Multicaulis*.

SIR,—Now, that the multicaulis fever has passed, and we are *shivering* under its effects, it would be well for us to look abroad and ascertain what has been the real cause of the dire disaster that has overspread the land like a funeral pall, *chilling* the very heart-blood of those, who a year ago were rioting in the unnatural excitement which had so unaccountably pervaded all ranks of people, from the highest even to the lowest. And all this has taken place within the memory of the great Merino mania, which seems to have raged in this country with more fury than in any other quarter of the globe. Indeed, I think I could point out more than one individual who has suffered from the gripe of both these monsters—so that the proverb, "forewarned, forearmed," is not always correct.

Now there never has been the slightest falling away in the promises which were made by the *morus multicaulis* any more than in those of the Merino sheep; they were both perfectly adapted to the end for which they were designed, and will continue to hold their ground in spite of the *chills* and *fevers* of the tens of thousands who are now suffering for their own folly. Fine wool and silk are still as valuable as ever, and are still in request in those countries "where the people stand too thick for the free use of the plough;" but in this glorious hemisphere, where the people can walk upright in the fear of God, but not of man, they will not, for a great many years to come, consent to bend their backs, and become an emaciated race of silk manufacturers, who are proverbial for deformity of body and imbecility of mind, fit slaves for a monarchical government. And let any one who has passed through the silk-growing countries of Europe of late, bear witness to the correctness of the picture here drawn. The fact is, people ought not to forget that there are other things of importance in the range of our *necessities*, besides fine wool and silk. There is not—there never was a doubt that silk garments can be made in this country—and I should like to be told what there is that cannot be made in this land of *light and liberty*? but while the people can do better—while there are mil-

lions of acres of land to clear and cultivate; hundreds of cities to found; thousands of miles of roads to form and carry; and canals like net-work to dig over the face of the wilderness; and while the cry of "westward ho!" is ringing in our ears, who will, who can, sit down for fourteen or sixteen hours a day, in a space about six feet square, breathing the disgusting animal effluvia floating in the confined atmosphere of a small and close room, and choking their lungs with the deleterious matter? I say, who *will*, who *can*, who *ought*, thus to debase his powers, both of body and mind?

The morus multicaulis has proved itself all that its most sanguine advocates ever promised for it—nay more—for in consequence of the failure of the speculation, millions of trees have been left in the open ground for the past winter, and have withstood its rigours, to the admiration even of its adversaries—all confess themselves surprised at the result. It is one of the most beautiful trees that is cultivated; flourishes in any soil or situation; is quick in growth, and most easily raised in the greatest numbers; comes beautifully into leaf, and remains long in foliage in the autumn; would form in a very short time an impervious shade around the dwelling, and especially about the dairy; is elegant in its appearance, cleanly in its habits, being remarkably free from blight or canker, and has been *cracked up* as good for every thing—*food, drink, and clothing*—firing excepted, to which, however, it is now devoted with a recklessness without a parallel.—If we could forget the time when Merino sheep were sold at twenty-five cents a dozen, and were killed by hundreds as food for hogs! Many persons who were on the point of making their fortunes regret that the rabid state of the public mind did not continue for one more year; this is natural, but the evil would then have been greater; *more* agriculturists would have been induced to mortgage their farms, to put the money into the morus speculation, and the misery would then have been extended a hundred fold. I have a person in my eye who, the last year, rented a field in the sands of Jersey, at twenty dollars an acre, and put upon it seven hundred dollars worth of manure, and planted morus trees upon it for one year only! the crop is still in the ground, and has withstood the winter admirably; and I thought the worst of it was that the trees still stand there—no, the owner thinks the worst of it is, that he has a hundred and forty thousand in another patch!

Now, the evil has been occasioned by the madness of speculation, with which the people of our country are so liable to be affected. Instead of permitting those to whom

such a business would be proper and legitimate, to cultivate the morus, and receive a fair remuneration for their labour, every one must rush into the thick of it—merchants, traders, lawyers, physicians, and even ministers of the gospel, all fearing that the cultivators of the soil would deprive them of their share of the golden harvest—all travelled out of the record, and were all nonsuited!

Such a state of things is to be deplored; and yet, but for this spirit of speculation which seems to have been implanted in us for wise purposes, how would it have been possible for us to do in half a century what else would have been the labour of centuries? let any one look back but twenty years, and see what has been accomplished in that time, to the astonishment of the whole world, and say if these wonders could have been wrought without a spirit of speculation—I had almost said, of *reckless* speculation? I know that many point to the enormous debt due for internal improvements as an incubus on the state—I confess I am not one of these—the people of this generation have done gloriously in expending that sum for the benefit of future generations, and to them it is but fair to turn over a large share of it for liquidation.

To me it appears, that our country, in its present deranged state of affairs may be likened to a ship that has been going before wind and tide at the rate of fourteen knots, brought up suddenly to a tack—she is at present in *stays*—in a little time, however, she will get a slant of wind, and will start away with the swiftness of an arrow—it is but to carry a *leetle* less sail for the future, and all will be the better for thus having been *brought up*.

I perfectly agree with you, that the present disastrous state of the times, by which so many are forced from the ranks of citizens into the country, will form an era in agriculture, which will redound to the glory, honour, and welfare of our beloved country—I cite myself as an instance, and have been induced to take pen in hand by the observations on this subject contained in your editorial address, page 266 of the Cabinet for the present month.

I subscribe myself one of the citizen agriculturists.

Respectfully,

JOSHUA GRANT,
Late of Baltimore.

April 29, 1840.

"In the preservation of seeds, grain, and vegetables, infinitely more pains are taken to preserve the varieties distinct and unadulterated than with us. In the *mountains* of Scotland there are certain districts appropriated solely to garden seeds, and no two varieties that are in danger of becoming adulterated by being placed near each other, are allowed to be cultivated in the same district."

At a meeting of the Philadelphia Agricultural Society, held May 5th, 1840, the following resolution was agreed to, viz:

Resolved, That the Farmers' Cabinet, published in this city, and edited by James Pedder, a member of this society, merits our decided approbation, inasmuch as it is a means of diffusing much valuable information amongst the agriculturists of our country; and also,

Resolved, That this society being desirous of extending its patronage to said periodical, pledge its exertions to procure and present communications for publication in its columns.

The quantity of rain which fell during the 4th month, April, 6.827 inches.

JOHN CONRAD.

Pennsylvania Hospital, 5th mo. 1, 1840.

This being the first number of the "Farmers' Cabinet" published entirely under our control, it will be sent, as a sample of the work, to some who are not subscribers, but who are supposed to be interested in the subjects on which it treats.

Notice to Correspondents.

"I. Yeates" will find his wishes anticipated.

"Subscribers'" inquiries will be answered in our farther progress. A description of the Plough will be found at page 163, vol. 3 of Cabinet.

"A. C. Ridgway" directs the leaves of the skunk cabbage to be placed at the distance of six or seven rows of the corn, to preserve it from the cut worm.

"A. W.'s" suggestions are good.

"R. C.'s" offer is accepted.

"B." must excuse us; we shall be glad to hear from him on subjects immediately connected with our work. "Y." in our next.

"Agricola's" excellent paper "On the Analysis of Limestone," was read before the Agricultural Society of Philadelphia, and handed for publication in the "Farmers' Cabinet."

All communications should be sent in, post paid, before the first of the month.

To Post Masters.

To the liberality of the Post Office department the science of agriculture is greatly indebted. For a single cent, our publication is enabled to make its way through a circle, two hundred miles in diameter, while for half a cent additional it is conveyed to the farthest point of the Union, we trust to be read by many thousands, and to communicate to them the experience of their agricultural brethren throughout the land.

To the POST MASTERS of the several stations we look, as amongst the immediate friends of our work, in carrying out the liberal designs of the department, by consenting to act as agents in distributing information, which will, we believe, prove of more real importance to our country than that of all the other sciences combined—teaching the art of making Bread. We presume that many of these are themselves now practically engaged in this most useful occupation; while all must feel vitally interested in the success of a work which professes to be a vehicle by which persons from one end of the Union to the other might become acquainted with the success of their brethren in that honourable, that noble employment. May we bespeak their kind offices in dispensing the "Farmers' Cabinet," and will they credit us with the assurance, that nothing will be wanting on our part, so far as our ability extends, to make it a work worthy their best regards.

To Subscribers.

The embellishments of the present number are fair specimens of our intentions in that line. The cow, "MISS POINTS," is the first of a series of Portraits of the Durham short horns, which we trust we shall be enabled, by our subscription list, to continue to present to our friends periodically. The next number will contain the portrait of a bull of that fine breed; and it is intended to follow the same course of publication with the horse, in its different and distinct breeds; the sheep, the hog, &c., trusting that we shall receive such encouragement as will enable us to do justice to the work upon which we have entered; it being our wish to render the "Farmers' Cabinet" worthy the support of the state and country.

As the Publishers and Editor intend to spare no reasonable exertion to render the Cabinet a standard work of reference, they would recommend that on the receipt of the numbers they should be stitched and carefully cut open, so as to preserve them in suitable condition for binding at the end of each year; when, if returned to the publishers, in good order, they will be neatly and substantially half-bound and lettered at twenty-five cents per volume, of twelve numbers each. Copies of the first, second, and third volumes may yet be had at one dollar per volume, in numbers, or one dollar and twenty-five cents half bound. They may be forwarded by mail in numbers at newspaper postage, but the bound volumes cannot be sent by mail.

We refer our friends to the terms of subscription stated below.

Philadelphia, 5th mo. 15, 1840.

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Devoted to Agriculture, Horticulture, and Rural and Domestic Economy.

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To the Editor of the Farmers' Cabinet.

On Rust, or Black Blight in Wheat.

SIR,—As the season is fast approaching when the rust, or black blight on wheat will, in all probability, make its appearance in many parts of the country, I would call the attention of your readers to an examination of the *cause* of the malady, and thus enable them to provide a remedy for the future in the shape of *prevention*, which is in all cases, but more especially in this, much more easy than *cure*.

I remember, on the fourth day of last July, seeing a large field of wheat on the borders of the mill-race on the Brandywine, near Wilmington, Delaware, so completely covered with the rust as to be scarcely worth the expense of harvesting, but which was, even at that early period, in the midst of that operation—it was, indeed, a caution to behold! I understand that this wheat had been sown on a limed and manured fallow, a cause alone sufficient in that situation to account for all the evil.

An excellent writer observes, “according to our understanding of the principles which regulate and determine the preparation and application of the food of plants, must be our notions of the *diseases* of plants, and our ideas of the best mode or course of cultivating them.” A wide difference undoubtedly exists in the formation, functions, and peculiar nature of *animals* and *vegetables*, but yet they may, in many respects, be assimilated; and thus, by comparison, the proper treatment of plants be simplified, and rendered more easy of explanation and comprehension. I shall take leave to state that the observations and experience of many years have convinced me, that the opinions of the great reformer of the medical profession, Mr. Abernethy—“that the most afflicting diseases to which the human species are subjected, are generated *in the stomach*, and consequently are to be remedied *by the stomach*,”—are

perfectly just and well-founded; and I am also convinced that most of the diseases of animals and plants may be accounted for and remedied on the same principles. From what has been said, it is clear that vegetables cannot be supported without a due supply of food, and that with those, as with animals, the quantity and quality of food must possess an equal influence. Now, every man is aware that the *quality* of the food he consumes is equally as determined in its effects as the *quantity*, and such, no doubt, is the case with plants, as above observed; and when an animal is constrained to live on meagre, impure food, it is induced to consume a greater quantity, to make up as much as possible for the deficiency of quality, and the consequence is, a distension of the stomach and bowels; and this is often followed by a poverty and corruption of the fluids, which produce disease and debility; and the body is wasted by *eruptions*, and becomes a prey to *vermin*; and when an animal is glutted with *gross* and *rich* food, a surfeit is the consequence, and it is subjected to a stagnation of the fluids, inflammations and eruptions, which often end in mortification and death; and plants, under the same circumstances, are subject to the same consequences; and these observations will be found correctly to apply to and afford a clear exemplification of the rust, or black blight in wheat.

On this subject Sir J. Sinclair says, “It appears from an able paper, written by a distinguished naturalist, (Sir Joseph Banks,) that this disease is OCCASIONED by the growth of minute parasitical fungus, or mushrooms on the leaves, stems, and glumes, or chaff of the living plants; and that the roots of the fungus, intercepting the sap intended by nature for the nutriment of the grain, render the grain lean and shrivelled, and in some cases, rob it completely of its flour; nor is this all, the straw becomes black and rotten, unfit for fodder, or little better than a *caput mortuum*, possessing neither strength or substance.” And again, “several of the accidents above enumerated, may contribute to the production of rust, but there are two additional circumstances which likewise tend to promote it: first, having the land in too rich a state for grain crops, and secondly, when too frequent a repetition of crops of wheat

takes place: and it has been well observed, that when crops intended to ripen their seed, are objects of culture, there is not only wanted a degree of vigour and luxuriance in the plants sufficient for the purpose, but if the fertility of the soil be raised to a *higher pitch* than is necessary or consistent with that object, injurious, rather than beneficial consequences may be the result: land may be too rich for grain crops, and it is better to keep it in a well-balanced condition or in a medium state of productiveness for this purpose, than in too fertile a state. The greater quantity of sap and juice in vegetables growing on highly cultivated lands, it is evident, must necessarily render them more susceptible of the effects of sudden and extreme changes, and consequently, more liable to disease; besides, as mushrooms are produced on beds of dung, great quantities of manure must promote the growth of fungi, or parasitical plants on the crops of wheat, if they are once infected—the wheat produced on the site of a dunghill is *always* rusted, even in the most favourable seasons, and if the whole field is a species of dunghill, how can it escape?

A too frequent repetition of crops of wheat, more especially when accompanied by great quantities of manure to force a crop, will often have the same effect. The rust was but little known in the western or northern parts of England, or the southern counties of Scotland, until of late years, when every exertion has been made to increase the quantity of that grain in those countries."

T. A. Knight observes, "By crossing the different varieties of wheat a *new sort may be produced*, which will completely escape being rusted, although crops in the neighbourhood, and in almost every district in the country, may suffer for it in the same year;" and he then goes on to argue, "these circumstances tend to prove, that the rust *does not* depend solely on atmospheric influence; otherwise, it could not be prevented by change of seed, or by the crossing of different varieties." Now, this theory of Mr. Knight's is grounded on a superficial view of things, and is a mere fallacious hypothesis. Indeed, all these great naturalists appear to have bewildered themselves in specious theory, and from not having traced the operations of nature to its source, have, throughout, mistaken *the effect for the cause*.

Now, suppose a farmer was to find a sheep unhappily reduced, and preyed upon by maggots, or the larva of the flesh-fly, he may very justly suppose that the maggots reduced the sheep, and as justly expect, that whatever sheep were subjected to the maggots would be reduced in the same manner—then what would be the best and proper remedy?

Knowing the maggots to be produced by eggs deposited by flies, would he try to *cover* his sheep from the flies, or attempt to remove them where there were *no flies*? Now, where is the farmer or shepherd that does not know that flesh-flies *will not* deposit their eggs on a healthy part of a sheep, or if they do, that they will not produce maggots? they know full well, that if a sheep be diseased by eruptions, or if wounded, the flies will find out those places, and there deposit their eggs; and therefore, the remedy is simple—cure and prevent the disease, or protect the wounds, and the evil is avoided—*remove the cause, and the effect ceases*. And very similar will be found the disease in wheat, called the rust, or black blight, and its cause. The fungus undoubtedly preys upon that which is intended to nourish and sustain the wheat, but what afforded an attraction and lodgement for the fungus? *this is the grand question*. It is stated that the fungus is a parasitical plant, like the misletoe, but this is not the fact, for the fungus has no power to attach itself to, or penetrate the *healthy stalks* of the wheat, any more than the larva of the flesh-fly have the *healthy skin of the sheep*.

Any one who will examine the stalks of wheat growing on a luxuriant, rank soil, about the time of its first showing the swelling of the ear, will perceive the vessels to become ruptured, either from the luxuriant flow of the sap upon the tender tops of the plants being checked by cold winds, or an unhealthy overfulness, or some other casual obstruction; and the sap being thus suddenly checked, will rupture the vessels, and ooze out through little slits, or longitudinal fissures; the discharged matter will soon assume the appearance of a white jelly; as it dries, it will become yellow, and then brown, and of a hard texture; and in proportion as the sap-vessels are injured and destroyed, and this exudation takes place, the plant must, of course, more or less fail in its supply of nourishment to the grain. In some cases, the strongest stalks will not be able to push the ear beyond the leaf, and the corn, consequently, will be starved: and whilst the season continues dry and cold, the exuded sap will remain like dry gum; but as it advances, and the weather becomes warm and moist, the gum becomes moist, soft and putrefying, and then it forms and affords a nutritive bed for the mould or fungus, which grows and increases until it is deprived of moisture, or is so reduced as to be insufficient to sustain it, when it dries; and according as the season is favourable or unfavourable to its growth, it produces a brown or black powdery substance in a proportional quantity. Thus then, *the foundation or cause of the rust of fungus is the putrefying matter discharged*

from the ruptured sap-vessels of the plant; and although the ruptures may be occasioned by a contraction or obstruction of the vessels by atmospheric influence; the over-fulness or over-luxuriance of the plant produced by surfeit; or the being glutted with rank and unwholesome food, and its incapacity of digestion, and unhealthy obstructions render it more liable to such injuries; and may, therefore, be considered as the general cause of the disease, blight or rust.

I have planted wheat on a rank compost of dung, which from its first appearance in the autumn, during its growth in the winter and in the spring, maintained excessive luxuriance, but which was ultimately so reduced by rust as to be rendered weak, and incapable of bringing its seed to perfection. At the same time, and close alongside, I also planted wheat in a pure and sweet sand, and supplied it with a solution or infusion of rotten dung by way of food; this never appeared half so luxuriant as the other, but the stalks or straw grew perfectly healthy, and free from disease, and the grain was of good quality.

I would urge upon your numerous readers a serious consideration of the above remarks: they are upon a subject little understood, but which deserves the examination of every agriculturist throughout the Union. The great diversity of opinion on this subject of blight, must have arisen from the fact, that the effect has been mistaken for the cause, and whilst that error continues, there will be plenty of crops of rusted wheat—will our friends look out for them, as the almanacs say, now about.

May 23, 1840.

JACOB LIST.

Why and Because.

Curiosity is one of the most prominent traits of the human mind. The little urchin, almost with his first words, asks "why is this or that?" And in riper years, this spirit of inquiry does not cease.—Even the hoary-headed sire, with his trembling lips, asks "why is it?"

To cherish this spirit of inquiry, this rational curiosity, is one of the happiest means of diffusing knowledge, and of causing the great mass of community to be enlightened and intelligent.

This is the object at which we aim. As one means of obtaining it, we shall continue a series of questions under the head of "why and because."

All the phenomena of the material world, are explained by the principles of Natural Philosophy, (using the term as hereafter defined.)

We shall first answer a series of questions depending upon the principles of Chemistry. After that we may take up Mechanical Philosophy. Our course will be, first to state and explain the principle, and then propound such questions as are answered by it. So that, whoever follows us through the whole series, will have as good a knowledge of practical Chemistry, as can be obtained by a short course of reading without the illustrations of a Laboratory.

For purposes which may appear hereafter, we shall preface the whole by a few definitions.

1st. PHILOSOPHY.

The word, *Philosophy*, is derived from two Greek words, (*phileo*, [to love,] and *sophia*, [wisdom,]) and signifies the *love of wisdom*. It is the general term used to denote the reason of things; or an investigation of the causes of all the phenomena of mind or matter.

Thus, the object of Philosophy is to ascertain facts, or truths respecting natural objects.

The field of Nature is so vast, that no created mind can range through its whole extent. This has led to the division of Philosophy into distinct sciences. These are again subdivided into lesser portions, bearing to each other a beautiful and striking resemblance.

1. That branch of Philosophy, which makes us acquainted with God, is called *Theology*.

2. That which treats of man as a moral being, is called *Ethics*, or *Moral Philosophy*.

3. That which treats of mind, is called *Metaphysics*, or *Intellectual Philosophy*.

4. That which treats of matter, is called *Physics*, or *Natural Philosophy*.

Thus we have the whole range of Philosophy divided into four distinct branches—the first teaching us the existence of an uncreated, eternal, omniscient, omnipotent, omnipresent, benevolent Being, from natural objects, hence called *Natural Theology*—the second teaching us our relation to God and each other as moral beings, unfolding to us the immutable principles of right and wrong—the third making us acquainted with that something within us, which thinks and wills, remembers and reasons, loves and hates, hopes and fears, enjoys and suffers, which we call mind or intellect—the fourth making us acquainted with the laws and phenomena of the material world.

Physics, or Natural Philosophy, is again subdivided into three branches, called *Natural History*, *Mechanical Philosophy*, and *Chemical Philosophy*.

The first branch, viz: *Natural History*, makes us acquainted with the form, structure

and habit of natural bodies. This is again divided into Mineralogy, (including Mineralogy proper, and Geology,) Botany and Zoology.

1. *Mineralogy* makes us acquainted with the mineral kingdom; i. e. the form, structure, and habit, of all unorganized bodies; including, not only the solid parts of the earth, but the loose soil which we tread, the water we drink, and the air we breathe.*

2. *Botany* makes us acquainted with vegetables, i. e. with all bodies having organization, and vitality, without the power of voluntary motion.

3. *Zoology* makes us acquainted with animals, i. e. with those organized bodies which have vitality, and the power of voluntary motion.

The *second* branch, viz. *Mechanical Philosophy*, makes us acquainted with the laws which govern masses of matter.

The *third* branch, viz. *Chemical Philosophy*, makes us acquainted with the nature and composition of bodies. While *Mechanical Philosophy* has to do with masses of matter, *Chemistry* has to do with particles. The former regards change of place, the latter change of character.

CHEMISTRY.

1. *Definition.* Most substances are undergoing a perpetual transmutation in their physical characters. What at one time is soft, at another is hard, or what is hard becomes soft; what to-day is sweet and palatable, to-morrow is sour or nauseating; what is now of pleasant appearance and agreeable odour, soon becomes disgusting and offensive; what is to-day an invisible gas, or floating cloud, or sparkling dew-drop, may to-morrow be a constituent of a tree, a shrub, a flower, a fish, a bird, a beast, or a man. These changes, whether natural or artificial, whether gradual or sudden, are purely chemical, and the laws by which they are governed come under the cognizance of *Chemical Philosophy*.

Thus, *Chemistry* may be defined as that science which investigates the nature and composition of bodies.

2. *History of Chemistry.* *Chemistry*, as a science, can scarcely be referred farther back than the close of the seventeenth century. Previous to this, what little knowledge had been accumulated was cloistered with the Alchemist, in his vain pursuit of the "philosopher's stone," or his idle dreams of a "grand

catholicon.†" It is, in fact, less than one hundred years, since the science of chemistry has begun to stand forth disenthralled of the chimeras of Alchemy.

The establishment of the Academy del Limerto, in 1651, the Royal Society of London, in 1660, and the Royal Academy of Science of Paris, in 1666, brought a new era. About this time, the discoveries of Black, Cavendish, Schele, and Lavoisier, arose as bright stars in the horizon of science.—Since this period, and the adoption of the New Nomenclature, discovery has succeeded discovery in quick succession. Among these none shine with such transcendent brilliancy, as those of the lamented Sir H. Davy. To him, perhaps, more than to any other one man, are we indebted for the application of chemistry to the business of husbandry.

3. *Utility of Chemistry.* Those sciences are the most interesting and the most profitable which are the most intimately connected with our ordinary avocations. This being true, the proof is easy, that few, if any subjects, (morality aside,) have a more intimate connection with the weal or woe of life, than chemistry. We speak here only of its utility to people in the common walks of life. To such, chemical knowledge is useful—

1st. "*As a source of wealth,*" says Professor Acum, "*Agriculture* can only be rationally improved by calling in the assistance of chemical philosophy; for it is chemistry that explains the phenomena of vegetation, germination, growth, ripening, and death of plants." It aids the farmer in the selection, preparation, and appropriation of his manure, and teaches him the defect or excellence of his soil. It teaches the best mode of preserving animal or vegetable substances for domestic use.—In this and other respects, the *Culinary art* comes in for a large share of profit.

The painter, the potter, the tanner, the brazier, the blacksmith, all carry on their manipulations by the application of chemical principles.

Chemistry teaches the mason how to temper his cement, and to construct fire-places,

† The Alchemists supposed that the metals were only abortive attempts of Nature to make gold and silver; and that there was a substance which would complete what she had thus begun. To this imaginary power they gave the name of "PHILOSOPHER'S STONE." They also supposed that there was an antidote for all diseases, and even for age itself. This was called the "PANACEA," or "GRAND CATHOLICON." Another of their visions was the "ALKAHEST," or "UNIVERSAL SOLVENT," by which all bodies could be reduced to their original constituents.

How far removed from the absurdities of the Alchemist are those men, who hawk about the country certain nostrums, as cures for all the ills to which flesh is heir? Many of the Alchemists had the apology of ignorance for their absurdities. But whether modern quackery is more noted for ignorance or impudence, we will not say.

* All natural bodies are divided into THREE grand divisions, termed KINGDOMS, viz; The Mineral Kingdom, the Vegetable Kingdom, and the Animal Kingdom. All unorganized bodies are included in the Mineral Kingdom. Hence, in the language of science, AIR AND WATER ARE MINERALS.

furnaces, and flues, for the production and diffusion of heat; the tanner, the nature of his ingredients; the blacksmith, the brazier and silversmith, the nature and combination of metals; the painter, the composition and properties of his colours. There is not a single process, in all the round of Agriculture or Arts, where change of nature is produced, which does not depend upon the laws of chemical action.

2d. A knowledge of chemical principles aids in the preservation of health.

We do not refer to its utility in the hands of the physician. To him it is as essential as a knowledge of human anatomy. But we speak of its advantage to the farmer and mechanic.

A little knowledge of the nature and composition of bodies will enable us to avoid a thousand evils resulting from the peculiar state of the elements. By this we are able frequently to meet and disarm contagion in its most terrific forms. It directs in the selection of such articles of food and clothing, and such arrangement of apartments as are most conducive to health and comfort.

3d. A third and last reason we have for recommending the study of chemistry to those in the ordinary avocations of life, is, that while it brings wealth and physical efforts, it opens a vast field for intellectual enjoyment. Professor Accum says:—

“Chemistry is not only valuable as an art which supplies many of our wants, our comforts and luxuries; its objects are sublime and beautiful in another point of view. It removes the veil from the fabric of nature, and makes us acquainted with all the phenomena which happen around us—it affords pleasure to the senses, and calls into action a laudable curiosity, which characterizes the minds of those who are of a scientific turn; exciting at the same time a spirit of rational inquiry, which is capable of producing the most beautiful and striking phenomena, well calculated to serve as an instructive and rational amusement.”

What farmer would not esteem it a greater pleasure, as he walks through his fields, to understand the nature of his soil—the mode of remedying its defects, or increasing its excellencies,—the nature of his manure, and the manner it operates, than to plod on year after year, following blind tradition or dear-bought experience?

The scientific farmer has his curiosity both awakened and gratified. His researches, though limited, have drawn back the curtain, and he has caught now and then a glimpse into Nature's workshop, and seen things most marvellous. He has seen that the charcoal upon his hearth differs, only in form, from the diamond that sparkles upon the

lady's finger, or dazzles in the crown of royalty. He has seen too, that in the little salt-dish upon his table there sleeps a lion, which, if aroused by chemical action, would devour a whole household at a single meal.

He sees himself constantly walking amid elements the most fierce and powerful, held in subjection only by the laws of chemical affinity. He sees too, that if this affinity were but slightly interrupted, the elements would break loose, and wage upon each other the most terrific warfare.—*Tennessee Farmer.*

The True Policy of the Farmer.

Our esteemed Stoddard correspondent says —“If I had a thousand acres of land and but forty loads of manure for my potatoe ground, I would plant but one acre, if the land was not rich.” And he at once shows how the farmer gains by citing the cases of his two neighbours, where one plants with forty loads, and the other with eighteen to twenty loads of manure to the acre. The first will hardly fail to get full pay for his additional manure in the first crop, having double the quantity of potatoes; and his grain is perhaps increased two, three and four fold in as many succeeding years. At least one-third the labour on a given quantity of produce is also saved by the higher tillage and manuring.

