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NEWCASTLE FARMER.

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

From the Pictorial Times.

ON THE DOMESTICATED ANIMALS OF THE BRITISH ISLANDS.

By DAVID LOW, Esq., F.R.S.E.

From early times, Great Britain has been distinguished for the numbers and excellence of the animals reared for the uses of the inhabitants. The cultivation of the horse began in the earlier periods of our history, for the purposes of war and the tournament, and has subsequently been carried to great perfection, for the race-course, the chase, the saddle, and for draught. The cultivation of sheep was early the subject of public attention, and, as being connected with the woollen manufactures of the country, was favoured by numerous laws; and within a period comparatively recent, extraordinary attention has been devoted to the means of cultivating animals for human food. It is during this latter era, which began about the middle of last century, that the greatest additions have been made to the value of the live-stock of the country, and that the practice of breeding has been reduced to a system, and founded upon principles. Of the species of the domesticated animals naturalised in the British Islands, numerous varieties present themselves, to which we apply the term breeds. The characters of species may have been imprinted by original organisation, or may have been the result of laws of organic development and change, of whose nature and operation we are ignorant. The characters which distinguish varieties are those which may reasonably be ascribed to known agencies, as climate, and the supplies of food. The differences of character, indeed, produced by agencies of this kind, may be very great; and, in the case of many animals, the naturalist may be left in doubt, whether the differences observed are the result of original organisation, or of more recent changes. But however species may have originated, or varieties have been produced, all animals submitted to domestication are subject to modifications of size, form, and other characters, dependent on the conditions under which they are reared; and by breeding, we can communicate the distinctive properties of parents to the progeny. In the rural economy of this country, a high degree of importance is to be ascribed to a knowledge of the distinctive characters of races or breeds. Much of the profit of the owners depends upon adapting the breed of any animal to the circumstances in which it is to be placed. By rearing, for example, a breed of large and delicate oxen, in a country unsuited, from its natural or artificial productions, to maintain it, we incur the hazard of loss in various ways; while, on the other hand, by rearing an inferior breed in situations where one of greater value could be maintained, we deprive ourselves of the profit which the natural or acquired advantages of our situation present. An error of another kind is the subject of constant observation, the result likewise of imperfect knowledge of the distinctive characters of breeds. For the procuring of a breed adapted to the situation in which it is to be reared, two general methods may be pursued; either a new breed may be substituted for that which exists, or the old one may have its characters modified or changed by crossing with other races. There are many cases in which scarcely an error can be committed in our practice in these respects, provided we resort to a really superior race; but there are many other cases in which a change of this kind may be injurious, or attended with doubtful benefit. Animals become gradually adapted to the conditions in which they are placed, and many breeds have accordingly become admirably suited to the physical state of the country in which they have been naturalised. Thus, the West Highland breed of cattle has become suited to a humid climate and a country of mountains; the beautiful breed of North Devon, to a country of lower altitude and milder climate. In these, and many cases more, an intermixture of stranger blood might destroy the characters which time had imprinted on the stock, and produce a progeny inferior in useful properties to either of the parent races. Not only have individual breeders erred in the application of this kind of crossing to practice in particular cases, but several entire breeds have been lost which ought to have been preserved. There are many breeds, indeed, so defective in themselves, that time and capital would have been lost in endeavouring to cultivate them; but not a few, as will be seen in the sequel, might have been improved to the degree required, by mere selection of parents, and attention to the known principles of breeding. Not only do animals become adapted in constitution, temperament, and habits, to the situations in which they have been naturalised, but characters communicated by art become permanent by continued reproduction. Thus, in the case of the dairy breed of Ayrshire, by breeding from females that posses the property of yielding a large quantity of milk, a peculiar breed has been at length formed, exceedingly well suited to the purposes of the dairy, and at the same time hardy and fitted to subsist on ordinary food. Now, such a breed might be injured, and not improved, by crossing even with a race superior to itself in many properties — Thus, a cross with the Durham or Hereford breeds would produce animals of larger size and superior fattening properties to the native race; but even in these properties, the progeny would be inferior to either the Herefords or the Durhams, and inferior, as a hardy race of dairy cattle, to the Ayrshire breed itself. Hence, the crossing of a breed of cattle with a race apparently superior, will not always be attended with ultimate good; and caution and knowledge of the end to be arrived at are required, even in the cases where the good seems most easily attained. Another error of a different kind, but proceeding likewise from imperfect knowledge of the relative value of breeds, prevails to a great extent. Breeds, in themselves bad, are obstinately retained in districts fitted to support superior races. In every part of the kingdom, we see breeds which are unworthy of being preserved, while the easiest means are at the command of the farmer of supplying their place by others suited to the locality.— Thus, over the greater part of Wales, there are races of wild diminutive sheep, which, in economical value, can bear no comparison with those which could be supplied from other places. In Kerry, and other mountainous districts stretching along the western coast of Ireland, in place of such sheep as the country could maintain, are to be seen assemblages of animals of the size of dogs, and as wild as antelopes, neither having wool fitted to the manufactures of the country, nor being capable of fattening to any size. Even in the heart of Yorkshire, as we shall see in the sequel, a breed of sheep is preserved, covering a considerable tract of country, which, from its coarseness of form, and inaptitude to fatten, ranks in the lowest class of cultivated sheep in England; and in every part of the kingdom, we may see examples of the vast public and private loss which results from unacquaintance with the relative value and economical uses of the different breeds of our domesticated animals. To remove the causes of mistaken practice, in a branch of industry so important to the interests of producers and consumers, may be regarded as mat-

ter of national interest. From the produce of live-stock in this country, a large part of the subsistence of the people, of the materials of our manufactures, of the profits of the farmer, and of the revenue of the landholder, is derived. In many parts of the kingdom tillage is difficult or impracticable, and the only valuable production is live-stock; and it is not too much to assert, that half the rental of the British Islands is derived from this source. These considerations will make it appear, how much the study and advancement of this department of rural economy merit the attention of those who seek to widen the channels of native industry.

From the Philadelphia Saturday Courier.

ON THE ORGANIC MATTERS IN SOILS.

In my last, resumed Science as Practice took his wonted place beside him, as a student, after the labors of the day had closed, I entered into the subject of the various earthy matters of soils, and their uses to vegetation. These earths are called the inorganic constituents of soils, from their being original mineral substances, and not produced by the organs or agency of any plant or animal.

