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AGRICULTURAL MEETING AT DRAYTON MANOR.

Mr. WOODWARD said that although unaccustomed to public speaking, and feeling diffidence in addressing an audience consisting of some of the most intelligent and scientific men that England can boast of, he would endeavour to give the meeting the result of his practical experience of 20 years as an agriculturist. In his opinion, thorough draining was the foundation of all good husbandry, *without which manures and skill are thrown away*. Some undrained land had come into his occupation, heavy land, which only produced 10½ bushels of Wheat per acre; he immediately drained it 3 feet deep, subsoiled it, dressed it with burnt clay, and the first year obtained from it 51 bushels. He regarded the extensive burning of clay land as a most important practice. It rendered the soil so much more friable and convertible, and enabled the farmer to work it with much less horse labour. The effects of burnt clay upon all green crops was wonderful, a most important fact which could not be too strongly impressed upon the mind, as being very essential to the growth of corn especially when consumed upon the land by sheep, eating at the same time a little oil-cake or refuse corn. He had not, however, found advantage in the use of Italian Rye-grass, which he thought underserving the praise it had received. The treading of sheep was highly advantageous to the Wheat crop, provided the land was thoroughly drained and subsoiled. In order to secure the requisite amount of pressure, he had not only employed sheep but horses, or even men, who he found could tread down land for 1s. 6d. an acre. He had also found advantage, under some circumstances, in the use of an instrument which he called a peg roller. This was formed of an elm-wood cylinder, studded with oak pegs about 4 inches apart; it proved to be a most effectual implement when drawn over the land, imitating as it did the consolidating power exercised by the feet of a flock of sheep. He regarded pressing down the land as opposing an invincible obstacle to the operations of grubs and wireworms. As to dead fallows, he entirely objected to them as wasteful and useless. On his clay land, when in turn for fallow, he planted Vetches, and on his gravel, Rye and Rye and Vetches. For cleaning his stubbles after harvest, he employed the implement called a two-edged "Skim," which he strongly recommended as a

cheap and most valuable modern invention. Mr. Woodward then pointed out what he regarded as the best manner of breaking up superior pastures and converting them into arable; and concluded a very instructive speech by forcibly pointing out the absolute necessity of sending back to the land whatever is removed by a crop, and by expressing his entire agreement in opinion with Mr. Woolwich Whitmore, Mr. Huxtable, and others, that *farming properly and efficiently carried out, with capital and skill*, may be made as profitable an investment as railways or other branches of commerce. Being asked whether he held his land on lease, Mr. Woodward replied that he did. But even if he had not, he, nevertheless, was of opinion that the expense he incurred in the improvement of his land would have answered his purpose, for his improved wheat crop repaid those expenses immediately. As to leases, he attached little importance to them, provided there existed something like tenant right, which would by law ensure to the outgoing tenant the whole unexhausted value of the improvements he had made; whether this was to be paid by landlord or in-coming tenant, was, he thought, of no importance. He trusted that the legislature would see the necessity of passing some enactment that would secure this right; otherwise it was not to be expected that tenants would expend their capital on land. Mr. Woodward having expressed a desire that Mr. Mechi would bring under the notice of the meeting the result of his high farming in Essex,

Mr. MECHEI responded to the call. His practice in agriculture coincided so nearly with Mr. Woodward's, that it was only necessary to say that he grew alternately grain and root or leguminous crops, endeavouring as much as possible to grow wheat alternate years. He had originally drained his land 2 feet 8 inches deep, with pipes and stones, at a considerable expense; but since he had had the good fortune to meet with Mr. Parkes, he had amended his errors, and was draining more deeply and effectually with pipes alone at one-third the cost. He rented some land adjoining his own; although he held but a seven years' lease, he drained it five feet deep with one inch pipes, at a cost of from 35s. to 50s. per acre. *He could not afford to deprive himself of the benefit of drainage*. He found it very unprofitable to farm such land undrained. The very first wheat crop remunerated him for the whole cost.—The result of his improvements at Tip-

tree had been to double the produce of his farm and of his labour. A portion of it was formerly a swamp, not producing 5s. per acre. He had been entreated this year by a gardener in the neighbourhood to let those 4 acres to him, at an annual rental of £5 per acre. He had removed 3½ miles of unnecessary banks and fences. Taking the arable acreage of the United Kingdom, he thought they might safely dispense with 500,000 miles of unnecessary fencing, which with its timber displaced much food and labour. He considered the agriculture of this country in a very backward and unsatisfactory state compared with its manufactures. The agricultural mechanical appliances were rude, costly, and unprofitable. The farm buildings generally were bad and uncentrally placed, causing a national loss of some millions; each ton of produce or manure costing an average carriage of 6d. per mile, renders the position of the building an important national consideration. Waggonage was a most unphilosophical contrivance. It was quite clear that a long, light, low cart on two wheels, having an area of capacity equal to a waggon, and only costing half as much, was a much more sensible and profitable mode of conveyance. The question was not now an open one, having been thoroughly discussed and decided upon at the London Farmers' Club; therefore the sooner the waggons were got rid of the better.—With regard to the quantity of seed, his experiments (conducted now for three years and publicly recorded), had uniformly been in favour of thin sowing, say from 4 to 5 pecks of wheat and 6 to 7 pecks of barley and oats. Some of the best farmers in his neighbourhood adopted this system successfully. It was highly important in a national point of view that this question should be settled; for if the quantities he had named were available, adieu at once to the necessity for foreign imports. It appeared to be admitted on all hands that if a bushel of wheat vegetated, it was an ample seedling; and it was reasonable that it should be so; because if each good kernel produced only one ear containing 48 kernels (and that was not a large one), there was no allowance for increase by branching or tillering, which we knew would take place to a considerable extent in well farmed land, containing an abundance of organic matter. Thin sowing delayed the ripening three or four days; consolidation by pressure prevented the development and action of wireworm and slug.