The profits of farming would be immensely increased by a change of practice. It is our belief that the quantity of manure and dressing applied to one half the quantity of land annually planted with Indian-corn in the four New England States, would turn out in the same season a greater crop of corn than all that is raised within our borders. Let this be done with the same labour bestowed on the larger territory, and most of the farmers would be great gainers beyond this year's calculation. The lightest soil, for at least three successive years without any application of manure, will produce a correspondent increased crop each year; and heavy soils, from four to eight years.

The farmers upon the Merrimack intervale may see an example in the town of Concord. That part of the intervale nearest our village has an upper mould mixed with cold and heavy clay. Through a portion of this flows the water of two brooks crossing the main street, a part of which in the wet season and after each successive rain is left standing on the ground, and turns the natural growth of hay into sour grass. Within the last six or eight years a portion of this land owned by Gen. Low and Col. Grover, has been improved by the application, say at the rate of forty loads stable manure to the acre, and a proportion of sand and gravel carted to the

lowest parts; and this land, after the first crop of corn or potatoes laid down to grass, has produced, for several successive years, never less than three tons, and frequently as high as four tons, of excellent English hay, herdsgrass and clover, to the acre. This hay has never been worth less than twelve dollars the ton; and in some seasons a hay of no better quality has sold at sixteen and twenty dollars the ton.

Adjacent to these two improved spots are several fields of precisely the same kind of intervalle land, that have not yielded for many years, and will not now yield more than half a ton of hay to the acre. This cold intervalle land is valued only at forty and fifty dollars the acre—it will not pay for the use of that price either as hay or pasturage, because half a ton of this inferior hay is worth not over five dollars, barely paying for the labour and the taxes, without a dollar of income.

Now if an acre of this cold land, producing half a ton of poor hay in its natural state, is worth fifty dollars, what must be the value of an improved acre that will produce three tons of the best English hay! The small piece of land belonging to Gen. Low, being nearer to our former premises, has been more particularly under our observation. Ever since the year 1832, that piece of ground, without ploughing, and perhaps but with once a light spreading of manure over it after it was laid down to grass, has averaged more than four tons to the acre in a year at a single mowing. Nothing else, since the first application of manure, has been done to it than to take off the crop. The great crop, we must believe, is derived not from the strength of the manure alone; the cold, clayey soil, drained of its redundant water, and stimulated by the manure, turns out the increased crop principally from its own strength. All the draining of this piece of land has been simply the opening of a furrow ditch on either side, leading to the main ditch through which the cold brook passes across it.—*Visitor*.

Turnip Culture.

A very large amount of land in England is cultivated in turnips, and fields of this crop of three, four, and even five hundred acres, are sometimes seen, though the common fields are much less: and it may be observed here, that in the richest and best-cultivated parts of England, inclosures of ten, fifteen or twenty acres, are more common. Since the introduction of the turnip culture, bullocks and sheep have trebled in number. Turnips are not great exhausters of land; and they furnish abundant food for animals. Let us suppose that ten bushels of turnips

can be raised at the same cost as one bushel of oats—the great difference in the two crops is to be found in the farmer's cattle yard, and then in the barn yard; here is the test of their comparative value; and this is the secret of the great advantages which follow from the cultivation of roots. In England, the value of manure in agriculture is well appreciated—a writer states the extraordinary fact, that the value of the animal manure annually applied to the crops in England, at current prices, surpasses the value of the whole amount of their foreign commerce,* and there is no doubt that it *far exceeds it!* The farmer then, from his green crops, and by a regular system of rotation, finds green food for his cattle, and wheat for the market.—*Webster's Speech in Boston*.

To the Editor of the Farmers' Cabinet.

Lucerne.

Sir,—As I consider the Farmers' Cabinet the channel through which we first obtained information, in this part of the country, respecting a crop which is likely to make a great stir among us, I think its pages should be devoted to the record of any circumstances which might be found to arise relating to its culture, which, if I mistake not, is about to engross a considerable share of the attention of the agricultural community throughout the Union. I must, however, deprecate a Merino-multicaulis-mania in the future prosecution of the matter; let us sit down "doggedly to the task" of examining its real pretensions, and the best modes of introducing it to notice, by proper cultivation on suitable soils and under favourable circumstances, and record the result.

The accounts which appeared some time since in the Cabinet, relative to the crops of lucerne in the island of Jersey, (England,) seemed at the time, to say the least of them, very astonishing; and if they had been supposed to be *quite correct*, must, ere this, have called very general attention to the cultivation of that crop amongst us; unfortunately they came upon us just at the time of the *morus fever*, when we did not suppose that we should ever require any other mode of *making bread*, and people could think of

*The above fact is very extraordinary, but it rests on good authority; and when it is considered that this is of course the product of agriculture, as well as going in the great circle to renew and extend these products, we must have strong impressions of the amazing extent of this great interest. In this case, cattle manure is valued at 4s. sterling, sheep at 3s., horse at 4s., pigs, poultry, &c. at 3s. per load, making a grand total of £59,860,000 sterling, or nearly 300,000,000 dollars! and this too, is exclusive of the quantity dropped by cattle on land during summer, autumn, &c.—amounting perhaps to one-third more—and exclusive of lime, moss, shells, fish, bone-dust, &c. &c.—*M^{rs} Queen's British Statistics*.

nothing else; and since its disastrous exit, they are inclined to consider such flaming accounts as mere moonshine, and will not, yet a while, consent to be led away by "such another ignis fatuus, such another dance."

I am drawn to this subject at the present moment, by reading conflicting testimony, for and against this crop, in the papers of the day, and cannot but think the time is approaching when such very wide differences must be reconciled by practical experiment, and that too, by those to whom such employment will be legitimate — by the *real cultivators of the soil* — not men of all other denominations and persuasions, as was the case in the cultivation of the *morus multicaulis*, and the breeding of Merino sheep. I find, according to the eastern papers, that the cultivation of lucerne has been tried in several places in that country, and has totally failed; while in the Baltimore American Farmer, for 29th April, there is a particular account of a crop which has as signally succeeded — accounts as opposite as *north* and *south*, and which, possibly, is the main cause of such discrepancy; at the same time, much also must depend on the very opposite nature of the soils in these distant regions; that of the eastern states being about as unsuitable to the growth of tap-rooted plants, extending to the depth of ten or twelve feet into the sub-soil, as can possibly be imagined — proverbially rocky, swampy, and cold — while on the light and warm soils of Maryland, nothing would seem more suitable than a crop which draws its support, even during the hottest seasons, from a depth far out of the reach of the severest droughts.

Now, I must be permitted to profess myself an advocate for the cultivation of this plant in our country; but I do not indulge myself in the idea, that it is suitable for all soils, situations, and circumstances. And although I have seen it growing luxuriantly in a small quantity, adjoining the fence of a cottage on the hill, above the sugar refinery of John Brown & Co., at East Boston — and where it might still be found, I have no doubt — and have failed in my attempts to raise it on the warm sands of Jersey, under the most careful treatment, still, that it may be raised in this country with perfect success, in suitable situations, I am as thoroughly convinced as I am of my existence; but I do not think it can be done to any good purpose in the eastern states generally, or on those lands which have moist and poisonous sub-soils: these last are destructive to its growth, the deleterious matter being taken up by the tap-roots of the plants, in the way described at page 18 of the 3d volume of the Cabinet.

The spot at which I attempted the cultivation

in New Jersey, was at a farm near the Delaware, three miles above Camden, where the owner gave me a piece of his garden for the experiment: the seed came up very quickly, and the progress of the plants was truly astonishing, and until they were about a foot or fourteen inches in height, all appeared as it should be; but my next visit convinced me that there was an end to all my hopes: the under leaves had turned yellow, and the tops of the shoots were sharp and pointed, and showed that they were struck at the root, of which I was convinced on digging them up, for their tap-roots, all of them, were cankered and rotten, and broke easily, even by gentle handling: still, these plants, after the decayed roots were removed, would grow and flourish, when planted in a drier spot, for a considerable time, but when their roots had again reached the poisonous sub-soil, they would again become prostrated.

My experience in raising this astonishing crop has been pretty extensive, and as I have long been convinced that it is peculiarly suitable to many parts of this country, I would detail a mode in the culture, which, in suitable situations, and under favourable circumstances, would, I am convinced, be attended with perfect success.

The land designed for it should be summer-fallowed, the weeds being carefully gathered after every ploughing, and not a moment should be lost in bringing forward as many crops of seed-weeds as possible, by frequent ploughings and harrowings, turning them down as fast as they come. Before the last ploughing, a covering of well-rotted manure should be spread on the land, and this being turned in, the seed, twelve or fourteen pounds per acre, should be sown, broadcast, in August or September, unaccompanied with any crop, and be immediately rolled in. In the middle and southern states there would be no danger of its being injured by the winter cold, provided it be protected by the usual quantity of snow, and although the weeds, which might still remain in the soil, may spring up with the lucerne, yet as they would be prevented from growing in the winter, that crop would shoot earlier in the spring than they, and would soon out-top and overgrow them; while four or five cuttings of the lucerne during the next summer, would prevent these weeds from obtaining even a chance of success.

It is a mistaken idea that lucerne requires a rich soil: this is by no means the fact; indeed I have known several attempts to raise it on such soil, in consequence, I have thought of this very circumstance — but a *suitable* soil is quite necessary, and what that is, is not sometimes easily definable beforehand;

but experiments on a small scale will soon point that out. The *sub-soil* for this crop is of much more importance than the *surface*, and the most prolific crops have been obtained from soils supposed too barren to produce any profitable yield whatever. Ashes form an excellent top-dressing for lucerne, as they contain no seeds of weeds, and this is a circumstance of incalculable importance to its future well being: all other manures should be applied during the frosts of winter, for before the seeds of the weeds, which might be contained in them, can vegetate in the spring, the lucerne has started, and will then keep the lead: and when the crop has taken full possession of the soil, nothing appears more tenacious of life, or equal to cope with it, especially during a season of drought, when all other vegetation has disappeared from the face of the earth; then, I have often known it to shoot away at the rate of two inches in height every twenty-four hours. It has been the custom in some places, to raise the crop on a seed-bed, and transplant the roots, but this is changing the nature of the plant, for its peculiar characteristic—a tap-rooted plant—is thus destroyed; and however much it might thereafter flourish on good soils, it is not so fitted to *pump up*, from the depth of twelve or fourteen feet, moisture sufficient to sustain a crop of eleven tons per acre, during the hottest season of the year; nor is it, after that, so well able to cope with the weeds, as its strength is never so great as when its roots are deep, and forms a woody crown about three inches in diameter, bidding defiance even to the plough-share, and seeming to gain strength from the roughest treatment.

Nor is the very general practice of drilling the seed, and keeping the rows clear of weeds by the hoe, at all to be recommended; it is thus made to flourish, but it is at the cost of too much labour and expense; nor have I ever known a hoed crop at all to be compared with very many that I have seen broadcast, and which had been raised with little expense or labour. The observation, at page 258, vol. 3, of the Cabinet, that unless the lucerne crop is sown in drills, and kept clear by hoeing, it will never answer to the farmer, is erroneous—nothing can be farther from the fact—thick sowing in the autumn or late summer on a clean and suitable soil, will render quite unnecessary drilling and hoeing; and will insure larger crops than can be obtained by any other mode of management.

Lucerne has been denominated an impatient crop, but on soils when suitable, nothing succeeds so well, or with less trouble; the seeds start in a very few days, and the growth of the plants is at first as decided

and rapid as the common red clover; but it must be admitted that after this, it seems ready to give way to a crop of weeds, and the most promising prospect is often destroyed in a few days. But to those who are acquainted with its habits, the cultivation is neither difficult or hazardous; and when it once decides the question “to grow, or not to grow,” in the affirmative, there is no crop on earth that can at all keep pace with it; and it is then a crop for life, or thereabouts. The best crops which I ever knew, were those which grew on the sea-shore, not two feet from high water mark—nay, I have known it grow and flourish on the sea-beach, overflowed by every spring tide, without suffering the least injury from it. Those crops grew on white sand, with not a particle of earth to be seen in its composition, and there were, of course, no weeds to impede its growth; but, at the depth of several feet, this bed of sand was found resting upon a substance of fine light mould, into which the roots had penetrated, and produced crops which were truly astonishing in their bulk and vigour; and upon these fields it had been customary to tether cows during the whole summer, for ages, without manure, and yet no diminution of its strength was ever dreamt of. During the whole of the winter, not a blade of lucerne was to be seen, the roots had all been covered by a light coat of sand, which had been blown up from the beach: this protected the crop from the frosts; and very early in the spring, the shoots of lucerne would be found penetrating it in all directions, like asparagus plants, and in a few days they would spread the surface like a carpet, furnishing, in about the space of two weeks, excellent food for cattle of every description, and upon which hogs would fatten, fit for slaughter; it being remarkable that these last, after masticating even the woody stalks of the plant, would not eject any portion of it, but swallow the whole.

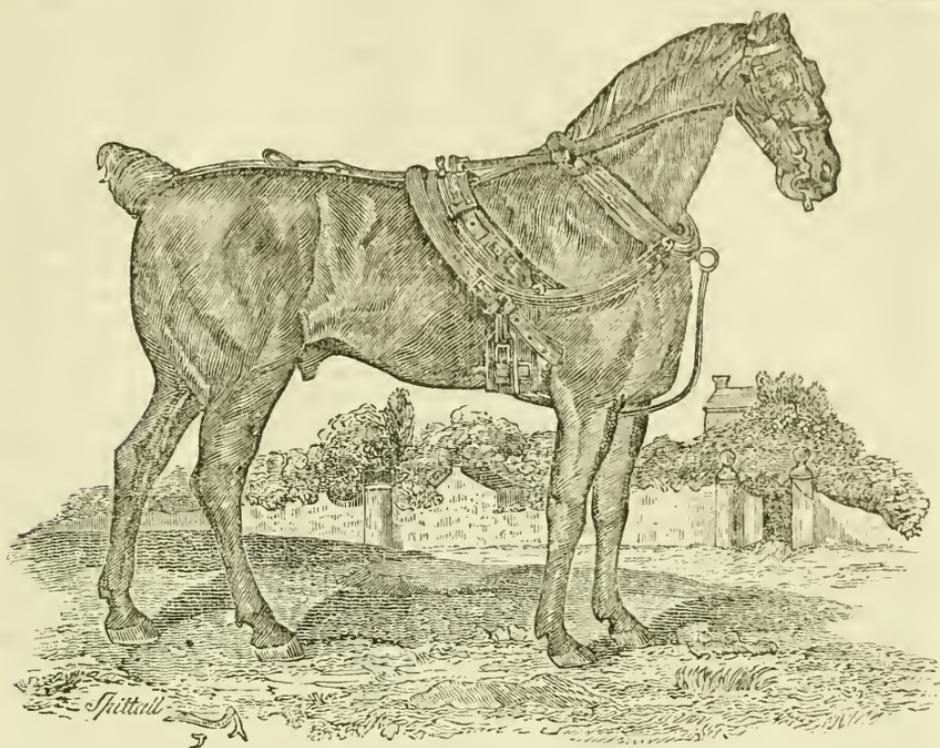
In my next, I may resume the subject of the cultivation of this remarkable crop, and in the meantime offer my best wishes for the success of your valuable work.

VIR.

May 25th, 1840.

P. S. Any of our friends intending to enter into the cultivation of lucerne, should immediately prepare, by summer-fallowing the land, harrowing after each ploughing, to encourage the weeds to vegetate, destroying them by turning down, and harrowing for a fresh crop immediately.

“A trifling debt makes a man your debtor, but a more weighty one makes him your enemy.”—*Lat.*



THE CARRIAGE HORSE.

The Carriage Horse is a cross of the Cleveland mare with a three-fourth or thorough-bred horse, possessed of sufficient height and substance.—This is the coach-horse of the highest repute. His points are, substance well placed, with a deep and well proportioned body; strong and clean bone under the knee; his feet open, sound, and tough. He possesses fine action, lifts his feet high, which gives a grandeur to his figure and paces: he carries his head well, and has a fine elevated crest.

The Horse.

The best horsemen are to be found among gentlemen. They feel proud of the accomplishment of being good riders, and they are early accustomed to the sports of the field. With "all appliances and means to boot," it would be strange if they did not possess the best horses, the best trainers, and the best grooms. But the mere traveller's horse is comparatively a sorry affair, the master having little spare time to see to the wants of his steed, leaving him to the mercy of rapacious ostlers, or people utterly unfit to be entrusted with the management of horses. Yet he might, from the knowledge he may acquire by the perusal of these pages, turn his horse to much better account, save himself much expense in the course of the year, get the animal to do his work in a better manner, and with the pleasing reflection that he has also prevented the infliction of needless suffering.

In a religious point of view, it is also incumbent upon us to treat with kindness all those animals which are given to us for our

use. The horse, in particular, should be an object of our especial regard. How many of the complaints under which he labours are the consequences of man's brutality! His diseases are few, even in an artificial state, and those few are brought on by ill-treatment, or, in milder language, mismanagement. Yet there may be quite as much cruelty in the one case as the other, if the latter be not of the two the worst.

Whose horses have to undergo such unremitting fatigue as those of commercial travellers? Yet, where is there besides so large a body of men who are enabled to pay so little regard to them, or to acquire a competent knowledge of the best mode of treating them? They know that horses have mouths to be fed, for this knowledge is forced upon them by the cost of their keep; and they know also that the mouth is useful as a place for the bit, without which they could not be ridden or driven, and this, generally speaking, is the full extent of the knowledge possessed by the class of persons alluded to of horses. To understand the

quantities of solids or fluids they require for the preservation of health, is scarcely to be expected of them. Some persons have a fanciful theory in favour of giving them drugs, both in their meat and water; others think that filthy water is better than the clearest, as they will drink more sparingly of it; but horses are not likely, any more than human beings, to grow healthy upon poison, or to fatten upon filth.

In choosing a horse, consider well for what work you intend him. If you want him for two or more purposes, judge of his qualities with reference to the most important of those objects.

To commercial men, who now seldom ride on horseback, but who make their journeys in gigs, a good harness-horse is the desideratum. This is more especially the case where the traveller has to convey weighty samples or patterns. But for the exact kind of horse best fitted for such uses, it would be extremely difficult to lay down any fixed rule. All we can do is to give some general instructions, by means of which, with a little attention, the judgment of persons may be materially assisted in the selection of animals for use, as well as in keeping them ready for their work.

Horses for the road should never be under fourteen hands high, rarely less than fourteen and a half, and never above sixteen. As a general rule, fifteen hands and a half should be the extent. If your horse be required to draw a light chaise, without much incumbrance, he may be small, and the better for being three parts blood. Where there is more weight to contend against, you must choose a heavier horse. Bear in mind that, as a rule, there must always be weight to contend with weight. A heavy animal, by merely throwing his bulk against the collar, materially assists in moving his load, while the lighter one, if over-weighted, has all to do by muscular power, which soon becomes exhausted; for, in the latter case, the horse is continually straining to effect by violence that which in the former is accomplished by weight only. Otherwise, give each horse his burthen in proportion to his weight, and the blood horse would kill the other in a very short time. For the heavier loads, therefore, speed and breed must be abandoned for weight; and the horse must have the round arched neck, large round barrel (or body,) and rounded hind quarters.

On the proper age of the horse much prejudice exists, and many false notions prevail. One person supposes that if he buys a horse when he is young, it must last him so much the longer than if he had bought him at a more advanced age. Others, again, imagine that having purchased a young horse, they

are not likely to be serious losers by him, if they sell him again while the mark remains in his mouth. This may be all very well with those who have more horses than they can possibly exercise, and which are, therefore, unused to a day's work.

Persons in business full well know that they do not pay men's wages to persons in their employment until they have arrived at the age of twenty-one; not from any unjust motive, but because they have not attained the strength of manhood to enable them to perform men's work. It is their competency to go through so much labour that entitles them to full wages. Now, the horse must be from seven to eight years old to put him on a par with a man of twenty-one. Yet people are so misjudging, or rather they are so ignorant of this fact, that they imagine the horse is better calculated for hard work, or long journeys, before than after the age mentioned. If experience could teach them, they might readily perceive the younger the horse is, the sooner he will be strained and worn out, by being overtaken. Where the work is light, and the stay frequent, at places no great distance apart, and provided you drive moderately, a six year old horse may suit your purpose; that is, if you are particularly anxious to have a mark in his mouth; if not, one of seven or eight would be preferable. In cases where the loads carried are light, and you do not often rest any length of time on your route, or if your vehicle is heavy, and you do not drive at a very moderate pace, never choose a horse under eight years old, and then he will last you longer and serve you better than any young one. Stage-coach proprietors, and all great dealers in horses, do not consider them aged until after their sixteenth year; and provided they have not been subject to ill-usage, they will be found sound and in good condition long after that period.

Old Elwes, the celebrated miser, would not permit his colts to be broken in until they were six years old: the consequence was that when his horses were upwards of twenty years of age, upon their backs he was able to beat any other cattle in the field in hunting. All that is required for work are young legs, and what are termed old mouths. This description of horse is absolutely necessary for the heavy wagon and four-wheeled carriages.

It must, nevertheless, be admitted, that horses may also be too old; but so long as they are sound upon their legs, and keep up their condition, they are always better suited for hard work than young ones. At the present moment there is living a grey mare, the property of a surgeon in the neighbourhood of Finsbury square, upwards of forty

years old, yet which still does her work in admirable style! It is an attested fact, that, at thirty-six years of age, this surprising animal performed a distance of eighty miles a day, two successive days, and one hundred miles in one day; and that too, without exhibiting any remarkable symptoms of fatigue! This, it will be said, is a rare instance of the powers of the horse, and so it is; but it is so chiefly from the disposition of most owners of horses to overwork them when young, and so wear them out before they are old. The mare in question is still perfectly straight on her legs, and free from all complaint, except a slight asthmatical cough, observable only on foggy days, and then only on coming out or going into the stable. It occasions no real inconvenience, and is merely a sign of the natural effects of time on her constitution.

It may be here worthy of remark, that many persons are using very old horses, imagining them to be much younger than they really are. For instance, a gentleman keeps a horse until he supposes him to be sixteen, or thereabouts. He then thinks of disposing of him as being worn, and getting a younger. The animal is accordingly transferred to a dealer, who sees him well upon his legs, and fresh for his age. He then *bishops** him, so as to make him appear of the age for which the dealer wishes him to pass. Should he chance to find a considerable owner, he passes on again, until he is a second time regarded as too old for further service. Again sold to a dealer, ground young again, re-sold, and a new purchaser pleased with the idea of his young horse. Cases of repeated bishoping are now less common than formerly; but that they have occurred, there can be no doubt; and the old grey mare alluded to would probably have undergone this operation more than once, if she had ever been so unlucky as to have fallen into a dealer's hands. The Dowager Lady Lonsdale had two old hunters as carriage horses, the one thirty-nine, the other forty-one or forty-two years of age. Some time since, two horses were working as carriage horses, at Dulwich, even older. The late Mr. Astley was presented by the Duke of Leeds with a Barbary horse, that became very celebrated, performed as a waiter, and lived to the great age of forty-three. It was not long since recorded in *Bell's Life in London*, that a horse had died upwards of fifty years of age. Many other instances of the longevity of this noble animal might be adduced, but enough have been quoted to prove that if the horse be not old from abuse, he will not be so from years at eight.

* Marking the teeth with a hot iron.

Dialogue.

CULTIVATION.

Frank.—Father, our conversation on pruning has never been absent from my thoughts: it has indeed proved, as you said it would, a source of great delight and instruction to me. I often visit the tree which you pruned at the time, and am astonished to find how very correct were all your ideas, respecting the manner in which that work ought to be done; and how true to nature is the similarity between the cultivation of trees, and the management of children—some of which might be *pretty big ones too*.

Father.—The more you reflect upon and examine the subject, the more interest you will feel, and the clearer will be the truth of the observation.

Frank.—I have no doubt of it, for I find myself making new discoveries every time I visit that tree; it might be said to be a *living lesson*.

Father.—Good—and do you ever remark the three branches which we particularly noticed at the time of pruning, and which we named William D., John Timms, and Sister Susan?

Frank.—Indeed I do, very particularly, and cannot help thinking they were pretty good likenesses. The fine large branch, so tall and so straight, which, when you had treaded down, I thought you had spoiled the tree for the whole year, has, from the part which remained attached to the tree, thrown up two beautiful branches, one on each side, like twins, exactly of the same height and size, of a deep-red colour, which, I have heard you say, is a sign of fruitfulness; and they are clothed to the very foot of the stalk, with buds and leaves at short distances—and that is, I believe, another good sign; and more than that, they are shooting up into a part of the tree which before was thin of branches, filling the vacancy, and rendering the tree much more beautiful than it ever could have become, had that branch remained in its original state. These new branches are indeed, as you said they would prove to be, “useful as well as ornamental, affording shelter to their parent, instead of shooting above, and out-topping the tree; exposed to every blast that blows.” What a pity that William D.’s mother had not received the benefit of such a lecture “on pruning” in her youth!

Father.—But what did you remark of poor John Timms? do you think he is the better for the training which he received?

Frank.—I was just coming to him: he still shows that he is too willing for his strength, for he is loaded with fruit from the bottom to the top, and which it is not possi-

ble can ever be brought to perfection; I suppose you will have to pluck off more than one half. The appearance of health and strength is, however, much increased; and although the branch will always remain like poor John, deformed, yet by careful and kind treatment it might long continue one of the most useful, although not the most ornamental branches of the tree; a living proof of the value of judicious training.

Father.—Well, now for Sister Susan.

Frank.—Oh, sweet Sister Susan! indeed the likeness is complete! there is the pretty red branch, and the beautiful shining leaves, with fine fruit peeping from beneath them; all of the same size, and growing exactly where they ought to grow, with the red and white so sweetly mixed, although still so small in size, with a leading shoot from the top of the branch, covered with leaves; without blight, or canker, or mildew! Oh it is pleasant to look upon! this comes of good training.

Father.—But is there any hope of Frank on the other side of the tree?

Frank.—There is—and the first time I saw the bud bursting from the body of the tree, I confess that I was quite overcome by my feelings: Oh, shall I not watch its progress, and witness its growth and tendency with anxiety!

Father.—Let but my prayers be granted, and I shall have abundant cause for rejoicing!

Frank.—But, Father, is not the growth of the tree dependent, in a great measure, upon the kind of soil in which it is planted?

Father.—There, my boy, you have laid open a large field for observation and reflection; and suppose now, we follow it out, and see if it be not true, that “the growth of the tree is influenced, in a remarkable degree, by the nature of the soil in which it is planted.” Shall we divide the different qualities of soil in the following manner:

1st. The happy soil—neither too heavy or too light, too wet or too dry.

2d. The heavy soil.

3d. The too light, or sandy soil.

4th. The wet soil.

5th. The dry and impenetrable soil.

6th. The rich surface, and sterile sub-soil.

7th. The poor surface, and rich sub-soil.

8th. The sour and stubborn soil.

9th. The rich soil, with poisonous sub-soil.

10th. The sickly, or too highly manured soil.

Frank.—Well, here are varieties of soils! shall we be able to fit them all with *likenesses*, do you think?

Father.—Many of them will be easily matched, I think—and to begin with

1st. The happy soil; which requires neither liming, manuring, draining, or watering—whose excellent properties are so nicely blended, and whose productions are so beautiful, rich, and in such profusion—can any thing be more like the Founder of the Ladies' Depository in Philadelphia?

Frank.—Oh, excellent! a real portrait.

Father.—2d. The heavy soil, which produces a thick and burly bark, short, coarse, rough leaves, with short, crooked branches; and fruit, although of a healthy growth and colour, with no delicacy of flavour; bitter to the taste, with large pints, to which the flesh of the fruit adheres very closely. The tree comes late into bloom, and the fruit ripens late; but it is generally a good bearer of fruit, *such as it is*. Now, who is this? or shall I name him—what do you think of Tom Dobbs, on the other side of the hill?

Frank.—As like as life! even to the shortness and roughness of his limbs: a hard-working man, but rough and brutal in his manners; and although he provides for his family as a duty, to the pleasure of the task he must be a perfect stranger; his children are coarse in their manners, and sour in their dispositions, and are never sent to school; hard workers, however, and they produce much fruit, *such as it is*.