We come now to consider the organic parts of soil: that is, those substances which are composed of dead vegetable or animal creation—substances which, in fact, have resulted from, and once formed part of the organism of living plants or animals. Thus, if a tree or an animal *die*, their substance decomposes and mingles with the earth. Their remains are *organic matter*. They form a substance which the chemist cannot imitate artificially any more than he can any of the various forms of organic substances, such as woody fibre, gum, starch, sugar, &c. The chemist can imitate nearly, if not quite, all of the *mineral* and earthy substances found in nature; but *organic matter* is of a higher stamp—it has *lived*—the functions of life have been exercised in that decomposed vegetable or animal mass of decay, and it is beyond the chemist's imitative art.

Organic matter in a soil is destructible by heat. Heat a handful of any soil red hot, and it will lose from one to ten per cent. in weight. The organic matter has been destroyed. This substance may be divided into three states, viz. the *undecomposed*, which may be seen with the naked eye, such as roots, fibres, &c.; the *decomposed*, or that portion which is no longer distinguishable from the ordinary earth; and the *soluble*, or that portion which will dissolve out by boiling either in water alone, or with water and an alkali, such as carbonate of soda.

As I conceive the amount of organic matter in a soil to be intimately connected with its fertility, and a subject which ought, therefore, to be thoroughly understood, I will give some detail and explanation *in this chapter*, of

1st, The origin of organic matter.

2nd, The various states into which chemists divide it; and the various names by which they are called.

In the *next chapter*, I will dwell upon the *mode of its action in the soil; how it feeds plants; and how it may be increased in a soil.*

1st, *As to the origin of organic matter in soils.*

We see a magnificent tree rearing its massive trunk into the air and spreading abroad its gigantic branches, covered with luxuriant foliage; or we see a noble animal, full of life and vigor, spurning the earth beneath its feet, and we know that in them exists the organic matter of soils. We know that they themselves will become, at some future day, that organic matter itself; for that matter is composed of and derived from dead and decomposed animal and vegetable masses, which were once the verdant and buoyant organisms of Life.

But we ask whence did these animal and vegetable matters, in soils, which once lived, derive their substance? They have left to the soil a mass of actual matter, possessing substance, bulk and form; whence did *they* obtain this substantial, bulky mass? The first answer that occurs to us is, that they fed upon *food*, and that that food was obtained from the earth; and by these functions *assimilated and converted* into their outward form, and these forms became the organic matter of soils.

This is *true*, so far as it goes—but it does not get to the bottom of the truth—the origin of organic matter. This answer merely says that a certain race of animals, whose remains moulder in the earth, derived their substance from living vegetation; and that a certain generation of plants, which have died and rest in the soil, drew their matter from that soil originally. This is true—*but whence did those plants which fed the animals, and the soil which maintained the plants, derive their organic matter?* Where did organic matter begin?

A time has been when organic matter did not exist in any soil. A time was, if we may judge from the traces and evidences which still exist, when this Globe was in a liquid fusion, at a red heat.—Geologists and learned men are agreed on this point. Organic matter could not then have existed. The great heat would at once have burnt it up.

Again, take a piece of organic matter—a piece of wood, or a bone, for instance, and set it on fire, it will entirely disappear, except a little *ashes*, which we call its incombustible part, and which consists of earths and alkalies principally, (such as sand, potash, lime.) Where has the substance of this *wood*, or this *bone*, gone? Where is the *bulk* of that piece of organic matter? We do not see it, it is true, but it must exist somewhere. Matter cannot be annihilated—it cannot cease to exist. In an altered form the substance of that wood or bone still is. It still is matter; it still possesses form, bulk, weight, and still occupies space. But it has vanished in the air. In a gaseous form, mingling with, and existing in, the air, the substance of that piece of wood or bone may still be found, though imperceptible to the naked eye. Thus the elements and constituents of organic matter can exist in air as well as in earth.

We conclude from observation that the elements of all organic matter exist in a gaseous form; and by analysis we learn that all such matters (with extremely slight exceptions) are formed of the four elemental substances, *carbon, oxygen, hydrogen* and *nitrogen*. In whatever of the endless variety of forms organic matter exists—in vegetable life, from the cedars of Lebanon, bending under centuries of years, to the tiny floweret, whose evanescent loveliness dies in an hour, and from the delicious fruit to the nauseous poison—or in animal organism from the monstrous whale to the animalculæ a million times smaller than a gnat—in all its forms, it is composed of two or more of these four substances, in various combinations and proportions.

[NOTE.—These substances are four of the fifty-two simple substances which compose the world and all the forms of existent matter. These four form all the air, all the water, and we may add, all the vegetable and animal substances of the Universe within the ken of man.—They also enter very largely into the composition of the mineral kingdoms. They are called *simple substances*, in distinction to *compound substances*, because chemists cannot divide them, cannot resolve them into any other substances. Thus *wheat* is a *compound* body. It can be divided into 455 parts of carbon; 431 parts of oxygen; 34 parts of nitrogen; 57 parts of hydrogen; and 23 parts of ashes in 1000 parts of wheat. If you take any of these substances, of which wheat is thus composed, *carbon*, for instance, you cannot thus divide it. Burn it, it forms carbon in the air. Boil it, nothing can be extracted from it but simple carbon. Apply any test, or any chemical agent, nothing can be obtained from it—it is a *simple* substance—one substance—carbon. *Carbon* exists in pure charcoal, or rather pure charcoal is entirely carbon. Carbon exists in the atmosphere in the form of carbonic acid gas. *Oxygen* is one of the most abundant things in nature. It cannot be distinguished from the common air by the eye or smell.—Every nine pounds of water contain eight pounds of oxygen. Every 100 volumes of air contain 21 volumes of oxygen.—Wheat, as we have seen, is nearly one-half oxygen and the other half carbon; and so of nearly all vegetable substances. *Hydrogen* forms the ninth part of water, and is a small constituent of vegetable and animal matter. *Nitrogen* forms 79 volumes out of 100 of the air we breathe (the remaining 21 being oxygen). It enters into the composition of some vegetable and most animal substances.

Except carbon, all these exist when by themselves in a *gaseous* or aeriform state.]

If the origin of organic substances is thus traced to substances existing in the atmosphere, the next question is, how were those airy substances converted into *solids*—into animal and vegetable solids, which we can see, feel, smell, and taste; which support life while they *live*, and yield organic matter to the soil when they die.

It is the principle of LIFE existing in the vegetable and animal economy, which has done this—and which hourly, daily, yearly, and from age to age, still maintains the same wonderful and sublime operation. Let us trace the steps of this beneficent working power.

