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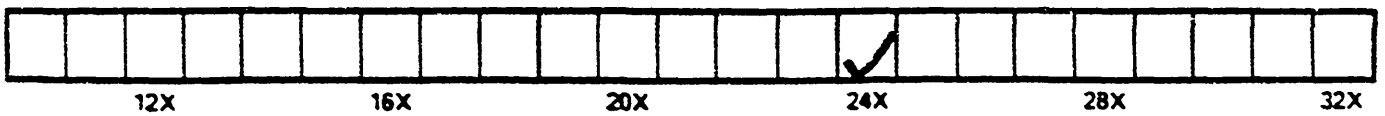

NEWCASTLE FARMER.

VOL. I.—NO. X. COBOURG, MAY 1, 1847. TERMS.—2s. 6d. PER YEAR.

From the Gardeners' Chronicle.

CHRONICLES OF A CLAY FARM.

It was urged by Mr. Brunel as a justification for more attention and expense in the laying of the Rails of the Great Western, than had been ever thought of, upon previously constructed lines; that all the embankments, and cuttings, and earth-works, and Stations, and Law and Parliamentary Expenses,—in fact, the whole of the outlay encountered in the formation of a Railway, had for its main and ultimate object, *a perfectly smooth and level line of rail;* that to turn stingy at this point, just when you had arrived at the great ultimatum of the whole proceedings, viz., the iron wheel-track, was a sort of saving which evinced a want of true perception of the great object aimed at by all the labour that had preceded it. It may seem curious to our more experienced senses, in these days, that such a doctrine could ever have needed to be enforced by argument, yet no one will deem it wonderful who has personally witnessed the unaccountable and ever new difficulty of getting proper attention paid to the levelling of the bottom of a drain, and the laying of the tiles in that continuous line, where one single depression or irregularity, by collecting the water at that spot, year after year, tends towards the eventual stoppage of the whole drain, through two separate causes, the softening of the foundation underneath the sole, or the tile flange, and the deposit of soil inside the tile from the water collected at the spot, and standing there after the rest has run off. Every depression, however slight, is constantly doing this mischief in every drain, where the fall is but trifling; and if to the two consequences above mentioned, we may add the decomposition of the tile itself by the action of water long stagnant within it, we may deduce that every tile-drain laid with these imperfections in the finishing of the bottom, has a tendency towards obliteration, out of all reasonable proportion with that of a well-burnt tile laid on a perfectly even inclination, which, humanly speaking, may be called a permanent thing. An open ditch cut by a skilful workman, in the summer, affords the best evident illustration of this underground mischief. Nothing can look smoother and more even than the bottom, until that uncompromising test of accurate levels, the water, makes its appearance: all on a sudden the whole scene is changed, the eye-accredited level vanishes as if some earthquake had taken place: here there is a gravelly *Scour* along which the stream rushes in a thousand little angry-looking ripples: there it hangs and looks as dull and heavy as if it had given up running at all, as a useless waste of energy; in another place a few dead leaves or sticks, or a morsel of soil broken from the side, dams back the water for a considerable distance, occasioning a deposit of soil along the whole reach greater in proportion to the quantity and the muddiness of the water detained. All this shews the paramount importance of perfect evenness in the bed on which the tiles are laid. *The worst-laid tile is the measure of the goodness and permanence of the whole drain,* just as the weakest link of a chain is the measure of its whole strength.

But this of course was all theory, and theory of course was all nonsense: my practical head-drainer was quite of a different way of thinking, as his *modus operandi* will exhibit. The morning after he had commenced operations I found him hard at work cutting a drain, about eighteen inches deep, *laying in the tiles one by one, and filling the earth in over them as he went!*

The field I had begun upon was very large, and very flat; and in order to increase artificially the fall, I had calculated so as to make the drain eighteen inches deeper at the mouth than at the tail. I might as well have calculated the distance of a telescopic star.

"*I've been a-draining this forty year and more—I ought to know summut about it!*"

Need I tell you who said this? or give you the whole of the colloquy to which it furnished the epilogue?

I had begun, something in this way—"Why, my good man! what on earth are you about? Didn't I tell you the drain was to be laid open from bottom to top, and that not a tile was to be put in till I had seen it, and tried the levels?" &c. &c.

Old as Adam—old as Adam was the whole dialogue—it is idle to go through it—Conceit *versus* Prejudice—the ignorance of the young against the ignorance of the old—the thing that has been, and will be, as long as "the sun and the moon endureth." It ended as I have said.

"I've been a-draining this forty year and more—I ought to know summut about it!"

Here was a staggerer. Amongst all my calculations, to think that I should never have calculated on this! I had seen the commander of a noble steamer, with one almost parenthetical point of his forefinger (caught in an instant by the helmsman,) veer round a ship of a thousand tons burthen; I had seen the practical astronomer, with an infinitesimal touch of the directing screw of the telescope, bend his searching gaze millions of miles away from its first position; I had seen the mill-owner, with half a nod to his foreman, stop in an instant the hurly-burly of a thousand wheels while he explained to me, in comparative quiet, some little new matter of invention in the carding of the rough wood, or the rounding and hardening of the finished *Twist.* I had seen enough of the empire of mind over matter in many forms and shapes, by sea and land, to make me the devoutest of believers in modern miracles.—Under the quiet seductive brightness of the midnight lamp, I had revelled in the mysteries of number and of form; and in the working realities of daylight I had seen and stood witness to the application of those apparent mysteries to the most beautifully simple processes in the production of ordinary and universal articles of human want. It had furnished me no new or difficult gratification to level and calculate to an inch, the amount of fall to be obtained upon a field, which without this precaution might indeed be called, as it had been called, undrainable; and here I was, fairly *planted*, at the first onset. Every inch of depth was of real value at the mouth of so long a line of drain. "Three feet deep at the outlet" was the modest extent of my demand; and there I stood, watching the tiles thrown in, pêle mêle, to a depth of 18 inches, which I was given to understand was "about 2 feet," with as cool an indifference to *the other foot,* as if two and three had been recently determined by the common assent of mankind to mean the same thing.

"But I *must* have it 3 feet deep!"

"Oh, it's no use: it'll never drain so deep as that through this here clay!"

"But I tell you it *must be!* There cannot be a fall without it."

"Well, I've been a-draining this forty year, and I ought to know summut about it."

From that moment I date my experience in the trials and troubles of farming: at that instant my eyes began to open to the true meaning of those "practical difficulties" which the uninitiated laugh at, because they have never encountered them; and which the manufacturer despises who has said to steam, water, and machinery, "do this," and they do it, but has never known what it is to try and guide out of the old track, a mind that

has run in the same rut "this forty year and more." TALPA.

From the Farmers' Gazette.

TO THE YOUNG FARMERS OF IRELAND.

LETTER X.

ROTATIONS.

MY FRIENDS—By the rotation of crops is meant a series of them, followed in succession during a certain number of years, at the end of which the same course is usually recommenced.