Father.—Very well—now, shall we cultivate the soil as we go? This tree requires but little pruning, you will observe, as it produces but little wood; all that it does produce, however, it ripens well.

Frank.—Yes, let us cultivate as we go: now, how would you set about it in this case?

Father.—It would be merely to trench about the tree, dig in a good quantity of sandy loam, with lime as a *sweetener*, and depend upon it, in a year after, the results would be manifest—a more open disposition, warmer feelings, sweeter fruit, a more luxuriant foliage, and a *smoother bark*. Now for

No. 3. The too light, or sandy soil. This is indicated by a tree of a weak and sickly aspect; long and thin branches, very thin and light-coloured leaves; comes early into bloom, and is very apt to blight in the spring, if the season is cold; it sometimes, however, escapes, and then it brings an early crop of sweet fruits of little flavour. During the summer it throws out much thin and long wood, which is sure to die back in the winter, rendering it necessary the next spring to tread down almost every individual branch. It sheds its leaves early in the autumn, and its weak limbs are very liable to be broken and wounded by the storms of winter. Now, who is this?

Frank.—Oh! I know that—it is Samuel Slimm, the tailor in the village, and is it not

like him? you know how tall and slim he is, and how sickly he looks, and how thin and sandy-coloured his hair; active and industrious, but complains of the steepness of the hill behind his house, and is not able to leave his home until the season is warm, and the cold weather has passed; civil and kind-hearted, but with little energy, either of body or mind; while on the approach of winter he keeps to the house, and suffers from every change of climate. Now, you must be gentle in the cultivation of so tender a subject.

Father.—Yes, I would trench up the sand, and mix with it a large dose of strong loam and lime compost; prune very close, leaving but about three buds on each branch, and *look well to the worms*, which such a weak and sickly subject is pretty sure to be infected with.

No. 4. Is the wet, a most unhappy soil, truly! It is shown by strangely formed branches, sometimes smooth and straight, at others, crooked, burly and rickety; with leaves of different sizes and shapes, smooth or wrinkled, green or yellow, thick or thin, just as the season happened to be during their growth: the tree generally glutted with too much moisture, and in a happy state only when others are parched with drought; nothing more uncertain than its fruiting; sometimes producing largely at a time of general failure, and barren in the most fruitful season. The wood which it makes during the summer, dying back almost the whole of its length, but shooting again vigorously from the first living buds in the spring: sometimes healthy to appearance, with large promises of productiveness, seldom realized. Now, see if you can find any one so unfortunately situated in life.

Frank.—Well, to be sure it is a wretched picture, and yet, I think, poor James Snooks, the shoemaker, is the pitiable object. You have often remarked, as he passed, that he is the strangest being you ever saw; lively in a time of sadness, and gloomy and sad at merry-makings: always preparing to do great things, but failing, just at the time when great exertion is necessary: sick, but not sorry; sorry, but not sick; doing more work in a week than any one, and less in a fortnight than all: joyous, grievous, bright, and gloomy, all by fits and starts. Now, how could any thing be done to recover so pitiable a case?

Father.—It would, indeed, require a *regular course of medicine*, and strong measures, but even here I should not despair of perfect success. I would fairly remove the tree, clean the roots, dig out the earth to a great depth, and if on a declivity, I would drain the soil; if on a level, fill the hole with

about eighteen inches of brick and mortar rubbish, and well ram it down; and upon this I would spread a thick bed of good mould and lime, replace the tree, and support it by tying it to stakes with hay ropes, and my life for its recovery; looking well to the worms, however.

Frank.—Well, these would be decisive measures, at any rate.

Father.—Yes, and would be decidedly efficacious.

No. 5. The dry and impenetrable soil, shows a tree, poverty-smitten in all its parts; unable to do much, nor that little to any good purpose; brisk and lively, however, in early spring, and making exertions to push into bloom and leaf, but cramped and spell-bound midway: the under leaves fall prematurely, but the wood which it makes during the summer is retained through the winter, although but little of it; stunted and bark-bound, but healthy in a degree, and not liable to be affected by the worms, for that reason. Now, this is so common a character, that we have known many such, who are truly to be pitied. To recover such a tree, it is only to "dig about it and dung it, and let it stand another year," adding, however, a good portion of lime with the earth, on filling in.

No. 6. The rich surface and sterile sub-soil; frequently to be met with, and often the cause of disorder, disease, and death, to the tree that is planted in it; the richness of the surface-soil calling forth early spring foliage, and the most promising expectations; the sterility of the sub-soil causing a lamentable falling away of the brightest hopes, and the most grievous disappointment. In early youth, it is lavish of foliage, and the sweetest blossoming; all appears well, and as it should be, and no one would suspect the mortification which is sure to follow, when the roots have penetrated to the poverty-stricken soil below. Now, this is a character which is, unhappily, very common, and is aptly figured out in the case of William D., in our former conversation. Hundreds of such young men, reared in the rich surface-soil of parental affection, their cultivation neglected through a mistaken fondness, after giving promises of the most enviable greatness, are doomed to poverty, disgrace, and contempt, through the want of the *proper stirring of the sub-soil*—the only security for parental hope. Such cases require a strong hand—nothing less than a regular trenching will be of any avail: the rich surface should be turned down, and the sterile sub-soil be brought up, to be enriched by future dressings, lime forming a large proportion in every stage of the business; for it is much to be feared that the worms will be found to

have made sad havoc near the root of the tree, as, disease arising from the poverty of the sub-soil, will, in all probability, have engendered life. Lime and deep trenching will, however, heal the malady, if applied in time. To this disease is owing the change of the colour of the leaf before the autumn, and the falling of unripe fruit, with many other symptoms of premature decay.

No. 7. The poor surface and rich sub-soil are also very common, and before the tree can reach the good soil beneath, poverty has stricken it, and many there are which perish for want of sustenance, not having strength sufficient to reach the buried treasure; they languish for want of support, and without timely assistance are doomed to starvation. We may find many semblances to this case, I fear, amongst the children of the poor and afflicted; for, according to the poet,

“Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.”

Frank.—Yes, and I know one who is so unfortunately circumstanced: it is poor George Hastings, the apprentice to the blacksmith; how I pity him, when I see him drawing figures with chalk upon a board, and hear him sigh, because he cannot read! while his brutal master checks every attempt at improvement, and does all in his power to keep him in ignorance, that he may the better suit his selfish purpose, “wondering what such a one as he should want with learning.” If he could be helped forward, I have no doubt he would make great progress, for he is remarkably bright; but he has not strength of himself to reach the rich sub-soil.

Father.—This is the easiest of all the disorders above enumerated, to cure; it is only to dig deep into the surface-soil some good compost and lime, repeating it after a time, when it will soon be found to strengthen the roots, so as to enable them to strike deep enough to reach the rich sub-soil, and so to help themselves. We will look after George Hastings, remember: I dare say we can assist him, until he is able to help himself.

No. 8. The sour and stubborn soil. A wretched bed indeed! nothing but discontent and disorder can spring from it. The tree that is planted in such a soil, exhibits almost all the disorders that *trees are heirs to*. The rough and knotted bark, the faded leaf, the late springing, and early falling of which, show the malady contained in its system—the crooked branches, and very short shoots of a whole summer's growth; while the canker-worm is ever grinding his way between the bark and the body of the tree, destroying its energies, and crippling all its exertions! I suppose you will not be at a loss to find a poor unfortunate neighbour,

who is too much in the state of this pitiable tree.

Frank.—I cannot be mistaken, it is poor farmer Grabb! and see, here he comes, that's remarkably odd! and how strangely he looks.

Father.—It is so, but strange as he is, and deficient in energy and perseverance, he is greatly to be pitied, as well as blamed, for the world appears to him a blank, or even worse; the errors of his education, too, haunt him, and he is always foreseeing coming events of the most gloomy character; poor man, all goes wrong with him, because he takes things by the wrong end. Good day, neighbour, this is fine weather, isn't it?

Grabb.—Ah, 'tis all very pretty while it lasts, but I see, very plainly, that a change is coming, for the old rooster, when he crow'd this morning, turned his tail to the rainy quarter, and that's a pretty sure sign with me, that we shall have it again before long; I never knew too much fine weather at this time of the year, and I dare say I shall not be so *lucky* as to be disappointed in my expectations now; indeed, I looked for rain before this, or I should have dragged down my fallow, as you have your's to-day; you know the song says, “sunshine's succeeded by rain,” and so, I am sure, it has always been with me through life, and so, I have no doubt, it will continue. If I want sun, it rains; and when I want rain, the sun will shine in spite of me—it's enough to sour a crab—But here comes farmer Sykes—how do, neighbour?

Sykes.—Why, thank you, neighbour Grabb, well and happy. My friend here, and I, have worked down our fallow to-day, and I am now come to invite him to join me in a work of charity, in going over to the widow Williams, to-morrow morning, to assist her in this her time of need. But why didn't you drag your fallow to-day? it would have worked finely; I fear you will not be ready for sowing turnips, as this is only your first ploughing, you know.

Grabb.—I do know it, and was always sure I would be behind-hand; but you see, I thought we should have rain to-day, and was afraid to begin, lest I should be caught in the midst of the work: I wish now that I had done as you have, for nothing would give me more pleasure than to accompany you to-morrow—hang it, I think I will do so too.

Sykes.—No, you cannot, for you owe a duty to yourself and family, and until that is performed, you have no right to share in the “luxury of doing good.” Charity begins at home, remember, and so you must drag down your fallow to-morrow. How

I enjoy those two verses which we sing every night before going to bed! the feeling is heavenly!

"Oh! sweeter than the fragrant flower
At evening's dewy close,
The will, united with the power,
To succour human woes!

And softer than the softest strain
Of music to the ear,
That placid joy we give and gain,
By gratitude sincere!"

Grabb.—Ah, times goes gaily with you! I'm sure I never feel in the humour to sing, either at night or morning—mine's a very different *feeling*. I often says, I was born to be unfortunate, and I have no doubt on 't. God knows my heart; and as I says to my wife, here am I, with the best intentions in the world—but I must go, for I dare say I am wanted in twenty places at once by this time.

Sykes.—Yes, there is one that wants you, I know—that confounded old rooster of yours—there he stands, with his tail in the wind, crowing away like mad.

Grabb.—Does he, though? then I'll be bound we shall have it to-night, after all, for he is pretty generally not far out in his reckoning—so, good bye.

To the Editor of the Farmers' Cabinet.

Naming Flowers.

Sir,—I had once the honour, while sojourning in a foreign country, to propose to a Horticultural Society the plan of naming their finest seedling flowers after the most beautiful ladies of the city and neighbourhood; the plan was adopted, and succeeded to *admiration*: and I must not forget that the first name which was given was that of a *married lady*, a Madame AMIRAUX—decidedly the most lovely woman in the town, to a geranium of superlative beauty and sweetness. Every one was eager to see Madame Amiraux; and the gentleman who raised it, a Mons. Oudinot—the brother to Buonaparte's favourite general of that name—was prevailed upon to cut the plant into five portions, the branches into three, the roots into two, for the purpose of propagating so beautiful a flower—each plant having been engaged at very high prices by five of the handsomest young men in the town: unfortunately, however, one only of these cuttings grew, so that the old story of killing the goose for the sake of her golden eggs, was near being renewed.

Now, would there, Mr. Editor, be any thing preposterous in the proposal, that those who engage in the cultivation of flowers here should name their new varieties after the beautiful and excellent amongst the

female portion of this, the most beautiful country in the world; boasting too, as it justly does, of the most lovely women in creation? I think not, and I am decidedly of opinion that such a plan would be to add a *delicious fragrance* to their labours: and who knows, but that by such means, the end so long and arduously sought after might be at length accomplished—namely, to *give scent to the white camilla?* according to the spirit of the fine old song—

"I sent thee, love, a rosy wreath,
Not so much honouring thee,
As giving it a hope that there
It might not withered be,
But thou thereon didst only breathe,
And send'st it back to me,
Since which it smells so sweet, I vow,
Not of itself, but *THEE!*"

FLOURS.

To the Editor of the Farmers' Cabinet.

Systems of Agriculture.

Sir,—The question has been asked, "how far can the European systems of agriculture be adopted with confidence in *this* country, so different in soil, climate, circumstances, and situation?"

And I take leave to answer, *confidently*, in the practice of the four essential points of good husbandry, without which, no system ought to succeed in *any* country, soil, circumstance, or situation.

1st. Rotation of crops. No two corn or grain crops ought ever, on any account, to follow each other; for, according to the old quaint adage,

"One crop for man and another for beast,
And your cattle and purse will be always increase."

2d. Cleaning of crops. Is it reasonable for any one to expect to reap a full crop from land, the strength and substance of which have been exhausted in the support of a *natural* crop of weeds, more than equal in quantity to the amount of its *artificial* crop? remembering that "the earth is *own mother* to the weeds, while she is only *mother-in-law* to the crops that are planted in her bosom."

3d. Manuring and top-dressing. Ought any one to "reap where he has not strawed?" It is but natural to expect that if a return is not made to the soil for the crops which it yields, its strength will soon be exhausted; according to another old adage, "always taking out of the meal tub, and never putting in, soon finds the bottom."

4th. Draining, where necessary, is of the first *necessity*; and this will be found of equal importance in every country under heaven; for, if the crop of natural herbage, growing on a wet or weepy sub-soil be examined, it will be found to be of a perfectly distinct species to that which is indigenous

to a dry and healthy soil; it will consist of aquatic plants, totally unfit for the support of land animals, engendering in their bodies all sorts of diseases, particularly the rot in sheep.

These are the four *cardinal points* in the science of agriculture—practise them honestly, and debit the land with the cost, keeping a faithful account of debtor and creditor, without fear for the result.

In these, there is neither uncertainty or speculation; for “while the earth remaineth, seed time and harvest shall never fail;” nor will the earth ever cease to repay the labour, such as above, which is bestowed upon it.

JOHN DUGAN.

Luzerne County, 22d May, 1840.

To the Editor of the Farmers' Cabinet.

Planting Forest Trees.

I have been for some time contemplating planting a field of some thirty acres with forest trees. The land is poor, and the soil light and sandy; yet its vicinity to the two great cities of New York and Philadelphia, has induced the hope of my being able to occupy it with such trees as would produce a crop at the end of, say ten years, sufficient to pay for interest, taxes, and fencing. The idea of planting chesnut trees was suggested, then locust or walnut; but having little knowledge of the time required for such trees to reach a productive size, I have concluded to ask the advice of yourself and correspondents. In England, and indeed throughout the continent, the business of planting forest trees is carried on to a vast extent. Millions are annually planted in England alone; and the Russian government is largely engaged in establishing and nursing up immense forests of timber, to be employed in future years for naval purposes. However remote the prospect of any cash return, yet it is very certain that forest planting produces a great annual profit. Will some of your friends communicate at what ages, respectively, the walnut, chesnut, English walnut, and hickory, produce fruit, and add at the same time any suggestions applicable to the object I have in view? Would it not be advisable to plant the large French chesnut, which is used in many parts of France as an article of food by the rural population, and which may frequently be seen for sale at the corners of our streets?

Y.

Philadelphia, April, 1840.

“That which makes us discontented with our condition, is the false and exaggerated estimate we are apt to form of the happiness of others.”—*Fr.*

For the Farmers' Cabinet.

Simple Elements of Men's Agency.

Mr. Editor.—Labour produces its desired effects, only by conspiring with the laws of nature. There is no commodity or thing produced for consumption, which labour provides in any other way than by co-operating with the laws of nature. It is found that the agency of man can be traced to very simple elements. He can do no more than produce motion. He can *move* things towards one another, and he can *separate* them from one another: the properties of matter perform all the rest. He *moves* ignited iron to a portion of gunpowder, and an explosion takes place. He *moves* the seed to the ground, and vegetation commences. He *separates* the plant from the ground, and vegetation ceases. Why, or how, these effects take place, he is ignorant. He has only ascertained by experience, that if he performs such and such motions, such and such events will follow. In strictness of speech, it is matter itself which produces the effects. All that man can do is to place the objects of nature in a certain position.

MILLS.

For the Farmers' Cabinet.

Slacking Lime and Churning Butter.

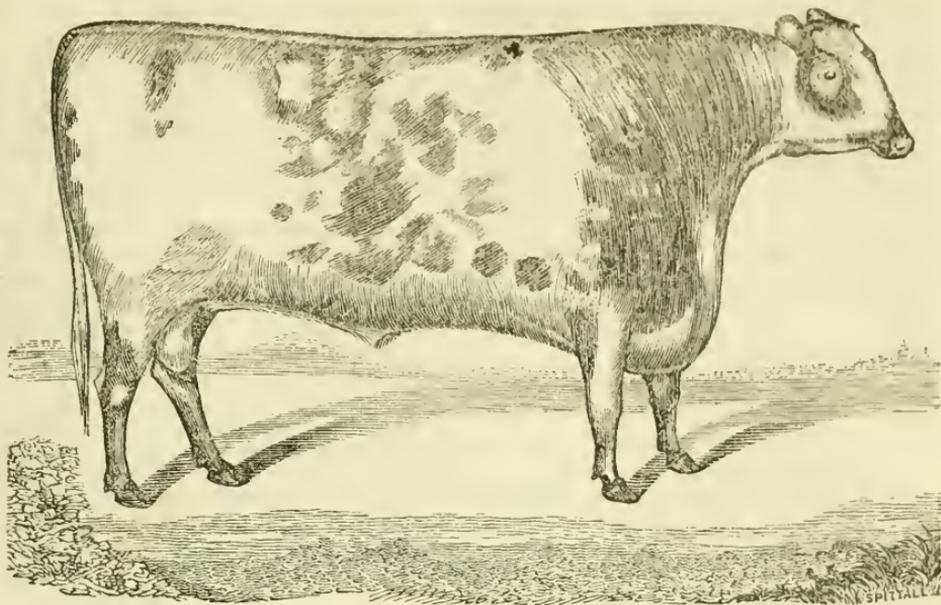
The reason of things should be found out.

Mr. Editor.—All bodies, on changing from a *fluid* to a *solid* state, give out heat; and when *solid* bodies become *liquid*, heat is absorbed.

The heat which is given out during the slacking of lime, escapes from the water, in consequence of its changing from a liquid to a solid form, by its union with the lime. The same effect is produced in making butter: when the cream changes from a fluid to a solid, a considerable degree of heat is produced. Hence the importance of turning the churn slowly when the butter is about forming, so that the heated air which is expanded in the churn may gradually escape by the vent, (which should be kept open at this period of the operation,) and not operate to soften and injure the butter in very warm weather.

Some butter-makers put a portion of cold water in the churn when the butter is forming, in order to lower the temperature, and to contract the effect of the heat, set at liberty at this juncture; but experienced dairymen say, that water should *never* be brought into contact with butter, either in the churn, or during the process of working out the buttermilk. It destroys its fine flavour, and reduces its standard of perfection. The buttermilk should be *thoroughly extracted* by working, and absorbed by the application of a cloth in which a sponge is inclosed, and *no water* used in the process.

O.



DUKE OF NORTHUMBERLAND,

BY BELVEDERE.

Calved 15th October, 1835. Bred by Thomas Bates, Esq.; and at ten months old, considered to weigh 40 stones, of 14 lbs. The four quarters without offal.

For the Farmers' Cabinet.

The right way to Settle Disputed Accounts.

"A soft answer turneth away wrath."

Mr. Editor,—The following was related many years since to the writer, by one of the parties, who was a very respectable citizen of Montgomery County, Pennsylvania, since deceased:

During the presidential term of Thomas Jefferson, two young men from Pennsylvania took a lease from him of his merchant mill, at Monticello, one of the stipulations of which was that the landlord should erect for their use, within a given period, a coopers' shop. The time for the meeting of Congress soon arriving, the President had to repair to Washington, to attend to his official duties, where he remained for a long time absorbed in material concerns, and the building of the coopers' shop was entirely forgotten by him; not so with his tenants, whose daily wants constantly reminded them of the provisions contained in the lease; and finally they determined to erect it themselves, and charge the cost of it to their landlord.

On the return of the President to his mansion, the parties met to settle a long account current, which had been running during his absence; the items were gone over and

scrutinized one by one, and all were found satisfactory but that of the charge for building the coopers' shop, which he objected to, alleging that he could have erected it with his own workmen. Several attempts were made to effect a settlement, but they always failed when they came to the coopers' shop; the young men became warm and zealous in the affair, and the parties instead of getting nearer together, found themselves at every interview wider apart.

In this state of affairs, the father of the young men, who was a mild, affable, conciliating gentleman, possessing some knowledge of the world and its ways, arrived on a visit to his sons, who informed him of their difficulty with their landlord. He requested them to leave it to *him*, observing that he thought he could effect an amicable settlement of the case. This course was acceded to, and in due time he waited on the President with the account, which was scanned and agreed to, excepting the charge for building the shop, which he said with some firmness, that he should not allow for reasons stated. His opponent observing his apparent decision on the subject, very gravely remarked: "well, friend Jefferson, *it has always been my practice through life to yield, rather than to contend.*" Immediately on this remark being made, the President's chin fell

on his breast for an instant, and then raising his head in an erect posture, he observed in a very emphatic manner, "a very good principle, Mr. Shoemaker, and I can carry it as far as you can: let the account for the coopers' shop be allowed." Thus ended the difficulty, and the parties continued their friendly regard for each other till death separated them; and the cultivation of a similar disposition to "follow peace with all men," would terminate thousands of difficulties every year, and add much to the happiness of individuals, and tend to promote the general harmony and order of society. C.

Montgomery County, April, 1840.

Read before the Philadelphia Society, April 1, 1840.

Canada Thistle.

This agricultural pest has become so extensively spread on farms in the neighbourhood of Philadelphia, by the incautions use of Timothy seed procured from the northern part of the state of New York, that sufficient alarm is no doubt excited to call the attention of farmers to a more judicious selection of the seeds they propose sowing. Although much has already been written, and many modes have been suggested for the accomplishment of that purpose, yet, having had an opportunity of becoming acquainted with its habits, powers of propagation, and tenacity of life, it may not be improper to offer a few hints in addition to what has been proposed by others on that subject.

Canada Thistle propagates both from the seed and by the roots. The propagation by seed may be easily prevented by proper attention during the season for vegetation, in keeping the tops cut, so as to prevent them from perfecting seed; but to prevent the propagation by the root, and their destruction, is not, however, so readily accomplished. That part of the root to which the tops or stalk is immediately connected, about five or six inches in length, usually descends nearly perpendicularly into the earth, the whole of which appears to be annual, and consequently destroyed by every winter's frost. At the depth, however, of five or six inches below the surface the perpendicular root is attached to a perennial *horizontal root*, which frequently extends many feet in different directions, keeping about the same depth, which is furnished with numerous eyes or buds, each of which is capable of producing distinct shoots or tops, that will produce seed, and if cut into as many pieces as there are eyes, each will vegetate. A knowledge of the foregoing facts naturally leads to the following conclusion: that the propagation by the roots can be prevented, and their total destruction effected, by completely inclosing the spot

infested by an intrenchment of sufficient depth and breadth to prevent the passage of the horizontal roots, and by ploughing or digging to such depth as to lacerate and tear them to pieces, and turning them up to the surface, exposed to the influences of the sun and atmosphere; by preventing and destroying all top vegetation, the whole must necessarily soon perish.

Much confidence has been placed in the efficacy of lime in the destruction of the Canada Thistle. It is to be feared, however, that it would not prove successful, for it has frequently been seen growing up vigorously through a covering of six inches of fresh burnt lime, slacked on the spot.

Common salt has also been considered as infallible, and probably it is entitled to more confidence than the lime. Being soluble in water, it is absorbed by the earth, and descends until it reaches the horizontal roots, where, if in sufficient quantity, it will destroy the germ of vegetation, not only of the Canada Thistle, but that of all other plants.

AGRICOLA, JR.

From the New England Palladium.

Early Rising.

'Tis sweet to rise at early morning's dawn,
And breathe the balmy air which passes by;
While glittering dew drops gem the grassy lawn,
In mimic radiance of an evening sky.

Beautiful morn! fair harbinger of sweets!
Ushered by orient beams and warbling songs;
Thy grateful light, the lark (shrill minstrel) greets,
And echo on the hills the theme prolongs.

'Tis sweet to hear the music, soft, and low,
Which morning zephyrs whisper to the trees;
'Tis sweet to see meandering streamlets flow,
Exhaling tribute to the early breeze.

Then the rapt soul throws off the thralling chain,
Which binds her soaring pinions down to earth;
And wings her mental flight to Heaven's domain,
And gives her native energies new birth.

Morning! there's music in the heavenly name;
Then rise and greet her charms, and own her power
Rise, sons of ease! and catch the holy flame,
Which nature kindles at that glorious hour.

Rise, and behold the verdant, fertile plain
Inhale the fragrance of the morn's pure air:
Behold the bending vines, and golden grain,
And breathe to nature's God a grateful prayer.

In the choice of water, always select that which is softest; for hard water, as it is called, is always rendered so by its impurities. Any substance will soften and cook sooner, and with less fuel, in soft water, than when hard water is used; and the essence will be more quickly and thoroughly extracted by the former, than by the latter, as is observed in making tea or coffee.

For the Farmers' Cabinet.

Importance of Botanical Names.

As the language of botany is understood in every country, by all who are acquainted with the science, there is no difficulty in designating all the different kinds of seeds or plants, either at home or abroad, leaving no excuse for the vender in supplying a wrong article. The use of common or local names frequently leads to mistakes and blunders truly vexatious: for instance, the seed known in Boston as herd-grass, is called in Philadelphia timothy, and what goes under the name of herd-grass in Pennsylvania, is the red-top of the north; and as these seeds are very different in kind as well as price, a person may instruct his correspondent in either city to purchase for him, and find himself much disappointed in what he receives, although it may be known by that name at the place of purchase. Not many years since, a gentleman from the Eastward entered into a written contract with a merchant of Philadelphia, to furnish him with a large quantity of Pennsylvania herd-grass seed, (supposing he was to have timothy.) The order was accordingly executed, and shipped for Boston, when lo, on its arrival, it was discovered to be nothing but red-top! and was refused to be received as the article ordered. A suit at law was the consequence, when the Eastern gentleman had to abide by the written contract, and pay a large price for seed he did not want. If he had taken the precaution of adding the botanic name, (*Phleum Pratense*), the vender would have been compelled to furnish timothy, the article desired.

The herd-grass of the middle states (*Agrostis Vulgaris*) is the red-top of the eastern states; and the herd-grass of the eastern states is the timothy (*Phleum Pratense*) of the middle states.

The blue grass of Kentucky, so called here by many, is not the *Poa Cumpressa*, or blue grass of botanists, which is wiry, and flat stemmed, but is the (*Poa Pratensis*) of Doctor Darlington and others. Having received a sack of the seed in the panicle, enabled me to determine this to satisfaction. It is our green grass. C. J.

To the Editor of the Farmers' Cabinet.

Analysis of Lime.

Sir, — I consider the article in your last number, "On the analysis of limestone," by Agricola, as far more valuable to the agricultural public than the cost of many years' subscription to the Farmers' Cabinet. I perfectly agree with the writer, that "every

intelligent and observing farmer ought to be attentive to every circumstance connected with the use of so important and valuable an agent in agriculture as lime," and unite with him in impressing upon them the necessity of noting down in a journal, every thing relating to it, not trusting to memory even for a day. He remarks, that the difference of seasons, as regards heat and moisture; the time of year, and the manner of making the application to land; and the state of the soil to which it is applied, as well as the quantity, will conspire greatly to produce results somewhat differing; and that there might be, even yet, other circumstances not enumerated above, which may have an influence in producing different opinions in regard to the good to be derived from its application. Now all this is very well; but I, for one, must be permitted to believe that the fact, long since ascertained in other countries, that magnesian limestone is injurious to vegetation in proportion to the quantity of magnesia which it is found to contain, is as truly to be depended upon in this, as in any other country; and that under the same circumstances, it will be found to operate in the same way, and to the same extent. I say not this, however, to induce any one to take the thing for granted: by no means — experience keeps the best school; and when we can induce men to *prove* all things, there is no fear but they will hold on to that which is good.