God makes a *seed*, and endows it with vegetable LIFE. If that seed be kept in a dry place, its principle of life will remain dormant, and it will not increase in size or weight, nor alter its form for ages, but suppose that seed to be planted in any soil entirely devoid of organic matter, as, for instance, ground flints or ground glass, and subjected to the action of the atmosphere, with its warmth and moisture, it will germinate and grow. It will expand from its original small size into a large and beautiful form. The seed, which would weigh one-tenth of an ounce, will expand into matter weighing several ounces. During this process, the soil in which it is planted will scarcely, if at all, decrease in weight. If you planted a seed weighing 4 grains, in 2lbs. of ground flints, (previously made red hot, to burn out all vegetable matter,) you would find that when the plants weighed an hundred times the weight of the original seed that there would still be 2lbs. of ground flints.

Whence, then, has this substance, weight, or bulk been derived. If we analyze the plant, we will probably find.—1st, water—2nd, starch and fibre—3rd, gum—4th, sugar—5th, albumen—6th, salts; and, upon resolving these into their original elements, we shall find *carbon, oxygen, hydrogen, and nitrogen.*—These must have been derived from *the atmosphere.* They had not been taken from the soil, as it has lost no weight.—From the carbonic acid gas, the oxygen, and the nitrogen, in the air, these substances have been derived—from the water has been contributed the hydrogen, and the whole resolved into a solid form, by the active functions of life in the plants, exists in that plant as organic matter.

Let that plant grow, and die; and mingle in the soil of ground flint, and it will by another season, contribute to that soil some *organic matter*, which will enable future plants to grow more rapidly.

In every-day life we frequently see bulbous plants whose roots, by merely sinking into pure water, (hyacinths, for instance), grow rapidly, increase in weight, bulk, and substance—these must draw their solid substances from the air.

De Saussure found two beans when caused to vegetate in the open air on pounded flints, double the weight of *carbon* they originally contained.

In the Western woods, where vegetation has silently progressed for centuries, the amount of vegetable matter in the soil is extremely great. Whence is it derived? If from the soil, then, that soil must always have had the same amount, as the trees would merely return as much, and no more, as they took out of the soil: but the organic matter *perpetually increases*—it must therefore be, that vegetation is continually absorbing from the air organic food; and on its decay, gives the substance of that food to the soil; and hence the increase.

We see, therefore, that the *origin* of organic matter is found in the atmosphere. From the atmosphere the first plants obtained their vegetable substance, when as yet it existed not in the soils. How plants absorb this substance, and how they convert it into solids—in fact, *how they grow*, will be discussed in future chapters "on the growth of plants." The animal portions of organic matters in soils, are derived from the decay of animals, the source of whose substance is apparent without explanation.

From the Scottish Farmer.

WATER.

This well-known and invaluable fluid is a compound of the two gases oxygen and hydrogen, united together in the proportion of eight parts by weight of the former, to one of the latter. When these two gases are mixed together in these proportions, and inflamed, a violent explosion ensues, the gases disappear, and water is formed. It is also produced more tranquilly, but with the evolution of intense heat, when a jet of hydrogen is inflamed in air, or in oxygen, as we mentioned in our last paper. With what tremendous chemical action, therefore, must the formation of the incalculably great quantities of water upon our earth's surface have been accompanied! To what terrific convulsions of nature must this have given rise!

To a person unaccustomed to contemplate the numberless analogous phenomena which chemistry incessantly presents, the facts we have just stated, in reference to the composition of water, must appear almost incredible; and it certainly *is* extraordinary that a fluid so common as water—one which we consume so largely every day, and which is so great an enemy to combustion—should be formed by the union of two curious gases, the one of which is a most perfect supporter of combustion, and the other a combustible of the most inflammable character.

Water is known to us in four states of cohesion,—in the solid form, which we call ice—in the liquid, as water—in the vesicular, as mists and clouds—and in the gaseous, as steam. In each of these states water is possessed of peculiar relations to Agriculture, which we shall proceed to explain.

(a) In the solid form.—At thirty-two degrees of Fahrenheit's scale, water freezes, or assumes the solid form, and by this change of form its bulk is considerably increased. During its solidification, it moreover crystallises in beautiful specular crystals, which shoot out in various directions. This crystallisation of water may frequently be observed in the gutters on the roadside during winter. Let us now examine how these phenomena affect the Farmer.

The rain falls upon his fields—it is absorbed by the soil, penetrates the hard clods, and fills up the pores or interstices between the particles of soil. When the atmospheric temperature is so much reduced that it freezes, the soil contracts, the water contained in it solidifies and crystallises, shooting out numerous hard sharp points in every direction through the clods, thus forcing asunder the cohering particles of soil. When the temperature increases, these icy fetters thaw, and the lumps crumble down, layer by layer, into a far more completely comminuted state than the Farmer could possibly achieve with his most perfect implements, and by the expenditure of much time and labour, if unassisted by this peculiar property of water. The atmosphere is thus enabled to permeate and act upon the soil in every direction, and, by thus mellowing it, to fit it for the production of the next year's crop. It is for these reasons that the Farmer practically is made to feel the want of frost in mild winter, by the difficulty he experiences in breaking up and sufficiently pulverising his land.

In the form of snow, also, solidified water performs a most important part in reference to Agriculture, by defending the young crops from the action of severe frosts. Snow is composed by the aggregation of innumerable minute crystals of ice. On account of the large quantity of air which these crystals inclose, it is found to be a very bad conductor of heat. When therefore, the surface of the ground is covered with snow, and a severe frost sets in, the soil parts with heat so slowly that its temperature always continues higher than that of the surrounding air, and thus the young crops are protected from the injurious action of so low a temperature. The Farmer has found out this fact also, practically; for he well knows how different are the effects of a *black frost*,—that is, a low temperature acting upon his crops when unprotected by a covering of snow, and consequently when nothing prevents the rapid radiation of heat from the soil and crops.

HAVE A CARE OF THE WATER-POT.—A short time back, calling on a friend and looking through his houses, where a considerable quanity of Pelargeniums are raised and grown, I observed a fault in management, to which if I advert it may lead his gardener and others to consider the error of a too liberal and erroneous use of the water-pot. It was in the be-

ginning of this month, the weather was and had been dull for some days previous; it was evening, and an uncomfortable one. Yet on rapping the sides of the pots there was no ring, and on lifting them they were like lead; they had just been watered, and I pitied the poor things from my heart. Now here were present two great errors: First, they did not want water at all; second, they ought not to have been watered in the evening. That they did not need water at all was evident by their dropsical shoots and foliage. That they ought not to have been watered at this time of the year in the evening, I presume every Gardener knows; if he does not, the sooner he pulls off his blue apron and puts on a green baize one, the better for his employer; for it would be wiser to clean knives and shoes well, than ruin a set of expensive plants. Let any one that has not duly considered the evil of overwatering plants at this time of year, try the simple experiment upon a soft-wooded one, of withholding water even to death. Let him see how long it will do without. If he sees it flag when the sun appears for an hour or two, let him visit it before he goes to bed and see how it will have stiffened up again. He will soon be convinced that at all times and seasons, whether for giving or withholding, he should 'have a care of the water-pot.'—*Veritas, in Gardeners' Chronicle.*

From the Philadelphia Saturday Courier.