The philosophical principle from which we know that, in strict propriety, two crops of the same kind, or of the same habits, ought not to follow each other immediately is, that all organized bodies are, by their Creator's decree, in a perpetual state of change.

We find, for example, a plant extremely low in the vegetable scale, first, acquiring a certain position; on its decay it is succeeded by another differing, perhaps, widely in its nature, as if the same soil could not be congenial to the same species of plants in succession, and so on through an endless succession of changes, each plant seeming to exhaust the soil of the substances peculiarly adapted to its own nourishment, and leaving those only which are applicable to the support of others.

Taking a lesson from the book of nature, then, we ought not to plant on the same soil, in immediate succession, crops of the same kind, knowing the deterioration which would follow.

We certainly see that similar plants can be successively propagated on the same soil; but the natural consequence always is, diminished value.

One forest (of the same tribe of trees at least) should not succeed another, unless the soil be renewed altogether.

Even the longest lived trees have no hereditary right to the soil on which they grow; they have no fixity of tenure—for such is against the law of nature—they die, indeed, where they lived and were matured; there is not necessarily a premature clearance of them from their holdings, but they have no perpetuity of possession for their descendants—no family of plants has a natural right to remain there always.

The earth is hospitable; she receives all classes of plants, if they can find room and food enough within her bosom; but she receives them in turns, and will not surrender any portion of her lands to the exclusive and permanent possession of class.

The newly cleared forests of America show the tendency of the soil to bring forth varied kinds of plants—white clover, grasses, and other plants, which have similar tastes and habits, spring up where the trees vacate their positions.

The excretions from the trees, which had preceded and exhausted the soil of all the nutritive substances suited to their nature, would have been unfit for a new generation of the same kind, which would not find nourishment in the refuse of those elements on which their parents had subsisted.

But this matter, though rejected by them, might be very digestible and agreeable food for the new settlers which might find the materials of a feast where the lineal descendants, or near collateral relatives of the former plants, would starve.

The diversities of taste, with regard to food and habits among plants, plainly point out the necessity of rotations; and as some plants have such a natural dislike or antipathy to others that they *will not rest in the same soil with them*, so others have a natural liking or affinity to others, probably because they have no struggle for the same elements of food, or mutually derive nutriment from the excretions of each other.

It is an established principle among all good farmers, looking to the good condition of the soil, *not to take two crops of* corn* in succession, but to cultivate a leguminous,† or some green crop between the grain crops.

Jethro Tull, who lived about 150 years ago, fancied that crops of wheat, if cultivated in drills sufficiently apart to admit of fallowing the bare intervals with a horse-hoe, might be raised every alternate year on the same soil, for any length of time, and that, too, without any manure, believing that the atmosphere could of itself renew the exhaustions of the ground.

You must, however, be aware, from what has gone before respecting the nature and food of wheat, that it depends much more for support upon the soil than on the atmosphere, though the air conveys to plants many of the elements in which a soil may be deficient—as salt borne from the sea by mists and vapours—and ammoniacal gases by smoke; but this source of supply is comparatively trifling, and the air cannot convey lime nor silica, nor that great element of food—humus. The soil, then, will not acquire those substances by resting, or by being turned over with the plough, they must be introduced by the husbandman.

Any leguminous crop ploughed in when green, after the removal of wheat, would leave in the soil some element of food; but Tull did not think this necessary, and seems to have had no notion of the manner in which plants are fed, substituting repose and cleanliness in the soil for their natural aliments.‡

Clover, though an improving crop to the soil in some respects, is a bad preparation for a succeeding one of the same, or any other similar plant. It ought to intervene between corn crops, unless some peculiar circumstances should render a deviation necessary.

It has this great claim to being so introduced, that it does not consume much of the silica which the corn crops so largely use; but it feeds principally upon substances which they take more as condiments with their general dietary, than as principal sources of nourishment.

We have high authorities for apprehending that clover and turnips (which are by no means such exhausters of the *soil as wheat) are failing on light soils in* the Norfolk four-shift rotation, which has deservedly been such a favourite system of practice.

In Germany, some farmers now introduce clover (though confessedly an ameliorating crop to the soil,) but once in 7 or 8 years. How much stronger, then, is the objection to Tull's plan of sowing every alternate year wheat, which, admittedly, is a very impoverishing crop.

The nature of the soil generally determines the system of rotation, whether it be one of 4, 5, 6, or more years. A very light, poor soil, requires more rest than a heavy one, or a loam of medium quality; and therefore, on the former description of soil, pasturage for sheep, during the two last years of a short rotation, may be desirable.

On a strong loam, there may be many changes in succeeding series of rotations; such as—

FIRST SERIES—1st. Potatoes; 2nd. Barley; 3rd. Clover; 4th. Wheat:—while in the

SECOND SERIES—Parsnips, or drilled beans, may be substituted for potatoes; or a six-crop rotation be thus arranged, by which clover will only come once in six years. 1st. Turnips, potatoes, or cattle beet; 2d. Wheat, or barley; 3rd. Clover; 4th. Oats; 5th. Beans; 6th. Barley, or wheat.

In appropriate soils, rape, cabbages, carrots, and other plants, would have their claims in the rotations; so would vetches, which act so serviceably in preventing evaporation from the soil; therefore it is impossible to lay down any fixed order, which various circumstances might render it necessary to derange.

Where certain crops are peculiarly suited to the soil, as beans on very strong clay, they must come in the order most convenient to place them in, with respect to themselves, and the crop immediately to follow; and there must also be a due proportion preserved between the rotations, *and the quantity of manure which* the farm can supply to them.

It is enough for me to press upon your notice the general principle of variation in the cropping, and regard to the nature of the soil and the elements of manure which it contains in itself, or which you have it in your power to afford to it.

As an ameliorating leguminous crop for cattle-feeding in summer, clover, on

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* Very decidedly not of wheat, because, from the length of time during which it is in the ground, and the weight of its grain, it is the most exhausting of the grain crops.

† From *legumen* (pulse) including pease, beans, vetches, clover, lucerne, and sainfoin.

‡ Fallowing is almost exploded as a system, and ought not to be adopted, unless where there is want of capital to provide cattle and suitable accommodation for creating manure, and no desire to employ labourers for weeding and hoeing, and other extra work, which the green crop system demands.

perfectly clean land, may be ranked first; for it is suited to most soils,—is sown without any labour (except that of scattering the seed) with a crop of corn or flax, *in very rich soil—gives a great* amount of food for cattle, especially if sprinkled with liquid manure between the cuttings.

Turnips are equally important for winter food, and for similar reasons as respects their food.

The expediency of pursuing any settled order of rotations, should not only be decided by the nature of plants and soils, but also by the character of the climate (the condition of the atmosphere, as to heat and moisture, being of extreme importance), and the qualities and quantities of the manures available.

An intelligent man who tries a good course of rotations, though on a small scale at first, will be unlikely to re-adopt the old, slovenly "hand to mouth" manner of farming; for he will perceive, after experiment, that a system of rotations which includes a due proportion of live stock, is one which, with perseverance and industry, is most likely to increase his profits three or four-fold.