But the question will be set to rest by the forth-coming table of analysis of limestones, which is promised in the report of the State Geologist for the present year, just published; and which, it is promised, will be made to embrace every section of the state: the geologist says, "It is believed, by the end of the autumn of 1841, that the chemical department of the survey will have made known the nature of every material of any value within the state, and shown its adaptation to useful purposes:" one of which, if not the *most valuable*, is, assuredly, lime, and its application to agricultural purposes. I confess, however, that my suspicions are strengthened, in a great degree, by a remark which I find at page 35 of the report, where it is said, "we here notice several varieties of the limestone, some belts of which are highly magnesian, and, *therefore*, well adapted for the manufacture of *hydraulic cement*. It is a matter of just surprise that we have hitherto had no manufacture of this valuable article any where in the southern limestone belts of this state, where the material is so abundant, and where outlets to market, procured at so vast an expense to the commonwealth, are numerous and convenient. Many chemical analyses already made, and others

now in progress in the laboratory of the survey, establish the fact, that *nearly all* the limestone belts in the south-eastern district of the state, including also those of the Kittaning valley, contain bands of magnesian limestone capable of furnishing an hydraulic cement, identical in properties with that so extensively manufactured in New York, and on the Potomac, near Shepherdstown."

Now, when it is recollected that magnesia requires nearly eight thousand times its weight of water to hold it in solution, would it not seem that its *unfitness* for the purposes of agriculture is in proportion to its *fitness* for that of forming an hydraulic cement "of great value?" Admitting, however, that the question of the *injurious* nature of magnesia to vegetation is not fully settled, yet, as no one has ever supposed it *valuable* on this account, the fact is most decisive and very striking, that in limestone containing 41 per cent. of magnesia, there is a clear loss of about one half in the quantity, when compared with that which yields 96 per cent. of carbonate, besides the cost of carriage of, to say the least, a valueless article—a monstrous difference, which one would suppose, will be sufficient to induce farmers in every part of the state to take the matter into their serious consideration.

In the Cabinet for April, there are no less than three instances recorded of the injurious effects of lime on vegetation, and these too, from the testimony of practical men of high standing and character—now, is it possible, that such discrepancy could arise from either the mode of using it, the season when it was applied, or even to the quantity per acre? I should rather believe it was owing to the impurity of the lime—the magnesia contained in its composition, and I will tell you why I so believe:—I have often seen lime from a neighbouring quarry, which I have remarked required a great length of time to slack; and although this lime has not been carried abroad until that operation had been completely effected, yet, wherever the heaps have been deposited and suffered to remain a while, all vegetation has ceased for the remainder of the season on these spots, although the greatest care imaginable had been taken to remove every particle of lime when carrying abroad: while the lime from another quarry, not a mile distant, but from the other side of the valley, obtained too at the same season of the year, and applied in the same quantity, and under the same circumstances, would be found to slack in a very short time, and on the removal of the heaps, although the same care to clear away every portion had not been observed, yet vegetation would be found immediately to

go forward, and prove by its luxuriance that much benefit, instead of injury, had been derived from the application—nay, the herbage would spring up through the sides of the heaps of lime, some inches in thickness, while lying in process of slacking, and the cattle would prefer this herbage to that which grew by its side, without the aid of lime. And on mentioning this circumstance to an intelligent friend, he said, that he had applied this kind of lime to land before the process of slacking had been completely effected, and had observed lumps of it several inches in thickness, which had been spread abroad, and through which the oats had sprung up, to the height of about five feet, of the greatest luxuriance.

Now, on examination at those quarries and lime-kilns, I have found that the lime which was injurious in its application to land, would remain for a long time unslacked in the kiln, after the fire had been extinguished; while, in two days after the fire had gone out in the other kiln, the lime would begin to fall from the action of the atmosphere alone, and this difference is uniformly observable.* And another remarkable circumstance is, the limestone of the hard quarry is much the heaviest *before* calcination, but *afterwards* it is lighter than the lime obtained from the calcination of the stones of the soft quarry, which also yields a larger quantity of *slacked lime*, and this fact is known and acknowledged by every one in the neighbourhood. We learn from chemistry that magnesia, in the form of epsom salts, is chiefly procured from the mothers, or residuum, which is found after the separation of common salt from sea-water; and I remember hearing of a very decisive test of the poisonous quality of that ingredient:—a person, intending to build a house on a particular spot, in front of which, however, his neighbour had a row of fine trees, called upon him for permission to remove them, offering him whatever sum of money he would demand for the favour; but his neighbour positively refused, and was determined that the trees should not be removed *on any terms*. The person wishing the removal, then told him he must not wonder if God should resent such unneighbourly conduct, adding, "I should not wonder if they do not vegetate the next spring;" and lo, they never did! not a leaf ever put forth again! After some years, it was found that holes had been bored in the roots of each, and been filled with the magnesian water from a neighbouring salt work.

* It is peculiarly the case with the lime used for building in Philadelphia; it will remain for many days unslacked, and is proverbial for its value in building—it contains 41 per cent. of magnesia.

Now, how easy would it be to prove the cause of the difference between the limestones of the two quarries above-mentioned, and so nearly adjoining each other, had we the means of analyzing their composition! and would it not be worth while to urge upon the State Geologist to furnish us with these, before other branches of the survey are completed, if possible; how far this would be to trench upon his time and convenience I know not; but assuredly, the importance of such a step, if it can be taken, is almost incalculable to the agricultural interest of the state and the community. But until such analysis is made, I must be excused if I say, I believe the difference complained of is occasioned solely by the magnesia contained in the stone of the lime that has been found injurious to our friends; and that, for this reason, I shall from henceforth prefer to go to the kiln whose lime falls the easiest—the only criterion which I have at present from whence to form a judgment—for what I might require as a dressing to my land—a dressing which, from past experience, I judge to be of almost incalculable value to crops of every description, if judiciously applied, namely, on the grass lands exclusively, as a heavy dressing.

T. S.

Chester County, May 25, 1840.

For the Farmers' Cabinet.

Conducting Rods.

A disastrous fire, recently in our vicinity, occasioned by lightning, has caused much inquiry relative to the utility of conductors, and the best method of putting them up. The subject being one of great interest and importance to our citizens generally, and upon which there is a great diversity of opinion, I thought it would not be amiss to call the attention of some of the numerous and intelligent correspondents of the Cabinet to the subject, for the purpose of eliciting their opinions, observations, and *experience*, upon this interesting branch of science; and to request that we may be informed through the Cabinet, particularly, whether there have been instances of buildings being struck with lightning and destroyed, when guarded by conductors; and if so, how were they put up? what state were they in at the time? and the kind and quality of the points surmounting them? Also what distance above the building should the rod extend—what distance into the earth—how should it be buried, with earth or some other substance—what are the best kind of points—and how large should a building be to require more than one to protect it? or any other in-

formation that is calculated to throw light upon the question, and thereby oblige a number of inquirers.

PUBLICOLA.

Chester County, May 25, 1840.

Will our friend, Mr. Joshua Sharpless, of Downingtown, furnish a statement of his experience on this important subject.—*Ed.*

For the Farmers' Cabinet.

Read before the Agricultural Society, June 3, 1840.

Indian Corn.

Dear Sir,—I promised in my last letter to give you my opinion as to the best method of raising a profitable crop of corn, and from the observation of forty-five years, having been engaged in agricultural pursuits, I can truly say I believe the following to be the most certain of any other that I have known or heard of:

In the first place—the field designed for corn should be well *ploughed, harrowed, and rolled*, before it is marked out for planting. Now, this is but seldom done. The farmer thinks after the corn is planted, (and that usually in a careless and slovenly manner,) and when it appears above ground, it is then time enough to pulverize and make mellow the soil by ploughing and harrowing. But should you visit his garden, probably you might see the ground neatly prepared by the spade and rake, and made of the finest moulds; now, if this preparation is necessary for the seeds to be there deposited, surely it appears equally essential that the plants of the field should have a like attention bestowed on them. Besides, the corn is the largest of all our cultivated plants, and, of course, requires more space to be occupied by the roots. It is well known to every observing farmer, that wherever the ground is made fine and mellow, the roots will extend themselves many feet from the hill, and that to search out nourishment for the parent stock.

I, therefore, consider it highly essential towards raising a good crop of corn, or any other grain, that the ground should be thoroughly ploughed, harrowed, and rolled, and made mellow before the seed is deposited therein.

In the next place—as to the cultivation of the corn while growing. In my opinion, one of the most egregious mistakes which farmers usually commit when cultivating their crop is, *in ploughing and working among the corn during the heat of the day*. There can be no greater error than any stirring of the earth about the roots of the plants during the scorching rays of the sun; it

will cause them to *wilt*, and very much injure their growth. No skilful horticulturist will permit the hoe to be used in his garden during the intense heat of the day. This work should only be done early in the morning, and as the sun declines in the afternoon. So in the cultivation of corn, the labourers should enter the field at the dawn of day, and no work should be done to the plants after ten or half past ten o'clock; then man and beast should take their rest, until three or half after three o'clock, before they resume their work again.

In my opinion this is the true way to cultivate corn to the best advantage. In following this plan the corn will be seldom seen to wilt even in the driest season, but will continue increasing in growth.

An excellent old man whom I employed as the boss or foreman of my labourers when I first engaged in farming, and who had been in the employ of my father for many years, often upbraided the men for not getting to work as soon as he required, telling them that they must and should be in the field with their teams "by the time the stars went to bed," (this was his usual expression,) meaning by the peep of day. The labourers now-a-days most generally prefer waiting until the dew goes off the grass before they willingly turn out to work;—but the farmer who is really inclined to be a stirring man, should endeavour, if possible, to set his men to work in the morning as near as he can to the time "when the stars go to bed."

If what I have written may be of any benefit to the agricultural interest of our country, you are at liberty to communicate it.

R. G. J.

Salem, May 20, 1840.

For the Farmers' Cabinet.

Deep Ploughing.

Farmer W.—Well, say what you will, I am an advocate for deep ploughing.

D.—Ah, you speak comparatively, of course.

W.—No, I speak positively—there are times and seasons when I would go deep into the sub-soil, turning up inches of it in depth, if you please.

D.—And yet, I have often heard you laugh at the directions which we so often meet with in books for ploughing deep, without, as you observe, the writers being by possibility able to judge of the actual depth of the surface-staple of the soil, and when, for aught they know, three inches might be too deep; while again, as many feet in depth of other soils might be turned to advantage—now, how is this!

W.—I believe that all good farmers in this, and in every other country, will one day plough up every acre of their uncropped arable land before winter, as is the custom in every well-farmed district in England; for this system will apply to every country, be its climate and circumstances what they might. I know many large farms, where it is the custom to make the Christmas cheer to depend on the due and seasonable performance of this necessary part of their routine, and which if not fulfilled at that time, then there is no treat. Now, of that season of the year, and particularly in this country, where the soil has not generally been stirred to the necessary depth to sustain the crops in a dry season, I would recommend *very deep ploughing*, in large and straight furrows, and as unbroken as possible, turning up the sub-soil to a depth which, to an unpractised eye, would have the appearance of *dead ruin!* leaving open water-furrows, and well defined head-lands, so to lie until the season of spring tillage, for the purpose of being pulverized by the winter's frost and rain, which would be about as good as a covering of manure. In the spring, then, I would very carefully turn back these furrows, as unbroken as possible, to the place from whence they were taken; after which, the surface, in fine order for working, may be ploughed and properly cultivated for the reception of the seed, being extremely careful not to go so deep as to disturb the returned sub-soil, which will thus be in fine order to receive the tap-roots of the crop, having received a deep stirring and melioration from atmospheric exposure, of incalculable benefit to whatever crop might be planted on the land.

I conceive that the office of the tap-roots of plants is, to send up *moisture* from the sub-soil; and during the great heats of summer, I have no doubt a large portion of their support arises from this source; while their *lateral* roots are busily engaged in providing them *food*, by pushing their ramifications in all directions, like network in the surface-soil. It must not be understood, however, that I mean to apply this system to winter-ploughing, preparatory to oat-sowing in early spring, without another stirring—a capital plan, particularly on stiff soils—no, *there* it would be improper, of course—but if, after the exposure during the whole winter of this sterile and poisonous sub-soil, it be returned to the place from whence it came, and the after cultivation be confined to the surface only for the spring crop, I do not think it would be presuming too much, were we to expect an increase of crop, and lasting benefit, perhaps for many seasons, to a very great amount.

Now, I consider this plan far superior to

the stirring of the sub-soil by means of the grub-plough, which is now so much recommended: as, in this case, the sub-soil is not only loosened, but is absolutely enriched, by exposure during the whole winter to the frosts and snows and rains, while the still deeper and *untouched sub-soil* must imbibe much benefit by coming in contact with the rich surface-soil, and the decomposition of the herbage that might have been growing on it at the time of turning it down in the autumn—indeed, I have no doubt the benefit to be derived from such management would, in many cases, be equal to the rent of the land, and obtained, too, at the cost of a single extra ploughing.

J. P.

For the Farmers' Cabinet.

Punctuality.

Mr. Editor,—I have received the two last numbers of the Cabinet, in due course of publication; such a degree of punctuality augurs well for the fulfilment of the engagements entered into by the Proprietors and Publishers of that work. We may now, therefore, expect to go on prosperously and profitably; and I hope to see the "Farmers' Cabinet" the acknowledged agricultural record of the State of Pennsylvania—a state whose central position renders it peculiarly well suited to become the bond of union between the Southern, Eastern, and Western territories of the country; for while our friends to the north and south have a difference of climate between them of about a month, that of Pennsylvania blends and assimilates with both; thus forming a natural medium or link of communication, fitting us peculiarly for holding friendly intercourse with each, and furnishing a means of interchange of sentiment, which must become of infinite service to all. With best wishes for the consummation of that hope,

I am, your Subscriber, J. D.

The Horse.

On Eastern plains—his native land—
Free, uncontrolled, he paws the sand;
His mane streams in the desert wind,
As faints the caravan behind;
And neighing at their hapless fate,
Flings out his heels in scornful hate;
Nor stops, till at some fountain's side
He cools his bright and reeking hide;
And thinks how better off is *he*!
Thus matchless in his liberty!

On meadows green, a fettered slave,
He still is proud, sagacious, brave;
By him the earth is tilled—the land
Yields generous crops at his command.
He leads the advance-guard of war;
Brings tidings from all lands afar;
Serves faithfully till life is past,
And drags us to the tomb at last!

To the Editor of the Farmers' Cabinet.

Sugar Beet.

Sir,—It is quite amusing to witness the numerous instructions that are given in almost every one of our agricultural works, on the simplest of all our operations, namely, the cultivation of the sugar beet. I believe that many of my plain friends have been deterred from growing that invaluable root, from seeing the very long and tiresome details, continued from week to week, and from month to month, in these books, the chief object of which must have been to furnish matter for the printer. Why, can any thing be more plain or less troublesome, than to make a small hole in the earth and drop in a seed? and when that seed grows, to select the strongest plant, if more than one vegetates, and keep it clean by hoeing? And yet, I have now before me one of our periodicals for the past month, in which an article on the subject is *concluded*—having been continued from a former number; and all this, after whole books have been written, and pamphlets published, for the space of the four last years, professing to teach what any practical farmer ought to know intuitively. This is after the Italian mode; they are the people to make a *science* out of a moonbeam, and to establish an institution, with its officers in regular gradation—a *college*, literally a college, for teaching the art and mystery of catching moles! We farmers are accused of a want of taste for reading; but really if we were to undertake to read all that has been written on such subjects, I am sure we should do nothing else. I am free to admit, that much benefit is to be derived from what is called book knowledge; but many of the *books* that are published do not contain the *knowledge* that is acceptable to a farmer of many years' experience. I grant, that many of us, *old ones*, are very far from the right way in which things ought to be fixed; and in none are we, in my opinion, so deficient, as in a proper rotation of crops; it begins to appear to me that in this point we almost all offend—perhaps I may say quite all—for I believe we all sow wheat after oats, giving our dung to our oat stubbles as a preparation for it, thus rendering our wheat seed-bed, which ought to be close and compact, light and porous, and fit only to force forward our crop so as to be in just a suitable state before winter to receive a blight, which, for aught we know, might show itself in the spring, in the shape of the Hessian fly, or the black rust, or the mildew, or any other of those numerous diseases to which our wheat crops are so liable.

Now, Mr. Editor, a few good *strong* ar-

ticles on subjects of such vital importance, would be worth all the books that have been written on those above-mentioned, and others like them; and I am mistaken if farmers would not be found to enter warmly into them, if they were given in a way so as to show that they were the production of one who knew and understood the business in which he was engaged.—Yes, I believe in my heart we are wrong in the article of rotation of crops, and perhaps in other *articles* also, and I, for one, shall be most willing to be set right, by any one who is competent to direct me; but the *writers* on the subject of the cultivation of the sugar beet, and such like simple matters, are my abhorrence.

JNO. TIGLEY.

May 31st, 1840.

To the Editor of the Farmers' Cabinet.

On the Roots of Plants.

Sir,—I find in a very interesting and scarce work on agriculture, the following remarks on the roots of plants; and although the work is an English publication, yet the principles which it teaches are not confined to any one country, soil, or set of circumstances, but are as applicable to this country as to any other; and I should therefore wish to see them re-published in the pages of the Cabinet, convinced that they will add much to our stock of information on that important subject. With best wishes for the success of your valuable work, I am, your

CONSTANT READER.

Delaware County.

“To give life and motion to the seeds of plants, a certain portion of water and of oxygen or vital air, and a degree of heat of about 50° Fahrenheit, is necessary. A seed being placed in the earth under these circumstances, it immediately absorbs moisture, and gradually swells to the extent of its shell or skin, when the radicle or first root protrudes itself, and in whatever position the seed be placed, assumes a perpendicular direction, and gradually makes its way *downwards* into the soil; and the germen also assumes a perpendicular position, and grows *upwards*. A great number of experiments have been made to ascertain the peculiar principles which influence and give direction to the first rudiments of plants; but whether the first inclinations of a plant be considered as *instinctive*, or whether, by the influence of any peculiar principle, the root is impelled forward into the earth, is of trifling importance to the practical agriculturist; and whether it may be accounted for on the principles of gravi-

tation or attraction, it is not necessary to discuss.

As the branches of a tree are formed by a very tender and succulent point pushing upwards into the air, so the root penetrates downwards into the earth; but as it has to make its way through the pores, or between the particles composing the soil it is planted in, which is often close and tenacious, its first projecting points are wisely adapted to the purpose, by being much more minute and compliable, which enables it to advance almost as readily as water. After a root has effected a passage, it is endowed with considerable expansive and repulsive powers, and is thereby enabled to make its way by pushing off on all sides the encumbering soil. When the soil is but partially submissive, the root accommodates itself to the cavity, admitting its increase, however rugged and irregular. Roots are, notwithstanding, impatient of resistance, and at all times evince a partiality for that soil which is most accommodating, and run most evenly and luxuriantly where they meet with the least resistance and the greatest supply of nutriment.

The office of the root is to collect and supply the food which forms and determines the future plant and its produce, and the constitution and habits of the roots determine those of the stalk, branches and leaves; and if the roots grow luxuriantly, the branches will do so likewise.

A variety of means have been resorted to by phytologists to discover and ascertain the construction and principles of action of the roots of plants, and as various and contradictory have been their opinions and representations; but in the material point, all agree: and the most minute examination by the most powerful microscope confirms the fact, that the food of plants can only be taken up by the roots in a state of solution in water, or suspended in a state of division, so minute as to be equal to a solution.

In a deep tenacious soil or clay, roots can only find a free passage through fissures or clefts, which are formed by its occasional contraction; and as these openings are not very numerous or close together, the roots do not divide much, or become fibrous; but those which strike into them, range wide and deep, and getting beyond the general influence of the sun and air, collect their food or sap from a source ill adapted to fructification; and consequently, plants under such circumstances, are generally found to be of a cold, aqueous, unhealthy and unprolific nature: while on the contrary, when a soil is light, porous and shallow, the roots, meeting no obstruction, divide and form a great number of fibres, which, ranging horizontally, and being more exposed to the effect of sun

and air, incline a plant more to become fructiferous than to an increase of wood, or an extension of branches; and in such a situation, the greatest supply of food being appropriated to the production of fruit or seed, the plants grow less to stalk, branches, and leaf.

Hence, it is very truly remarked by an ingenious writer on fruit trees, that they produce the most generous fruits when their roots spread near the surface of the earth: and whether we consider such effects to be produced by the roots being kept more within the influence of the sun and air, or by the peculiar nature of the food supplied by the soil in such a situation, it operates in support of one and the same conclusion, namely, that it is necessary the roots should be kept near the surface; for whether that which supplies the food of plants be a red, a black, or a brown loam, or sand, or clay, the proper quality of food, or habit in the plant to induce fructification and produce the most perfect seed and fruit, in the most abundant quantity, can only be furnished within a certain depth.

Thus, the roots having collected and absorbed, or taken in a supply of food or nutriment for the sustenance of the plant, the next object for consideration will be, how, or in what manner, or by what means, such food is disposed of, and appropriated to the uses of plants, and to the formation of its various substances?—an inquiry of the greatest importance, and is determined by the leaves, stalk, and branches.”

Long Manures.

The knowledge of some general principle is necessary, to enable the farmer to prosecute, with success, some of the most important branches of his business. The correctness of this remark is demonstrated, in the successful application of the different kinds of manures. It is well known they cannot communicate nourishment to the plant, without going into a state of solution, for which water is the agent. So far as the food of plants is supplied by the soil, it appears very certain that it is imbibed by the extremities of the roots only. For it has been discovered that the portion of the soil which is soonest exhausted, is precisely that part in which the greatest number of the extremities of the roots lie. If those extremities are cut off, the root increases no more in length; but the sides send off fibres which perform the functions of roots and imbibe food by their extremities. It appears, then, that the nourishment derived from manure, must first be dissolved by the moisture of the soil, and afterwards come in contact with these extremities, to assist the growth of the plant. Hence the application of undecayed vegetable ma-

nure, as straw, cornstalks, &c. spread and mixed with the soil as effectually as is practicable with the plough or harrow, will contribute much less to the value of a crop than many suppose. The following account, by a distinguished author, develops facts relating to this subject, which may be of much practical utility:—It appears, says he, from the experiments of Mr. Hassenfrats, that substances employed as manures produce effects in times proportioned to their degree of putrefaction; those substances most putrid producing the most speedy effect, and of course, soonest losing their efficacy. Having manured two pieces of the same kind of soil, the one with a mixture of dung and straw highly putrefied, the other with the same mixture newly made, and the straw almost fresh, he observed, that during the first year, the plants which grew on the land manured with the putrefied dung, produced a much better crop than the other; but the second year, (no new dung being added) the ground which had been manured with the unputrefied dung, produced the best crop. The same thing took place the third year, after which both seemed equally exhausted.—*Genesee Farmer.*

For the Farmers' Cabinet.

Lime.

Mr. Editor,—I have just done *kivering* my corn, as we old field Marylanders say; and now that I have time to lay down the hoe, I hope you will allow me to break a lance with your correspondent, Mr. S. Kirkbridge—whether a real or fictitious name I know not, nor is it material. I observe that he has made an attack upon the report of our State Geologist, (see April number of the Cabinet, page 275.) I am not about to defend the author of that report, he is able to defend himself when necessary to do so—all that interests me in the comments of your correspondent upon that report is this:—I fear that what he has said in opposition to the use of lime (coming, as it does, from a Pennsylvanian) may have a pernicious effect upon the minds of some of my timid neighbours, who have but just commenced reclaiming their worn-out land by the use of that article. I have had some little experience myself in the use of it, and I have no doubt as to the great benefit that will result to this section of country from its application, even to the extent recommended by Mr. Ducatel, any thing your Morrisville correspondent may have said to the contrary, notwithstanding.

I have seen it applied at the rate of from sixty-five to one hundred and twenty bushels per acre, upon land entirely worn out by our

old-fashioned mode of cropping, and the effect has been to increase the value of the land in three years *five hundred per cent.* The Cabinet is taken, and read with much attention by some of the farmers in this neighbourhood, and any thing that may be found in its pages against the use of lime, emanating from practical farmers in the neighbourhood of Philadelphia, would unquestionably have much weight with the farmers here; but, judging from what I saw when travelling through a part of Pennsylvania a few years ago, I am induced to think that the use of lime is not held in as high estimation in Bucks county (Morrisville I think is in Bucks county) as it is in some of the neighbouring counties. I recollect when travelling through a part of Philadelphia county, with a farmer of that county who had used lime to a great extent upon his farm—and I think I never saw a farm more highly improved; but, to my utter astonishment, in the course of our ride through this highly cultivated region, we suddenly came upon an *old sedge field!* how is this, said I, how came one of my countrymen here? "Oh," said my fellow traveller, "don't be alarmed, we are in *Bucks county* now, we passed the line about half a mile back."

AN OLD FIELD MARYLANDER.

April 30, 1840.

Avarice.

The reader may remember the dreadful famine which I left hanging over Egypt. EMIN, on this occasion, was one of the provident, for during the years of plenty he had laid by for those of want; but, like the ant, he cared not to share his savings with the idle; and although his granaries groaned under their loads of grain, he saw, unmoved, the thousands of wretches who every day perished with hunger under their very walls; and when the bodies of the sufferers choked up the very entrances to his storehouses, he still refused to unbar their surly gates, until the grain had reached the exorbitant price fixed by his avarice. This it at last attained; and now, exulting at the thoughts of the millions he should make in a few hours, Emin took his keys and opened his vaults! But oh, horror! oh dismay! instead of the mountains of golden wheat he had accumulated, he only beheld heaps of nauseous rotteness! an avenging worm had penetrated into the abodes fortified against famished man! a grub had fattened upon the food withheld from the starving wretch! and while the clamour of despair resounded *without*, a loathsome insect *within* had in silence achieved the work of justice; it had

wrought Emin's punishment in darkness, while his crimes shone in the light of heaven! At the dire spectacle, he uttered not a word—he only for a few moments contemplated the infected mass with the fixed eye of despair, then fell flat on his face upon the putrid heap—God had smitten him! On raising his prostrate body, life had fled, and like his corn, his frame was become a mass of corruption.

MEMOIRS OF A GREEK.

To the Editor of the Farmers' Cabinet.

Fly-proof Wheat.

Sir,—At page 60 of the Cabinet for September last, there is a very particular account of a crop of Mediterranean wheat, which escaped the ravages of the fly, and yielded at harvest forty-one bushels per acre, millers' weight. It was found to be a hardier winter plant than the red chaff bearded wheat which grew by its side, of more rapid growth, and was harvested a week earlier.

Now, on a late visit to Chester county, where the ravages of the fly are tremendous the present year, I saw many instances of the most perfect security exhibited in this peculiar species of wheat, although it had been sown in the same fields, and by the side of the other varieties common to the country, which have been totally destroyed by this scourge. I also noticed that the Mediterranean wheat is uniformly more early in coming into ear, and promises a harvest ten days earlier than any other wheat crop in the country; and in no instance did I witness the difference greater or more strikingly defined, than in a field of wheat belonging to Dr. Darlington, of West Chester, where a portion only is of the Mediterranean species, the remainder being of another variety. Would Dr. Darlington oblige us by endorsing the truth of this statement; and would others who have had experience of the value of this fly-proof wheat, add their testimony thereunto?

R. W.

June 4, 1840.

And will our correspondent, J. Jenkins, of West Whiteland, oblige us with an account of his wheat crop of the present season; it was his intention to seed entirely with the Mediterranean species—did he do so?—*Editor.*

It is one of the first maxims in farming to begin by removing all weeds, before any attempts are made to mend the soil; otherwise, manure, instead of being advantageous, only serves to multiply those spongy plants which suck all nourishment from the crop.

Weeds.

If our young friend "Weed Puller" will come down doggedly to the task of pulling weeds and reading the "Cabinet," we have no doubt he will soon acquire the knowledge of which he is in pursuit: he has chosen the better part which cannot be taken away, and in due time he will reap the fruit of his labours, if he faint not.