ON THE EARTHS:—SAND, LIME, AND CLAY; AND THEIR USES TO VEGETATION.

The great use of alumina appears to be in giving fixity and substance to the sandy particles of a soil. In this view, clay is exceedingly beneficial. Many barren sandy soils, which would not produce crops at all—indeed, were shifting sands have been converted into fine arable land, by spreading clay over the sand; the manner of doing which will be described hereafter, when we come to such subjects as the claying and marling of land.

Besides the mere mechanical benefit of clay in uniting and binding a soil, it is of material service in absorbing and retaining moisture: By reference to the experiments given below, we see that clay absorbs water more quickly and more abundantly and retains it more tenaciously than sand. Clay does not *heat* so rapidly as sand, with the sun, and it cools again more rapidly; thus helping in hot weather to maintain an equal temperature in the soil. It does not become so *cold* as sand in winter, and as the action of the frost causes it to contract, it closely surrounds the roots of plants and prevents their being frozen.

Clay has also pre-eminently the property of absorbing *ammoniacal and other gases*, which are generated by decaying manure in the soil. If in a stable from whence the strong fumes of the escaping ammonia are issuing, you place a quantity of dry powdered clay, that strong smell and gaseous effluvia which almost took your breath, and made your eyes smart, will disappear. Where has it gone? It is still produced as before, and yet its presence is not perceived. The dry clay absorbs it; and the escaping gases are fixed on that earth, adding to its enrichment. (Gypsum or Plaster of Paris has precisely the same effects, in a more striking degree.) A clay soil—or at least one containing clay in its composition, will more beneficially and completely use the manure laid on it. Where manure is put on land and ploughed in, for instance, the ammoniacal and other gases produced by its decomposition are formed in the soil, and are partially taken up into the plants; but being formed faster than the plants can absorb, these products float away to waste, except the soil can attract and absorb them, and thus hold them over until they are required. This clay will do; this, sand alone will not do—this lime will not do—and hence it follows that lands, containing clay, constitute the most *lasting* and prolific soils, and are the most economical for manuring.

Lime is the third chief constituent of soils. It is found in very various proportions in soils, according as they are calcareous or otherwise; in some soils it exists to the extent of 55 to 60 per cent. of the entire soil; in others, not more than 15 or 20 per cent.; while in some it either exists in very small quantities, or may be accounted altogether absent.

The presence of lime is exceedingly valuable to soils, and its artificial application necessary to the production of successful crops, where it does not naturally exist. Its uses may be considered in reference to its action on the soil, and in direct application to living plants themselves.

Lime acts on the soil, in loosening and rendering friable, stiff clays—in binding, and rendering compact, loose sand—but mostly in acting as a solvent to sand, and as a digester and dissolver of animal and vegetable matter in the soil. Where lime finds vegetable fibres which are not only useless, but injurious to sand, it decomposes them, and yields up their substances as *humus* to the living vegetation. Even slugs, worms, and noxious insects, it wholly or partially destroys, and then decomposes them—enriching the soil with their remains. Lime powerfully assists a soil in maintaining its moisture; it readily absorbs moisture, and is long retentive of it. It absorbs also the *carbonic acid gas* escaping from decaying vegetation in the soil, and retains it as food for plants. By the absorption of carbonic acid gas, it converts itself into carbonate of lime or *chalk*, when its solvent powers greatly cease, and it then becomes direct food for plants, by itself dissolving in the rain water which falls on the soil, and then becomes absorbed into the substance of living vegetables.

In its direct use as a food for plants, Lime plays a very important part: it is necessary for all grain crops, as it forms an important constituent in their substance. In wheat ashes there is about four per cent. of lime; in oats about 8 per cent., and rather more on Barley and Rye. It is found in the ashes of all trees and plants, whenever those plants have grown on a soil containing lime.

Lime is solvent in water to a great extent; about 400 lbs. of water will dissolve 1 lb. of lime sufficiently to enable plants to take it up by absorption. All plants designed for human food, or for the food of animals, absolutely require lime, as this substance eventually forms the *bones* of both men and animals. Hence for grazing purposes, limestone lands are much superior to all others, and will rear a superior class of animals. Horses, sheep, and cattle, fed on lands resting on a limestone foundation, will be stronger, firmer, and more compact, than if they were fed on a clayey and sandy soil.

We shall dwell more on the uses and properties of the most valuable of the earths in some future chapter, devoted to "*lime as a manure.*" The above remarks will show the importance of lime to vegetation.

From the Scottish Farmer.

POTATOES.

It is to *fashion* that the potato owes its general cultivation and use. If you ask me whether fashion can make a *nation* prefer one sort of *diet* to another, I ask you what it is that can make a *nation* admire Shakspere? What is it that can make them call him a 'Divine Bard,' nine-tenths of whose works are made up of such trash as no decent man, now-a-days, would not be ashamed, and even afraid, to put his name to?

It is the fashion to extol potatoes, and to eat potatoes. Every one joins in extolling potatoes and all the world like potatoes, or pretend to like them, which is the same thing in effect.

In those memorable years of wisdom, 1800 and 1801, you can remember, I dare say, the grave discussions in Parliament about potatoes. It was proposed by some one to make a *law* to encourage the growth of them; and, if the bill did not pass, it was, I believe, owing to the ridicule which Mr. Horne Tooke threw upon that whole system of petty legislation.—Will it be believed, in another century, that the lawgivers of a great nation actually passed a law to compel people to eat pollard in their bread, and that, too, not for the purpose of *degrading* or *punishing*, but for the purpose of doing the said people good by *adding to the quantity of bread* in time of scarcity? Will this be believed? In every bushel of wheat there is a certain proportion of *flour*, suited to the appetite and stomach of man; and a certain proportion of *pollard* and *bran*, suited to the appetite and stomach of pigs, cows, and sheep. But the parliament of the years of wisdom wished to

cram the *whole* down the throat of man, together with the flour of other grain.—And what was to become of the pigs, cows, and sheep? Whence were the pork, butter, and mutton to come? And were not these articles of human food as well as bread? the truth is, that pollard, bean, and the coarser kinds of grain, when given to cattle, make these cattle fat; but when eaten by man, make him lean and weak. And yet this bill actually became a law!