He had found salt tended to a similar result. He salted all his Wheats at the rate of 4 to 8 bushels per acre, and was determined to use much more. He knew a gentleman in Northamptonshire whose wheat crops could scarcely ever be kept from going down, until he used salt, which had effectually kept it standing. He (Mr. M.) salted the manure in his yards. He found that it sweetened them (he supposed it fixed the ammonia). It was a singular fact that whilst salt tended to preserve animal substances, it on the contrary rarely decomposed vegetable matter. It was a cheap alkali of native production, costing only about 20s. to 30s. per ton, whilst all other alkalies were nearly eight times as dear. He strongly recommended the abundant use of bones, with and without acid, for root and green crops. It was evident that the bones formed in our growing animals, and in our cows from the produce of the farm, cost us 5d. per lb., or 45l. per ton. Now if we could replace these, as we can do, by bone-dust, at 7l. per ton, it was clearly good policy to use them. He considered the waste of the liquid portions of the manure in most farm-yards, a great national calamity. It was a great mistake ever to allow water to fall on manure. Water was a very heavy article. A thousand gallons weighed 10,000 lbs., and was expensive to cart. He had heard farmers say when rain was falling, that they should then litter their yards and make manure! *Straw and water in fact.* He found in practice that animals did well on their own excrements and straw under cover; that they consolidated the mass until it was 4 feet thick, when it would cut out like a good dung-heap, and be fit to carry on the land. But if rain-water were allowed to wash this mass, an injurious effect resulted both to the animal and to the manure. *He could not afford* to allow his manure to be well washed in the yards by drainage from the buildings, and afterwards to be washed, dried, and mangled by putting it out in heaps and turning over. It was a waste of time and of money. He found that his crops grew better with unwashed manure. *A farm-yard should be like a railway terminus,* covered in, but amply ventilated. There was comfort and profit in keeping everything dry. It did away with the necessity for water-carts and tanks; the liquid portions of the excrements being just sufficient to moisten the straw and burnt earth, or other absorbent material. He admired and practised, to a certain extent, Mr. Huxtable's system of placing animals on boards. It would answer in a compact farm with good roads, and in cold climates, to feed sheep in the yards on roots. In mild climates, and dry friable soils, it was most advantageous to consume the roots and green crops on the land by folding with sheep. There was no expense of carting off and carting back manure. Farmers had found out that the whole of the excrements were thus

applied to the land, whereas in open yards with untroughed buildings, much was washed out and wasted. He hoped to see the time when tenants would consider it to be their interest (as in parts of Scotland) to pay 10s. per acre more rent for properly farmed, permanent, and convenient buildings, and drainage, in lieu of the miserable and misplaced dilapidations of the present time. It was, no doubt, partly this difference that caused the Scotch rents to appear higher than our own. He was a decided sub-soiler to the depth of at least 2 feet. It was a cheap and effective way of getting rid of strong rooted weeds, their crowns being generally just below the ordinary depth of ploughing. He did this in dry weather, and with the assistance of a heavy Crosskill roller and scarifier, made his fallows cheaply, quickly, and efficiently. He drilled his wheats at intervals of about 9 inches, so as to hoe them with Garrett's horse-hoe. It cost about 1s. per acre. It was far more expeditious and efficacious than the land-hoe, and only cost one-fourth the amount. He strongly advocated the abundant use of oil-cake and also of chalk on heavy clays deficient in calcareous matter. It had been proved that much more produce had resulted from oil-cake folding than where an equivalent amount was expended in corn. Good high farming was by far the most profitable; the starvation principle was a losing game. If we borrowed from the earth we must repay, or we should soon find an empty exchequer.

The Rev. A. HUXTABLE then rose and spoke to the following effect:—I think this by far the most interesting agricultural meeting that I have ever attended, on account of the variety of important views and practices which have been brought under our notice. For my own part, at so late a period of the day, I must content myself with adducing a few facts that have come within my own farming experience, and defending one or two points of my farming practice which have been glanced at by the preceding speakers. As I see so many landed proprietors around me, I must beg permission to impress on them the duty of allowing their tenants to break up under proper restrictions, the poorer lands now lying in Grass. I think that I can show from my own experience that national wealth, the profits of the tenant, and the interest of the labourer, are deeply concerned in converting poor pasture into tillage. Thus, in my own parish, five years ago, there being many labourers out of employ, I obtained the consent of my landlord, Mr. Sturt, to break up the whole of the Grass lands of a small dairy farm. It consisted of 95 acres, 10 of which only were then under the plough. When I entered on the occupation, the farm supported 14 dairy cows, and grew 48 bushels of Wheat and 40 bushels of Beans. Now it annually produces 1600 bushels of Wheat, 40 head of cattle, cows, yearlings, and calves, and 100 sheep are fatted, and 80 pigs, and

where 3½ labourers were employed, 12 are now sustained all the year round. But the farm, gentlemen, labours under one embarrassment, such a one as I wish you all felt—such an accumulation of manure that with the fear of laid Wheat crops before my eyes, I know not where to place it. Allow me to detail briefly the steps by which this surely happy result has been brought about. I began in the beginning. I first drained the land; but on draining you have heard to-day so much, that I will only say that it has been most successful, I yet heartily wish that I had earlier known Mr. Parker's deep drainage. My fields would have been far more economically and effectually rid of their bottom water. I tried when this was done to improve the herbage of some of the better pastures, but neither liming, nor sheep-folding, nor guano, enabling me to cut more than 15 cwt. of hay per acre, I pared and burnt it all, and cut down, by my kind landlord's leave, all the hedge-row timber, and grubbed up all save the boundary hedge, and have now a glorious farm. The next object was to provide for the permanent fertility of the soil by keeping a large amount of stock; for I hold that a farm ought to be made half-supporting as far as possible, and the purchase of manures should be regarded as only a temporary expedient, a necessary evil. My first effort to consume the green crops grown on half my farm was very expensive, and therefore unsuccessful; for with regard to the beasts, I was forced to purchase a ruinous amount of straw, and the sheep eating off the Swedes on clay land in winter puddled the fields, and were themselves amidst good food objects most pitiable. But when our principles are good, we must not allow small difficulties to stop their application. I therefore determined to place my milch and store cattle on boards, as wood is an excellent non-conductor, and after a series of devices, I have succeeded in making them tolerably comfortable, so that I am now no longer dependent on my straw for the quantity of cattle which I keep. I am only limited in the number of animals which I keep by the amount of green food grown. In like manner, but with a variation of arrangement, the sheep were placed on small boards about 3½ inches wide, with an interval of about ½ inch between each, to permit the manure to fall freely into properly prepared tanks below. This is by far the most successful provision I have made. Of 1000 sheep so placed I have never had one lame.—The pigs in like manner, when fattened, sleep on a boarded stage above their feeding place, and except in very cold weather require no straw for litter. Thus I have dispensed with a large expenditure of straw, which my cereals (half the farm) could not sufficiently provide. But I hear some one exclaim, "What do you do with your straw." First of all, a good deal is still required for bedding the horses and young stock which are in loose boxes; and as they never tread the green fields,

they require a great quantity of white bedding. Secondly, a great quantity is wanted for food, being mixed with green leaves of the root crop and smashed Turnips. Thirdly, a ton per acre is used in Clover and Vetches, into imperfectly dried hay, with a due admixture of salt to arrest fermentation. These uses fully take up all the straw which I grow. I think the methods employed in preparing the manure from the "boarded" cattle deserve mention.