In the mean while, we would take leave to recommend to him the mode practised by the best agriculturists in England, a mode as applicable in this as in any other country, and of importance in proportion to the quantity of weeds to be eradicated—far greater here than in any country which we have before seen, the soil and climate conspiring together to perfect a growth of three or four years in the space of one. It is this: when no crop is on the land, *to plough for weeds*, and to do all in his power to exhaust the land of them before sowing his crops, not leaving this indispensable labour to be performed after the crops are grown, when they will often be found to interfere with the free use of the plough. To this end let him determine, religiously, to turn up every acre of land so soon as the crop is removed, especially immediately after harvest, turning the soil to a depth rather greater than the surface-staple; laying it well up and over, by means of very narrow furrows, so that the sod or weeds, as may be, might be brought into close contact with the bottom of the furrow, and so fermentation might be engendered and decomposition be brought about, the beneficial effects of which will be very apparent in the spring-course of crops; which will be found more easy of cultivation in consequence of such autumnal ploughing. The only cure for the train of "nuisances" which he enumerates, is deep and effectual cultivation; there is no royal road to agriculture, any more than to geometry, but the common road is plain and very agreeable to travel: it is only to pursue it to the end, and no one ever yet was beaten in a race against the weeds, if they are attacked in the right way. Some are to be overcome by the grubbing-axe only, but in general the plough and the hoe are sufficient, if they are put into requisition early.

On the subject of autumnal ploughing, we received a lesson where we least expected it. On a late visit to one of the adjoining counties, we fell into conversation with a farmer, who was hoe-harrowing his corn amongst clods and half-decomposed turf, that were a caution to look upon; and when we told him, if we could grow corn in England—which we admitted we could not, in consequence of the coldness and moisture of the

climate—that we should do so with less than half the labour than what he was bestowing, by ploughing the land before winter in small and deep furrows, for the purpose of decomposing the sod, and facilitating the spring working, he observed, he did not think there would be much advantage to be derived from that; "to be sure," said he, "you would get rid of the cut-worm in the spring, *but that is all.*" On inquiring if that would assuredly be the fact, he did not hesitate to declare it would be so, "but that would be all." Now, many of his neighbours were re-planting their corn for the third time, in consequence of the destruction occasioned by the cut-worm, and he himself must have suffered as much, and yet he considered the value of an autumnal ploughing to be almost worthless!

In this visit, we were struck with astonishment to see how little *regard* was paid to the growth of thistles, mullen, and other large and very pernicious weeds around the dwellings, orchards and gardens, adjoining the high road, which will soon be in a condition to repay their owners ten thousand-fold for their leniency; and we were reminded of a country in Europe, where there is a law to permit any one to go on his neighbour's premises, for the purpose of cutting up the weeds, to prevent them from shedding their seeds, the owners of these being compelled to defray the expense! Any large weeds may be destroyed by cutting just below the ground, and filling the hollow thus made with salt; if this is done during the time of their vigorous growth and before they blossom, the salt is then taken up into circulation, and the returning sap-vessels carry the poison to the extent of the root to any depth. Flowering buds, or seeds, have no returning sap-vessels, and this is the cause why no crops exhaust the soil in any sensible degree, until they begin to flower and to perfect their seeds. We assure "Weed Puller," nothing is easier than to extirpate weeds, if they are taken by the right end.—Ed.

Every man may read in his own breast what he ought to do, or to avoid, under all circumstances; all that is required, when our interest happens to be in opposition to that of another is, to inquire *within*, how we should wish to be treated in a similar situation, and to *listen*, during the course of this proceeding, whether our heart is tranquil and satisfied.

Experiment and calculation are the grand basis of *true agricultural science*, a science of which the dawn at present manifests itself, and of which the perfect day will ultimately illumine our posterity.

For the Farmers' Cabinet.

Anecdote—Recovery of a Stolen Horse.

Many years since, a gentleman residing in Maryland had a very fine and valuable horse stolen from his stable; he advertised and sought for him in vain, but could hear nothing of him. About a year afterwards, being on business in the city of Philadelphia, he saw a person riding the stolen horse in the street; he followed him to a tavern, where the horse was put into a stable by the hostler. The gentleman being at a loss how to proceed to recover his property, inquired for a lawyer, to whom he might resort for legal advice. He was referred to John Ross, an attorney of considerable celebrity, to whose office he repaired in great haste, being fearful that the horse might be removed before he could take possession of him. Mr. Ross was out, but, nothing daunted, he communicated his business to a *black servant* who was in waiting. The black man with great coolness and composure told him, that he thought he could give him the desired information; and immediately took down from the case a large book, and began to turn over the leaves; and, finally, after an apparent deliberate examination of the case, (for it afterwards appeared that he was unable to read a word,) he stated, that my lord Coke says, "a man may take his horse wherever he can find him." The gentleman inquired the fee, was told half a joe, paid it down, and was off in an instant to the stable, claimed, and took possession of the horse without obstruction, for the person who brought him there was glad to be permitted to depart without molestation. Being much pleased with his success under his legal adviser, he returned to the lawyer's office to make report of it; by this time the principal was in, and he informed him of his case, and of his previous call, the valuable legal assistance he had received, and of its efficacy in procuring the restoration of his long-lost favourite horse. After he had left the office, Pompey was called in and questioned; he pleaded guilty to the whole as stated; when his master asked him what fee he had received, he said a half joe; "well," says the master, "give me one half of it." This was instantly done, and so the case ended. The owner getting his horse; and the lawyer and his servant each receiving four dollars.

O.

How easy is it for a man to be happy, if he seeks only to procure true content in the fulfilment of his duty, instead of following after the phantoms of happiness and grandeur, which he never ceases to present to himself!

Domestic Economy.

Potash and soda are the two common and abundant alkalies used in every family every day. The first in the form of soap, pearl-ash, sal-ætatus, quick-ley, saltpetre, &c. The other in the form of common salt, (muriate of soda,) and sometimes in other combinations.

Lime and magnesia are called alkaline earths: the former is frequently put with ashes in leach tubs, where it absorbs the carbonic acid combined with the ashes or potash, and by that means gives it greater power in acting on the grease or oily matter used for the soap. It is more effectual than red-hot horse-shoes in keeping witches from the soap; and is more certain than either the new or full moon, in gratifying industrious housewives with "good luck" in this branch of domestic economy.

Acids and alkalies neutralize each other. Consequently, if an accident occurs from vinegar, sulphuric acid, (oil of vitriol.) nitric acid, (aqua fortis,) muriatic acid, (spirit of salt,) or any other acid, apply potash, soda, ammonia, quick-lime, magnesia, or some alkali, or alkaline earth.

If an accident occurs from an alkali, apply vinegar, or a weak solution of some of the stronger acids.

By a knowledge of the properties and the relations of the two classes of substances constantly used by house-keepers, stains on garments can frequently be removed or prevented, cooking improved, and frequently life saved.

Oxygen is the vital portion of the atmosphere, and the agent which supports respiration, sustains combustion, produces rust on metals, changes the juice of the apple, first into sugar, then alcohol, then vinegar, and finally putrefaction; causes light and sour bread; darkens the shade of certain colours, and destroys others, and produces some influence on every thing at all times.—*Genesee Farmer.*

By the constant exercise of a farmer's life, the circulation of the blood becomes more free, from the fluidity being greater; whilst meditation requires a more sedentary and tranquil life, which thickens the blood, and occasions a languid pulse.

Something is due to the climate and to the natural soil of the islands of Great Britain and Ireland, that their agricultural productions are better than ours; but more is due to the better preparation, the higher manuring, the *more perfect ploughing*, and the generally greater pains taken there in the cultivation of the earth.

To the Editor of the Farmers' Cabinet.

English Bean.

Sir,—I find mention made in some of the agricultural papers, of the English field or horse-bean;—Mr. Webster has noticed it also in one of his addresses, as a valuable crop; and others have given their opinions that it might one day become a staple article of field culture in this country. I have grown largely of this crop, and from what I have observed, I do not believe that it can be cultivated here to any good purpose, as it delights only in stiff and naturally cold soils, which, after high cultivation however, produces and supports very large crops of this plant; and the careful hoeing and cleaning which it always obtains, fits the land for the finest seed bed for wheat, imaginable.

In the wealds, or clays of Essex and Kent, it forms a very large portion of their routine or course of crops; and the yield is sometimes very great, but upon the whole, it is an uncertain crop, being liable to a blight while in bloom, which will at once deprive it of half its yield, and often more. I have known the crop to grow to the height of six feet, and be covered on both sides the stalk with the finest pods; while I have seen thousands of acres not more than eighteen inches in height, with not a pod scarcely in a yard. The yield depends much on the state of the atmosphere, and the plants love moisture, and a cool heavy soil, two things that this country—I am now speaking of the latitude of Pennsylvania—does not naturally supply. It is a very valuable crop when free from blight; I was accustomed to cut it up for chaff for hard working horses without thrashing the stalks, when cut very small, yielding a most hearty and palatable food, especially when mixed with the bean in pod; and with them too, I have cut oats in the straws; this mixture was the best and cheapest food I ever used, excellent as an accompaniment with turnips or beets for cows and sheep in the winter.

The horse-bean requires very early planting in drills in the spring, on a stiff and well manured soil, and after the most careful culture, with two hoeings, does not always pay the cost. It is always late in harvesting; I have often known the crop, after being cut in the field, covered with a foot or more in thickness with snow; and once in particular, I remember seeing the last of a crop of them carried to the barn on the 24th day of December—the day before Christmas day;—they are not apt, however, to be injured by exposure.

I believe the idea entertained in this country, that the horse-bean is a particularly exhausting crop, is erroneous; its large and

woody tap-root is supposed in England to draw its principal nourishment from the sub-soil, leaving the surface in a degree unexhausted, and in a fine pulverized state, arising from repeated hoeings and cleanings, a capital seed-bed for wheat.

Here is an extract from Boys' Survey of Kent (England), on the alternate crops of beans, with which—as practised in the Island of Shepey—Mr. Boys cultivates the fine farm of Betstoanger, consisting of thirteen hundred acres of stiff land.

“The general rotation here is, beans, wheat, alternately: and when the land gets foul, or the farmer thinks it wants rest, he substitutes a fallow for the bean crop, but which is not oftener than once in six or eight years. The land is ploughed in the winter for beans, which are planted as early as possible in the spring, in rows about twenty inches asunder, and the crop is well horse and hand hoed. They are harvested as in other places, and the stubble, ploughed only once, is sown with wheat as early as the beans are removed. The wheat which is thus produced, is the best which goes to the London market, and frequently weighs 64 lb. per Winchester bushel; and from its early harvest, is of a fine bright colour, the bean being remarkably thin. The beans are also a first-rate sample, and both are large crops, when the land is kept clean and in good order.”

Judging from the above, it is not believed that the English horse-bean is a crop that will ever be adapted to this country and climate.

JOHN KENNET.

May 24th, 1840.

Age of Sheep.

The age of a sheep may be known by examining the front teeth. They are eight in number, and appear during the first year, all of a small size. In the second year, the two middle ones fall out, and their place is supplied by two new teeth, which are easily distinguished by being of a larger size. In the third year, two other small teeth, one from each side, drop out and are replaced by two large ones; so that there are now four large teeth in the middle, and two pointed ones on each side. In the fourth year, the large teeth are six in number, and only two small ones remain, one at each end of the range. In the fifth year the remaining small teeth are lost, and the whole front teeth are large. In the sixth year, the whole begin to be worn; and in the seventh, sometimes sooner, some fall out or are broken.

Praise large farms, but cultivate small ones.

Seed Wheat.

At a meeting of the Philadelphia Agricultural Society, on the first day of May, Mons. Vilmorin, one of the most extensive seed dealers in Paris, presented to the society, by the hands of Mr. John Vaughan, twenty-two parcels of different varieties of wheat for trial: they are the produce of different countries and climates, one of them from Odessa. They are deposited with the Editor of the Farmers' Cabinet for distribution amongst farmers, under the condition that they will give an account to the society of experiments made with them.

Irrigation.

Upon the borders of Sherwood Forest, (England,) are the water meadows of which he was speaking; a little river ran through the forest in this part, at the bottom of the valley, with sides moderately sloping, and of considerable extent, between the river at the bottom, and the common level of the surrounding country above. This little river, before reaching the place, ran through a small town, and gathered, doubtless, some refuse matter in its course. From this river the water was taken, at the upper end of the valley, conducted along the edge or bank, in a canal or carrier, and from thence, at proper times, it was suffered to flow out very gently, spreading over and irrigating the whole surface, trickling and shining when he saw it (November) amongst the light green of the new-springing grass, and collected below into another channel, from which it was again let out to flow, in like manner, over land lying still further down towards the bottom of the valley. Ten years ago, this land, for production, was worth little or nothing; he was told that some of it had been let for no more than twenty-five cents per acre: it has never been manured, and is yet now most extensively productive. It is not flooded; the water does not stand upon it, it merely flows gently over it, and is applied several times in a year to each part—in March, May, July, and October. In November, when he saw it, the farmers were taking off the third crop of hay cut this season, and that crop was certainly not less than two tons to the acre. This last crop is generally used as green food for cattle: when he spoke of tons, he meant tons of dried hay. After this crop was off, sheep were to be put upon it, to have lambs at Christmas, so as to come into market in March, when they command a high price: and upon taking off the sheep in March, the land would be watered, the process lasting from two to eight or ten days,

according to circumstances, and repeated after taking off every successive crop. Now, although this water has, no doubt, considerable sediment in it, yet the general fact shows how important water is to the growth of plants, and how far, even, it may supply the place of other sources of sustenance.—*Webster's Speech.*

It is a fact, however, that the grasses growing on those watered meadows are quite of a different species from those indigenous to a dry sand upland soil; and this accounts for the numerous crops which they yield—the herbage is peculiarly coarse and long. Thousands of acres of the most productive water meadows, could be formed, comparatively at little expense, in many parts of our country.—*Ed.*

To the Editor of the Farmers' Cabinet,

Tare.

Sir,—In the "American Farmer" for the present week, there is honourable mention of the English tare, the most valuable crop that can be cultivated on a farm for summer soiling; but as it is evidently written by one who has not had the means of an intimate acquaintance with it, it is not wonderful that there are some inconsistencies in the account; the writer, however, deserves all praise for bringing it into notice, and it only remains to be put to the test of experience, when its superlative value for soiling all kinds of cattle will be made manifest.

The writer observes, "there is no hindrance in our climate to its cultivation," and yet he adds, "it is doubtful whether tares sown in the fall or autumn would survive our winters." He also says, "tares are of two kinds, winter and spring, but not distinguishable from the appearance of the seed." Now, every one acquainted with the subject knows, that there is a very marked difference in the appearance of the seed of the winter and summer tares, the first being round, small, and black; the latter much larger, flatter, and light coloured; and it is very generally believed, in the tare-cultivating districts, that the winter variety will not produce large crops if sown in the spring; nor will those of the summer variety, if sown in the autumn, even should they survive the winter; and I have been led to make the same remark.

Professor Low observes, very justly, "it is one of the most esteemed crops of England, when used as green forage; they are cut for this purpose after the pods are formed, but long before the seed is ripe;" but he is very wrong when he adds, "being in the class of crops not allowed to mature their seeds,

they are not exhausting to the soil ;" for it is well known that *all crops* begin to exhaust the soil when they begin to bloom, as the blossom is not furnished with any return sap-vessels : the custom of cutting as soon as they begin to blossom, however, obviates very much this objection. In the sheep-breeding countries, it is customary to feed off the tares by folding them with sheep by means of trundles, and if this is commenced early in the season, a second growth takes place, which gives an additional crop of great luxuriance. This is not, however, a mode of management to be recommended, for another important use of the tare culture is, to do away with the necessity of naked summer fallowing; and to this end they should be sown as early after harvest, on those lands designed for the wheat crop the next autumn, as possible : and if they are mown off and given to the cattle as soon as they are fully grown, and the land ploughed up as they are cleared, there will be sufficient time to give it a thorough cleaning before the time of wheat sowing, a preparation for that crop superior to almost every other, especially if the land has been manured for the tares, which it should always be, if possible, as it enables the crop to overcome the weeds, and to add exceedingly to the *size of the dunghill*; and it is remarked, that wheat after tares that have been manured for, is not liable to be affected by rust.

By the turnip and tare culture it is, that the system of naked fallowing is entirely done away in England. The turnips on light lands, the tares on heavy soils, each furnishing sufficient opportunity to clean the land thoroughly, before sowing barley after turnips, or wheat after tares. Arthur Young's observation, "that not a tenth of the stock could be maintained without them," is nothing but the truth; and they will fatten horses, cattle, sheep, and hogs, without any other food, especially if they are allowed to perfect their seed—by which, however, is not meant to ripen it.

Tares produce more green food than the best meadows, and the land may be cleared of them in June, time enough for a crop of turnips, or even potatoes, or of being prepared for wheat. They will fatten all kinds of cattle, suit every soil and climate, and on good soils will produce twelve tons of green food per acre. Winter tares are sown from the middle of August, to the middle of October, two bushels or two bushels and a half per acre. Spring tares may be sown from March to midsummer.

They begin to blossom in May, when they should be mown and taken to the cattle in the stables until they pod, when the remainder should be made into hay; whilst

making into hay, they require a good deal of sun; rain is very injurious. If all the farmer's stock is kept upon them while green, they are taken off the grass land, consequently, there will be more grass to make into hay; and they should be sufficiently plentiful to keep the cattle on them until after hay-making, when they might go into the mown meadows. Good land, well manured, will yield ten tons green per acre, which will make three tons of the best hay on the farm. If preserved for seed, they have been known to yield forty bushels per acre, and sell from one dollar to seven dollars per bushel, according to the seasons. They are of such infinite importance for summer soiling, that Mr. Davis, of Beddingham, England, says, he could not maintain one-tenth part of the stock he does without them. This plant maintains more stock at that season of the year than any other whatever. Upon one acre of tares he can maintain four horses, in much better condition than upon five acres of grass; upon eight acres he has kept twelve horses and five cows for three months—June, July, and August, and no other food given them. Cows give more butter while feeding on them than on any other food."

I have sown crops of tares in succession during the spring and summer; the last sowing, on the 21st day of June, proving a heavy and most valuable crop for soiling working horses on a rail-road until the month of September—these were raised upon land which had been cleared of turnips in the spring and early summer, and which was sown upon the same by the 29th day of September.

JAMES BEYNON.

May 15, 1840.

Maternal Affection.

A mother's love is synonymous with immortality. Other affections may be overcome, other feelings may be seared by apathy, or frozen by neglect, but this yields not to the power of change: it lives on, unconsumed by time, and uncongealed by the breath of forgetfulness. Whether the tear which rises from its fount sparkle in the beams of prosperity, or glisten like the dew-drop of winter on the withered remnants of the summer's pride, it is alike pure—alike the overflowing of a feeling which cannot die, and cannot be overcome.

A farmer can seldom do better, when moving into a new situation, than observe the practice of his most successful neighbours, especially if he is obliged to employ labourers obtained upon the spot; it will be easy afterwards gradually to resort to his own ideas.

For the Farmers' Cabinet.

Premiums for Crops.

At a meeting of the Philadelphia Agricultural Society, held June 3, 1840, the following premiums for crops were fixed and determined; and directed to be published in the Farmers' Cabinet.

For the best field of Indian-corn, not less than five acres.....	\$ 10
For the second best.....	\$ 5
For the best crop of spring wheat, not less than two acres.....	\$ 10
For the second best.....	\$ 5
For the best crop of potatoes, not less than two acres.....	\$ 10
For the second best.....	\$ 5
For the best crop of sugar beet, not less than one acre.....	\$ 10
For the second best.....	\$ 5
For the best crop of mangel wurzel, not less than one acre.....	\$ 10
For the second best.....	\$ 5
For the best crop of ruta baga, not less than half an acre.....	\$ 10
For the second best.....	\$ 5
For the best crop of field carrots, not less than a quarter of an acre.....	\$ 10
For the second best.....	\$ 5
For the best crop of sugar parsnips, not less than a quarter of an acre.....	\$ 10
For the second best.....	\$ 5

Competitors will be required to notify the committee at least one month previous to housing their crops; and each competitor must furnish the committee with a written account of the manner of cultivation, kind and quality of manure, character and kind of soil, as nearly as practicable, and expense of labour bestowed on each crop; they must also furnish satisfactory evidence of the quantity produced per acre.

GEORGE W. ROBERTS,
ROBERT T. POTTS,
JAMES THORNTON,
ISAAC NEWTON,
ISAAC W. ROBERTS,
DR. GEORGE UHLER,

Committee on Crops.

For the Farmers' Cabinet.

Notice.

The fourth Annual Report, on the Geological survey of the state of Pennsylvania, is published: it is an important and interesting work. The geologist expresses his opinion, that the researches in the field will be

brought to a close by the first day of April, 1841, at the expiration of the five years for which the appropriations were granted by the legislature; and that an extra session of six months more will, he hopes, suffice for the production of the final report, the completion of the geological map of the state, and numerous illustrative drawings; with chemical analyses of ores now carrying on, and an organization of a Geological Cabinet, containing between six and seven thousand specimens.

The present report, 215 pages of interesting matter, contains elaborate descriptions of our mineral resources, particularly coal, iron, and limestone; and the sixth chapter, the last, is devoted to the various analyses of iron ore, referred to the body of the report, amounting in the whole to one hundred and four distinct analyses. We regret exceedingly, that another chapter had not been added, to contain the various analyses of limestones throughout the state; but as these are promised at the fulfilment of the work, we must await the issue, in the hope of receiving a very full and particular account, the importance of which, to the agriculturist, is scarcely to be fully appreciated, at the present moment of anxious inquiry.

The quantity of rain which fell during the 5th month, (May,) was..... 2.69 inches.

JOHN CONRAD.

Pennsylvania Hospital, June 1, 1840.

Notice to Correspondents.

Mr. Peter Diehl's notice has been handed to the committee; in the present number of the Cabinet he will find the amount of premiums specified.

T. W. will please forward us the papers.

R. M. will find his suggestions anticipated.

Will "Weed Puller" inform us of his place of residence?

A. D. will hear from us.

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From the Visitor.

Draining and Sub-soil Ploughing.

The value of deep trenching of the soil seems not to be generally understood in this country. In the renovation of lands that have long been cultivated, there cannot be a doubt that the stirring of the under or sub-soil, where it is hard, and the bringing it gradually to the surface, *as fast* as a qualifying stimulant to the soil can be furnished in each season of cultivation, to be mixed with the under soil—but *no faster*—will be the most effectual method. In England, this principle of cultivation—applicable to every country under heaven—is operating in a vast increase in the products of agriculture. We are not, in this country, far enough advanced to be able to profit much by this system, yet we do not doubt, if labour should be applied to land of little value, in under-draining and sub-soil ploughing, it would turn in the end to immense profit. We lately passed a spot of ground near Worcester, Massachusetts, which was purchased about two years ago, for the use of the Insane Hospital at that place—the price of the land, from its contiguity to the village, was eighty dollars an acre. It was a rocky hillside, the upper part of which furnished pasture, the lower part being a heavy soil, through which cold springs oozed from the surface, producing little or nothing in its natural state. Ditches have been dug on this land, at suitable distances, for carrying off the water; and in these ditches, below where the plough ever strikes, were placed the many stones, which could well be spared from off the land. The field has been ploughed deep, and after the application of no very extraordinary quantity of manure, it was laid down to grass; and the result is, a product of from two to three tons of excellent hay per acre; and while passing this ground in April, it might be distinguished from the surrounding crops,

by a more forward vegetation.—We add the following “on draining,”

FROM AN ENGLISH PUBLICATION.

I am of opinion that small stones form the best filling for drains, both as to efficiency and permanency; and are cheapest, where stones are plentiful; the draining tile, however, is a very ready mode, and applicable in clay districts. It is painful to witness the practice, still very common, of filling drains too near the surface either with stones or tiles; for it is obvious, that the deeper the drains, the better they draw; and as all drained land ought to be sub-soiled with the plough, working across the drains, these, if filled nearer than about eighteen inches to the surface, will be in danger of being injured by the foot of the plough in passing. After the draining has been completed, the land may be seeded with oats, and after the crop has been removed, then is the time to go over the whole field with the sub-soil plough, crossing the lines of the drains at about right angles. I have been often asked if I would recommend sub-soil ploughing of land that had not been first drained? to which I answer, *certainly not*, for until there is an escape for the water through the sub-soil, any opening of it would rather tend to injure, than to improve the soil; these openings may, however, be *sometimes* found, where the sub-soil consists of gravel or sand, forming a crust over a lower stratum of loose sub-soil, when the sub-soil plough might provide a passage for the water, and leave the incumbent sub-soil open for melioration; but draining ought always, to make sure of success, to precede the use of the sub-soil plough. *Thorough draining* is the foundation of all good husbandry; and when combined with deep ploughing, insures a general and uniform fertility, assisted no doubt, by the essentials, *thorough working and cleaning, ample manuring, and a proper rotation of crops*—the four cardinal points of agriculture.

It is hardly possible to estimate all the advantages of deep and dry land—every operation in husbandry is thereby facilitated and cheapened; less seed and less manure produce a full effect, and the chances of ob-

taining a good and early tilth or seed-bed, are greatly increased; and there can be no doubt that even the climate itself will be much improved by the general prevalence of dry and deep land. Since the introduction of this great improvement into practice, the intrinsic merits and evident results of the system have raised its character, even with many of its former opponents. All who have ever studied or experienced the most common culture of a garden, must be aware of the advantages of deep working, and when this can be obtained in the common field culture, they will readily believe that crops will be more than doubled in every succeeding grain crop, and abundantly, even in pasture; the cattle feeding upon which will be relieved from those epidemic complaints, murrain, &c., which, it has long been ascertained, are to be attributed in a very great measure, to wet and unhealthy pastures, upon which fogs will hang for hours after they have been drawn off and evaporated from dry and healthy meadows and pasturage. When land has been thoroughly drained, deeply-wrought, and well-manured, the most unpromising and sterile soil becomes a deep and rich loam, rivalling in fertility the best natural land of the country; and from being fitted for raising only scanty crops of common oats, will produce good crops of from thirty-two to forty-eight bushels of wheat, forty to sixty bushels of barley, and from forty-eight to seventy bushels of early oats, besides mountains of root crops, which all good agriculturists know, are the abundant producers of mountains of manure. There is no want of employment for all spare labour and capital of the country in the *general, thorough cultivation of the soil*; and if properly conducted, it will afford ample remuneration to the individual possessors and farmers of the soil; while the wealth of the country, its health, its morals and happiness, will be increased a hundred fold.

The cultivation of the inferior soils, will tend to lower the value of the high-rented lands, but the general value of them will be much increased; whilst the varieties of agricultural produce can be afforded at a lower rate, thereby affording a cheaper sustenance to the manufacturer and artisan.

The knowledge of agriculture is still in its infancy; often has it been thought, during the progress of manufactures, that the perfection of these arts had been attained, when, by the application of science, capital, division of labour, or industry, or all these together, some new and extensive step was gained, whereby the cost of production was cheapened; then followed a lower selling price to the consumer, and *immediately the field of consumption was extended!* In most

of these cases, these steps of improvement were urged more by the necessity arising from low profits and extensive rivalry, than from the encouragement of high profits and extensive demand; and so it is now operating with the agriculturist—during the reign of high prices, any sort of farming was sure to pay, but now, when prices are low, nothing but skill and industry, and a well-regulated system of management will do; and since high prices are scarcely to be looked for, the only trust of the land-owner and the farmer is in the use of every means to produce their articles cheaper and in greater quantity, *from the same extent of land*. From the progress which the new system of husbandry, and especially drainage, has made, the lists are fairly entered by the hitherto considered poorer soils against the rich; the rivalry cannot be stopped, and the result will shortly be, a greater agricultural advancement throughout the country than has ever before taken place; the grand natural promoter, *self interest*, will in due time work out the result.

From the Southern Cabinet.

Durham Cattle.

It is affirmed that the Durhams are too delicate in their construction, require more feed, and are more unsuited to our climate, than any other breed of cattle—my experience is directly the other way—for under *proper* treatment, they have fulfilled here the respective characteristics they have borne elsewhere. All cattle imported, before they become acclimated, must undergo the same changes of constitution as foreigners, coming for the first time amongst us; and if you expect that cattle from Europe, where they are housed and fed on the richest and best food, shall keep healthy and fat when turned out upon our razor-shaved meadows and corn-stalk fields, you will be sadly disappointed. Most of us, at a very high price, import the Durham cattle when *fully grown*; their constitutions already formed, and accustomed to the climate from whence they came; and it is almost impossible for them to undergo, without serious injury, the change required here. Now, were we to import at a much younger age, the result would be very different; for, while out of twenty or thirty bulls and cows imported from Europe, the north, and Kentucky, during the past year, I know but of three or four now surviving, while of the same number of *calves*, I know of as few that have not stood our southern climate.