To prove the correctness of this assertion (which is, in reality, that of M. Dombasle), I shall, for our next week's employment, give you a translation of a short narrative related by him.—I remain, your faithful friend,

MARTIN DOYLE.

EFFECTS OF LIME.

From the Muck Manual.

Lime is very extensively applied, but more particularly in the north of England and Scotland, where the soil is for the most part derived from the older and primitive rocks, which is also the case in the greater part of Devonshire and the whole of Cornwall, as well as in Wales; and when we consider the several causes of its beneficial effect, which we shall presently notice, we think we shall establish its claim to more general use than it has yet attained.

The modes of *applying lime to arable land*, and the quantity used, vary much in different parts of the kingdom; there is, however, one maxim which should be common to all, and that is, to mix it with the soil in as caustic a state as possible; for on this depends its more active chemical effect.

The most convenient and economical mode of managing lime, when applied to arable land, is to deposit it unslaked, as it comes from the lime-kiln, in small heaps of three or four bushels each, to be spread regularly over the field, and covered immediately with a considerable quantity of the soil, by which it will in a few days be reduced to powder; and as soon as the lime has become slaked, it should be spread over the soil, and ploughed into the land, to mix it intimately with the earth. In rainy seasons much attention is required to avert the consequence of too much water, which, by making it run together in a mass, prevents it from being spread regularly over the land. This consequence is so serious, that in Cornwall it is considered *justifiable, even by scrupulous persons, to attend* to the work on Sunday after a heavy rain.

As too much light cannot be thrown on this important subject, and as the application of lime has been more attended to, and carried to a comparatively greater extent, in Scotland than elsewhere, we shall render the best service to the practical Farmer by giving some extracts from a late eminent writer on Scottish Husbandry.

"There is no country in Europe where calcined lime is used to so great an extent, and in such quantities, as in the more improved and improving districts of Scotland. This may be partly owing to the total absence of chalk, which abounds in many parts of England, and which renders calcined lime less necessary there; but it is principally to be attributed to the great benefit that has been derived from its use, which would hardly be credited were its effects not too correctly stated to be disputed. In bringing new, or maiden soil into cultivation, the use of lime is indeed found to be so essential, that little good could be done without it. Its first application in particular gives a degree of permanent fertility to the soil which can be imparted by no other manure. Maiden soils in Lammermuir, of a tolerable quality, will, with the force of sheep's dung, produce a middling crop of oats or rye; but the richest animal dung does not enable them to bring any other grain to maturity. Peas, barley, or wheat, will set out with every appearance of success, and when the peas are in bloom, and the other grains are putting forth the ear, they proceed no further, and dwindle away in fruitless abortion; while the same soils, when sufficiently limed, will, in good seasons, bring every species of grain to maturity.

"This fact proves that oats and rye require less calcareous matter than what is necessary for other grains; that lime acts as an alterative, as well as an active medicine; and that the defects in the constitution of the soil are cured, even after the stimulant and fertilising effects of the lime have long ceased to operate. Lime is also peculiarly beneficial in improving muirish soils, by making them produce good herbage where nothing but heath and unpalatable grasses grew formerly, of which instances, too numerous to be repeated, must be in the recollection of every experienced Farmer. The expense of this article, and the distance to which it is carried in some parts of Scotland, is stated to be enormous: in Aberdeenshire for instance, very little of it is produced in that country; it is carried inland to the distance of more than 30 miles, after being imported from Sunderland; yet lime is there considered to be so absolutely necessary to the land as to be considered the foundation of all substantial improvement. It is supposed, however, not to be so useful on the sea-shore as in the inland districts, from the soil being perhaps mixed with sea-shells.

"Lime is certainly well calculated for *clay lands*. Some recommend laying on a certain quantity of it, to the amount of 20 bolls of 'shells' (*calcined lime*), or 120 bushels to the Scotch acre, or 96 to the English acre, and as hot as possible, every time the land is fallowed. The plan is, however, objected to from respectable authority, and it is contended that so small a quantity of lime shells is quite unfit for stimulating any kind of soil, except where it is of a dry muirish nature, and not formerly limed. To lime land every time it is in fallow seems unnecessary; more especially if a sufficient quantity were applied in the first instance. From 60 to 70 barley bolls per Scotch acre, or from 350 to 420 bushels per Scotch, that is from 288 to 336 bushels per English acre, are quantities frequently given in East Lothian. In regard to loams, if they are in good condition, and in good heart, perhaps liming once in two rotations of —— years each, will be sufficient. It is a rule, however, in regard to the application of lime, *that it should only be applied to land in a dry state, and well drained.*

From the Albany Cultivator.

CULTIVATION OF WHEAT.

Is there not some great defect in our general mode of wheat culture? In the early settlement of the country, when the soil was first brought into cultivation, wheat was readily produced in almost *every section; but the production of this* grain soon began to decline, and with the progress of population westward, it may be said the wheat region has been constantly receding in that direction. This circumstance would, long ago, have excited alarm, but for the vast extent of territory in our possession still unoccupied. The question, however, may even now excite some anxiety—Whence are the future inhabitants of our country to derive their bread, when there shall no longer remain *new land* to cultivate?

Our soil, in regard to the production of wheat, presents quite a contrast, in some respects, to that of some of the countries of Europe. There, soils which now yield bountiful harvests, have borne the same crop, at various intervals, for a thousand years or more. In our oldest districts, where cultivation was only commenced a little more than two hundred years since, the culture of wheat is mostly discontinued, and where carried on at all, yields in general but poor returns.

In view of these facts, it appears to us that we may derive some useful hints from attention to the best modes of European wheat-husbandry. In the best systems which prevail in England, for instance, there are at least two points which we think might be very advantageously adopted in this country. We mean the more perfect preparation of the

soil, and the special adaptation of manures to the production of wheat.

We have been led to these remarks by the perusal of an excellent essay on the cultivation of wheat, in a late number of the *Farmer's Magazine*. In relation to the requisites for the growth of wheat, the writer observes that the plant is not one easy to cultivate, "for though it thrives in a stiff soil, it may be too hard; though it will grow in a loose sand, if properly attended to, it is easily thrown out; though it thrives in a hot summer, it may be burnt up for want of moisture; and though wet is injurious to it, it still requires, at certain seasons, considerable moisture. Indeed, it may be said to require a medium of soil, condition, and climate, to be brought to full perfection. If the soil be too poor, it is short and sickly; if it be too rich, it lodges or mildews; and no plant requires the watchful eye of the cultivator more carefully or more assiduously."