First the liquid manure flows into large tanks; below them is another, which I call the mixing tank, for in it the manure is diluted with water to any degree which the state of the weather may require, the rule being that, in proportion to the increase of temperature must be the increase of dilution; i. e. the hotter the weather, the weaker should be the manure applied. In order to avoid the expensive and often injurious water-cart, I have laid down over the highest part of my farm a main of green Elm pipe, of 2 inches diameter, bored in the solid wood; at every 100 yards distance is an upright post, bored in the same manner, with a nozzle. A forcing pump fixed at the mixing tank discharges along these pipes, buried two feet in the ground, the fluid with a pressure of 40 feet; of course it rushes up these pierced columns, and will discharge itself with great velocity thro' the nozzle; to this I attach first of all 40 yards of hose, and therewith water all the grass which it can reach. To the end of this hose another forty yards of hose are attached, and a still larger portion of the surface is irrigated. At the first upright, the nozzle is plugged, and the fluid is discharged at the 100 yards distanced column, and so on. For this application of the hose I am entirely indebted to that most able man, Mr. Edwin Chadwick; the green-elm pipe is my own contrivance. The cost of the prepared canvas hose, which was obtained from Mr. Holland, of Manchester, was 1s. per yard; the wooden pipes cost me only 1s., and being underground, they will be most enduring. By an outlay of £30, I can thus irrigate forty acres of land; and see how inexpensive, compared with the water-cart and horse, the application! A lad of fifteen works the forcing-pump; the attaching the hose and its management require a man and a boy. With these, then, equivalent to two men, I can easily water two acres a day, at the rate of forty hogsheads per acre, of the best manure in the world; I say best, because all chemists will assure you that the liquid contains the principal nitrogenous and soluble salts, and therefore is far more valuable than the dung, and it is plain enough to every man, though he be no chemist, that plants can only take up the manure in a liquid form. The principal use which I make of the hose is to water the clover, and, above all, the noble, but this day much-decried, Italian rye-grass. How hard Mr. Woodward was upon its soft weed herbage! Yet

his own excellent principle, that you must carry back to the land an equivalent for what is taken away, may be successful, alleged in defence of this most productive and nutritious of all grasses. It is certainly true that, if you cut and carry away Italian rye-grass, and do not also carry back the manure made in eating it, you will not be able to grow wheat after it. But from my own observation, I know that, if after each cutting the hose immediately follows, you may cut it without wrong to the land as often as you like, and an amount of fodder will be obtained which no other plant can approach. It comes the earliest, and grows the longest of all the grasses; and I feel confident that with such appliances as I have mentioned, you may secure fifty tons per annum of this milk-giving, fat-producing, muscle-making grass. I can refer to Mr. Dickenson of Curzon-street, as an authority for growing, at least, this weight of green food, and I believe far more. That you can cut it, by the help of liquid manure, six times a-year admits of no doubt. I must now advert to the treatment of the dung made by the cattle and pigs. That on the boards is hourly swept down, and wheeled away to a long covered shed; contiguous to this is another shed, containing a large store of burnt earth and other ashes. The dung is worked up with the ashes, and therewith is mixed the other manures, dissolved bones, soot, powdered chalk, &c. This, about eight or ten cart-loads per acre, is carted to the field ready for turnip sowing. The manure is drilled in by one of those that deliver most manure, and thus eight acres can be got over in a day drilled on the flat. If the field is very poor, the drill goes over four acres in the morning without seed; in the afternoon the same quantity is again deposited in the same ruts, and the seed upon this double discharge. The advantage of this is, that the dung is never exposed to the drying of the sun or air; that the seed being deposited over a moist bed, germinates immediately in the driest season, and cares not for the fly. The pig manure I consider the best of all, because one-half of the corn I feed them on is in the shape of beans, which contains the best mineral ingredient for growing Swedes, as I have endeavoured to set forth in my "Lecture on Manures."—These, gentlemen, then, are the principal points of the practice which has brought me into that pleasing embarrassment of which I spoke before, and which I wish may befall you all—more manure than you can safely put on your arable land.

(To be continued.)

From the Farmers' Gazette.

CHEMICO-AGRICULTURAL SOCIETY OF ULSTER.

COUNCIL MEETING.

The Turnip Crop.—Several exceedingly interesting communications were read to the meeting, by Dr. Hodges, respecting the turnip crop, and the depredations

which had, during the past months, been committed by various kinds of insects. He exhibited specimens of the larva of a moth, which had been forwarded to him by Mr. Cope, steward to the Marquis of Downshire, at Hillsborough-park. Mr. Cope's communication mentioned, that frequently 25 or 30 of these caterpillars were found on the soil surrounding the turnip. The turnips were grown on guano and farm-yard manure, and were 21 inches apart. Dr. Hodges also read a letter from Dr. Clarke, of Templepatrick, on the ravages committed in that neighbourhood, by insects. It stated, that these insects had attacked both cabbages and Swedes simultaneously, about six weeks ago; but none of them had been observed on the rough-leaved turnips.—In reference to this communication, Dr. Hodges stated, that he had submitted specimens to Mr. Patterson, vice-president of the Natural History Society, who had kindly forwarded them to Mr. Spence, president of the Entomological Society, and that he had been allowed to communicate to the meeting the interesting reply of that distinguished naturalist. The following is an extract from Mr. Spence's letter:—

"I have written to Mr. Clarke, Templepatrick, in reply to his letter, with specimens of the aphides infesting their Swedish turnips, which are, to all appearance, *Aphis brassicae*, known to be often very injurious to this crop, though I have not heard of its doing much mischief in England this year. In Suffolk, they are suffering from the attacks of the larva of a moth (*Agrostis segetum*). The caterpillar which Mr. Clarke sent, was evidently the larva of one of the aphidivorous flies; and is, therefore, one of the farmer's friends, and to be encouraged, not destroyed, as are the little flies Mr. Clarke refers to, which are, doubtless, species of some of the eight or ten genera of minute parasitic hymenoptera which lay their eggs in the bodies of the aphides. I am quite persuaded, that if farmers were entomologists, as we wish to make them, they might effectually exterminate these pests of aphides on the hop, bean, and turnips at the outset, by setting boys and women to crush the first females, each of which give birth, including the eight or ten generations of their descendants, to ravages which the sagacious agriculturists call a blight, and regard as a fatality that must be submitted to without an effort. I found, however, in looking a little closely into the history of aphides, previously to our last meeting of the Entomological Society, how much we have yet to learn as to their economy, before we can pretend to give instructions to the farmer. Where, for example, are the eggs deposited by the females of the last brood of aphides, feeding on annual plants, like beans and turnips, placed? Not, of course, on the plants themselves, as the eggs are laid in autumn. I can find nothing on this important point in books; but the difficulty will be, in a

great measure, solved, if Mr. Walker be correct in his idea, that many aphides have their first brood from the egg hatched on plants quite different from those on which they principally feed, and to which a brood of winged females early migrates. Thus, he says, the aphid of the hop is hatched in the sloe, and in the second generation migrates to the former; and the aphid of the bean on the dock (*rumex*), &c. As Mr. Walker is gone to the meeting of naturalists, at Aix la Chapelle, I have begged him to engage in these points there."