Three years since, I purchased in Charleston a Durham bull calf one year old; I

turned him amongst my common cattle, and only housed and fed him at night; he is now one of the finest bulls in the state; and his present owner informs me, that upon the common marsh-pastures he has kept fatter and in better health, than any of his common cattle. By this bull when but eighteen months old, I got twelve calves; the pasture upon which they have fed is bad, and yet they have grown to twice the size as calves from other cows by a common bull, and many of them at one year old were as large as their mothers. I now own a white bull, which I raised by the bottle until six months old, and then turned to pasture, feeding him as I did my other cattle; at one year old I put him to sixteen of my cows, and have, this season, sixteen of his calves; and though from common cows they are remarkable for size and beauty. One of these calves, from a very inferior cow, I sent to the market with two other calves from good eows, by a common bull—the calf by the Durham bull, although four weeks younger, brought twelve dollars, while the other two brought only eight dollars apiece. I hesitate not to say, the Durham cattle feed closer, live on coarser food, grow larger, and give more milk than any other cattle which can be produced in our climate; their butteraceous qualities, like those of all other breeds, depending on the quality of the food they get. I once owned a Durham cow, which, by a particular mode of feeding, I could make give thirty quarts of milk a day, and yet the same milk would not yield as much butter as when I fed her to give but twelve or fourteen quarts. I have also some calves from the most beautiful Devon bull ever brought to this country, but they are not equal to the Durhams. I have a full-blooded Durham heifer, two years old, which has been raised entirely upon one of the poorest pastures in our low country, which for size, beauty, and every other qualification, I can place against any full-grown Devon, Ayrshire, or other cow I have ever seen; and yet, from a calf, she has lived on the common pasture, has scarcely tasted corn or grain, and both she and the young bull live on the same pasture with my other cows, and are more thrifty.

It is said, that to have this breed of cattle in their fullest perfection, you must feed high—so you must—but in the low country, where we must have a large herd of cattle, we cannot afford to do this; must we then, on that account, have nothing to do with this valuable breed? by no means, for if we cannot obtain them in the perfection in which they are found in Europe, we may, nevertheless, introduce them to improve our common breed, and any one who will do this only, will obtain much. For one hundred

dollars, a Durham bull calf of the purest breed can be obtained in Charleston; at one year old he is fit to put to cows, and from what I have witnessed, I think the get of bulls at this age the best: I have tried them from one to five years of age, and find the calves of the former *always* the finest in form and size, and have satisfied some of the most skeptical upon this point, although, when I first advanced this doctrine, I was laughed at, because contrary to the *experience of the country*: and every one, who will pay attention to the matter, will find, that even amongst his common cattle, the finest calves are by his youngest bulls, and my old cow-driver, who has had forty years' experience, vouches for this fact. I am opposed to none of the other breeds of cattle, the object of this being to prove, that the introduction of fine cattle amongst us will improve our native breeds, and that too, on our worst pastures. From my own experience then, as well as that of others, I am fully convinced that calves bred from Durham bulls, will suffer drought, inattention, and even *starvation*, better than calves from the native breeds.

B. R. CARROLL.

Root Culture.

The raising of roots for cattle and swine is yearly becoming more common; this is an improvement in our husbandry. Taking a succession of years, and a variety of kinds, roots may be raised at an expense of twelve and a half cents per bushel, perhaps for less. As aids in working off the coarse kinds of fodder, while the stock is kept in good condition; as means of increasing the quantity of milk, beef, pork, and butter, on the farm; and not least, as agents in enriching and increasing the manure heap, they fully repay the expense which obtains them. Taking cost and worth into the account, perhaps neither the ruta бага, sugar beet, or carrot, is to be preferred to the exclusion of others. Let them all be cultivated; but for milk cows the sugar beet will probably be preferred, for horses and swine the carrot. One winter's trial with two horses has proved, that a peck of carrots per day is quite as good for a horse as four quarts of oats; and when boiled, swine thrive well upon them. One-eighth, and perhaps a larger portion of all the land which a farmer cultivates, may profitably be apportioned to the root culture.—*Franklin Farmer.*

The more pressing is the *call*, the more ought we to be convinced of the necessity of paying immediate attention to it.

Dialogue Continued—Cultivation.

Sykes.—Poor Grabb! he's a kind-hearted man, truly; but if his father had not lived before him, and left him at his death, the fine farm which he so miserably manages, he would, by this time, have been in the almshouse. It is a pity, however, that he did not do a little in the way of cultivating his son's *mind* at the same time—his *sub-soil* must be in a wretched state, I guess. Well then, neighbour, my team shall be here by peep of day to-morrow, to join yours; and as I wish to drag, and roll, and harrow, three times in a place, the field designed for turnips, we must make up our mind to stretch a point, and complete it before we leave; and they can then collect the weeds and burn them the next day. My heart aches when I look at the poor widow of an excellent friend, and her bereaved little ones, and I have made up my mind and my vow, if God spares me, to assist her in her trouble, until her fine lad is capable of taking a father's place, and work for his poor mother and sisters.

Father.—My noble friend, I must partake with you in that luxury, and I shall not only be ready and willing, but be *glad* to meet you at any time with heart and hand!—God bless you—good bye.

Frank.—What a contrast! I think, however, that there must be a difference in the nature of the *tree* as well as the soil—the fruit is so very unlike.

Father.—No doubt there is, but cultivation will always work wonders.

Frank.—How droll to hear Grabb talk of a song! It must be a gloomy one to fit his state of mind; I should like to hear it.

Father.—And so it is—words and tune: it is one of Dibdin's happiest efforts; and you must fancy it, sung in the most doleful strain, to a tune in the minor key.

We bipeds, made up of frail clay,
Alas! are the children of sorrow,
And though brisk and merry to-day,
We all may be wretched to-morrow.
For sunshine's succeeded by rain—
Then, fearful of life's stormy weather;
Since pleasure can only bring pain,
Let us all be unhappy together.

Frank.—Capital! but how would you reclaim a soil so sour, cold, and sterile, and which produces such crabbed fruit, as that of which Grabb is the similitude?

Father.—Oh nothing is easier or more agreeable: I would remove the soil from about the roots to a good depth and distance, and fill the opening with fresh mould, mixed with a copious supply of lime; prune very close, and leave the event, trusting to the sweetening influence so beautifully expressed by the Methodist preacher, "lime to a sour,

stubborn soil, is like the grace of God to a wicked man's heart."

Frank.—I should like to try the effect of such liming in Grabb's case, for, poor fellow, he is so miserable, that I expect he is as great an object of charity and commiseration as Mrs. Williams and her poor family—is there nothing that can be done for him?

Father.—I fear not.

Frank.—And yet, you said, cultivation will always work wonders.

Father.—That's good—and so it will: and suppose that I get Sykes to assist us to take him up and carry him, as though he were a *bereaved widow*?

Frank.—Oh! pray do, I will be answerable for him; at present he appears quite friendless and miserable, within doors as well as without—as he says.

No. 9. The rich and healthy surface and poisonous sub-soil. This is an interesting case—shall we take the beautiful Newington peach tree, which flourished so finely for two years in our garden, and died so prematurely last year? I think we shall find the analogy complete. That fine tree was trained with the greatest care in the nursery, until it was fit for transplanting into the garden, when the soil, a firm, rich hazel loam, was trenched, and cleaned, and limed for its reception. The first season after its removal, it bore much fine fruit, of the most delicious flavour, and large, handsome appearance, bringing them all to maturity, and perfectly ripening its wood. The next season it bore most abundantly, and made noble shoots, which required no pruning or heading back; its blossoms were remarkably large, and of healthy appearance; both fruit and wood were well ripened, and fully testified the care and attention which had been exercised in its culture from the first.

On the appearance of the blossoms the next spring, they were observed to be much smaller, and paler in colour; and although the fruit set well, many fell off when they were the size of peas; and at midsummer, many of the under leaves withered, and fell from the branches. Before Michaelmas, the colour of the foliage had completely changed; the fruit ceased to grow, and the tree was declared to be infected with the disorder, called the *yellow*s. The worms had made sad havoc beneath the bark near the ground; nor was it a matter of surprise when, on the opening of the last spring, not a bud or blossom made their appearance—the tree was quite dead. On removing it, I was determined, if possible, to learn the cause of such premature decay and sudden death, and therefore very carefully removed the earth from about the roots, laying them quite bare, without wounding them. All appeared

healthy, and the soil in the finest condition imaginable, until I discovered, that a small and tender root had extended itself, until it had reached a small oozing of water, the colour of the rust of iron, which proved to be the head of a mineral spring of the strongest quality. This small root was decayed, for a considerable way towards the body of the tree, and at least three feet from the source of the evil; and this was, no doubt, the cause of the disease and death of the finest tree I ever saw.

Frank.—How very strange, that so trifling a circumstance as the point of a small root reaching a little water at such a distance from the tree, should be the cause of such sudden destruction!

Father.—It is; but to show you how certainly this *was* the cause, I will copy from our favourite Tull an account of some experiments, which he made expressly with the view of showing the truth of the position, that vegetables will take up and circulate indiscriminately, the most deleterious, as well as the most wholesome substances; and that they often do, to their destruction.

Exp. 1. "I put a mint stalk into a glass of water, but I immersed *one string* of its roots, being brought over the top of that glass, into another glass of salt-water, contiguous to the top of the other glass—this mint very soon died.

Exp. 2. I put the upper root of another root into a small glass of ink—this plant was also killed by some of the ink ingredients.

Exp. 3. I made a very strong liquor, with water and the bruised seed of the garlick, and placed the top of it close to the top of another glass, having in it a mint plant, two or three of whose upper roots put into this stinking liquor, and there remaining—it killed the mint in some time; and when the edges of the leaves of the mint began to change colour, I chewed many of them in my mouth, and found at first the strong flavour of the mint, but that was soon over, and then the nauseous taste of the garlick was soon perceptible." So, you see, how readily plants, whose roots reach to a poisonous sub-soil, imbibe and circulate to their destruction the deleterious matter. I once grew some turnips on land having a wet sub-soil, and on storing them for winter use, I observed that the point of the tap-root of every one was decayed; but as that was not near the bulb, I did not consider the circumstance of any consequence. On opening the pit in the winter, however, I found that three parts of them were rotten, and the stench arising from them had infected the remainder, so that the cattle refused to eat them.

Frank.—How satisfactorily you have ac-

counted for the decay and death of our favourite tree! what a pity that you could not have ascertained the cause during its life-time, as it might so easily have been prevented, merely by dividing that small root from the body of the tree!

Father.—Truly; but the lesson has not been lost upon us, for you know I have recovered many trees that have been infected by the yellows and worms, by trenching and dressing the water with lime, and removing the bad soil from amongst the roots. And now, do you know any young and promising individual, whose untimely death might be likened to the decay and death of our favourite tree?

Frank.—Yes, Henry Templeton.

Father.—Exactly—of an excellent and highly-respected family, he was the brightest hope—an only son—with a mind and body cast in beauty's mould, he was truly "the observed of all observers:" even in the nursery his education had commenced; and the wisdom displayed by his amiable parents in this particular, was crowned with perfect success. His youth was spent in acquiring knowledge of the most useful and valuable kinds; and the commencement of his public life, which might be compared to the planting out our tree from the nursery, was hailed by his friends with the brightest expectations. We well know the esteem and respect which he won from all who knew him, while his gentle, and amiable, and refined manners, were the admiration of every one. I remember the time when he commenced the study of the law, under counsellor S., and how fortunate his family considered him in the choice of his fellow-student, Charles E., as his particular friend—alas! that very circumstance proved the total ruin of him, and the hopes of his family; for Charles E. was a young man addicted to every species of vice and wickedness, and possessed of the most consummate hypocrisy! on one fatal evening he prevailed upon Henry to accompany him to the gaming-table, and his destruction was sealed.

In a short year from this time, he returned to his father's house, an emaciated being—his health destroyed, his mind frenzied, and in the last stage of consumption, only to sigh out his soul in penitence in the arms of his broken-hearted parents and sisters! Poor Henry Templeton! one small root, penetrating to the poison in the sub-soil, was the cause of indescribable suffering, misery, remorse, anguish, and death to himself, and distress unspeakable to his tenderly attached family, and a numerous circle of young and much-loved friends.

Frank.—Poor Henry Templeton! who would have thought that we could find so

true a portrait of him in our beautiful and unfortunate peach-tree!

Father.—But here is one more soil for examination.

No. 10. It is, to appearance, a happy mixture, and in the highest state of cultivation; but the tree which is planted in it makes no progress. It is not diseased, but can scarcely be called healthy; it blossoms in season, but seems not to possess energy sufficient to bring its fruit to perfection; and although when produced it is fair to the eye, it has little flavour, and soon perishes. Its shoots are not deformed, nor do they require much pruning; but the foliage has a weak and tender appearance, although it cannot be denominated sickly. Its bark is thin and clean; and its foliage does not fall or change colour prematurely, but it makes no progress—there is no strength in its growth, and yet there is no sensible defect—an ornamental tree, but of very little value, although of the choicest fruit-bearing species.

Frank.—Why, what can be the matter with the tree, then?

Father.—Nothing—the matter is in the soil, which has been too highly manured, and made light and porous by such frequent dressings—in fact, this tree might be compared to a rich, indolent, unemployed young man, eaten up with *ennui*! no disease, but no health—no pain, but no pleasure—with energy sufficient to put forth a blossom, but not enough to bring it to perfection—no fear of dying, but no hope in living—blameless, but praiseless—does no harm, nor any good, and may as well be dead as alive!

Frank.—Well, I would not be a gentleman if I could! But how would you set about curing such a nameless disease?

Father.—I would try it with affliction. I would open the ground about the roots, amputate some of them, and mix clay and lime with fresh strong loam for filling in; and then I would prune close and hard, shrouding the branches pretty close to the body of the tree, and await the result with confidence.

Frank.—Well, these would be pretty hard lines, as Grabb says.

Father.—Yes, but I have known many such characters, who have had abundant cause to exclaim, “It is good for me that I have been afflicted.” You know there is the son of old Judge Thomson, who, while his wealth remained with him, has often complained of the trouble of eating, and could not bear the idea of walking abroad, even on the score of health; was charitably disposed, but could not prevail upon himself to use the least exertion, even were it to save a fellow-creature from starving: it is even said, that, when in a passion with his servants, he has declared that he would kick

them if it were not so much trouble! But the fire which destroyed his wealth, purified and sanctified his soul;—he is now happy because he is industrious; cheerful because usefully employed; and finds it no painful exertion to walk miles to render service to a suffering neighbour. He is now rich in good works and sound bodily health; and often exclaims “it is good for me that I have been afflicted!”

Let us close by reading Dr. Drennan’s beautiful hymn,

THE FRUITS OF BENEVOLENCE.

The husbandman goes forth a-field,
What hopes his heart expand!
What calm delight his labours yield,
A harvest from his hand!

The nobler husbandry of mind,
And culture of the heart—
Shall such with men less favour find?
Less genuine joy impart?

Ah! no—your goodness strikes a root,
Which dies not, nor decays;
And future life shall yield the fruit,
That blossoms now, in praise.

The youthful hopes, which now expand
Their green and tender leaves,
Shall spread a plenty o’er the land,
In rich and yellow sheaves.

Thus, a small bounty well bestow’d,
May perfect heaven’s high plan;
First daughter to the love of God,
Is charity to man.

’Tis he, who scatters blessings round,
Adores his maker best!
His walk through life is mercy-crown’d,
His bed of death is blest.

J. P.

Science.

The application of science to practice has convinced our most intelligent farmers of the great importance of mixing soils of various kinds—of the advantages of dressing sands with clay, and vice versa. They have been taught the great utility of conveying to the cattle-yards those soils which consist chiefly of vegetable matter, and of neutralizing their acid properties by mixing the same with lime; and no good farmer will neglect to have a plentiful supply of compost manure in his yard, or in large heaps in his fields; for this purpose he will collect all animal and vegetable substances within his reach. The profits of farming depend much upon the quantum of the nutriment judiciously mixed in the soil. By scientific investigations he may have the peculiar food which the several species of plants require. The composition of soils in the different parts of the Union, and even in different sections of the same state, present a great diversity, and this, although in all the same simple elements may be combined, the simple material elements being variously compounded,

even on the same farm, if it consist of hill and vale; and if the nature of these elements, and the vegetable matter of which they are compounded, are not understood by the farmer, his hopes of favourable crops will often be disappointed.—*Yankee Farmer.*

Beet Sugar in France.

The manufacture of beet sugar in France is still on the increase. The amount of duties received into the treasury for beet sugar, for the first quarter of 1839, was one million two hundred and sixty-two thousand francs; amount received the corresponding time of 1840, one million four hundred and forty thousand; increase in the quarter, one hundred and seventy-eight thousand francs.

Good Husbandry.

The editor of the *Maine Cultivator*, (Mr. Drew of Hollowell,) cultivates but a single acre of land, but this he does in such a manner as to obtain from it an astonishing amount of produce. The following account of the management of his garden will, no doubt, interest many of our readers:

One-third of an acre he devotes annually to corn—the long-eared, large kernelled, eight-rowed yellow corn, that is not very early, and not very late. With him it has ripened every ten years that he has cultivated it. The soil he makes rich. He applies to it, before ploughing, at the rate of eighteen or twenty cords of long manure to the acre, (or six to the third of an acre,) and turns it under by the plough. He plants the hills three feet and a half apart one way, and three feet the other—exactly by measurement with a line; in each hill he deposits either a shovel full of old rotted hog manure, or as much light manure as will not over-stimulate the crop. From this third of an acre he has realized, on the average for years, over thirty bushels of sound corn for grinding, besides a little gig corn for hogs in the fall of the year. This is as much corn as he needs in his family; besides a sufficient surplus for fattening one large or two small hogs. From the same land, he ordinarily obtains some two or three hundred pumpkins, which serve important purposes in the family, besides being an excellent article for boiling up with the hogs' potatoes, giving a cow, &c. From the same land, too, he has generally obtained all the dry white beans he has needed in his family to go with his pork—which he raises by the avails of his land, without purchasing of others. The corn fodder is carefully cut and cured, and helps as a subsistence for the cow. So much for one-third of an acre.

A small portion of land is set apart for the culture of onions. Ordinarily, he raises from fifty to seventy bushels on a bed, say half a dozen rods square. These he sells on the average at one dollar per bushel—say for sixty dollars per year. This purchases his flour and rye at common prices. So that from the first, the third of an acre, and an onion bed, he raises all his bread—brown and white.

On two other large beds, he grows generally about fifty bushels of mangel wurtzel and carrots. These are for the cow's winter provender. They more than pay for themselves in the milk and butter, to say nothing of the saving of hay and other provender. With a very little hay, together with the corn fodder and roots, a good cow—and he finds it economy always to keep the best—may be kept through the winter.

Potatoes for summer and autumn use are planted on the margins, and wherever there is a vacant chance for a hill; and a department is expressly devoted to them, large enough to raise all that are wanted for the table—and enough to spare for the hogs, &c.

So far relates to bread, butter, pork—and he might add, poultry.

Then the rest of the land is devoted to—too many things to mention here—beets, parsnips, cabbages, turnips, green beans, peas, green corn, cucumbers, melons, squashes, (summer and winter sorts,) &c. &c., besides fruits and flowers of various kinds—grapes, Antwerp raspberries, black do., currants, (white, red, black and yellow,) English and common gooseberries—and a few choice apple, pear, plum, cherry, peach and quince trees. All this is from a single acre, which he cultivates most with his own hand.

To the Editor of the *Farmers' Cabinet.*

Beech, for Water-pipes, &c.

Sir,—On a late visit to a friend in the country, I found that his household establishment, which is situated on a hill, is supplied with the purest water from a spring, rising in a meadow far below, by means of a forcing pump of the simplest construction, and which is put into operation by a small stream of surface water, which, falling into a box attached to a lever-beam, is brought down with such force as to be sufficient to displace the bottom, working on a hinge, by which the water escapes; the lever-beam then rises, being operated upon by a weight attached to the opposite end, and the process of filling the box commences afresh, with the stream which is ever flowing. I could not but admire the simplicity of the contrivance, which, although by no means a modern invention, might be made subservient to many

modern purposes of utility; for there you have the *motive* power, which by suitable machinery might be applied horizontally or vertically, and to considerable extent. Two or three of these machines, working alternately, would give a *continuous* motion, and might be made to reel silk or cotton, or even blow a blast to a *smelting furnace* . The force of that of which I am now speaking, exerts a power of three hundred pounds.

But my intention was to recommend, for the fabrication of all wood-work situated below the water, for this and other like purposes, the *beech* , as far more lasting than white oak, which is, I think, generally selected for this purpose. I have known it placed in the bottom of sluices and mill-ponds, as pipes and trunks, where it has remained for very many years undecayed; and I have seen it taken up for examination, and returned as sound as when first placed. I believe it is generally known that the beech tree is to be found growing near springs, and often with its roots submerged in the water, flourishing greatly.

SUBSCRIBER.

Speech by Dr. Hirzel,

Before the first Agricultural Meeting in Switzerland,
1763.

I have never in my life experienced a satisfaction equal to what I am sensible of at this agreeable moment, when I behold men of worth in the city and the country unite their common endeavours for the public benefit; and you, my friends from the country, must now be convinced that all our views centre in the discovery of such methods as may tend to augment the prosperity of our republic, by giving fresh vigour to the industry and activity of our labours, and endeavouring to instruct in the most certain rules for cultivating and improving the fertility of the soil. We have intelligence from all parts of the globe, from men of talents most likely to instruct us by their experience, and those of us whose circumstances will allow it, in order to be more sure, confirm this by trials of their own. I see we are all animated with the same zeal, and I expect the most happy effects to result from it for the general good of our beloved country; and, in fact, it is on *you* , my country friends, on whom the success of all our inquiries depends; all *speculation* will be fruitless, unless you perform your parts; it depends on your endeavours to render this a happy and a flourishing country, and your virtues, your candour, are a sure guarantee of your acquiescence; and you will then have earned the glorious title of benefactors to your country; you will then demonstrate that the occupa-

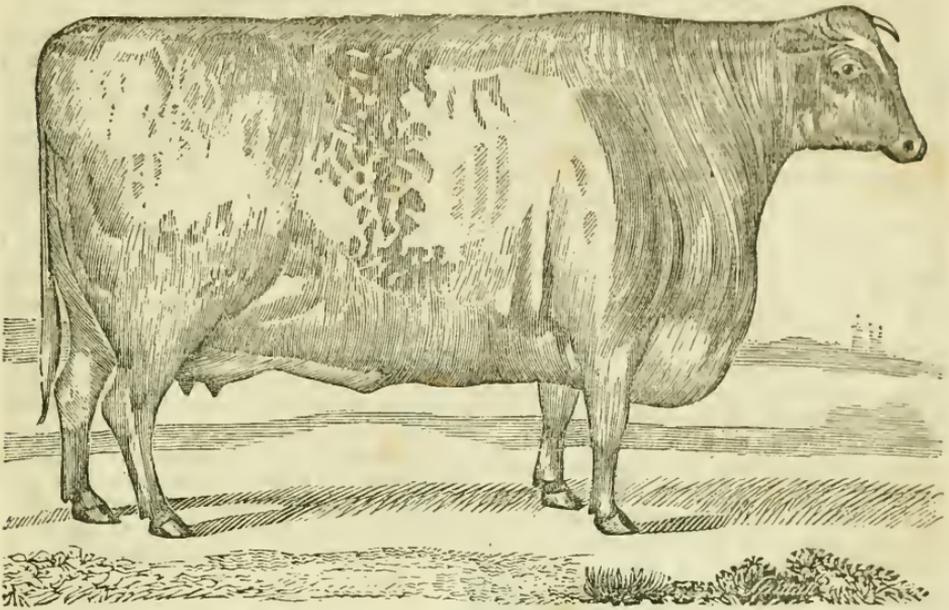
tion of the husbandman is, in its consequences, the most important and honourable of all that are exercised in civil society, and at the same time the most agreeable and satisfactory to fulfil; for what can be more pleasing than a perpetual contemplation of the works of the Creator, while breathing the pure air, and confirming the health of the body by exercise and labour, and beholding a happy fertility, the reward of care and diligence! What employment can be more easy to fulfil than that *where the greatest part of the success depends upon a man's own conduct* ? and how unfortunate in this respect are *those* who spend much time and care to render their ideas acceptable to others; and what a number of efforts must be made and obstacles surmounted before *we* can introduce them into practice, or reap the least advantage from our exertions! Continue then, my excellent friends, to second us with all your might; give us your confidence and friendship, and you shall see us, in our turn, do every thing in our power to convince you of our sincere regard, and to render of general use the maxims which we have learned from books, from experiments, and from your conversation; and may this union of interests procure for our country all those blessings which there is reason to expect from it.

Pickle, or Brine.

Salt water is much heavier than fresh, and as brine is always weakest at the upper part of the vessel or cask that contains it, in order to keep it of an uniform saturation, a wooden lattice-work frame, of such size as to be easily let into the inside of the reservoir, is sunk an inch or two under the surface of the brine, for the purpose of suspending upon it lumps of one or two pounds, or larger, of solid salt, which effectually saturate the upper strata of the pickle, and thus the brine will be continued of the utmost strength so long as any part of the lumps remain undissolved.

“Manure is the capital on which farmers do business; and the man who teaches them how to obtain it at a reasonable rate, and in sufficient quantities, does the public better service than if he lectured the live-long day on copper and silver mines, and amused the sleepy hours with golden dreams.”

If a man doubles the number of his acres, and employs only the same number of hands upon it as when he had only the half of it, his profits will be less than they were when he had half the quantity of land.



JESSICA,

Three and a half years old. Bred by J. Hulchinson, Esq.

To the Editor of the Farmers' Cabinet.

Potatoe Planting.

Sir,—On a late visit, which I paid to an intelligent friend and excellent agriculturist, I found him in his field planting potatoes, after a method which I consider about as near perfection as may be desired; and the simplicity and ease with which it might be adopted for general culture are, to me, amongst its greatest recommendations. I speak with confidence when I recommend this mode of practice, for I have used it very extensively myself, and have found it the quickest as well as the least expensive, the easiest as well as the most certain mode of procedure, which I have tried or seen adopted. The only difference between my friend's management and that of my own was, he planted under a turf sod, with once ploughing, while I always plough the land designed for potatoes early in the autumn, deep, and well up, and so it lies until the spring: the after culture, and before I plant my crop, leaves me but little to do in the way of cleaning and hoeing amongst the crop, it being my plan to completely eradicate the weeds and pulverise the soil, before planting the potatoes, when double the labour in half the time, and at half the expense, can be given for the purpose.

His method after this was like my own—the surface of the land had been spread with

half-fermented manure, and in a furrow which had been thrown out adjoining the fence, potatoe sets were dropped, at the distance of fourteen inches apart, and upon these the dung of the two next furrows in width was raked and spread carefully; the plough, on again passing, turning a furrow upon it and the sets, and making as good work as I ever expect to see. The next furrow had no potatoes planted in it, and no dung, so the sets were planted in every alternate furrow, and these had the whole of the dung: thus the work was finished in the easiest, quickest, and most perfect manner imaginable.

Now, in all other sod-ploughings for planting, I have been dissatisfied with the rough and uneven state in which the land had been left after the plough, and on which the harrows would operate to much disadvantage, and often to an injurious extent, pulling over the half-turned sods, which would require to be replaced by hand, and even then the work would be left ill done. My friend had, I believe I may say, *invented* a machine by which this inconvenience and injury were prevented, and for this, if it be his own invention, he deserves a premium—it was merely the iron tire of a broad wagon wheel, which was dragged horizontally on the surface of the ground by a longer or shorter chain, so as to elevate the front to a certain degree to enable it to work properly; and by this very simple contrivance, the surface was cut

as smooth as it could have been by the hoe, and the pulverized earth was dragged and deposited in the hollows, as well as it could have been done by the shovel; the land being thus as effectually worked and levelled as by harrow and roller. The use of this very simple machine is calculated to save immense labour and time; but my friend could not be prevailed upon to communicate its use for the benefit of his neighbours, I have, therefore, undertaken to do it, conceiving that it ought to be made known for the good of the community.