He speaks of the improvements in cultivation which have been adopted in England within a few years, and observes it was formerly thought that wheat could only be grown on strong retentive soils, but that it is now successfully cultivated on nearly all light soils as well as on strong. He says the "four-course," or alternating system of farming, "established the fact, that while the clover root was a better bed for wheat than a fallow, the sheep's treading and droppings were a much better dressing than lime or barn-yard manure; and that blowing sand could, in eight or even four years, be adapted to the production of as many bushels of wheat to the acre as the naked, open, laborious fallow, and with this difference, that on the latter there were the accumulation of two years' rent, tithes, taxes, and labour; on the former there was a stock of sheep to sell, and no labour beyond the plowing and sowing."

In this country, so far as our observation goes, no better preparation can be had for a wheat crop, than a clover-ley depastured by sheep. The action of clover on sandy soils, is to render them more compact. In the language of this writer, "such is the consolidating power of the trifolin, that the very lightest soils will sometimes become so hard as (when very dry) to defy the power even of a Ransom's or a Howard's plow to penetrate."

He cites the analysis of Sprengel, by which it appears that the principal ingredient in wheat of a fixed character, is phosphorus, and observes—"when it is considered how much of that material is drained from the soil year after year, and sold off the farm, it is not surprising that we hear farmers complain of 'old going land' and 'spent soil!'"

The most suitable manure for wheat, he believes to be bones, in connection with the droppings of sheep left while feeding on the land; and where this course of culture has been adopted, he says good farmers in all parts of the kingdom have come to the unanimous conclusion that no soil is too light to grow thriving crops of wheat, if only it be properly tilled. "In the bones, the phosphorus, which is so essential to the formation of the grain, is supplied, and the urine and dung of the sheep supply the other constituents necessary for perfecting the plant in straw and grain.—Many examples of the successful application of bones to wheat, it is said, might be related; and the experiments of Sir Samuel Crompton are referred to, "who has on a light and naturally poor sand, obtained most magnificent crops of wheat."

Bones are prepared for use as manure either by being crushed in mills designed for the purpose, or by being dissolved in sulphuric acid. The latter seems now to be considered, in England, the better course, and is being generally adopted. Prof. J. P. Norton, in a communication to the Cultivator for 1845, p. 266, gives the following mode of preparing bones with acid: The bones are placed in a conical heap on a bed of ashes, and the acid slowly poured on. Twelve pounds of acid per bushel is the quantity applied; but previous to its use it is diluted with once or twice its bulk of water. The bones will absorb nearly the whole of the acid; the outside of the heap should then be turned inside, and the whole will in a short time become soft and fit to mix with ashes for drilling or sowing.

They are sometimes applied in a liquid state, and are used alone as top-dressing. The quantity applied per acre is from sixteen to twenty-five bushels.

The writer of the essay of which we have been speaking above, has no confidence in the system of "dibbling and thin sowing," concerning which we have lately heard much; and though he thinks it certain that under the necessity of economy which at the present time exists, great efforts will be made to adopt it, he deems it equally certain that it will end in failure. He says,—"We are in possession of a series of experiments which have been made, and the results brought to the test of the bushel and scale, which shows the dibbling system a perfect failure, and which at a future opportunity we shall give."

He is in favour of drilling, of which he thus speaks:—

"The drill is the sheet-anchor of wheat sowing. The seed is deposited with the accuracy and regularity of clock-work; the quantity can be regulated to a fraction—a peck per acre; the rows are straight, parallel and regular; the depth can be adjusted to a trifle; and the whole apparatus adapted to the necessities, capabilities and circumstances of the soil and season, with the more loosening of a screw, or the turning of a handle."—Drills, he says, are in use, which "are as perfect, both for mechanism and practical effect, as a chronometer or a steam-engine." So complete is their execution, that in sowing a twenty-acre field, when the surface is favourable, "scarcely a variation of an inch from a straight line occurs in the whole piece."

We have, on former occasions, spoken of the advantages of this system of wheat culture; and have mentioned the example of Mr. Noble, of Massillon, Ohio, who practices drilling extensively, and with excellent results. Some of the finest wheat crops we have ever seen, were produced on his farm by this mode. He informs us that the longer he continues this practice, the more he is in favour of it. He has constructed a drill which operates well—doing the work with precision and despatch. We believe the system of drilling wheat is worthy of general adoption, and we hope to see it speedily introduced into our principal wheat districts.

As a *protection against smut and vermin*, the writer of the essay recommends arsenic. We have formerly used this substance as a preventive of smut, but cannot say that it was found any more effective than blue vitriol or sulphate of copper; either substance will answer the purpose well, if properly used. But for protecting the seed against insects and vermin, we think it probable the arsenic would be preferable, though we cannot speak on this point from our own experience. The following is the mode of using the arsenic:

"Take to every bushel of corn (grain) one ounce of arsenic,* dissolve it in one pint of water, adding half a pound of salt. Spread the corn on a level floor, and pour the liquor on the wheat, continually stirring it until the whole is wetted, or thoroughly damped. Then apply and mix quicklime until it is sufficiently dry to sow, and we will guarantee that not an ear of smut will be visible. The seed is also secure from crows and vermin; and the arsenic, so destructive to animal life, seems to have no effect of an injurious tendency on the seed wheat."

The average yield of wheat per acre, on a clover-ley, under good management, is put down at 30 bushels, and the expense of cultivation is given as follows:

	£	s.	d.
Plowing,	0	6	0
Sowing,	0	3	0
Harrowing,	0	1	0
Rolling,	0	1	6
Seed,	0	18	0
Weeding,	0	4	0
Straw for harvesting and all expenses up to marketing.			
	£1	13	6

This would give the cost per bushel 1s. 1½d., or about 26 cents. The common opinion, we believe, is that wheat is produced much cheaper in this country than it can be in England. This is at least questionable; at any rate we doubt whether many of our farmers can show that they have produced it at less expense than the above estimate shows. On the other hand, it is not improbable that with their

* Might not arsenic be turned to good account in corn planting, as a protection against its chief enemies, the crow and the grub?—Ed. *N. F.*

improved modes of culture, and the greater average yield, the English farmers may have the advantage of the American on the score of cheapness; and we ought to regard this as an additional inducement for the adoption of a better system.

ON CHEMISTRY.

From the Hereford Times.