Dr. Hodges also read extracts from "Patterson's Introduction to Zoology," illustrative of the history of the various insects which attack the crop of the farmer. Dr. Clarke's letter stated, that there was not a field of Swedes but what had been, more or less, attacked by the aphides; but that the late heavy rains had, apparently, been successful in stopping their ravages, though considerable injury had been produced. He had observed, that, when the whole of the leaves had been destroyed, new ones were beginning to appear at the crown of the tuft, and that the fields, altogether, presented a healthier appearance.

Dr. Orr asked if any of the members present were acquainted with any means of arresting the progress of the aphides?

Mr. Scott said, that he had often destroyed them, by burning damp grass, or other combustible materials to the windward side of the field. Several members, however, did not conceive that this plan would be of much service.

Fungus in Potato stalks.—Dr. Hodges brought under the notice of the meeting specimens of the substance which Mr. William Marshall had described, at the last meeting of council, as presenting the appearance of ergot of rye. They were found in the interior of stalks that were decaying; frequently the upper part of the stalk was quite sound; but, when these substances were observed, it had an unhealthy appearance. On opening the stalk, a number of small black substances are observed, some of them spherical and others angular, embedded in the stalk, and covered over with a white down. Where the ergot was embedded, the sides of the stalk appeared there as oat straw. The tubers, at the roots of the diseased stalks, were healthy.

Mr. Marshall gave an account of the circumstances connected with the appearance of these little bodies. He asked Dr. Hodges' opinion of their nature, in consequence of a statement made by a writer in the *Farmers' Gazette*.

Dr. Hodges stated, that the writer of the letter alluded to, had evidently confounded those fungoid bodies with the buds of the potato. [Dr. Hodges here exhibited to the meeting specimens of the potato buds; and, also, of the supposed ergot.] He said that he would request the Rev. Mr. Berkeley, well known for his researches in that department of na-

tural history, to give them information on the subject.

The Quinoa.—Mr. D. Ferguson, of the Royal Botanic Garden, exhibited to the meeting a splendid specimen of the quinoa, six feet in height and covered with seed. This plant, the seeds of which, in a communication made to the society some time ago, Dr. Hodges had introduced to the notice of the public as a useful article of food, grows readily in the climate of this country. It is a native of the elevated regions of South America, and is highly valued, by the natives, as a pleasant and nutritious article of food.

Dr. Hodges read extracts from a letter which he had received, respecting the mode of preparing it for food, from a Peruvian gentleman, Don Diego Power.

Colonel Young spoke in favour of the valuable qualities of the quinoa. He had frequently eaten it in South America, where it is much esteemed.

ON THE ADVANTAGES AND DISADVANTAGES OF BREAKING UP GRASS LANDS.

By JOHN CLARKE, of Long Sutton, Lincolnshire.

It is almost superfluous to attempt to shew a fact so self-evident as that land under culture will produce more food for man than in its natural state. It has been so from the time of Adam, to whom it was said, 'In the sweat of thy face shalt thou eat bread,' to the present. It was proved by the late Board of Agriculture, in the year 1801, in obedience to a requisition from the House of Lords. The Board ascertained that an acre of clover, rape, tarcs, turnips, cabbages, or potatoes will produce at least twice as much food as the same acre under grass of medium quality, and that the same acre would maintain at least as much stock as when under grass, besides producing every alternate year a valuable crop of corn and straw for the consumption of the cattle. An acre of land of first-rate quality, feeding or grazing the usual number of cattle and sheep, will produce in one year a return of about £6 per acre, *i. e.*, it will fatten 9 oxen of 60 stone each upon 8 acres; and allowing an increase of 12 stones each, equal to 13½ stones per acre, will at 7s. per stone, leave a return of £4 14s. 6d. in beef, to which add the value of mutton and wool made during autumn and winter, from 2 sheep per acre at 12s. 6d. each; total £6 per acre; which estimate would, upon a yearly general average, be considered high. An acre of the best grazing land will produce then 13½ stones of beef, and 1½ stone of mutton, and 5lbs of wool, of the total value of £6 per acre. If the same acre of land is converted into tillage, it will produce 12 tons of potatoes, or 5 qrs. of wheat, to 15 stones of meat and 5 lbs. of wool per acre; and similar results in point of produce would arise from all the inferior grass lands being broken up. This part of the subject claims the most serious and

careful consideration. The quantity of arable land in the United Kingdom amounts to 45,522,970 acres, and of grass 15,000,000 acres. It can be most satisfactorily proved that grass land, under arable culture, will produce twice as much food for man, besides finding him a vast amount of profitable employment; and, therefore, it becomes a question of the highest national importance. Nearly all the grass-lands are broken up in the most thickly peopled countries—in China, in Belgium, and others—with the happiest effects. The growing wants of this country demand that every facility ought to be given to promote this astonishing improvement in its Agriculture; the population increasing as it does at the rate of 1,000 per day, must be provided for—*it must be fed*, and the most strenuous efforts are required, *and must be made*, to supply the daily consumption, and that at as cheap a rate as possible. This supply resting mainly with the landowner or his tenant, it is of some consequence to shew that the interest of the one and the profit of the other will be best promoted by the conversion of grass lands into tillage—this has already been done, and needs no repetition, but for the great difficulty of convincing the Farmer that it is to his interest to manage so as to continually improve his land, and in this way benefit the landlord as well as himself; and it is only in this way that he can do it, and that the landlords in general would be induced to allow their grass-lands to be broken up. The Farmer *must* adopt and practice *high farming*—*he must* lay out much capital in cultivation, manure, and good drainage; his profit depends on this—the soil *must* be replenished and kept to the mark; culture will do much, but manure will do more, and neither will be decidedly effective without good drainage. The poorest soils will give the largest proportionable returns for these particular items of expenditure. This course is a progressive one; land will improve under good culture, and ultimate benefit *must* result. Manures suited to every kind of land are to be obtained; and when it is once brought into a productive state, it will, in a great measure, be self-supporting, by growing a sufficiency of herbage, under a proper rotation, to supply the requisite manuring; and, depend upon it, this supply of manure will contribute beyond any other to the Farmer's profit; it is his 'sheet-anchor,' his 'main-stay'; it supplies the very essence required by the crop, and both land and crop would soon be valueless without it—'muck (says the old adage) is the mother of money.' If these principles were carried out with respect to a large portion of the 15,000,000 of acres still under grass, what an amazing amount of food may yet be produced from the soil of these kingdoms without impoverishment! and in describing the mode of breaking up and tilling each kind of grass-land, the object will be to point out such courses as shall, by judicious management, fully carry them

out, so that in every respect it shall 'be better for the labourer, the Farmer, the landlord, and the public.'