In conclusion, I have known upwards of seven hundred bushels of potatoes grown per acre, by the above mode of planting, which required one flat hoeing only by hand for the destruction of the seed weeds—the root weeds having all been gathered and removed before planting the crop—they were not moulded in the slightest degree; and to this circumstance, in conjunction with careful management in planting, must be attributed the great yield of the crop, as also the quality, which was very superior, the bulbs being all of a good size, and not deformed by those knobs which are so common on those that have been raised by repeated mouldings—would our friends think on these things? A SUBSCRIBER.

Right Method of Farming.

A farmer by the name of Thomas Oliver, residing five or six miles from Edinburgh, leased a farm for the last twenty years of one hundred and fifty acres, paying annually a rent of ten guineas per acre, (seven thousand five hundred dollars per annum,) on which he raised grain, hay, and vegetables, for the market of Edinburgh; this lease he has recently renewed for nineteen years, on the same terms; and from a poor man, he has become independent in his circumstances, and now rides in his carriage! What American farmer could make a profit that would enable him to pay such an enormous rent? All may be accounted for on the principles of judicious cropping, heavy manuring, and careful cultivation.

The annual meeting of the English Agricultural Society will be held in Cambridge, the present month, and great preparations are making to accommodate the numerous assemblage that is expected to be present: the dining-room built for the purpose, will be 197 feet long and 113 feet wide, and will accommodate 2500 persons. The premiums offered for the present year amount to \$5000; the annual income of the Society is \$14,000; the total number of subscribers 2172.

Fast Working Oxen.

The greatest objection to the employment of oxen upon the road and on the farm is their slow movement. This objection is oftener the fault of the man than of the beast. Very much depends upon the training of steers, and no animal shows the treatment he has received in training more surely than the ox. Observe him when he is free in the field, and he will walk as fast as a horse; and the same speed of walking may be secured in the team by proper training. It is common in breaking them to yoke them with oxen that have already acquired a slow pace, or to load them so heavily that they can scarcely move, and by such means it is that they acquire a tardy habit of working while in the team; but it is better to train them yoked behind a fast walking horse, or to attach them to a light wagon, with a load that they can easily move; by this course a quicker step may be secured, which will go far to obviate the objection above named.

Beet Sugar.

During the last winter a memorial was presented to Congress by Mr. Charles L. Fleischman, on the culture of the sugar beet, which we consider a most valuable and interesting document. We should be glad to publish the whole, but must be content with a few extracts,—“blending the useful with the sweet.”

“The beets are now cut in thin slices, dried before any fermentation can take place, ground to fine powder, so that all cells are broken apart, and mixed with water, which dissolves the sugar before the mucilage begins to swell. The pure uncoloured liquor obtained is evaporated, and the syrup brought into moulds to crystallize.

The general argument against the introduction of this branch of industry, that labour is too high in the United States, is incorrect, when we consider the other advantages which the United States have over every other country on the globe in almost every business, and especially in this branch of industry:

1st. The United States possess a climate which suits the beets better than the climate of Europe, because the summers are excessively warm, which increases the saccharine quality of the beet root.

2d. Plenty of cheap and rich land, subject to but a small tax.

3d. Inexhaustible stores of fuel, from which the great natural water-courses, railroads and canals, branch over the whole Union.

4th. Well-constructed labour-saving machines of all descriptions.

5th. An intelligent population, which, when once acquainted with this branch of industry, will soon bring it to great perfection; a population understanding the use and management of machinery, and famous for improvements and inventions.

The following shows the amount of money paid by the United States, during a specified time, to foreign countries for sugar:

In the year 1832.....	\$2,933,683
1833.....	4,752,318
1834.....	5,537,829
1835.....	6,806,184
1836.....	12,514,551

By the adoption of this new branch of industry, the sums at present paid for importing sugar would be, in short, a clear gain to the country: its agriculture would be improved, and thousands of acres of exhausted and deteriorated land would again be taken up and improved. To procure the necessary manure for this purpose, the farmer would be obliged to increase his live stock, which would find, during the winter season, plenty of food in the residuum of the manufactory. It would increase the consumption of sugar among the less wealthy class, and would make their condition of life more comfortable, and, of consequence, greatly extend the population of the country.

An acre of good cultivated land yields, on an average, twenty tons of the beet root.—Beets were sold this fall, near Boston, for \$5 per ton.

One ton of beets yielded, when treated after the new method, 180 lbs. of *white refined sugar*. The cost of manufacturing a ton of beets into sugar would be, at a very high estimate, \$6. One hundred and eighty pounds of refined beet sugar would cost \$11, or $6\frac{1}{10}$ cents per pound, for which we now pay, at the lowest rate, 15 cents.”—*American Farmer*.

Power of Machinery.

It is calculated that two hundred human arms with machines now manufacture as much cotton as twenty millions of arms were able to manufacture without machines, forty years ago. It is further calculated, that the quantity of manufactures of all sorts, at present produced by British workmen, with the aid of machines, is so great, that it would require, without that aid, *four hundred millions of workmen!*

Agriculture.

Agriculture is the most certain source of domestic riches and true liberty; where it is neglected, whatever wealth may be imported from abroad, poverty and misery will abound

at home. Such is, and ever will be, the fluctuating state of trade and manufacture, that thousands of people may be in full employment to-day, and in beggary to-morrow: this can never happen to those who cultivate the ground—they can eat the fruits of their labour, and can always, by industry, obtain at least the necessaries of life.

HOLINSHEAD.

Deep Ploughing.

The success of one half of any one of his fields, under a regular deep tillage, compared with the other half, under a shallow tillage, will be the best and most convincing argument in favour of deep ploughing that can be laid before the practical farmer. Lands which have hitherto been ploughed shallow, on receiving the first deep ploughing, will generally fail, in some measure, in producing a good crop; this has disheartened some that have made trial of it, and has caused them to abandon it immediately again; but the action of the sun and atmosphere on the up-turned clay, will contribute greatly to its fertilization; this being turned down and the former surface brought up again, with the aid of proper manures, will create a deep soil, and render it fertile and productive.—*Franklin Farmer*.

Instructions to Young Mowers.

Every farmer, who has employed many mowers, has had occasion to pity the manner in which some of them “dragged their slow swarths along,” while he was delighted with the ease, the rapidity, and smoothness with which others, of far less strength, would pass over the field.

The instructions of a kind and indulgent father, on this subject, are not only fresh in my memory, but have made first-rate mowers of many young men, and perhaps may be useful to some of those who may mow for the first time hereafter. I say for the first time, because very few change a bad habit (of mowing particularly) after it is once acquired. “As the twig is bent, the tree is inclined;” so with those who use the scythe. Therefore, let the boy of fourteen mow one or two hours in each day, during the haying season, for two or three years, when, by the following directions, he may be able to successfully compete with the strong but illy instructed. Let his snathe and scythe be very light, and the scythe of razor-like edge, and so hung, that when suspended on the finger by the lower neb, the point and heel of the scythe may be at equal distances from the ground. When at the edge of the grass, let an old and good mower, (who is to walk

near him half an hour,) instruct him to stand nearly erect, the hips being further advanced than the shoulders, and under no circumstances to stoop, and when inserting his scythe into the grass be sure to keep the heel nigh the ground; and when cutting the clips and after let the point be equally near it; let the body turn with the scythe as on a pivot, the heel of the scythe passing within two or three inches of the advanced foot. This will relieve the arms, and so divide the effort, that he will mow with as little fatigue as he can perform light work, and soon laugh at the "six footer" who stoops to reach his grass.

Let the boy also at first be instructed to clip only ten or twelve inches of grass, until his erect posture and the horizontal position of his scythe become habitual, when his love of ease, his interest, and desire to triumph, will require a long scythe, perfect in temper, yet light, and forming from heel to point the segment of a circle of about seven feet radius.—*Monthly Visitor.* J. W. W.

Effects of Habit on the Infant Mind.

I trust every thing to habit; habit, upon which, in all ages, the lawgiver, as well as the schoolmaster, has mainly placed his reliance; habit, which makes every thing easy, and casts all difficulties upon the deviation from the wonted course. Make sobriety a habit, and intemperance will be hateful and hard; make prudence a habit, and reckless profligacy will be as contrary to the nature of the child grown an adult, as the most atrocious crimes are to any of your lordships. Give a child the habit of sacredly regarding the truth—of carefully respecting the property of others—of scrupulously abstaining from all acts of improvidence which can involve him in distress, and he will just as likely think of rushing into an element in which he cannot breathe, as of lying, or cheating, or stealing.—*Lord Brougham.*

Bad Practice of Farmers.

BY PRESIDENT MADISON.

1. That of cultivating land either naturally poor, or impoverished by cultivation. He attributes this to the effect of "habit," continued after the reason for it had ceased to exist. Whilst there was an abundance of fresh and fertile soil, it was the interest of the cultivator to spread his labour over as great a surface as he could. Land being cheap and labour dear, and the land co-operating powerfully with the labour, it was profitable to draw as much as possible from the land. Labour is now comparatively

cheaper and land dearer. Where labour has risen in price fourfold, land has risen tenfold at least.

2. The evil of pressing too hard on the land, has also been much increased by the bad mode of ploughing it. Shallow ploughing, and ploughing up and down hilly land, have, by exposing the loosened soil to be carried off by rains, hastened more than any thing else the waste of its fertility.

3. The neglect of manure is another error. It is traced to the same cause with excessive cropping. In the early stages of cultivation in this country, it was more convenient and more profitable to bring new land into cultivation, than to improve old land. The failure of new land has long called for the improvement of old land; but habit has kept us deaf to the call.

4. Among the best means of aiding the productiveness of the soil is irrigation—a resource which abounds in this to a much greater extent than in any other country.

5. Mr. Madison conceives it a gross error that horses should be used instead of oxen, and his reasoning is pretty conclusive in favour of the ox.

6. Too many neat cattle are kept. As a farm should not be cultivated beyond the point at which it can be kept in good heart, so the stock of cattle should not be kept in greater number than the resources of food can keep in good plight. If a poor farm is unprofitable, so are poor cattle.

7. Of all the errors in our rural economy, none perhaps is so much to be regretted, because none so difficult to be repaired, as the injudicious and excessive destruction of firewood. It seems never to have occurred that the fund was not inexhaustible, and that a crop of trees could not be raised as quick as one of wheat or corn.

To the Editor of the Farmers' Cabinet.

Ploughs and Ploughing.

Sir,—I observe in the last number of the Cabinet, a list of premiums for crops, and am given to understand that there is to be a show of cattle, horses, crops, &c., in the autumn.

Now, I would take the liberty of hinting to the committee on premiums, the extreme interest which would be felt, just at this time of agricultural improvement, if a sum could be devoted to the encouragement of *ploughs and ploughing*. The almost numberless varieties of the "very best ploughs" seem to call for the public test of experiment to place their merits in a proper point of view, so that practical men may have an opportunity to judge, by *sight* and *feeling*,

which is most deserving the public approbation; and thus too, would be given an opportunity to show the vast difference which there is between good and bad ploughing—a business of more importance than almost any one can imagine—for to this first of operations is to be attributed, I have no doubt, much of the uncertainty and discrepancy which we observe in the accounts of the management of crops, even from the commencement of their cultivation. I dare say we have good ploughmen among us, but I have an idea that in this operation we are more deficient than in any other of our field labours; and should the committee think proper to offer a premium for the best ploughing, I would suggest the propriety of confining it to the *quality*, and not to the *quantity*, of work completed within a given time. In other countries it may be well to encourage the quick step, but here, I am mistaken if almost all our labours in the field are not too hastily performed, little regard being paid to the *manner*, if it be only done quickly; but in none of our operations is such haste to be deprecated as in that of ploughing—the foundation of all good and all bad husbandry.

I am led to the subject at this time by seeing in the papers that the Philadelphia Agricultural Society, or rather a committee appointed by them, intend to report on the merits of Prouty's plough, which has, I believe, been tried and approved by them. Now, there is a plough known by the name of Ruggles, and sold at the Store No. 398 in Market Street, Philadelphia, which is so like the one known as Prouty's, and is spoken of so highly by the maker and vender, that I think it would be well if their merits could be tested, side by side, by actual experiment, that so a correct estimate might be formed, under the sanction of the Agricultural Society, for the satisfaction of the agricultural community. I observe that the peculiar feature of both these ploughs is precisely the same—known by the term *centre draft*; and it would be curious to ascertain whether the patent right of one has not been infringed by the other. I understand the inventors of both desire nothing more than a fair opportunity to judge by experiment the real merits of their inventions. Other ploughs there are, claiming the title of *the best*, and the committee would have it in their power to add much to the interest of the day of exhibition, and confer an obligation on their numerous agricultural friends, by granting premiums for ploughs and ploughing. J. E. C.

There is something within us, when we hear the truth, that says *yes* to it, however disagreeable it might be.

To the Editor of the Farmers' Cabinet.

Blight.

Sir,—In the last number of the Cabinet, article "Rust or black Blight in Wheat," it is said, "where is the farmer or shepherd who does not know that flesh-flies will not deposit their eggs on a healthy part of a sheep, or if they do, that they will not produce maggots." Now, we may observe an exemplification of this law of nature in those linden trees in Arch Street, Philadelphia, (so lately preyed upon by millions of caterpillars, but which have so suddenly recovered their foliage, the vermin having been cleared away by a genial shower and change of temperature;) there we find the white moths* busily depositing their eggs in the bark of those trees that are *discused*, but not in the *healthy* ones. And yet, it does not follow that these individual trees will again be infected the next year with the same disease, and again be covered with caterpillars; else they ought always to be so affected, for there are the seeds of the animaculæ already deposited—it depends, however, on the state of the atmosphere the next year, whether they will then be brought into existence; and I cannot but point to those trees of the same description growing in Chesnut Street, opposite the State House, which I observed, the last time I visited the city, to be free from blight, although they suffered so much the last year by this disease; their present state of security has been gained, I have no doubt, by the change of soil about their roots, which *manuring* was given them last year, and by which they have been so strengthened as to be enabled to throw off the atmospheric attack, which prostrated those in Arch Street.

In the number of the Cabinet for May, article *Blight*, there is a passage so illustrative of this view of the subject, that I must quote it: I consider the theory there advocated, although before new to me, true to the *spirit*, simplifying and rendering this process of nature so clearly evident, that it demands our very serious attention and examination: it would indeed appear that the *effect* has been mistaken for the *cause*. Speaking of the blight in wheat, the author says—"the disease, originally caused by atmospheric affection, depends entirely on the subsequent state of the weather for its increase, decrease, or annihilation; nor are the seeds of the supposed parasite of the smallest future consequence, since we invariably find that, whether the vegetation of the succeeding year shall be blighted or not, depends

* Are we quite sure that these white moths were produced by the caterpillars? who saw these caterpillars in their *crystalis* state? J. D.

simply on the course of the winds and the condition of the atmosphere; and that whatever store of the seeds of the parasite may be supposed to remain after the most blighting season, they are still found perfectly harmless in warm and genial seasons; and after the interval of a number of years of exemption from the malady, one shall suddenly occur, in which the disease shall be epidemic, and its cause *an atmosphere unfavourably changeable*, so obvious, that if a blind man cannot see, he shall be sure to feel it. In the mean time, what betides the seed of Fontena's favourite parasite plant? does it remain floating in the air, buried in the earth beneath, or in the waters under the earth? partially holding itself in readiness to obey the summons of that boisterous Æolus east-north-east, and to nestle in the body, now prepared for its reception, in order to suck up its life-blood!"

J. D.

Pottsville.

Root Crops.

By the cultivation of roots, the soil becomes finely pulverized and cleansed of weeds; and as a large surface of leaves is presented to the atmosphere, they imbibe the rich gases, and obtain from the air the principal nutriment for the crop. In this way, a large crop is raised without injury to the soil, and that crop is converted into manure, which, again applied to the soil, enriches it more than the produce from any other crop. So, as the root crop takes less from the soil, and returns more than any other, the advantages to be obtained by such culture are of infinite importance to the farmer. And as root crops are increased, the means of keeping stock are increased, and of course the quantity of manure is also increased; so the root crops and manure increase each other, with a correspondent increase and profit in the stock and improvements in the farm, until the profit and value of all is quadrupled; and this is no false theory, but sober calculation, founded upon facts.—*American Farmer.*

To the Editor of the Farmers' Cabinet.

Highlands Farm.

Sir,—I have had the pleasure to spend a day at this noble establishment, belonging to George Sheaff, Esq., of Whitemarsh, Montgomery County, Pennsylvania, and have been exceedingly gratified with the style and neatness in which every thing around it has been planned, executed, and, what is of still more importance, sustained. The house and offices, the gardens and pleasure grounds, are "beautiful to look upon;" but to an

agriculturist, the farm, consisting of three hundred and twenty acres of land, with its three enormous barns, elegant cattle-stalls, stables, granaries, well-planned yards for foddering cattle, and securing the washings of the manure, and large quantities of manure from last winter's feeding, turned up and covered with earth to prevent the evaporation and dissipation of the gaseous substances, and large compost heaps with earth and lime intermixed; with tool and implement houses—"a place for every thing, and every thing in its place,"—all this is of far more importance, and greater interest. The large enclosures, thirty and forty acres each, with living springs of water in almost every one, and crops of uniform appearance, straight fences of substantial post and rail, with not a weed to be had *for love or money*—these things have been to me a source of the highest gratification. And all has been created on a soil, by nature not fruitful, by the present proprietor; and is evidence how much can be accomplished by talent, perseverance, and capital well employed; its healthy sub-soil, however, and particularly airy and delightful situation, contributing, I am convinced, in a great degree, to the facility with which, in the space of fourteen years, the estate has been clothed in magnificence and grandeur, and rescued from a state of comparative sterility and barrenness, the former proprietor having been compelled to purchase hay for his horses; while the present intelligent cultivator, the son of the present proprietor, contrives to fatten about one hundred oxen a year, and to sell large quantities of hay in Philadelphia. It may be denominated a model farm; I have seen many such upon paper, but, if it be not invidious, never before in reality one other such in this country. Here is breadth and depth, and space for action; and a visit to it must, to every practical man, be attended with lasting benefit.

I do not, however, consider the land well adapted to the feeding of cattle, it is not deep enough for that purpose; not that beef cannot be made with hay and corn, but to those who have witnessed the deep fatting meadows in various parts of England, some of which are at Willersley's Gate, on the road to Hereford, within a few miles of the town of Hay, with which many of your readers might be acquainted—and upon which it is said that three sets of oxen are fatted in the course of one summer; and the enormous yield of the adjoining arable lands for winter stalling; to such persons, the lands at the Highlands farm will appear more suitable to the rearing and feeding of sheep, a purpose for which, indeed, it is peculiarly adapted. The herbage is naturally short and sweet, the sub-soil dry and healthy; and

although it is believed by many that sheep, by eating the grass too close, destroy the roots of the crop, the direct reverse is the fact, for the turf will astonishingly improve under their feet, and become enriched by their manure, which, as has been said by some one, is not only thus *carried abroad*, but *spread* for you free of expense; and this thickening of the turf will prevent the manure from passing away through the open sub-soil.

But the largest breeds of sheep ought to be obtained, and the course of raising and fattening for the market, be pursued as a regular system; while for sheep of twenty pounds per quarter, well fed, a price could be obtained at Philadelphia or New York, which would, I conceive, pay a greater profit than cattle; the lambs and wool being also taken into the account—and for this purpose, my favourite breed of sheep, one cross between the Leicester and South Down, would be peculiarly well adapted.

I saw here a hog, a cross between the Berkshire and the Chester-County breed, which was about as near my idea of *usefulness* as need be; and I would recommend very strongly the Chester breed, for I have seen many individuals in that county that required no *crossing*, for I think, with hogs, a man might soon get too much of it.

I feel pleasure in the hope of spending a few hours at the Highlands farm after the grain harvest: that is the time to estimate a man's system of farming—the stubbles will then show that, most unequivocally.

I once knew a young and most intelligent farmer who, whenever leisure served, went abroad to visit the farms, and witness the management pursued in distant parts, and he considered the money so expended the best investment of capital; "for," said he, "if I see any system better than my own, I quietly adopt it; or if, on the contrary, I find my own superior, I am the more surely convinced and satisfied, and am strengthened in my good opinion of it—either way I am benefited, and never return to my home without feeling a fresh stimulus to action; and better pleased with my own situation, treasuring up many facts and opinions for adoption or experiment, which soon amount to the value of my rent." No one can easily calculate the benefit of such a course; and if it were practised in this country, its effects would soon be visible on every side—I do not think the weeds would continue to grow so tall and stout as they now do in many places; nor should we see the washings of the dung from almost every farm-yard in the country, passing away over the roads and into the ditches, to the robbery of about fifty per cent. of its value: as soon

as it becomes the practice for farmers to *think* as well as to *act*, this is one of the first evils that they will set about to remedy.

VIR.

To the Editor of the Farmers' Cabinet.

On Rolling Crops.

Sir,—A practical writer in the "New England Farmer" says, "when I am ready to sow my corn, I turn under the sward, and roll it down with a heavy roller; and this rolling I consider indispensable. I planted a field of fourteen acres the last year; we had finished and rolled down nearly half the piece, when my brother, who owned half the roller, and resided about a mile from me, began planting his corn, and we therefore concluded to dispense with the roller, and finish the field with the harrow; and it is a fact, that the part of the field which was rolled was not so good land as that part which was harrowed, the manure being, however, the same. The part which was rolled, after being cleaned, got the start of the harrowed part, and many will testify, that on the first day of July, the corn where the land was rolled was one-quarter heavier, and so it continued through the season until the harvest."

This is a remarkable instance of the value of the roller; and it reminds me of another, which goes to corroborate the truth of the matter in every particular. I was spending the day at the farm of General Le Couteur, (the father of the present Colonel Le Couteur, so extensively known by his invaluable treatise on wheat,) a perfect *Cincinnatus*, who had retired to his paternal estate, after a long life spent in the service of his country; he was planting the horse-bean in rows, for the purpose of after-culture with the hoe; the land was rather stiff, and yet, he was finishing by rolling, after it had received a thorough harrowing upon the seed. I prevailed upon him to leave a portion of the field unrolled, convinced, as I assured him, that he would find the land to hoe easier, and the crop on it to be heavier at harvest; but how was I mortified to find that my unrolled crop was *minus*, at harvest, about one half, after having shown a deficiency in growth through the whole summer!

Few persons in our country are aware of the value of the roller, because, and a sufficient reason it is, not one farmer in twenty possesses one; and I have known some of those who have one never to use it—an unpardonable neglect on any land, but particularly on light and porous soils.

An author very justly observes, "the rolling in of seeds after sowing is too often neglected, although very necessary under

almost all circumstances. Most seeds are comparatively small, and when they are sown on a pulverized soil, it frequently happens that many of them are not in close enough contact with the earth to be kept moist, and excluded from the light; consequently, they will not vegetate freely, if at all; and these young plants, if any come up, easily dry and perish." And every one who has sown seeds in beds in a garden, must have observed that those which have fallen on the walks between the beds, have vegetated first, and made the strongest plants—a roller on a farm is as indispensable to good tillage as a plough.

A SUBSCRIBER.

To the Editor of the Farmers' Cabinet.

Who shall decide?

Sir,—I remark an article in the New England Farmer "on Connecticut River Farming," over the signature of Z. Stebbins, "a practical and successful cultivator in a highly improved part of the state in which he resides," in which we are told that the ravages of the cut-worm in the young corn are only to be prevented by late ploughing of the sod in the spring: he says, "the way I manage my corn is, I never plough my green sward until I get ready to plant, for two reasons: first, the grass, by not ploughing until May, will get up, and be almost as good as a coat of manure; and second, the worms will live in this grass, and it will thereby prevent a great deal of damage which they frequently do; I have, therefore, entirely done ploughing sward land in the autumn, for I am satisfied it is a bad practice." And I myself remarked in a large field the present season, where the cut-worm had done infinite damage in the best-cultivated parts, rendering it necessary to re-plant for the third time; while at one end of the piece was about an acre of land, with the turf but partially turned, in consequence of the rocky nature of the soil, which prevented the plough from penetrating, and where the corn had escaped the ravages of the cut-worm,* and was growing luxuriantly; and to this spot the owner directed my attention in proof of the doctrine, that "the worms will live on this newly-turned sod, by which their attention will be

drawn away from the corn, until it be out of the reach of their depredations."

And yet, we are told, at page 355 of the Cabinet for June, that a practical farmer admitted, that the cure for the cut-worm in the spring was an autumnal ploughing! On mentioning this difficulty to an advocate for autumnal ploughing, he replied, "the first of the above reasons is the reasoning of an indolent manager; I never depend upon a growth of rubbish on my land to replenish the soil, I have manure sufficient for the purpose, and do not need it: the second reason may be necessary for one who is willing to keep and feed a race of cut-worms, and every other species of depredators of the crops about him, and such a person may feel himself bound to furnish them with food in the winter and spring; but to me, who will not permit them to breed and feed upon me, such provision is unnecessary. I turn them up in the autumn to be operated upon—both eggs and vermin turned topsy-turvy—by the rains, frosts and snows of winter;* and after they are destroyed, and the land has been properly cleaned and pulverized by spring tillage, the sods also being thoroughly decomposed, and turned into fit food for the plant, then I sow my corn. To many, autumnal ploughing is a subject on which they are deplorably ignorant; the way in which it is performed, and the period to which it is delayed, are sufficient of themselves to bring the thing into disrepute—plough early after harvest, deep and in small furrows, laying the land high and dry that it might drain off the surface water during the winter, and trust to the event. I should not like to turn cut-worm feeder." A. R.

Industry.

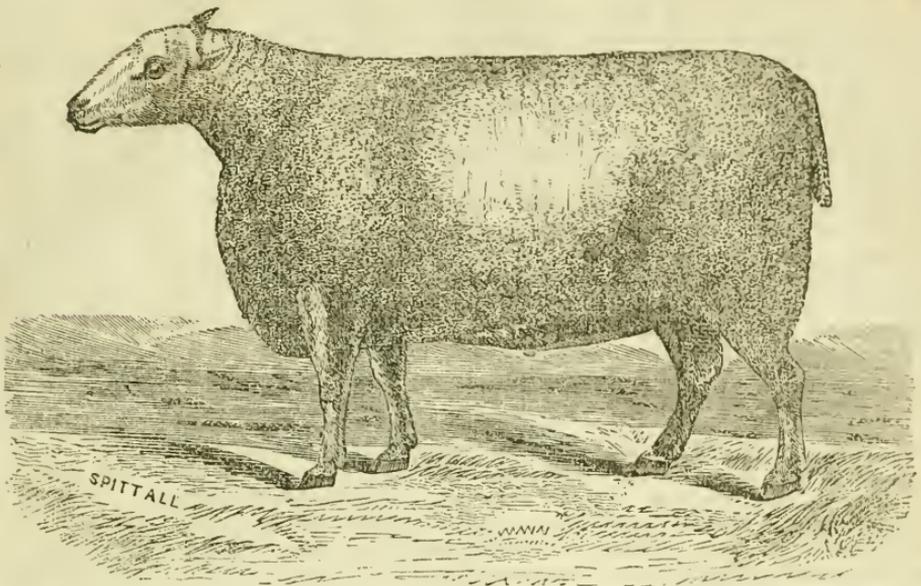
None have a right to expect a benediction from heaven, but those whose probity is irreproachable, and their industry indefatigable, and who thus earn their bread by the sweat of their brows. Our lands want only to be cultivated with more understanding and industry, to supply a sufficient quantity of produce for all our wants.

When you have meditated well upon any objects of real utility, propose them with energy, and execute them with fervour and activity, and the blessing of Providence will not be wanting.

The productions of the earth will always be in proportion to the culture bestowed upon it.

* See a most interesting paper on this subject in the Cabinet, Vol. 3, page 286, by Agricola.

* It is easy to imagine the cause of the cut-worm not being found in the dry and stony part of this field—the eggs of the cut-worm are deposited by the female in the dung dropped by the cattle while feeding on the sod, burrowing the earth for the purpose; but they would be very short indeed, if they did not know how much easier it is to burrow in the deep and soft parts of the field, than on the rocky and dry soil: perhaps too they know that the moist soil would be more congenial to the growth of their progeny, than the hard, dry and rocky land.