When the Farmer comes to manhood he asks, what is chemistry? Why it is the history of that soil that you have been treading, it is the history of that air you have been breathing, of that water that has beset you in winter, and of that heat which took it away in summer; of those crops that you have been growing—nay of every plant that grows, from the humblest weed up to the Oak of the forest—of every animal that breathes, from the shrew mouse that makes its nest in the new turned furrow up to the heaviest beast you ever fattened for the market: it is the history of green crop and grain crop, and of every manure that you apply to them: it is the history of the birth health, growth, and fattening of every animal that you have watched from the weaning to the slaughtering. This is what chemistry is: now let me ask you in turn whether you think chemistry has aught to do with farming? But you will ask what are the particular uses to which this science could have been applied? Could I, by any acquaintance with it, have grown larger crops and better?—could I have grown a greater number of crops in a given number of years?—should I have known better in what succession to grow them?—would my samples of grain have been better and more regular in quality, as well as the bulk greater in quantity?—could I have saved my Wheat from being perished by the wet in winter, or a thick crop laid, and a thin crop burnt in summer?—could I have grown Turnips where they had never been before, or Clover where it had been too often?—could I have mown my Grass twice instead of once, or three times instead of twice, without injury to the land?—could I have grown two crops of different kinds at the same time on the same field?—could I have worked my stiff lands later in autumn and earlier in spring?—could I have manured my fallow crops more cheaply, and grown them at less cost and labour?—could I have reared my young stock more healthy, and fattened them more speedily, and at less expense of food?—could my dairy have produced butter from Turnip-fed-cows, as pure as if made from the sweetest hay?—could I have turned the rain of winter and the heat of summer to my benefit instead of damage?—could I, in a word, have turned every element that has been my occasional enemy into my constant friend?—and lastly, and not least, could I by its means have been provided with an occupation for the long winter evenings which would have been carrying on my business and have promoted my profit and pleasure at the same time, whilst I was sitting by my fire-side surrounded by my family, and at the same time could I have become more acquainted with the works of Him who by the beneficence displayed for us in the whole creation, teaches us the lesson of beneficence to each other? To every question—to every one of these questions—hard as some of them may appear—it is not I that answer—it is Nature, it is Truth that answers emphatically, yes! I do not speak of what merely could be done, but of what has been done, and its being done every day. I do not ask to look forward into the future to see what that wonderful science will yet accomplish. I am willing to take my stand on what it has already accomplished, and what you may see in operation at either of the example farms of England. Go for yourselves and see what has been done upon what was called bad land, by Mr. Huxtable, in Somersetshire; by Mr. Mechi, Essex; and by Mr. Davis, in Surrey; and I wish with all my heart that every county in England could furnish such examples of science put into practice as are to be met with in those three. But then comes at the end of every recommendation the question of profit—"Does it pay?" At the last meeting of the Sturminster Agricultural Society, Mr. Huxtable furnished the agricultural community with his experience on this important point by a clear debtor and creditor statement from his farm books. He first gives the various payments of tithes, rates, and taxes, then payments for seed, the keep of farm horses, the cost of artificial manures, and all the other *et cæteras*; then he comes to what he justly terms his triumphant item—the payment for labour £3 an acre! Then comes the credit side, and it was somewhat singular that the profit coincided very nearly in amount with the payment for labour. Now it has happened to me in looking over several similar accounts of improved farms to find in each a nearly similar coincidence between the payments of labour and the clear ultimate profit, and it impresses me with a strong suspicion that some of us are a little too apt to make the profits of our farms at the wrong end of the year. If more labour were employed and better paid, and rather by task work than by day work, it would be better for the employer, and a greater stimulus to the labourer. Amongst the various improvements of Mr. Huxtable and others, there is none better worthy of notice than the shed feeding of sheep. The advantages attending it are found to be so great in every way, that I much doubt whether even upon the lightest soils we shall long see them exposed to the frosts and rains of winter, to waste their flesh under the double drawback of cold and animal exertion, in gnawing chilled Turnips out of the frozen ground. Chemistry has shown us so clearly the loss to the animal, and to the soil, and the waste of food required to support the temperature of the animal against the weather, that scarcely a doubt remains of the disadvantage of the practice. Mr. Huxtable's sheds are of the lightest and most simple and economical construction; they are supported on wooden posts, about 16 feet wide, and the pens on each side intersected longitudinally by a sort of gangway, and protected on the outside by light wattled hurdles, sufficiently to secure them from the free ventilation they require. They stand on narrow boards which are laid with intervals between them wide enough to prevent a continuous surface, yet narrow enough to afford a safe footing to the animal.

It is the opinion of Mr. Huxtable and Mr. Davis, and it has long been my opinion, that the distinction we are apt to draw so broadly between good land and bad, exists mainly through our own ignorance of the resources of scientific agriculture. Mr. Huxtable's hill farm, in Dorsetshire, was thought worthless because it seemed a mere bed of chalk and flint stones. Mr. Hewitt Davis's farm was called bad because it contained too much rubbly sand and gravel, and the evil which we most commonly have to contend with in this climate is the stagnation of surface water. Mr. Huxtable has cured his by the most ingenious collection and application of the manures which are most powerful in stimulating the growth of green crops, and the consequent accumulation of vegetable matter, which soon darkened the colour of his white chalk-downs. Mr. Davis, by deep cultivation, increased quantity of green crops, and other judicious means, altered the very appearance and texture of his land, until it became a perfect garden of clean soil and profuse crops. And stiff and wet soils may soon be made to feel that not one drop too much of rain falls from heaven, if man will only do his part in giving it a passage downwards through the earth, for 2 or 3ft., by the aid of the draining-tile and the subsoil-plough. Now what does all this prove? Does it not tend to show that we are too hasty in calling land bad until we have done the part that is required of us to make it good? "If all land had been made to our hands of the best quality," said Mr. Huxtable at the Sturminster Agricultural Meeting, "there would have been nothing left for the science of man to discover, or for his energies to carry out. We should all have gone to sleep." Throughout all his works, the Great Creator has left varying degrees of original excellence with the evident purpose of stimulating the activity of man; and all who know the curse of idleness, and the blessings which result from labour and the employment of our energies and faculties, will at once perceive the wisdom and benevolence of the design. It is curious to see that in many cases what was hitherto thought the worst soil has given birth to the most exemplary specimens of good husbandry, and I believe it will generally be found that where difficulties have been overcome, a higher degree of success is obtained than is usually enjoy-

ed by those who set out under great original advantages. I have endeavoured to show you the nature of that connection which exists between chemistry and agriculture, and I have endeavoured to show some of the useful purposes which it could accomplish and has accomplished.

Newcastle Farmer.

COBOURG, MAY 1, 1847.

In our last number, we considered the attention of our brother Farmers should be turned to the importance of testing the merits of some root crop as a succedaneum in case of the entire failure of the Potato,—an event certainly much to be deplored, as an article in such extensive consumption by the human race. Now, we are *not* of the opinion that the Potato is about to become extinct, (Cobbett's prophecy to that effect notwithstanding,) but that at least a sufficient amount of that description of food may, and will be raised, from the best varieties of that esculent, for the supply of the table. From the high estimation in which they are almost universally held, and the various forms in which they may be made available, and from the acquired taste for them, too firmly established to be readily relinquished, we believe that no other vegetable production (the cereal grains excepted,) can ever be estimated as equally palatable. We must take into the account also, the lengthened period of their duration, which indeed can hardly be said to know cessation, for potatoes of a good kind, and well stored, last the entire year, from the commencement with the early varieties, such as the ash-leaved and English kidneys in July, to the long keeping sorts of Scotch reds and Cups, until the kidneys again come into use. They afford, indeed, a valuable and never-failing supply.

As far as a description of produce for farm purposes is required, doubtless other roots will be in request beyond those of ordinary culture in this Province. The turnip is at present almost the only root, to which the attention of the Canadian agriculturist has been turned,—and that not to a tithe of the extent to which its superior merits entitle it.