THE TURNIP FLY.

From Dr. Shier's Notes to Davy's Lectures on Agricultural Chemistry.

After trial of innumerable substances and mixtures, practical men seem almost unanimously to have arrived at the conclusion, that little or nothing can be done in the way of cure when the turnip fly (*Alicia nemorum*) has once established itself. As ammonia is obviously the active principle of the mixtures used by Knight, I made trial of a diluted solution of that substance in the summers of 1841 and 42, on a field much infested with the fly, but without success.

As the fly attacks only the seminal leaves of the plants, it seldom proves very destructive, unless when the braid is scanty, and the plants are sickly from protracted drought and cold weather.—On the east coast of Scotland dry east winds frequently prevail about the time of turnip sowing, and when this is the case, the growth of the plants is slow, and they continue long in a condition that courts the depredations of the fly. Slow growth from any other cause would doubtless produce the same effect.

The most efficient means of prevention are—1st, Liberal manuring, to promote rapid and luxuriant growth. For this purpose it is essential that the manure be not too much diffused through the ground, nor so deeply buried that the young plants cannot reach it. That both these evils are avoided in the drill system appears from a consideration of its nature, as well as from the uniform success that is known to attend its use. A vigorous braid is still further secured, by using, in addition to the ordinary dose of farm-yard manure, some of the more rapidly acting extraneous manures, such as guano, bone-dust, or dry bone-dust, or dry bone-dust with sulphuric acid; these substances are either hand-sown above the dung before covering it in with the plough, or when economy is studied, they are dibbled, or put in by the dust-dropper after the covering in of the manure.—2nd, Thick sowing, to secure abundance of plants, so that if a portion should be attacked, there may be others to supply the deficiency; the surplus is easily got quit of by the hoe. In addition to thick sowing in the drills, it is well to sow about a pound of seed per acre broadcast over all, as the plants growing between the drills appear rather before the others, and being besides but feeble plants are preferred by the fly to the rest. 3rd, The destruction of all cruciferous weeds, such as the common charlock (*Sinapis arvensis*), the jointed charlock (*Raphanus Raphanistrum*), on which, as well as on the turnip plants, the fly feeds, and by which it is preserved in the ground during the two years of the rotation. Few weeds are so difficult to deal with as the two referred to; their seeds are extremely

tenacious of life, a deeper ploughing than usual will often, in lands long infested with them, cover the whole surface of the ground, the seeds having lain dormant for many years. Some instances have come under my own observation, where the seeds of the *Sinapis arvensis* have vegetated freely after being buried for more than forty years. These weeds appear in greatest abundance among the white crop taken after lea, and in the land preparing for fallow crops. In the latter case, when the weather is favourable, two or more crops of weeds may be made to vegetate and be destroyed in a single season: in the former case they are with more difficulty subdued; but a turn of the harrows, after the grain plants are in their second leaf, will destroy a great many, and hand weeding must do the rest. All the plants of *Sinapis*, however, that escape, ripen, and mostly sow their seeds before the white crop can be gathered in. In some seasons it happens that a considerable number of cruciferous weeds must be allowed to stand, and are cut and housed along with the grain, and unless their seed are carefully separated from the dressed grain by a seed-sieve, they may be again sown with the seed corn. The pod of the *Raphanus* is indehiscent, that is, it does not burst as that of the *Sinapis* does, but breaks into joints, each containing a seed; these may be separated by what is termed a bere riddle, through which the grain passes while the joints are retained; the best winnowing machines are now provided with both these sifters.

Of the seeds that come into the thrashing mill, the greatest quantity again conveyed to the fields is through inattention to the siftings, sweepings, and other refuse, which are often heedlessly thrown to the pigs, to the dung-hill, straw-court, or compost heap, where, unless the fermentation is higher and more complete than for other reasons is desirable, the vitality of the seeds is not destroyed; and thus the farmer actually propagates weeds, and in such a way too that they cannot fail to nourish amazingly. A little reflection on this matter would surely lead to the correction of these errors.

From the Farmers' Gazette.

BEAN CULTURE versus NAKED FALLOW.

Str.—I am sorry to see so much of our fine clay land in this locality lying for twelve months without a crop, whereas it might be under one, and afterwards be in as good a state for wheat as that which has been lying idle, with the great expense attending it in its preparation for a wheat crop. The following is the plan which I have adopted on a piece of clay ground which I intended to fallow for wheat; it was oat ground, which I ploughed up early in November, and left to lie under the winter's frost.

Early in spring I harrowed one-half of the field, which might be about two

acres. I then ploughed and harrowed quite fine, and all the piece on level, after which I commenced in the middle of the ground, and opened a furrow with the plough, and, with a few careful hands, dropped in the beans regularly along the furrow; then in every third furrow opened with the plough, the beans were dropped in, and so on until the piece was finished. The beans were about 27 inches apart in each drill. When finished the ground was harrowed quite level, and remained in that state until the beans were up about 4 or 6 inches; then I applied the drill harrow between the lines to cut down any weeds that appeared. After that I commenced with the double mould-board plough to land them up, and, in the course of some time, the plough went through them again, which made a finish.

The produce of the two acres was about 26 barrels, which brought about £22 11s. per acre. Immediately after the crop was off I ploughed the ground, and harrowed quite fine, and had it ready for wheat along with the piece of idlo fallow.

I beg to state, I sowed at the same time, and with the same seed and complement. I found no difference in the produce of either. There is a loss of £22 in the same complement of ground. I recommend the drill system in this way in the bean culture, as it has a great advantage in the cleaning of land; it is equally as good as any fallow, and more profitable to the farmer. When the drills are properly raised up about the beans, it purifies and enriches the ground, and in this case, as appears from the produce of the wheat, did not appear to be an exhauster of the soil.

SUBSOILING versus OLD-FASHIONED TILLAGE.

I also beg leave to recommend to your notice a few remarks on deepening and cleaning ground by trench-ploughing, particularly that subject to couch-grass, crowfoot, or coltsfoot.

About three years ago I trench-ploughed a piece of ground 15 inches deep—about three acres, the two-thirds of the field, which continues still in a clean state, and it is every year more productive than the remaining one-third of the field, which still remains in a polluted state with the above weeds, though every caution was used with regard to getting off the weeds previous to cropping.