That period of wisdom was also the period of the potato mania. *Bulk* was the only thing sought after, and it is a real fact that Pitt did suggest the making of *beer* out of *straw*. Bulk was all that was looked after. If the scarcity had continued a year longer, I should not have been at all surprised if it had been proposed to feed the people at rack and manger. But, the *potato!* Oh! What a blessing to man! Lord Grenville, at a birth-day dinner given to the foreign ambassadors, used not a morsel of bread, but, instead of it, little *potato cakes;*—though he had, I dare say, a plenty of lamb, poultry, pig, &c., all of which had been fatted upon corn or meal, in whole or in part. Yes sir, potatoes will do very well along with plenty of animal food, which has been *fatted on something better* than potatoes; but when you and I talk of the use of them, we must consider them in a very different light.

The notion is, that potatoes are *cheaper* than wheat *flour*. The word *cheap* is not quite expressive enough, but it will do for our present purpose. I shall consider the *cost* of potatoes, in a family, compared with that of flour. It will be best to take the simple case of the labouring man.

The price of a bushel of fine flour, at Botley, is at this time, 10s. The weight is 56 lbs. The price of a bushel of potatoes is 2s. 6d. They are just now dug up, and are the cheapest. A bushel of potatoes which are measured by a large bushel, weighs about 60 lbs. dirt and all, for they are sold unwashed. Allow 4 lbs. for dirt, and the weights are equal; well then, here is toiling Dick, with his four bushels of potatoes, and John with his bushel of flour. But, to be fair, I must allow, that the relative price is not always so much in favour of flour. Yet, I think you will agree with me, that upon an average, five bushels of potatoes do cost as much as one bushel of flour, you know very well, that potatoes in London sell for 1d. and sometimes for 2d. per lb.; that is to say, sometimes for £1 7s. 6d., and sometimes for £2 15s. the 5 bushels. This is notorious. Every reader knows it. And did you ever hear of a bushel of flour selling for £2 15s.? Monstrous to think of! And yet the tradesman's wife, looking *narrowly* to every half-penny, trudges away to the potato shop to get five or six pounds of this wretched root, for the purpose of *saving flour!* She goes and gives 10d. for ten pounds of potatoes, when she might buy five pounds of flour with the same money! Before her potatoes come to the table, they are, even in *bulk*, less than 5 lbs. or even 3 lbs. of flour made into a pudding. Try the experiment yourself, sir, and you will soon be able to appreciate the *economy* of this dame.

But, to return to Dick and John: the former has got his five bushels of potatoes, and the latter his bushel of flour.—I shall, by and by, have to observe upon the *stock* that Dick must lay in, and upon the stowage that he must have; but, at present, we will trace these two commodities in their way to the mouth, and in their effects upon those who eat them. Dick has got five bushels at once, because he could get them a little cheaper; John may have his *peck* or *gallon* of flour: for that has a fixed and indiscriminating price. It requires no trick in dealing, no judgment, as in the case of the roots, which may be *wet*, or *hollow*, or *hot;* flour may be sent for by any child able to carry the quantity wanted. However, reckoning Dick's trouble and time nothing in getting home his five bushels of potatoes, and supposing him to have got the *right* sort, a '*fine* sort,' which he can hardly fail of, indeed, since the whole nation is now full of '*fine* sort,' let us now see how he goes to work to consume them. He has a piece of bacon upon the rack, but he must have some potatoes too; on goes the *pot;* but there it may as well hang, for we shall find it in continual requisition. For this time the meat and roots boil together. But what is Dick to have for supper? Bread? No. He shall not have bread, unless he will have bread for dinner. Put on the *pot* again for supper. Up an hour before daylight, and on with the pot. Fill your luncheon-bag, Dick; nothing is so relishing and so strengthening out in the harvest field, or ploughing on a bleak hill in winter, as a cold potato. But be sure, Dick, to wrap your bag well up in your cloths, during winter; or, when you come to lunch, you may, to your great surprise, find your food transformed into pebbles. Home goes merry Dick, and on goes the pot again. Thus 1,095 times in the year Dick's pot must boil. This is, at least, a thousand times oftener than with bread and meat diet. Once a week baking and once a week boiling, is as much as a farm-house used to require. There must be some fuel consumed in winter for warmth. But here are, at the least, 500 fires to be made for the sake of these potatoes; and, at a penny a fire, the amount is more than would purchase four bushels of flour, which would make 288 lbs. of bread, which at 7 lbs. of bread a day would keep John's family in bread for 48 days out of the 365. This I state as a fact, challenging contradiction, that exclusive of the extra *labour* occasioned by the cookery of potatoes, the *fuel* required in a year for a potato diet would cost, in any part of the kingdom, more than would keep a family even in baker's bread for 41 days in the year, at the rate of 7 lbs. of bread a day.

John, on the contrary, lies and sleeps on Sunday morning till about 7 o'clock. He then gets a bit of bread and meat, or cheese, if he has either. The mill gives him a bushel of flour in a few minutes. His wife has baked during the week; he has a pudding on Sunday, and another batch of bread before the next Sunday. The moment he is up, he is off to his stable, or the field, or the coppice. His breakfast and luncheon are in his bag. In spite of frost, he finds them safe and sound. They give him heart, and enable him to go through the day. His 56 lbs. of flour, with the aid of 2d. in yeast, bring him 72 lbs. of bread; while, after the dirt and peelings and waste are deducted, it is very doubtful whether Dick's 300 lbs. of potatoes, bring 200 pounds of even this watery diet to his lips. It is notorious, that in a pound of clean potatoes there are eleven ounces of water, half an ounce of earthy matter, an ounce of *fibrous* and *strawy* stuff, and I know not what besides. The *water* can do Dick no good, but he must swallow these 11 ounces of water in every pound of potatoes. How far *earth* and *straw* may tend to fatten or strengthen cunning Dick, I do not know; but, at any rate, it is certain that while he is eating as much of the potato as is equal in nutriment to one pound of bread, he must swallow about fourteen ounces of water, earth, straw, &c.; for down they must go together, like the Parliament's bread in the years of wisdom, 1800 and 1801. But, suppose every pound of potatoes to bring into Dick's stomach a sixth part in nutritious matter, including in the gross pound all the dirt, eyes, peelings, and other inevitable waste. Divide his gross 300 lbs. by six, and you will find him with 50 lbs. of nutritious matter for the same sum that John has laid out for 75 lbs. of nutritious matter, besides the price of 288 lbs. of bread in a year, which Dick lays out in extra fuel for the eternal boilings of his pot. Is it any wonder that his cheeks are like two bits of loose leather, while he is pot-bellied and weak as a cat? In order to get half a pound of nutritious matter into him, he must swallow about fifty ounces of water, earth, and straw. Without ruminating faculties, how is he to bear this cramming?