Some few years since an acre of turnips was almost a prodigy, the great fact having been entirely overlooked of their vast importance in supplying the deficiency arising from a short crop of hay, as well as its nutritious quality of keeping in condition and fattening Stock of all descriptions,—a quality which, in our opinion, throws the potato completely into the shade, especially for winter feeding; for although it may contain as much watery matter as the other, still, possessing as it does a most grateful warm aromatic flavour, is better suited in our cold inclement winters to enter into the stomach of all ruminating animals,—while with the non-ruminants it is always acceptable.

We have collected a few statements having reference to other root crops, whose mode of culture will be nearly similar to that of the Swede, and which, together with that root, will yield a much larger proportionate return than the potato, and we most sincerely hope that every Farmer's attention will be directed to so important a branch of agriculture; and if so, we are quite assured that we shall hear less of the necessity for calling in the aid of all the neighbours to help lift the poor emaciated creatures on the farm, who have been starved,—*for that's the naked truth*,—for want of sufficient nutritive food, during our long and severe winters.

Some Farmers have been discouraged in their endeavours to raise turnips, on account of the ravages caused by the fly, immediately on their appearance and before they have arrived at the rough leaf. Now we have thought it more than probable that the extremely minute larvae of the insect is deposited with the seed, as it makes its appearance simultaneously with the young plant, whether sown early or late, and in every possible conceivable situation. If so, it would be well to take into consideration, whether any method of steeping or fumigating the seed could be adopted which should, by destroying the larvae, remove the difficulty,* and then by the use of stimulating manures force the young plant to a state beyond the reach of other insects.

In enumerating the various roots applicable for Stock feeding, we find "the carrot, artichoke," mangel wurtzel, parsnip, and Swede turnip; the nutritive matter in the carrot, mangel wurtzel, parsnip, and turnip, is as follows;—

Carrot.	Mang. wurzel.	Parsnip.	Swede turnip
98 p'ts in 1000	136 in 1000	99 in 1000	64 in 1000.
of which			
95 are sugar,	119 sugar,	90 sugar,	51 sugar,
3 starch,	13 mucilage,	9 mucilage	9 starch,
	4 gluten.		2 gluten,
			2 extract.

To this list of available plants may be added the Kohl Rabi, or bulbous rooted cabbage; each and all of these have their separate and distinct advantages and disadvantages with reference to labour and mode of culture, requisite care in storage, and amount of produce; but, with the exception of the Jerusalem artichoke, all yielding a far heavier crop than the potato. As an article of food for man there is no root, like the potato, so devoid of any strong peculiarity of flavour, which peculiarity would render it difficult of adaptation to the human palate, except in some few solitary cases. There is no other root so equally adapted to all the varied modes of cookery; for while in some instances other roots might be acceptable with rich baked or roasted meats, with the gravy of the same, they would be intolerably insipid, or equally rank with boiled dishes while in hashes and stews, they must be rejected, as communicating too much of their peculiar flavour to whatever they might be used with. How far their nutritive qualities may be equal to those of the potato, is not a question on which we are inclined to enter; possibly most are equal and some superior in that respect, but, if not generally palatable, nothing short of dire necessity will cause their universal adoption. Perhaps no root bears so near an affinity of flavour as the artichoke, a root easy of cultivation, and valuable for the use of its tops and leaves for cattle fodder, as well as its tubers for the table. They possess the additional advantage of being scarcely susceptible of frost,—they are little influenced, indeed, by any kind of weather; wet or dry, frost or snow, affects them not, and gather them as close as you will, a second planting is rarely necessary; so that by planting in rows after the manner of corn, and once draining between the rows with the Cultivator, nothing can be raised with so little trouble, and the same patch, with an occasional dose of manure, is all that is needed.

The stalks may be cut when the plant comes in flower, and cattle will eat them with great readiness; and it is said pigs will fatten on the tuber as readily as on any other root. We are not advocating their introduction, but merely stating facts, leaving our readers to draw their own inference; but it must be added, to their disadvantage, that the crop is not so prolific as that of the potato, and they are difficult of extirpation.

We now come to the carrot, whose advantages consist in the immense yield,—scarcely injured by frost,—containing so little moisture,—applicable to all descriptions of stock, and no danger of contamination in raising the seed. Two premiums were awarded in Jefferson County, New York State, for 600 and 950 bushels raised on a single acre in each case; and in one instance a premium was given for 250 bushels from one quarter of an acre! No potato crop can yield this. The white carrot should be used.

The disadvantages consist in their being not so easy of culture or depositing the seed,—need extreme care and labour in keeping clean,—tops not so valuable as fodder,—more likely to mildew than parsnips,—are considered an exhausting crop,—and are said to be injurious to the eyes of horses, if fed unmixed with chaff or grain.

The field beet, or mangel wurtzel, is easy of cultivation, the mode of operation being the same as for the Swede turnip, over which it has this decided advantage with our Canadian season, that it will do better in dry warm weather, being a plant that requires more light and heat than the turnip. It allows of transplanting,—will not flavour the milk,—and no plant is so little liable to disease or attack of insects. On the other hand, it is less nutritive than the potato,—great care is needed in storing,—liable to be injured by frost,—and all bruising the roots must be avoided as much as possible.

The advantages of the parsnip will be found in their being easier sown than the carrot,—may be drilled in by machinery, and consequently more adapted to extensive field culture,—the produce is equal to carrots,—are excellent for milch cows and fatting cattle. The Jersey variety to be sown, and new seed is indispensable. The tops being bulky, may be mown off before taking the crop, and fed to cattle and horses. They are liable to become forked, unless the soil is freely stirred to a considerable depth.

Of Swede turnips we need say nothing, as their culture and properties are being well understood; and our readers can now form their own opinions on the comparative merits of each. But we think it would be as well (as all are valuable) to cultivate say a quarter of an acre of each, and thereby more fully test their respective value.

* In sowing turnip seed for two past years, we have soaked the seed for twelve hours in warm water, and after spreading on a coarse cloth for an hour or two to absorb the superfluous moisture, have thoroughly mixed each pound of seed with half an ounce of flour of brimstone, which is sown with it; and we have not been troubled with the fly.

CUT WORMS, EXPERIMENT ON POTATOES, &c.

To the Editor of the Newcastle Farmer.