I know there are many farmers averse to deep ploughing, and particularly to the exposure of the subsoil. I would recommend, from experience, for some of those farmers to try a piece of ground, say on the worst part of their farm—first divide the ground you intend for deepening into two equal parts, then you open two trenches with the plough, about 15 inches deep each; you will have a trench on each of those parts which you have divided, that the ploughs may go up the one and down the other. When you plough the first furrow, you shove that out, then the next plough comes on the

same track and turns up the under sod, which is shovelled out also, then the ploughs go on to the next trench and open it in the same manner, then both of those trenches are ready for work; the first plough goes along the first trench, and turns the surface sod into the bottom of the trenches; the next plough follows and turns up the under sod or subsoil on the top of the surface sod, then on to the next trench the same way, until the whole is finished; then apply some lime, which is harrowed in previous to the next ploughing in March, if you intend it for a green crop. You are to remark that this operation would not answer unless your ground is thorough-drained, or in a dry state.

Turnips were the first crop taken off the piece of ground I managed in this way after thorough-draining it. The average crop was about 45 tons, whereas the other piece of the field was not more than 20 tons, after getting the same complement of lime, and also of manure; lime at the rate of 40 barrels to the acre, and about 40 tons of good farm-yard manure.

I have no doubt but this plan would answer for parsnips or carrots; it does remarkably well for mangel or beet; the largest I ever raised was in a few drills in this piece of ground, which was at the rate of 80 tons the acre. Its subsoil was a retentive clay, and the surface sod was nearly a mass of couch-grass.

I am a great advocate for your paper, which is a sheet-anchor for the Irish farmers.—Yours, &c., J. M'CORMICK, *Cuslebellingham, Sept. 30, 1847.*

From the Farmer's Gazette.

NATURE'S PLEA.

THOUGHTS AND FRAGMENTS FOR IMMEDIATE CONSIDERATION.

SIR,—The strongest argument that man can use in persuading his fellow man to pursue a proper system of agriculture—such as the natural habits of the various products of the farm, the soil and the seasons require—is supplied by nature. Certain circumstances exist: these should be duly and minutely noted; certain results are, or are endeavoured to be produced, the proper means for effecting which are, too often, too generally unthought of, and neglected.

Many circumstances combine to blight the farmer's hopes, a knowledge of which is most important. The good physician when called on, endeavours to ascertain the previous habits, pursuits, and constitutional affections of his patient, and the peculiarities and advantages, or defects of climate, and then prescribes. So the agricultural physician should study the habits and requirements of agricultural plants, and the circumstances and conditions that conduce to health, before he presumes to give advice on the treatment of agricultural maladies, and subject to his interest and his will—in the manufacture of food—the elements of nature.

If inanimate creatures, the products of

the farm, were imbued with life, reason, and speech, such as pertain to man, we should hear them express their reasonable demands—their grievances and bad barbaric treatment, in something of the following soliloquising strain:—"Man, intended lord of all creation, awake!—arise from the slumber in which, from apathy and indolence, you have indulged for ages. We are thy creatures, called into existence by thy Creator and ours, for thy pleasure, profit, and support; but mark you this, and note it well, engrave it on your memory, so that time nor circumstances can never efface nor blot it out,—we have not, unaided, the power of self-reproduction; the duty of providing the conditions necessary thereto rests with you; and we, like grateful servants, will perform our allotted duties faithfully, if you do yours, and repay thee amply for all thy labours; but neglect to provide our proper dues, such as nature intended we should receive, and, by our stunted growth, you will be punished for your penurious treatment of us, and we will show, and convince you, that we are not to be neglected with impunity."

A rich harvest has been reaped, sufficient, so far as abundant produce on the ground under crop can avail, to compensate for the past year's famine, although it is miserably inefficient to meet the exigencies of the times. Such might act as a stimulus and inducement to energetic exertion for the future, but there is a too palpable neglect of preparing vigorously for the next year's agricultural campaign. True, I observed the plough in several fields employed in timely duty, providing partially, for the beneficial effects that arise from atmospheric influence on newly-turned soil; but how? The narrow ridge, and shallow, thin furrow are as prevalent as if, with the former, it were possible to plough deeply, and not tramp and consolidate the turned surface, or that draining and deep cultivation were terms, the meaning of which has yet to be determined. The mode of cult of green crops is equally objectionable. The drills are all too close, and the ground is crusted and hard, so that, if nature had adapted the bulbs for expanding and forcing back the solid, unfinching soil, and the roots to penetrate, without assistance, through innumerable obstructions in search of food, there might be good crops. After-culture, or maintaining the ground in a loose, pulverized state, without which there must be deficient crops, has been sadly neglected; remedy for the present crop is now all but out of the question; the season of vegetation, even of the Swedish turnip, is on the eve of being numbered with the past. The ensuing crop need not, should not, be left to struggle with unnecessary obstructions, and now there is not a moment to lose in forcing on with the preparation of the ground. Even now part of a glorious season has been lost by those who have not yet commenced to plough or trench their ground. It should be borne in mind, that, as soon

as the harvest, or a portion of it, is removed, at every convenient time, the state of the weather permitting, the preparation of the ground for the next crop should have precedence of every other work—the saving of the remainder of the harvest alone excepted.

Nature is decisive in pointing out the proper seed time. We have the dormant season, when she is, or should be, at rest, and we have the season of spring, or germination, when she bursts the bonds of the seemingly non-existent state of the seed, and ushers it into its fast-fleeting reproduction age. Wheat alone excepted, which, by right, which should have twelve months to vegetate, mature, and ripen; our principal food crops require from six to eight months; but often one, two, or three months of the vegetative season are allowed to elapse before the seed is committed to its reproductive bed, and the blighted crop and unripened grain tell with vengeance that nature's laws were violated; hence the sluggish who neglects timely cultivation, cannot expect good crops. He must allow nature to direct as to the proper time, and he should remember that he can only accomplish timely sowing by preparing the ground in proper season also. Often the plough is set to work in spring, when the seed time has arrived. This should not occur again.

Only that the practice is still persevered in, it might now seem unnecessary to insist on deep cultivation, the benefits to be derived therefrom are so generally admitted, but the use and application of manure are less understood.

When tracing out the growth of plants by their roots, I have often observed the young tender fibre to contract with fermenting manure or putrescent matter, to become diseased, and to prematurely decay, and this in general, I believe, ultimately resulted in an additional set of branch fibres sticking out of the decayed one. I have speculated on the fact, and I feel strongly inclined to the opinion, although I have not had any experiment from which to decide the point, that using too fresh manure, and putting it directly under the seed, tend to produce the disease or defect in turnips described as "fingers and toes." We know it has the effect on carrots, and from their construction, being tap-rooted, they should be less liable to such a phenomenon than turnips.—Strong or fermenting manure under the seed, and in direct contact with the roots of plants, I have long reprobated, and compared it to giving strong drink or strong stimulating food to infants.