THE DISHLEY, OR BAKEWELL RAM.

His head should be fine and small, his nostrils wide and expanded, his eyes prominent and rather bold and daring; ears thin, his collar full from his breast and shoulders, but tapering gradually all the way to where the head and neck join, which should be very fine and graceful, being perfectly free from any coarse skin hanging down. The shoulders broad and full, which must, at the same time, join so easily to the collar forward, and chine backward, as to leave not the least hollow in either place. The mutton upon his arm, or fore-thigh, must come quite to the knee; his legs upright, with a clean, fine bone, being equally clear from superfluous skin and coarse hairy wool, from the knee and hough downwards. The breast broad and well forward, which will keep his fore-legs at a proper wideness; his girth, or chest, full and deep, and instead of a hollow behind his shoulders, that part, by some called the fore-flank, should be quite full; the back and loins broad, flat, and straight, from which the ribs must rise with a fine circular arch; his belly straight, the quarters long and full, with the mutton quite down to the hough, which should neither stand in or out; his twist* deep, wide and full, which, with the broad breast, will keep his four legs open and upright; the whole body covered with a thin pelt, and that with fine, bright and soft wool.

The nearer any breed of sheep comes up to the above description, the nearer they approach towards excellence of form; and there is little doubt but, if the same attention and pains were taken to improve any particular breed, that has been taken with a certain variety of the Lincolnshire, the same consequences would be obtained. The variety here meant, is that which was first selected by Mr. Bakewell, of Dishley, who, with singular discernment and great attention, has raised a breed of sheep, unknown in any former period, and which surpass all other breeds in their propensity to get fat, and in paying the most money for the quantity of food consumed. The weight of the carcass of this fine breed is generally—ewes, three or four years old, from eighteen to twenty-six pounds per quarter; wethers, two years old, from twenty to thirty pounds per quarter. The wool, on an average, eight pounds per fleece; the length of the wool, from six to fourteen inches.

CULLEY.

Robert Bakewell, of Dishley.

This gentleman, as the improver of live stock, on principles peculiarly his own, will descend to posterity as a distinguished patron of agriculture. "The principles he began upon (says the celebrated Arthur Young) were *fine forms, small bones, and a true disposition to make readily fat*, which is indeed inseparable from small bones, and fine forms,

* Twist—the junction of the inside of the thighs.

and true symmetry of the parts." Before Bakewell's day, the rules which governed breeders of live stock, Mr. Young pronounces a "tissue of absurdities."

Mr. Bakewell began his improvement of sheep by selecting from the best in the neighbourhood. And so little had any correct principle of improvement been known or regarded, that a guinea or half a guinea extraordinary would give Mr. Bakewell the choice of any sheep of any flock. And his uncommon sagacity enabled him, by the best selections and judicious crossings, to form a breed distinguished above all others for the *disposition to fatten, early maturity, a form indicating strength of constitution, weight in the most valuable parts, with lightness of offal*. Mr. Young expresses his opinion, that there is not a breed of any sort of live stock in Great Britain, that does not derive its improvement from the skill, knowledge, and principles of Mr. Bakewell. Another eminent agriculturist declares, "that Mr. Bakewell enabled those who followed his ideas, to produce two pounds of mutton where only one was produced before."

Mr. Young adds, that Bakewell was the most careful feeder of stock that he ever met with, and who made his food go farthest. To horses and cattle in stalls, he did not permit more than a handful of hay to be given at a time; and the same economy was used in all other feeding. But his stocks were so large as to require one or more persons to be appropriated to that service. This practice on our small farms, and with our small stocks, cannot be fully adopted; but it may be imitated, in some degree, during the season (winter) most requiring such attention. By feeding them in this manner, the cattle will doubtless *eat more*, but they will *waste less*; so that while, in the whole, no more fodder will be consumed, the stock will be put into much better plight.

He was the most successful and celebrated experimental farmer ever known in England. He was born at Dishley, in Leicestershire, about the year 1725 or 6. His grandfather and father had resided on the same estate since the beginning of the present century; and his father, who died about the year 1762, had always the reputation of being one of the most ingenious and able farmers of his neighbourhood.

Mr. Bakewell, having conducted the Dishley farm several years before the decease of his father, began, about forty years since, that course of experiments which had procured him such extensive fame. He then made excursions into different parts of England, to inspect the various breeds, and to ascertain those which were best adapted to his purposes, and the most valuable of their

kinds. His next step was to select and purchase the best of all the sorts wherever they could be found; and this selection, the result of several years' experience, was the original stock from which he afterwards propagated his own.

About the year 1770, Mr. Bakewell sold his sheep by private contract, at not more than two or three guineas each. Sometime afterwards he began to let some of his rams, and for a few seasons received only 15s. and a guinea apiece for them; but as the fame of his breed extended itself, he advanced his prices, and by the year 1773, was enabled to let some of his rams for the season, for 25 guineas. Since that time the price and credit of his stock have been progressively increasing; and of late years single rams have been let for the season, for the enormous prices of 100 guineas and upwards. It is a fact which has no other example, that one ram, called the *Two Pounder*, produced, in one season, the sum of 800 guineas, independent of ewes of Mr. Bakewell's own stock, which, at the same rate, would have made a total, the produce of one single ram, of 1200 guineas!

The race of Dishley sheep are known by the fineness of their bones and flesh, the lightness of their offal, the disposition to quietness, and, consequently to mature and fatten with less food than other sheep of equal weight and value. Mr. Bakewell improved his black horses by an attention to the form, which is best adapted to their use. His stallions have been let out for the season for 100 guineas and upwards. About ten years since, he exhibited his famous black horse to the king, and many of the nobility, in the court-yard of St. James's.

In this place it may be worth while to insert the following statement of the prices given at an auction for stock, bred from Mr. Bakewell's.

The sale which we advert to, was that of Mr. Fowler, of Rollright, in Oxfordshire. After his death, one article of live stock, the horned cattle, sold for a value equal to that of the fee simple of his farm! Fifteen head alone of bulls and cows sold for 2460*l.*, or at the rate of 16*4*s.** each!

Mr. B. at the time of his death, was verging on his 70th year. In person he was tall, broad set, and in his latter years, rather inclined to corpulency: his countenance bespoke intelligence, activity, and a high degree of benevolence. His manners were frank and pleasing, and well calculated to maintain the extensive popularity he had acquired. His domestic arrangements at Dishley were formed on a scale of hospitality to strangers, that gained him universal esteem. Of the numerous visitants induced

by curiosity to call at his house, none ever left it without having reason to extol the liberality of its owner. Many interesting anecdotes are related of his humanity towards the various orders of animals. He continually deprecated the atrocious barbarities practised by butchers and drovers; showing by examples on his own farm, the most pleasing instances of docility in the animals under his care.

He departed this life on Thursday, October 1, 1795, after a tedious illness, which he bore with the philosophical fortitude that ever distinguished his character.

To the Editor of the Farmers' Cabinet.

Hessian Fly.

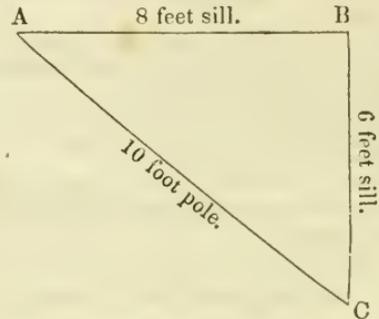
Sir,—It appears by the papers, that where the street-manure from the city of Philadelphia has been used as a dressing for wheat, the Hessian fly has not made its appearance the present year; and that experiments have been made to show, that when used by the side of the common farm-manure, it has always operated as an antidote to its ravages, while the disease has been uniformly found in crops raised by *long muck*. The writer in the Philadelphia Courier says, that farmers, having made these experiments, are of opinion that the preventive properties are contained in the anthracite ashes, with which the city street-manure abounds. Now, I am not one of those, but I believe, that until we alter our course of crops, and mode of manuring with *unfermented* dung, we shall continue to have our fields covered with blight, in every variety of appearance, fly, mildew, rust, smut, &c., whenever the atmospheric changes from cold to heat, and heat to cold, fall upon us, as they have done the present season. Our crops by such manuring are rendered weak and flashy; and our lands, made light and spongy, are very apt to be operated upon by the frosts of winter, to a ruinous extent. How is it, that every farmer does not *know* that wheat requires a close, compact seed-bed, and tenacious, yet healthy sub-soil? But they most assuredly *all know* that they are doing what in their power lies to overturn this order of things, and render their wheat tilths as light and spongy as possible, by fallowing after oats, and dunging and liming that fallow! No need of wonder, after doing so much to foster premature growth, that the crops should suffer by cold blasts in the spring, and be filled with disease and all kinds of animalculæ in the following summer—more of this hereafter.

AN OLD SUBSCRIBER.

Frugality and industry are handmaids to fortune.

Mechanics.

Every carpenter must know before he erects a house, how to lay off the sills in an exact square. He accordingly measures off eight feet from the end of one sill, and there makes a mark; he then measures off six feet on the sill lying at right angles with the first, and makes another mark; he then lays on his ten foot pole, one end of it squaring with the first mark, and if the other end of it does not exactly meet the second mark, he causes the sill to be moved in or out, until it exactly squares with it. The figure which he thus makes in marking off his sills, and in laying down his ten foot pole, is a right-angled triangle A, B, C, the right angle or square corner being at B.



Now, unless the line A C be ten feet long, when the other two are eight and six respectively, the corner B will not be a square corner, for it is found by mathematicians, that in every right-angled triangle, the longest line—the line opposite to the right angle when squared—is just equal to the squares of the other two, the lines A B and B C. This is the reason why carpenters adopt this rule to lay their sills square—eight squared is sixty-four, and six squared is thirty-six—both together equal to one hundred—ten squared being one hundred—ten times ten.—*Boston Cultivator.*

Lightning Rods.

We beg to call the attention of our correspondent, Publicola, to the highly valuable and interesting paper on this subject, by OBSERVER, at page 73 of the third volume of the Cabinet, where may be found all the observation and experience that may be necessary to form a correct opinion upon this very interesting branch of science. Various have been the instances where buildings have been struck by lightning when guarded by conducting rods, but whether these have been properly constructed is a very interesting question. A valued friend asks, whether the *size* of the rod be of importance to

the safety sought by the erection of the conductor? Much has been said as to its height and position—is any consideration due to its diameter? Our friends would confer a favour if they would communicate instances within their experience, where buildings guarded by conductors have been struck by the electric fluid; they would be highly interesting, and may lead to investigation and important results.

Product from Manures.

Experiments in Germany have led to the following conclusions:

If a given quantity of land, without any manure, yields three times the seed employed, then the same quantity of land will produce—

Five times the quantity sown when manured with old herbage, putrid grass, or leaves, garden stuffs, &c.

Seven times when manured with cow dung.

Nine times with pigeons' dung.

Ten times with horse dung.

Twelve times with goats' and sheep's dung.

Fourteen times with human manure or bullock's blood.

To the Editor of the Farmers' Cabinet.

Clover in Corn.

Sir, — In a late conversation with a first-rate agriculturist, and a member of the state Senate, I found that he is accustomed to sow a full crop of red clover in his corn, at the time of the last cleaning, laying the land as level as possible for this purpose; and he assured me he had always succeeded in obtaining heavy crops, without the least injury to the corn, and which, in its turn, shelters the clover by its shade, and encourages a very rapid growth. Will our friends try it by way of experiment the present season? It is believed that it may be made introductory to a new course of crops, which might relieve the country from that terrible scourge, blight, in all its different varieties, fly, rust, smut, mildew, &c., which is supposed in a great measure attributable to the present mode of cropping and manuring.

D. H.

Philadelphia, June 24, 1840.

An Exhortation.

Our fears are, not that there are not many excellent dairy women in the land, but that the benefits of their knowledge and practice will be lost in the new generation that is springing up. Hundreds and thousands of farmers' daughters leave the homes of their mothers and seek other employments, as if with a dis-

relish of that which may be practically more and more scarce. The occupation is stripped by the demand for young women as instructors of youth, as operatives in factories, as milliners or sewers, shoe-binders or straw-braiders, or in some other mechanical occupation. How short do such as are thus employed come of the qualifications of the virtuous maid who obtains the best part of her education under the roof of her own father, from the instruction of the mother that knows how to do every thing coming within her province as the wife of a thriving farmer—who is entirely at home in all that pertains to the dairy, the economical use and due preparation of articles of food and clothing, and who suffers none of her household to "eat the bread of idleness!"

If not to the rising fair generation, to whom shall we look for the hands that are to supply so important a portion of subsistence as the products of the dairy? The farmer may keep his forty, fifty, or a hundred cows: if there be no help-meet to oversee and lead in the preparation of the milk after it goes to the dairy room—if there be no female to prepare the vessels, none to direct in the straining and setting of the milk, the extrication and disposition of the cream, the churning into butter, the separation of the buttermilk, the clean and perfect salting down—if all this is expected of men, and not of women; how miserably shall we hereafter drop away in the produce of a most profitable and most useful article in the production of the farm at that precise time when there is the most sure encouragement for the farmer to enter upon and persevere in the business of the dairy!—*Visitor.*

Great Yield of Milk.

Mr. James Gowen, of Mount Airy, near Philadelphia, gives, through the Philadelphia Inquirer, the following table of the quantity of milk obtained for one week from his imported Durham cow, *Dairy Maid*, of the short-horned Durham breed. She calved about four months ago. The yield exceeds *eight gallons* a day.

Dairy Maid's yield of milk in one week, from 1st of June till 7th inclusive.

	MORN'G.	NOON.	EV'G.	TOTAL.
June 1st, ...	12 quarts	8½	9½	30
2d, ...	12½	9	10½	32
3d, ...	13½	9½	10½	33½
4th, ...	14½	9½	10½	35
5th, ...	14½	10	10½	35
6th, ...	14½	10	10½	34½
7th, ...	14½	9½	10½	34½
			Total,	235½

Being on an average more than 33½ quarts per day.

To the Editor of the Farmers' Cabinet.

Large and Small Farms.

Sir,—I wish my brother farmers would think very seriously on the advantages to be derived from the system of cultivating no more land than can be well manured. The desire for more land has been the ruin of thousands, who would at this time be well to do, if *their friends* had deprived them of one half the number of acres which they at that time possessed; while the extra labour and anxiety consequent upon a business so spread abroad, are all that many have ever gained, and all that they had a right to expect to obtain. And it would appear to be a fatality to which persons of this sort are subject, or they would surely be able to see *the nose in the middle of their face*—for one is not more plain than the other. If ten acres of land can be made to yield as much as one hundred, merely by concentrating upon it the means of improvement, the labour and care necessary for the cultivation of the one hundred acres, the result must be profit of mind, body, and substance, absolutely astonishing! Now only, for a moment, calculate the difference in labour, in hauling the dung over one hundred acres instead of ten, and after that, the spreading it abroad! then come ten times the ploughing, harrowing, sowing, *with ten times the quantity of seed*, hoe-harrowing, mowing or reaping, and binding and raking, over one hundred acres instead of ten, and extra carrying of crops: and after all this, *ten times the rent to pay*—I declare it appears a species of insanity, this desire for more land.

I have lately seen a farm where all these evils are embodied—of excellent natural fertility, the fields large, and lying on an easy declivity, with every facility for permanent improvement, marl of the richest quality in the middle of the estate, and within three feet of the surface—Now, if the owner of this fine farm of about two hundred acres, would confine his labours to ten acres of the land adjoining his house, and give all the rest to the stock upon the farm, only mowing the weeds, to prevent them from seeding his and his neighbours' land, I believe he would then make a *profit*, while at present he must *make a loss*.

I was told yesterday of a farmer who cultivated one acre of land, which adjoined a field of thirty acres—both were planted with rye; and at harvest a bet was made that the yield of the one acre was equal to that of the thirty acres; this was, however, lost, for the crop of the thirty acres measured exactly *three quarters of a bushel more than that of the one acre*: these fields I have seen this day; and I have also seen another field,

where the owner offered to dispose of the crop of rye *for a dollar an acre*, but could get no purchaser at that price!

Now, is it not much better to double the crop than to double the number of acres? but I have land lying before me which would yield five hundred per cent. more than it now does, by extra management.

AN OLD FARMER.

The earth delights in variety, and it is most prudent, therefore, to indulge her, changing the course, and intermixing green with grain crops; the main point being, to grow winter provision adequate to the support of such a stock of cattle as, with their dung, will keep the farm in constant good heart.

With many persons there is a prejudice against green crops for cattle: they believe that nothing will pay but corn or grain crops. On walking with one of these, and admiring his fine crop of beets, he said, "'tis all very well, but beets pay no rent, remember." But let him make a calculation of the profit in cattle-feeding and manure, and compare the condition of the land with the same, after a grain crop—it is by taking things for granted that men keep themselves hoodwinked.

Poor and exhausted lands may be recovered by a course of green and root crops, equally well as by being laid down to grass; and these would pay far better than light crops of corn or grain to those farmers who know how to expend them upon their own premises, and those who do not, stand much in need of information. Lands which will not grow grain enough to pay for harvesting, might soon be reclaimed by these means, and left in fine tilth and condition.

With respect to the proper quantity of seed to be sown, it may perhaps be safely laid down as a rule, that seed must be increased in proportion to the poverty of the soil, from which cause so many kernels always perish for want of nourishment: nor is it to be expected that those which vegetate will ever tiller or spread, as do those on a rich soil, by which the crop is much thickened.

Agriculture feeds us, to a great extent it clothes us, and without it we *could* not have manufactures, and we *should* not have commerce; these all stand together, but they stand together like pillars—the largest in the centre—and that largest is AGRICULTURE.—
Webster.

For the Farmers' Cabinet.

Making and Curing Hay.

Mr. Editor.—The season has now arrived when the farmer will be required to cut and put away his crops of grain and hay; his fields are to be unladen of their treasures, and his barns to receive the rich stores which a kind providence has given in return for his labour and skill, and it is to be hoped that his toil and care will be rewarded with an ample harvest. As some notions have suggested themselves to me in relation to the making and curing of hay, and as this is the season when they can be made useful, and I have experienced the advantage of their application, I have determined to give them publicity.

In making hay, I have for several years made it a rule not to spread the grass (except when it is quite ripe) upon the day on which it was mown. In cutting, I found the butts of the grass were generally thrown by the scythe so as to be exposed to the air, and the tops were below or covered by the butts or thicker part of the stems; I therefore let it lie until the next day, in order to dry the butts as much as possible before spreading. I then have it carefully turned from the bottom, and spread after the dew is off and the swarth has become well heated from the action of the morning sun. If the weather is unfavourable, the grass is allowed to remain in the swarth, and the tops being still covered and entirely green, the swarth will remain exposed to bad weather for several days without taking damage. I therefore continue to cut in cloudy or even rainy weather, and frequently have a large quantity ready to spread when the weather is favourable. I cut when it rains, and make hay when the sun shines. When the stems of the grass are well wilted and warm from the action of the sun, the tops on being exposed will soon dry—much sooner, as you may suppose, than when the whole is in a green state, in which case, in order to dry the whole mass, it must be subjected to frequent turnings. After spreading, I turn once in the morning, and in the afternoon throw the hay into wind-rows with forks, turning at the same time, and clean up between them with the horse-rake, with which I also clean up after the wagons. I prefer this plan of gathering the hay into wind-rows exclusively with the horse-rake, because it leaves the hay in a looser state for the wind to circulate through it, and is more easily handled when put into heaps or pitched upon the wagons. On the afternoon of the second, or the morning of the third day after cutting, if the weather is fair, my hay is usually fit to be hauled in. In mowing away my hay, I have it kept level, well

trodden and well salted. Salt subserves several useful purposes: it prevents the hay from moulding; the hay need not come in so dry from the field as it is required to be when salt is not used. It retains a better colour, and more of the fragrant and delightful aromatic odour, after being thus cured, and is a much more wholesome food for horses and cattle; besides, *I think it adds much to the fructifying principle of the manure.* As a proof of its value for the food of horses, I will state, that two of my horses died suddenly of colic: I thought they had been killed by bots, but upon a careful examination of their intestines, I could not discover a single bott or other worm, and I attributed this to the fact, that they had been constantly fed with salted hay—I have never had a horse to complain of bots since I have used it; and I do not doubt that the general health of my horses and cattle has been much promoted by the generous use of salt amongst them, and that their food is rendered much more pleasant to them by a moderate admixture of it.

In pursuing the method of curing hay which I have above recommended, I have not only saved much labour, but retained and secured all the valuable properties of my hay. As a proof of the superiority of my method, I will state, that a large proportion of my crop has been annually sold in the Philadelphia market for years past. My hay would always find a ready purchaser, no matter how much was in market, and I was always able to obtain for it the highest market price. K.

P. S. No liquor allowed in the field or the barn.

To the Editor of the Farmers' Cabinet.

Berkshire Pigs.

Sir.—If the breeders of stock would call on Mr. Behjamin Cooper, near Camden, N. J., they might convince themselves of the truth of the observation, at page 140 of the 4th volume of the Cabinet, "If Bakewell had commenced with dam the best, instead of sire the best, he would have attained his object in half the time."

Mr. Cooper has a pen of spring pigs, one cross with the Berkshire boar and an English sow of remarkable proportions, which show more blood and far better points, than many whose pedigree might be high and unexceptionable: indeed, it would be difficult to find more beautiful specimens of that valuable and favourite breed, of pure blood. I trust Mr. Cooper will exhibit these splendid pigs of a *single cross*, at the coming Philadelphia Agricultural Society's Cattle

Show; they will speak volumes in favour of a breed of hogs that is doing wonders throughout the country: they could be conveyed in the same vehicle with the thorough-bred Berkshire boar belonging to his son, * Mr. B. W. Cooper, which is, I doubt not, destined to become a favourite with the breeders of this kind of stock. This gentleman is, I understand, expecting to receive a pair of thorough-bred Berkshires from Albany, in addition to his present valuable stock. But I would ask, why gentlemen, determined to possess themselves of pure stock, do not go, *themselves*, any length to select their own? I declare, I would almost as soon think of sending to a friend to select a *wife for me*, as fine stock — no, no, these things a man ought to do for himself.

I wish I could induce your numerous readers to entertain the idea of crossing with *dam the best*. Many attempts were made, during the Merino-mania, to clothe a larger carcase with a finer fleece, but who ever thought of crossing the purest Bakewell ewe with the Merino ram? this, I have no doubt, would have effected the purpose, and given a valuable breed of sheep for general purposes.

J. G.

Trenton, N. J.

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* On accompanying this gentleman into his field, where the swarths of clover and timothy had more the appearance of wind-rows, I inquired what was the quantity of Hay per acre which he expected to carry? to which he replied, "I do not know, but this I know, I do not wish for more, and I would not have more if I could."

Farmer's Companion, by Buel.
Farmer's Assistant, by Nicholson.
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The Farmer's Own Book, by Barnum.
The Kitchen Gardener's Instructor.
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The Green House, by McIntosh.
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Practical Farmer.
Browne's *Sylvania Americana*.
Farmer's School Book.
Hoare on the Grape Vine.
Farmer's Library, 3 vols.
Pocket Farrier, Boston Edition.
Darlington's Botany.

The undersigned, a committee appointed to examine Prouty & Mears' patent plough, report, that, in pursuance of their appointment, they met, and saw the plough called Sod B., at work—That they found it to perform well, turning over a furrow in breadth about fourteen inches, and in depth about eight inches. It follows the horses easily; is not so liable to choak in stubble or long grass-sods as others; turns over its ground so as to bury whatever may be upon the surface; is easily handled by the ploughman; and, being of cast iron throughout, does not require the blacksmith to put it in good repair. As a proof of the superior properties of this plough, each of the undersigned have one or more of them in use on their farms, and are of opinion that they are the best ploughs for all purposes, in ground clear of stone, that they ever used, or saw at work.

JAMES THORNTON,
KENDERTON SMITH,
ISAAC W. ROBERTS.

Agricultural Notice.

The Philadelphia Society for promoting Agriculture, contemplate holding the *Exhibition and Sale* of live stock, agricultural implements, productions, &c., near the old Rising Sun tavern, on the Germantown Road, on Wednesday and Thursday, the 7th and 8th of October next. Extensive and convenient sheds will be erected for the accommodation and display of stock; and every thing done for the convenience of farmers, which additional means and experience enable the Society to accomplish.

ALON S. ROBERTS,
Secretary of the Com. Arrangement.

KENDERTON SMITH,
Chairman.
Philadelphia, July 6, 1840.

Notice to Subscribers.

By the publication of the present number, the fourth volume of the Farmers' Cabinet is completed. The four volumes, neatly bound and lettered, and forming an important register of events, and a valuable work of reference to all who are concerned in the cultivation of the soil, may now be obtained of the publishers. Subscribers wishing to complete their sets may do so; and on forwarding to the publishers the numbers which they may have on hand as above, the volumes will be made up, and bound to any pattern.

The first number of the fifth volume of the Cabinet will be published on the 15th of next month, under the title of "The Farmers' Cabinet and American Herd Book, devoted to Agriculture, Horticulture, and Rural Affairs;" and it will be embellished with two engravings, the portraits of a thorough-bred Durham Bull, and the Clydesdale or Farmer's Horse.

It is the wish of the proprietors of the Farmers' Cabinet, to render it a work worthy the notice and support of the state and the country. Already it is identified with the Agricultural Society of Philadelphia, and is become the medium of communication between that body and the agricultural community; and it is their desire still to increase its usefulness. To this end, they will feel pleasure in adopting the proposal, that the Cabinet shall also become the medium of communication between the breeders of fine stock in this and the adjoining states, and more distant parts of the Union, "whereby information relating to that vital branch of rural affairs might become known and be recorded;" as it is believed this city affords greater advantages than any other place for carrying out such a design. They, therefore, offer a portion of its pages, in which to portray, in an improved style of engraving, animals of high blood—the Horse, Cattle, Sheep, Hogs, &c.—taken from drawings made for the purpose, on the following conditions: The breeders or owners to be at the expense of furnishing perfect portraits of the animals, reduced to a scale suitable to the pages of the work, and for which scale they are referred to those specimens already published in this and the two preceding numbers of the Cabinet; with the understanding that they shall be finished in a superior style of penciling, and be real portraits of living animals. The proprietors will then undertake the expense and care of engraving and publishing them, to the best advantage;—accompanying each portrait with the name of the individual, its pedigree, by whom bred or owned—these particulars being, of course, furnished for pub-

lication by the owner—and other notices which might be deemed of interest to the breeders of fine stock generally.

The "Cabinet" will still continue to be devoted to whatever is of importance in the pursuits of "Agriculture, Horticulture, and Rural Affairs;" and arrangements have been made to enable the publishers to keep pace with the improved state of those sciences of which it treats. The increasing interest with which the subjects of agriculture and husbandry are viewed at the present moment by all classes of the community, and the spirit of improvement which is gone abroad through the length and breadth of the land, in relation to the culture of the soil, and other legitimate branches of the profession—and especially in the breeding of improved stock—would seem to warrant the proprietors in the expectation of a corresponding feeling in the support of a work devoted, in an especial manner, to those important objects. And they invite the friends of agricultural improvement to a free correspondence in its pages, on all subjects of interest, whether relating to the rearing of cattle, the culture of the soil, or the husbandry of their crops.

Philadelphia, 7th mo. 15th, 1840.

Those Subscribers who have not already paid for the fifth volume, will please remit the amount of the bills inclosed in this number, and a receipt will be forwarded to them with the first number of the volume.

Any arrears on account of *back volumes* are to be paid to John Libby, and not to the present publishers.

The quantity of rain which fell during the 6th month, (June,) was 5.95 inches.

JOHN CONRAD,
Pennsylvania Hospital, July 1, 1840.

We take pleasure in announcing that it is the intention of the Philadelphia Agricultural Society's Committee on Premiums to make arrangements for a grand "Ploughing Match," to take place some time before the day of exhibition of stock, &c., to enable the judges to report and award premiums for the same, on the day appointed for that general purpose. Our friends will then enjoy the opportunity of having the question of the "best plough" set to rest; and the best thanks of the agricultural community are due to the committee for such an occasion—look out, therefore, for the *best plough and ploughing*.

Would the committee permit us to suggest the propriety of submitting the question to the test of the dynamometer, which could, we presume, be obtained through Mr. Prouty for that purpose. Ed.

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