Sir,—Before I notice the *worm* or caterpillar, very appropriately called "the *cut*-worm," which is one of the greatest nuisances in our gardens and fields, I will offer a few remarks on an animal ("*homo*

est animal") of an analogous character, to wit, a *critic*. In the *Cobourg Star* of the 7th inst.,* "*A Northumberland Farmer*" has been pleased to publish "a bootless criticism" on my last communication, which *criticism* is somewhat equivocal, for whether it was intended to be complimentary or the reverse, "curse me if I can tell," as Tony Lumpkin says in the play; neither can I discover the wit, point or applicability of his illustrations in prose and verse. I admitted the utility of scientific investigation in Agricultural papers, but intimated that all theories should be intelligibly illustrated, (not precisely in the manner of "*A Northumberland Farmer.*") He asks if I could not have assigned other motives for the refusal of certain Farmers to take the *Newcastle Farmer*, than those which I stated?—Whether I could or could not is of no consequence, I merely related that which had actually been declared to be the motive of an intelligent farmer. My *critic* may be in the habit of speculating on motives and reasons,—*I am not.* Does he mean his alleged opinion relative to the disposition of a "*genuwyne Yankee*" to be ironical, or were his observations on the subject the result of ignorance? I will venture to say that I have wintered and summered the Yankees more years than he has passed consecutive days in the United States. I know their failings and their virtues, (the latter of which, it pleases me to say, greatly preponderate,) as well as they do themselves, perhaps better, for I am a more disinterested and impartial judge; and I confidently assert that a more vain and "*thin-skinned*" nation (vanity and sensitiveness always coexist,) cannot be found in the civilised world! Some of their own most celebrated authors have ridiculed these "national weaknesses." But I am becoming as "lengthy" as my critic, and will close my observations on his epistle by hinting that such controversial correspondence as his is not the sort of discussion that is calculated to promote the interests of either the readers or the proprietor of the *Newcastle Farmer*. Who, that has been reluctantly induced to impart the results of his experience, in hopes of benefiting others, will continue to do so, if he thereby render himself liable to dull or querulous criticism? Antagonistic discussion properly conducted, is most desirable, to elicit truth and determine that which is doubtful, but petulant controversy is worse than useless.

I will now prescribe a remedy for that pest, the *field and garden cut-worm*. Scores of recipes for the annoyance and destruction thereof, have been recommended as infallible; some of which are too tedious in their application for general practice, others of no efficacy, and but one of them really effectual, namely, that which recommends that the felon should be sought where he has left destructive marks of his "whereabouts," caught, and *killed*; but even to this there is a serious objection, besides its tediousness, for although you catch and execute the thief, you cannot recover the stolen property; if my house were destroyed by an incendiary, his conviction and execution would be but a poor compensation for the loss which I had suffered. I had often tried a mixture of lime and ashes without success, and at length resolved to test the efficacy of that much praised remedy by experiment; having captured three of the felons, I placed them in a large saucer and covered them with earth mixed with more than a third of its quantity of lime recently slaked, and ashes; on visiting them two hours afterwards I found they had all absconded, but two of them, whose backs were whitened by the lime, were retaken and again consigned to the saucer. A piece of gauze was now tied tightly over their prison, so that escape was impossible; two young cabbage plants, as it was near feeding time, were given them for supper; of these, it appeared next morning they had heartily partaken; on being examined, they appeared healthy and lively as when first taken! Soot, ashes, and lime, have about as much effect in destroying the turnip fly, the *dicta* of theorists to the contrary notwithstanding. Flower of sulphur *will* protect the leaves of cucumbers, "*et id genus omne*," from bugs; is then the *cut-worm* indestructible? No; it may be destroyed easily and certainly. A few years ago, wishing to have a cucumber for supper, I took a candle, the night being perfectly calm, and proceeded to my hot-bed; on passing a bed of cauliflowers recently planted, I discovered on their leaves and on the ground as pretty a collection of cut-worms as any horticulturist would wish *not* to see. I cut my cucumber, sent for my gardener, told him what I had seen, and instructed him to take a bright light and a tin mug, and capture all the depredators he could discover; in less than an hour he returned, having collected in the mug *three hundred and ninety four* felon worms; the next night he took ninety, on the following night less than fifty, and on the fifth he could not find one. Although I previously had nearly half my plants annually destroyed, I never, after this clearance, lost half a dozen. The thieves were chiefly found upon the leaves and circumjacent ground, but some were arrested *in transitu* from one bed to another. They were plainly visible, and easily taken. A bright light and calm weather are, however, indispensable; from ten to eleven o'clock at night is the fittest time for the sport. I do not claim to be the inventor of this remedy; it is so simple and so obvious that, most probably, others have discovered and applied it.

In regard to other horticultural nuisances, I will only add that coarse aloes, dissolved in about ten times their weight of soft water, mixed with sufficient lime and clay, so as to be about the thickness of cream or paint, will, if applied to the stems of fruit trees at the beginning of winter, effectually protect them from the attacks of field mice.

I will now relate the result of an experiment, carefully tried, two years ago. Early in May *I* dug ("*Qui facit per aliam facit per se,*") a piece of ground which had the preceding year grown cauliflowers, and been well manured; having a quantity of sound long red potatoes, I planted them in rows of precisely the same length as follows: No. 1 was planted with the tops or ends furthest from their junction with the parent stems; No. 2 with the middles; No. 3 with the root ends; and No. 4 with whole potatoes. All were set in the rows twelve inches from each other, and their treatment while growing was the same. They were taken up in October, and the produce of each row carefully weighed.

Result.—No. 1 yielded 84 lbs.; No. 2 74 lbs.; No. 3, 70 lbs.; and No. 4, 74 lbs. The superiority of No. 1 was apparent while growing. The whole was a good, but not an extraordinary crop, being at the rate of 390 bushels per acre.

Yours, &c.

AN EX-FARMER.

To the Editor of the Newcastle Farmer.

Cavan, April 8th, 1847.

Dear Sir,—In this section of the country, owing to the character of the soil or a defect in its preparation, winter-sown Wheat does not usually succeed; and the chances of failure from freezing out is so great, as to render the attempt of Fall sowing wheat, of doubtful propriety; and I therefore find the culture of summer wheat of the first importance, and fortunately, when conducted in a proper manner, rarely fails of a handsome remuneration for the labour of the farmer; and even where winter wheat *succeeds well*, circumstances may render it desirable to grow more grain than can be sown in the Fall, when a few acres in summer wheat will prove a profitable crop. Spring wheat requires that the soil should be in good condition, clean or free from weeds, and hence succeeds generally better after root or hoed crops than on freshly manured lands. Recent manuring, unless with thoroughly decomposed matters, is injurious, as giving too rank a growth to the straw, causing it to lodge or fall, and preventing the filling of the kernel. In the culture of this crop, I have succeeded best with grain sown early; it gets its growth before the intense heats of summer come on,—it is not so liable to fall,—and what is of still more consequence, the berry will be fuller and heavier, and the yield greater than if the sowing was longer delayed. Where the wheat-worm has infected this crop, very early or late sowing has been found one of the most effectual preventives. Sown as early as practicable after the frost is out of the ground will do for Siberian, and on or about the middle of May for Black Sea Wheat,—in the former case, the insect not appearing until the proper state of

* Why not send his lucubration to the *Newcastle Farmer*, in which my letter appeared? "I *guess*" he *had* his reasons, good or bad.

the grain for the deposition of the egg has passed; and in the latter case, the period of the insect has usually passed before the grain comes to the stage in which it suffers most from the fly. Last Spring I sowed about five acres of Black Sea wheat in a field of about 12 acres, low alluvial land, and which was ploughed the Fall previous; on the west side of the field I sowed about four acres of Siberian wheat, and on the east two bushels of tea wheat, with a strip of pease to keep the latter separate, and pure from the Black Sea wheat. The field was altogether sown about the tenth of May, and now the result: The Siberian was considerably rusted, and not more than half a crop; the Black Sea, for which the highest premium was awarded, yielded about thirty bushels to the acre, and which was neither rusted nor yet attacked with the grain-worm; and the tea wheat proved to be an excellent crop—straw bright, yield twenty-five bushels to the acre. I should have observed that the Siberian was also considerably injured from the effects of the worm. Few crops are benefited more by change or choice of seed than this; but whatever may be the kind of seed, it should never be sown without a thorough preparation; soaking in brine, carefully skimming it during the process, and then drying it in caustic or new slaked lime, has, with me, proved the best treatment.