I have not space here to enter on a discussion of this important question: I can only state, that reason, nature, my observations, and some few experiments, with the concurrent testimony of many of my most experienced correspondents, decide, that the manure, as soon as possible after it is made, should be ploughed or trenched into the ground and allowed to ferment in it before seed-time. I can only refer at present to one great and paramount

advantage of doing so. When the season of vegetation commences, the season that points out for committing the seed to the earth, there is no delay in performing this operation. The crop is got into the ground with facility and ease; the delay arising from drawing manure, ploughing and preparing the ground is avoided. This labour has been done previously, and the whole routine of operations being performed us nature dictates, the healthful and luxuriant growth, and ripening of the crops also in season, will amply pay for every operation.

I conclude, therefore, by pointing out again the absolute necessity of early and timely ploughing and trenching, combined with the application of farm-yard manure as it is made.—Yours, &c., JOHN M'ARTHUR, Author of the "Roots of Plants," 51 Grafton-street, Dublin, 29th September, 1847.

From the Scottish Farmer.

ON THE ADVANTAGES OF STEEPING THE FOOD OF CATTLE IN WATER.

BY M. BOUSSINGAULT.*

Many farmers have a practice of steeping their dry fodder before giving it to the cattle; in the opinion of these practical men, hay and clover acquire, by imbibing water, more nutritive properties. Twenty-five pounds of clover hay will absorb enough water to make it weigh 100 lbs., after an infusion in water for 12 hours. It is therefore thought by this means the dry fodder is again in some measure restored to the state of green food. It has been the general opinion, that in the warm and dry state in which cattle are usually kept, moistened food would be more profitable than the dry hay with which they are usually fed when grass or fresh clover cannot be obtained.

It was the wish to decide this question which induced me to make a comparative trial for the purpose of observing the effect of steeping the food. I intrusted the details of this experiment to M. Eugene Oppermann, who is studying Agriculture under my care at Bechellbronne. Four heifers, aged 17 to 19 months, were divided into two lots; the one of these (No. 1) was fed with new land hay, No. 2 received the same food previously steeped in water 12 hours. Each lot received besides 3 lbs. of old land hay for each 100 lbs. of live weight.

The following is a result of a trial of 14 days:—

Food steeped.	lbs.
Weight at commencement,	1604
Grain in weight,	51
Grain per day,	3½
Weight after 14 days,	1655
Weight of food consumed,	624

* M. Boussingault is one of the foremost scientific Agriculturists on the Continent—the very first in France—and his works, which should be found on the table of every philosophic Farmer, are replete with original research, and are among the most powerful aids and stimulants to Agricultural and Pastoral progress.—Ed. S. F.

Food dry.	lbs.
Weight at commencement,	1715
Grain in weight,	45
Grain per day,	31
Weight after 14 days,	1760
Weight of food consumed,	693

This experiment was then repeated, inverting the order of the lots, so that the moistened food was given to the heifers which had previously received the dry food. The result again obtained did not differ materially from that given above. It was as follows: 1st lot, which had dry food, gained in 14 days 51 lbs.; 2nd lot, which had steeped food, gained in 14 days 49 lbs. This slight advantage gained by moistening the food is so small as to cause a doubt that it may not be the result of an error in the experiment, and should it prove a real gain, is too small to repay the manual labour and trouble caused by steeping the food.

In the course of the experiment, M. Oppermann observed that the cattle ate the moist hay more rapidly than the dry. The one lot consumed the steeped food in 45 minutes, whilst the other occupied an hour in eating their "ration" of dry hay. Greater rapidity of consumption may possibly in some cases be an advantage; for example, in fattening, when it is necessary to give as much rest as possible. No doubt, also, the soft moist food, by its mastication, may be of advantage to very young calves, when the milk is taken from them. In a word, dry hay, after it has absorbed two or three times its weight of water, ought to give the same advantage which we have in green food; the latter, if not more feeding than hay, is at least eaten more greedily. It is known that an animal on green food generally does better than when receiving only dry hay; and there may be instances in which similar results may be obtained by steeped fodder, if given under similar circumstances. Curious to know the influence which moistened food would have on milked cows, I engaged M. Oppermann to try an experiment on two cows as nearly alike as possible, which received (as in the previous experiment) 3 lbs. of dry fodder to each 100 lbs. of live weight, in addition to the other food. The one cow received hay steeped as before; the other, hay in its natural state. After 15 days' perseverance in the above regime, no difference could be perceived in the quantity of milk.—*Annales de Chemie.*

It may not be out of place to remark that the author of this valuable paper has devoted himself with great earnestness to scientific Agriculture. He has a large farm at Bechellbronne, in the south of France, where, with ample command of capital, aided by his extensive chemical knowledge, he pursues experiments in every branch of farming, and gives his results to the world in papers such as the above. His statements are received with great credit over the whole of Europe, second only to those of Liebig. With due respect, however, for such authority, we were not prepared for results so to-

tally at variance with the increasing practice of the best Farmers and cow-keepers. It is difficult to understand how a practice involving both trouble and expense can spread, if it be useless.

Connected with the improved farm buildings in the north of England and Scotland, is now always found a steam engine; the waste steam from which is used to steam turnips for the feeding of cattle. In many places apparatus has been erected for the express purpose of preparing the food, by boiling or steaming. In the Lothians of Scotland, ryegrass is commonly allowed to stand for seed, and whatever portion of the crop is considered unfit for market, is mixed with cut hay or straw, together with linseed cake, and then steamed. This is found to make an exceedingly rich food for cattle. Where many cows are kept, the steaming of all kinds of food is almost universal.



COBOURG, DECEMBER 1, 1847.

In catering for the columns of our periodical, it is our study to bring before our readers such matter as shall be practically useful, and in selecting from some of the best English and American agriculturists, endeavour to submit for their consideration such subjects as may be made available, and are imperatively called for in Canada.

Our readers, we are sure, will not lightly pass over "the Report" commenced in our present number, of the conversation held at a meeting of scientific and practical agriculturists at Drayton Manor, under the patronage of Sir Robert Peel.

The observations which fell from some of England's most skilful and enterprising farmers deserve the fullest attention, and it will be only by following in their track that success can be ensured. Under our peculiar circumstances, every aid which we can secure must be called into requisition; and in order to procure a subsistence, as we cannot by any means double the price, we must use our most strenuous efforts to double our produce.