But Dick's disadvantages do not stop here. He must lay in his store at the beginning of winter, or he must buy through the nose. And, where is he to find *stowage?* He has no caves. He may *pit* them in the garden, if he has one; but he must not open the pie in frosty weather. It is a fact not to be disputed, that a full *tenth* of the potato crop is destroyed, upon an average of years, by the frost. His wife, or stout daughter, cannot go out to work to help to earn the means of buying potatoes. She must stay at home to *boil the pot*, the everlasting pot. There is no such thing as a *cold dinner*. No such thing as women sitting down on a hay-cock, or a shock of wheat, to their dinner, ready to jump up at the approach of the shower.

Home they must tramp, if it be three miles, to the fire that cenoth not, and the pot as black as Satan. No wonder that in the brightest and busiest seasons of the year, you see from every cottage door, staring out at you, as you pass, a smoky-capped, greasy-heeled woman.—The pot, which keeps her at home, also gives her the colour of the chimney, while long inactivity swells her heels.

Now, sir, I am quite serious in these my reasons against the use of this root, as food for man. As food for other animals, in proportion to its cost, I know it to be the *worst of all roots* that I know anything of; but that is another question. I have here been speaking of it as food for man; and if it be more expensive than flour to the labourer *in the country*, who, at any rate, can stow it in pies, what must it be to tradesmen's and artisan's families in *towns*, who can lay in no store, and who must buy by the ten pound or quarter of a hundred at a time? When broad-faced Mrs. Wilkins tells Mrs. Tomkins that, so that she has a *potato* for her dinner, *she does not care a farthing for bread*, I only laugh, knowing that she will twist down a half pound of *beef* with her '*potato*,' and has twisted down half a pound of buttered toast in the morning, and means to do the same at tea time, without prejudice to her supper and grog. But when Mrs. Tomkins gravely answers, "Yes, Ma'am, there is nothing like a potato; it is such a *saving* in a family."—I really should not be very much out of humour to see the tête-à-tête broken up by the application of a broom-stick.—*Cobbett's Year's Residence in America.*

From the Gardeners' Chronicle.

INFLUENCE OF AGRICULTURAL SOCIETIES.

At a period when all those dependent upon agriculture are so frequently reminded that they will in future be exposed to competition with the whole world, and that they must, in the absence of all special protection in their favour, trust entirely to their own energies and resources, it is but natural that they should pay attention to the opinion and advice of their friends. Very much yet remains to be done by the farmer, both as regards the cultivation of the land he occupies, and the selection and management of the stock he rears, and it must be admitted that those who refuse to avail themselves of those appliances and means of modern improvement, which have been placed within their reach by the discoveries of the chemist and physiologists, or the inventions of the mechanist, ought to retire from a field in which they can have but faint hopes of success. Still whilst the agricultural community must not be regardless of the strictures so freely and in many cases so justly applied to farmers and their doings, we are fairly entitled to raise our voice against the unmitigated censure of your powerful contemporary, the *Times*, who denies that agricultural meetings are productive of any real good, and may thus be supposed to prejudice the minds of that portion of its very numerous readers who are not practically acquainted with the subject in all its bearings.

I venture to assert that agricultural societies in general, and even this much abused Christmas Show, with all their faults, do some good; nay, more, that they are even calculated to promote indirectly, and to a certain extent, the interests of the labouring classes; if this be true, may not the end justify the means?

In the first place, these meetings form a rallying point for all who either feel an interest or are practically engaged in agriculture. The daily habits, and the social position of the farmer, do not under ordinary circumstances bring him sufficiently often into contact with those parties from whose more extended views and information he may derive advantage.—Railway communication now offers facilities of which, during the past week, some thousands of farmers have availed themselves with this legitimate object in view. It may fairly be assumed that not a few of them have been enabled, after a careful inspection of the stock and implements in Baker-street, to carry back with them to their homes matter for serious reflection, and have received hints for practical improvement, which can be derived from ocular demonstration alone.

Secondly. To enable the cultivator of the soil to carry out such a system as modern practice proves to be essential to render his occupation profitable, efficient implements, and that description of stock which combines aptitude to fatten with early maturity are absolutely necessary. Different localities may be especially favorable to different breeds, but in these important points the best description of animals must always agree. Surely these exhibitions must be calculated to dispel prejudices entertained in favour of comparatively inferior animals, and are no bad criterion of real merit. The most enterprising agriculturists of every class, whether landlords or tenants, have been long engaged in proving by experiments, which can never be reduced to any degree of certainty, the relative value of stock of every description. To enable them to carry these expensive and tedious experiments to a successful issue, careful trustworthy servants, in whom reliance may be placed, are indispensable. If the establishments of these much abused breeders and feeders be inspected, in their service will be found not only a larger number of labourers than are employed as a general rule upon holdings of the same size, but if their character be investigated, they will be found to be good servants, and to receive rewards in proportion to their intrinsic value. They are in fact worthy of their hire. It will be proved, moreover, that these useful, deserving men, to whose care stock and implements of the most valuable description are entrusted, are conscious that they form an important part of a well-ordered system of agricultural economy. They feel sure that so long as they faithfully discharge their respective duties, they may reckon with certainty upon that constant employment which never fails to render the labourer independent in feeling as well as position, and thus raises him morally and physically in the social scale.

If then, sir, these exhibitions promote indirectly, and to a certain extent only, more general and constant employment, the real source of the genuine independence of the labouring classes; if they prove, moreover, directly the superior value of well-bred stock, and the comparative economy of careful, judicious management, as contrasted with that bad quality, inferior condition, and slovenly treatment which is still to be found in too many of our homesteads, they must be productive of some real good. It strikes me that if the principle of action, which animates those who take this lead in agricultural improvement were more generally adopted, it would go far to supersede those really paltry and insignificant rewards for long servitude, &c., which I must confess would be more honoured in the breach than the observance, and go far to prove that there is something amiss in that part of our social system; but I am not aware that any valid objection could be urged against such premiums as would excite competition in the skilful execution of the various operations of husbandry, or management of stocks; and would promote at one and the same time, and in the most effectual and legitimate manner, the mutual interests of the employer and employed.—*A Subscriber and Member of the Royal Agricultural Society, Dec.* 15.