These salts not only contribute to giving the plants a vigorous and healthy start, but tend to keep it free from smut, —a disease to which this grain is liable.

With reference to the excellent communication of "An Ex-Farmer," in the last *Newcastle Farmer*,—he observes that "Abstruse theories and chemical analyses are so far from benefiting the Agricultural population of this Province as at present constituted, [how constituted!] that they frequently excite in the unscientific reader repugnance and distaste,"—and adds that many of his neighbours could not understand the communications recently published in the *Newcastle Farmer*. Without intending, by any means, to hurt the feelings of such a class of farmers, "unless they are as *thin-skinned* as a *genuwyne* Yankee," I shall respectfully beg to make the following remarks:—My motto is to "improve the mind and the soil," and in order to do so we must study our profession; for we have many judiciously conducted periodicals and many scientific works, and no man who has a proper pride in his profession, but reads some agricultural paper with all the zest that ever a politician devoured a partizan journal. These productions from practical farmers amuse, interest, and instruct. They excite us to increased exertion,—inspire us with confidence in our undertakings, which otherwise would be abandoned upon the first failure. They give us plans, the most approved, for all our farm buildings, make suggestions which are often of the greatest importance,—indeed they act as a "friend in need," as a wise counsellor, a judicious, experienced adviser. In fact, these papers are of as much importance and as necessary to the planter in the successful prosecution of farming, as the political newspaper is to the statesman, or the "reports of cases" to the Lawyer.

For my part, I profess to belong to the humble class of Farmers. I read with delight and profit the *Newcastle Farmer*, and the Agricultural Communications which occasionally appear in the *Cobourg Star*. Having extended this communication to the limits of my sheet, I shall, in my next, advert to the remarks of "An Ex-Farmer," and your preparation for Fall Wheat. In the mean time, I say to the Hamilton Farmers, if you don't take the *Newcastle Farmer*, you make a *bad calculation*.

Respectfully yours,
A CAVAN FARMER.

To the Editor of the Newcastle Farmer.

Haldimand, April 20, 1847.

SIR,—I wish to make known to my brother farmers, through your columns, my manner of growing Indian Corn. I last year took a piece of new meadow land, (broke up the Fall preceding, and manured at the rate of 50 loads per acre,) harrowed and cross-ploughed it, and then ridged it, (always necessary, in my opinion,) and planted Ives corn, together with some white and yellow, across the ridges, leaving room to plough between the hills. I gave it a light brush with the hoe when it was about ancle high, and put a spoonful of plaster on each hill;* it took about 50 pounds of plaster to the acre. In about three weeks time, when the corn was about knee high, I went through it with the plough and hoe again. About the 1st of September the ear was sound, and of course quite uninjured by the frost. It was harvested about the middle of September, but should have been done earlier, when I found full 45 bushels to the acre. Each bushel by measure averaged 60 lbs. by weight.

Yours very truly,
WILLIAM NOBLE.

N. B.—I consider corn fodder superior to any other coarse food; indeed, if cut before the frost strikes it, it is equal to hay.

I am trying the same experiment this year on the same piece of land; if it turns out well, I will let you know all about it in September next.

The net profit of last year's crop is estimated by me at 15 dollars.

* My opinion is that if the plaster be sown before the corn be up, it will be more effective.

WHITE BELGIAN CARROTS.

My neighbour, Mr. Heale, the nurseryman, Calne, has just fatted 41 pigs on Belgian Carrots, mixed with Bean and Pea meal, the latter only in small proportions. I never saw pigs fat quicker, or make better meat, and he considers Carrots quite equal to the Potato in fattening qualities. I should consider the White Belgian Carrot would be one of the most profitable roots the Irish could grow, as their soil would produce enormous crops. I have myself grown after the rate of 30 tons per acre on certainly one of the poorest soils in Wiltshire. As it is impossible that many Potatoes can or will be planted in Ireland this year, landowners should turn their immediate attention to this hardy and easily cultivated root affording them alike wherewith to fat their pigs, an important item in Irish economy, and a vegetable that may be made useful in a variety of ways.—*John Spencer, Bowood Park.*

THE POTATO DISEASE.

Presuming the Potatoes to be intended for planting dry, place them thinly in a shed, and water them well with a rose waterpot, let them lie for 24 hours, then remove them to a dry floor, powder them over with sulphur vivum, turn them and repeat it. Have your trenches ready the first week in March, place your Potatoes or sets in your usual way, without any manure; level the soil, then sprinkle over the surface with as much common salt as will resemble a slight sprinkling of snow, and I doubt not you will next autumn report progress.—*Robert Arnott, Cambrian Nursery, Charlton Kings, Cheltenham, Feb.* 15.

MODE OF USING FLAXSEED FOR FEEDING CATTLE.—The seed given by itself, is too strong and oily to be very wholesome food; and, besides this, the mucilaginous matter prevents the seed being bruised by the animal's teeth, or dissolved by the gastric juice. It is much better to take the bolls to a mill, where there are edge stones, without thrashing out the seed, and to have them ground under the stones, set very close, or have the seed cracked in an oat bruiser; or the small farmer, when no other means are within his reach, may use a metal pot, bedded in clay, and pound the bolls in it, with a hard wood pestle, made to fit the bottom of the pot. About a dozen of strokes are sufficient to make the bolls into a fine meal. The chaff and seed, mixed together, afford most excellent nourishing food. It may be given steamed or boiled; but it is best to steep the mixture from 12 to 24 hours in cold water, and then mix it up with lukewarm water, to the consistence of a gruel. It will have formed a rich, finely dissolved jelly, easily digested, and of the most wholesome and nutritive quality, excellent to be given to cows, and producing plenty of milk and butter; for horses, for young cattle, or for pigs. A pint of linseed, and half a bushel of the chaff, may be given at a feed.* A farmer who has experienced the advantages of saving the seed bolls of his flax crop, will never neglect it again, as they can be turned to much advantage in one way or other.—*Fifth Report, Flax Society.*

* Four quarts of unbruised bolls contain, on an average, a pint of pure seed.

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