It is very plain to be seen that the English farmer is, by science, acquiring the art of increasing his crops, without deteriorating the soil; and this art we must endeavour to acquire. It is quite true, that the British farmer has many advantages over him of Canada, and among the foremost a ready sale for any amount

of stock he can raise; and without stock, 'no manure,' without manure 'no crops,' and without crops, 'no stock.' And it must be remembred that although much has been attained by the introduction of many most valuable auxiliaries to supply some of the important matter, still a large supply must come from the fold-yard and compost heap, to render the others as valuable as they should be.

On the other hand, it must not be forgotten that the British farmer pays at a high rate for the land he operates upon, in rent and taxes, and oftentimes expends more in the purchase of manures than the fee simple of the land would cost in Canada.

The severity of our winter is much against the Canadian farmer, but his seed-time and harvest is not equalled in the British Isles, and the quality of the soil, taken acre for acre, will certainly not suffer in comparison with that of England.

EWES AND RAMS.

Many are the opinions and very diverse, as to the proper season for turning the Rams to the Ewes in this part of the Province; and as it is a matter of some importance, we would be glad to hear from some of our readers on the subject.—There are some few so careless as to let the Ram be at large at all times; some allow the intercourse as early as October and others as late as January, each having their different theories. Some few years since, when no shelter was prepared for the poor animal, and when the protection of the lee side of a barn or shed, or even fence, was denied them by the more powerful animals throughout the most inclement seasons, and when a scanty subsistence was procured by scratching through the snow, to reach the sour frozen herbage of the field; or the worst portion of the fodder of the yard, shared alike by cattle and young horses, and trodden under foot by the pigs, was thought sufficient for their support. And when root crops were not grown or stored to keep them in condition, then indeed it was necessary to have the lambs dropped before the beginning of June, when there might be subsistence for the dam and her offspring; but now that the turnip and carrot are or may be grown in abundance, and can be easily stored, there can be no occasion for such late lambing; which by keeping them so long on the mother before weaning, involves the farther difficulty of turning

the lamb off at a period when there is not sufficient herbage to supply the lack of the mother's milk,—and leaving the Ewe the very worst season to recruit her strength for another period of gestation,—this, we think the main cause for the deterioration in many of the flocks.

There is yet another objection to this practice: the flock should be shorn by the last of May, and in washing, prior to shearing, much danger is incurred in handling ewes before lambing.

Sheep should not be allowed to get out of condition; but they do so, a few thriving old crones excepted, and it cannot be conceived otherwise than that the Ewe, to do justice to her offspring, should be far removed from poverty; and we certainly think, that if the needful food and shelter be provided, lambs may with perfect safety and little loss be dropped to be remunerative by the first of April. If intended for the butcher, the earliest command the best price (such as it is), or if for home consumption, the fleece will be increased in weight and value; and if kept for stock, the wethers at least might be profitably shorn at the end of August.

GOOD FARMING.—Now, here is the secret of good farming—you cannot take from the land more than you restore to it, in some shape or other, without ruining it and so destroying your capital. Different soils may require different modes of treatment and cropping, but in every variety of soil these are the golden rules to attend to:—Drain until you find that the water that falls from heaven does not stagnate on the soil; but runs through it and off it freely. Turn up and till the land until your foot sinks into a loose powdery loam that the sun and air readily pass through. Let no weed occupy the space where a useful plant could possibly grow. Collect every particle of manure that you can, whether liquid or solid.—Let nothing on the farm go to waste. Put in your crops in that course which experience has shown to lead to success in their growth, and to an enrichment and not impoverishment of the land. Give every plant room to spread its roots in the soil, and leaves in the air. See that your house is as dry and airy as possible, and that you have not a dunghill or a stagnant pond before your door or window. Finally, encourage your family in habits of industry, and of preparing the food which you raise from the land, so as to produce the most wholesome and economical meals.—*Scottish Farmer.*

EXCELLENT REPLY.—When Marc Antony gave orders for doubling the taxes in Asia, an intimate friend told him he should "first order the land to yield a double harvest."

THE JOLLY WORKING FARMER.

BY STANLEY H. MCCLINTOCK, ESQ.

Air—"The Arethusa."

Come all you jolly farmers bold,
Whose hearts are cast in honour's mould,
Till Irish farming I unfold.

Oh, hurrah for the jolly farmer!
He's an honest, sterling blade,
As ever handled plough or spade;

His heart is true
And his cares are few;
And while the sweat falls off his brow,
He cheers on the team of his good Scotch plough,
And rejoices that he's a farmer.

In spring he works and tills his ground,
And cleans the land till no weeds are found;
And when harvest comes, the labour's crowned
Of the jolly, working farmer.

He sows his corn and good green crops—
Then comes the rain in genial drops—

And the turnips grow
In a bright green row;
And when winter comes, both man and beast
Are each supplied with a wholesome feast—
All supplied by the working farmer.

But some there are, I grieve to say,
Who work their land another way—
Which we all know can never pay—
Unworthy the name of farmer.

They crop their land till it yields no more,
And wonder they have not of corn a store.

Poor souls of dust!
Who in "Lumpers" trust!
If they'd feed their cattle and make some dung,
Their hearts, with care would never be wrung—
Like a jovial, working farmer.

Look at the fields of turpits now,
And look at your glorious short-horned cow,
And look at your long-backed breeding sow—
My worthy, working farmer.

Turnips are better than stubbles bare—
While you feed with them the coat won't stare,
And a greyhound pig
Is not worth a fig.

Hurrah for the man who feeds his kine;
With cash his pockets he soon will line.
Success to the working farmer.

In winter gather the dung in loads,
And don't let the cattle be soiling the roads,
Where you send them to graze from their proper
abodes;

How very unlike a farmer!
They let them eat the ditch-grown grass,
Less like a cow than a tinler's ass,

I really declare!
Such want of care,
And such treatment to useful beasts is sad—
It's enough to drive an agent mad;
Oh, lazy, idle farmers.

Give me the man on improvement bent;
He plods on his way with a heart content—
With a cheerful face he pays his rent.

Oh, hurrah for the honest farmer!
We'll drink his health with three times three,
And wish him long life and prosperity;

Let each fill a glass
As the wine we pass.
Here's the health of the man who's Ireland's boast;
So, fill your glasses, and drink to the toast
Of the "Worthy, Working Farmer."

ONIONS, we admit, do not add to the sweetness of a lady's breath; though they certainly do add to the fragrance of flowers. Let one of our lady readers plant a large onion near a rose bush, so as to touch its root, and, our word for it, it will wonderfully increase the odour of the flowers. The water distilled from these roses, would be far superior to any other. This is strange but true.

DIARRHOEA is quite as common in young animals, while teething, as in children during the same period.