Newcastle Farmer.

COBOURG, MARCH 1, 1847.

The vast amount of loss suffered by the Farmer, in consequence of the killing out of Wheat sown in the Fall, will necessarily induce the enquiry as to the cause, and the possibility (if any,) of avoiding it, and also whether any remedial measures can be adopted.

The climate of Canada in that particular, has certainly altered for the worse, (the cause we cannot here enter into.)—There is now no longer a thick covering of snow, to protect the wheat plant from the severity of the frost, or, if frozen in the first instance, to prevent injury to the plant by the alternation of frosts and thaws in quick succession; and it is certainly our opinion that, where the grain is thoroughly acclimated, it is not the frost, however severe, which destroys the plant. We believe that the cause of its

being destroyed is to be attributed to several distinct causes. We had the last Spring an instance of the same result, from two distinct causes, in two small pieces of wheat, (a quarter of an acre each.) The one was on a clover ley once ploughed in a loamy soil, mixed with limestone gravel; this patch was sheltered by a grove of pines to the south and a fence on the east and west side, and in consequence, being only about four rods wide, it filled with snow, and the wheat was deeply buried nearly all the winter. The result was, that not a score of plants were alive by the middle of April. The other piece was in an open field, exposed to the severest winds and full action of the sun,—was on a sandy loam with clay bottom; the ridges were bare nearly all the winter, only a small portion of snow remaining in the furrows; and in these furrows, ploughed completely down to the hard pan, and consequently very poor, the only *living* plants were found on the first of May, although all had looked equally well in March.—The wheat was sown on the 26th of August, and was a particularly strong plant in the Fall; it was fed down by sheep in September, and was fully five inches high at the first snow in November.

Our Haldimand Correspondent alludes to the severe frosts, after the heavy and continued rains, and the consequence,—"a thick coating of ice in immediate contact with the plant." We are not of opinion that this "immediate contact" is in itself material, as, from the depth the frost penetrates the ground, as low, if not a lower temperature, exists beneath the surface, extending much below the roots; and that, unless the concrete mass of ice is of sufficient depth to cover the whole of the plant, its respiratory organs (the leaves,) will continue their functions for the benefit of the plant, but should it occur that the whole is beneath a dense surface, destruction is inevitable. So we find, when, from drifting, a vast body of snow, (several feet in depth sometimes,) accumulates on the side of a fence extending some yards into a field, and should the thawing and freezing before alluded to take place, however that mass may be permeable to the sun's rays, and however it may contain, *as it does*, a great amount of air within the mass, still, if several successive glazings of ice occur at intervals, the amount of air is not sufficient for healthy action, and death ensues; or should the superincumbent mass press too heavily on a plant far advanced in its growth, incipient putrefaction takes place, and the whole undergoes decomposition from fermentation.

We incline to the opinion that it is not the frost, in its utmost intensity, which destroys; but that, on the powerful action of solar heat during the opening of the Spring, the roots of the plant lose their hold of the soil, and a sharp frost succeeding, the extreme points of the root fibre are acted upon, and the plant in consequence being upheaved, these fibres become frozen, and are rendered incapable of regaining their hold on the spongy soil, and no longer deriving any nourishment, it dies of inanition.

The question as to whether any precautionary measures can be adopted, is one that should engage the attention of every agriculturist; for our own part, we must confess that we much doubt if such means are within our reach. London states, that in some counties in England, and on soils directly opposite, ploughing in, with a shallow furrow, is adopted, and leaving the land in a comparatively rough state of surface, is considered the best means of ameliorating, if not averting, the calamity; and if such means are of any avail in the comparatively mild climate of England, they ought to be equally beneficial with us, and we firmly believe that, whether on a clay soil, or one of a lighter texture, the harrow is too often needlessly, and indeed injuriously employed to excess, in comminuting the surface to too great an extent; for if the land presented a rougher and nubbly surface, the first covering of snow would not be so easily removed by our violent winds, and a better shelter would be afforded to the tender plant; and in the Spring, when the sun's influence during the day is very great, a portion of this rough surface, being the first to thaw and dry, would fritter down and form a dressing and support to the coronal roots. The same result, on a lighter soil, whether after a fallow, or green crop, or even on a grass or clover ley, for, in the first instance, the soil, if partaking at all of a loamy nature, will crack and open, and into these openings, the drying upper surface by the wind, and form a fresh supply and covering to the roots, frequently to the exclusion of sharp frosts; and in the case of an old ley, the rough, unbroken fibre of the upturned roots, which always contain a portion of the finer earthy particles, will yield this valuable matter, which will be carried by the same means into the interstices, and produce the same result. We are, for the above reasons, in favour of being less free in the use of the harrow, but should be obliged by the testimony of some of our readers on the subject.

As to a remedy; of course there can be none after the devastation is completed, but very much may be done by the use of the roller as early as possible in the Spring, which, by pressing home the soil to the roots, brings again within their reach a resuscitating supply of food, and re-invigorates the otherwise failing plant.

We know that, in some soils, before the lower strata is sufficiently thawed to allow the roller to be beneficial, the upper surface is so wet as to cause apprehension of danger from the poaching of the land by the feet of the team; still, we believe it may be employed to advantage much more frequently than is now the case, and we consider it an effectual remedial measure.

ANSWERS TO CORRESPONDENTS.

Our Haldimand Correspondent will have observed that we had proposed for consideration, the subject of the winter killing of Wheat, and will find in our present number some remarks on that subject.

In reply to Mr. C. H. Vernon, on the proper time for sowing Plaster, we would observe: The exact mode of operation of gypsum as a manure, has, we believe, never been satisfactorily ascertained; and till such is the case, experience must be the only guide. Many erroneous opinions have been broached and adhered to for a time, until careful enquiry proved them false. It was supposed to be beneficial in attracting moisture from the atmosphere, and thus nourishing the plant, but this must certainly be a fallacy, as it is too retentive of moisture to yield any inconsiderable portion it may attract, to the roots of the growing plant.

Plaster appears to be most efficacious to the trefoils and peas, and is said to be equally useful in its application to Rye grass, and it may be supposed to be a necessary constituent of their fibre, inasmuch as the ashes of each of these plants are found to contain a portion of this substance; and the reason why its effects are not so visible on other plants, is, most probably, because requiring less in their structure, they draw sufficient from the natural soil. We believe that the only test as to its practical benefits, compara-

tive value on different crops, and time of sowing, can only be arrived at by experiment. In England, it is found in many soils to be utterly valueless, probably because the said soils already contain a sufficient supply in themselves for the crops raised thereon.

We are, however, fully of opinion with Mr. Vernon, that the best time for its application is in the Fall, as we have frequently found that when sown late in the Spring, its effects were scarcely perceptible, while the ensuing crop plainly shewed when it had been previously applied. We should however except peas, as we believe it enters so largely into the composition of that crop as to absorb all its beneficial qualities.

The hints of our very humorous Correspondent, "A Canadian Farmer," (for which we thank him,) shall be attended to; and we hope our brother farmers will experiment in the use of salt as a manure, and report to us the result. We ourselves once tried it on an old timothy meadow, by using one bushel of salt to two of leached ashes, on two acres, against one of plaster to two of ashes on the same quantity, and the salt certainly had a decided preference on the dry land, but was not perceptible by its effects on the low, moist portion. And we find by the English Agricultural papers, that on the coast, when sea-weed had been used as a manure for potatoes, they escaped the prevailing infection. We shall certainly bring before the notice of the Northumberland Agricultural Society the expediency of importing some of the minor, though by no means insignificant articles, lately beneficially employed in England, for experiment; for should it so happen that our present staple cannot be made a remunerating article of export, we must try something else,—Dairy produce, for one, which, *of course*, involves the Glass Milk Pans.

The communication of "Scotus," he will find we have inserted in this number, and fully coincide in opinion with him, that a vast amount of benefit would be conferred on the majority of our Agriculturists, by the more experienced coming forward, and stating in plain terms their own practice in the various departments of Agriculture, their treatment of the different soils for the various crops, and the result of their observations generally; for it must be remembered that, among such a number of *young* Farmers, there are far more who require instruction, than those who are fully initiated are aware.

We would call the attention of our readers to the possibility of the extinction of the Potato as an article of food for man and beast, and would be glad to receive their opinions on the most suitable substitute; taking into the account, that the substitute should be as palatable, as nutritious, as well adapted for general use, as easy of culture,—and last, though not least, as prolific.

The enquiry made by our Cavan correspondent, will doubtless be answered by Mr. Vernon, and we hope his query as to the season for sowing the Black-Sea wheat, will be replied to by some of our readers who may have grown that variety.

Our own opinion with respect to all the summer wheats is, that they cannot be got in too early.

We shall feel obliged by the continued correspondence of "A Cavan Farmer," and more particularly by his promised remarks on the subjects to which he adverts in his communication.

Errata in last No. of *Newcastle Farmer*.—Page 55, 8th line from bottom,—for 'heavy days," read "heavy clays." Page 56, 11th line from top,—for "more organe," read "inorganic."

To the Editor of the Newcastle Farmer.

Sir,—I believe you are pretty correct in your lately expressed opinion, that the occasional communications of neighbouring Farmers would have a tendency to render the *Newcastle Farmer* still more interesting and useful,—exhibiting, as they doubtless would, many useful suggestions and experiments in the practical department of that hitherto much neglected science.

You are aware, that in this Province a very large proportion of those in the occupation of land, have had little or no experience in its management, previous to their settlement here; of how much importance is it to those individuals, and for the welfare of the Province generally, that practical information should be extensively diffused by men of experience and understanding.

As it is my misfortune to belong to this *apprentice class* of farmers, I hailed with much delight the appearance of your cheap and useful paper, and I fondly hope that, for the sake of *my class*, many of the *thorough-bred farmers* of the District will exert themselves, through its pages, for our instruction and improvement.

Would it not be a good plan to establish a Museum in Cobourg, where all makers or inventors of implements of husbandry could place a model or working instrument, which would at all times be open to the public for inspection, and where the intending purchaser could compare the merits of the different implements, and select the best? This would obviate the difficulty complained of by Mr. Wade, when remarking on the very sensible Letter of the "Northumberland Farmer."

Can any of your correspondents furnish information relative to the manufacture of Corn-stalk Sugar, so as to make it a remunerating crop? Of course, I mean more remunerative than allowing the corn to come to maturity, or even as a potato crop, as that crop has seemingly ceased to pay. I am, Sir,

Your's respectfully,

SCOTUS,

Hamilton, February, 1847.

To the Editor of the Newcastle Farmer.

Sir,—My attention has been drawn to the communications which appeared in the last number of the *Newcastle Farmer*,—and particularly to your able remarks on Fall Ploughing. Mr. Vernon states that he has "sown plaster with Fall Wheat, and harrowed it in with the wheat, with *very good effect.*"

Will Mr. V. have the goodness to state through the medium of your valuable publication, for the information of its readers, whether the land was a naked or green fallow, and if there was any manure applied exclusive of the Plaster,—the nature of the soil, and the time of sowing. Mr. Vernon's reasons for sowing Plaster on land in that state, in the Fall, ought to be properly solved, and the benefits, if successfully, generally known; and I know by experience, in sowing Plaster in the Spring, on clover, much depends on the quality of the article, and the nature of the soil upon which the application is made. "*One word*" on Fall Ploughing: "To prepare the land of considerable declivity,"—Use the side-hill plough, and it will remedy the "injurious effects apprehended in the retention of the valuable properties being carried off by the surplus rains in the Spring." In my next, I will refer to the subject of *Summer Fallows.*

An English writer, speaking of the prejudice against deep ploughing, says,—"It would puzzle a conjuror to tell why a Farmer always digs his garden 20 inches (where he always gets good crops,) and ploughs for his field crops only five inches." Will any of your numerous readers give any information with respect to the best time in the Spring of sowing Black Sea wheat,—the quantity per acre,—and the soil best adapted for it? I think the information desired could be correctly procured from a Brockville paper,—where the most of the Spring Wheat, if not all of that description, is sown. I fear I am getting tedious; In my next I will advert to the use of salt as a "*top dressing for Potatoes.*"

I am, Sir, Respectfully yours,

A Cavan Farmer.

Cavan, 9th February, 1847.

A Good Bank.—The best *bank* ever yet known is a bank of earth; it never refuses to discount to honest labour; and the best *share* is the plough share, on which dividends are always liberal.

"What an extraordinary curve your horse has in his back-bone," said a gentleman to an Irish farmer; "can you account for it?" "By the powers, Sir, and to be sure I'm able. I have heard that before the baste was mine, he was backed against another horse, who *bate him hollow*, and he niver could get straight again."

Published by H. Jones Ruttan, at "The Cobourg Star" Office.