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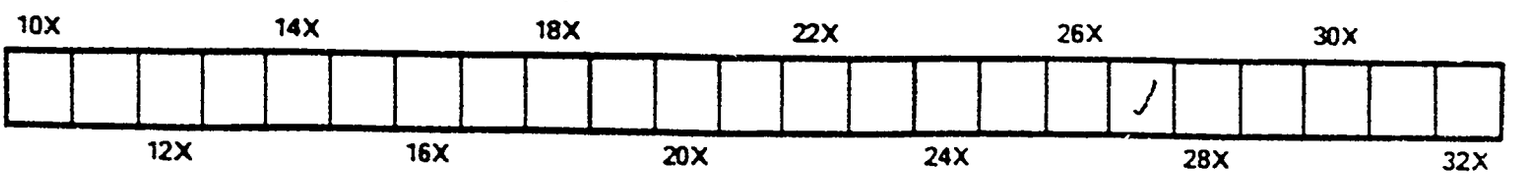


THE BRITISH AMERICAN
CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—*Dr. Johnson.*

Vol. 1. TORONTO, NOVEMBER, 1842. No. 11.

THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve."—*Dr. Johnson*

Toronto, November, 1842.

In a late debate in the Legislative Council on the "Duty on Wheat Question," the Hon'ble Mr. DeBlaquiere is reported to have said, "He believed the interests of the Western Trade did not yield even to those of agriculture." If such are the views entertained by the members of the Legislature who we thought were the most favourably disposed to our agriculture, we may indeed despair of any effectual encouragement being afforded to Canadian industry by our Legislature. It is well understood that agriculture is the only means of subsistance for nine-tenths of our population, and notwithstanding this fact, it is considered by our legislators to be second in importance to the carrying trade of the produce of a foreign state. We fear it is in vain to expect any particular attention to be given to our interests, so long as they are regarded as second in importance to every other interests in the country. There is not a merchant or a tradesman in Canada who are not protected in their business by duties on foreign manufactures, &c. Even the learned professions are protected so far that no foreigner can practice here without a license. With what consistency then, can those classes whose interests have every reasonable protection, oppose the granting of protection to the interest of agriculture? Every shilling, we may safely say, that is expended by agriculturists, is paid to the other classes of this community; but if these other classes meet in our markets with a foreign agricultural produce, they purchase it in preference to that which is the produce of Canada, if the most trifling advantage can be gained either in price or quality. We do not condemn this proceeding: it is perfectly fair under the existing state of the laws. We wish, however, that these laws should be altered so as to give equal protection to the interests of all classes. Let duties be altogether abolished, and we shall not ask for any more favour than others will have. It is very well for legislators and others to say that Canadian farmers can compete with those of the United States. We deny, however, that there is any fair competition existing at present between the farmers of both countries when disposing of their produce in the Canadian markets. We have in former numbers of this Periodical endeavoured to show wherein this competition is unequal.—The farmer of the United States sells his produce in our markets as free from all duty and charges as our Canadian farmers, and may take home the full amount of the proceeds in cash to be expended in promoting the industry and improvement of his own country. The Canadian farmer on the contrary, cannot go the United States with the proceeds of what he sells in our markets, and purchase in that country what he might require or find profitable, and bring them into this country without paying a duty upon them. No.—We must purchase all we require here, and all that we do purchase has paid both British and Colonial revenue, direct and indirect, to the amount, perhaps, of one-third of their entire value. Under these circumstances, can any man show that the Canadian farmer can fairly and equally compete with the foreign farmer in our markets? There are many other circumstances which make the competition still more unequal and against the Canadian farmer. If this were a country that did not possess a good soil and favourable climate for agriculture, it would be wrong to employ the great bulk of the people in that business. They should rather employ themselves in some other way, in the production of articles which they could exchange for food. But when we are certain that we do possess a good soil and favourable climate for agriculture, on what principle is it that we do not offer the most decided encouragement to our agriculture, that it may be abundantly productive in corn, cattle, pork, butter, cheese, hemp, and flax? In what other way could our population be employed that they could acquire their subsistance? None certainly that we are acquainted with. We therefore humbly conceive, that the interests of agriculture are of importance above all other interests in this country, and should be so regarded by the Representatives of this population, in any question of the interests of separate classes that would come under discussion in our Legislative Assembly.—The population of every country should be employed in that way that will produce them the largest quantity of the comforts and conveniencies of existence, either directly from their labour, or by exchanging the produce of their labour for the produce of other countries. Unless in agriculture how could the inhabitants of Canada employ themselves to acquire the means of obtaining the *smallest possible* amount of subsistance?—This country must be unsuitable for the residence of man, if unsuitable for agriculture! If it be admitted that it is suitable for agriculture, can any one doubt that four acres of cultivated land of good quality—which we have at present for each inhabitant, men, women, and children—would not be able to yield them a sufficient agricultural produce for their subsistance in every way? In the British Isles there is not more than half that quantity of cultivated land for each inhabitant, and we believe they never required, in any one year, to import provisions for one month's consumption for the whole population. The principle we advocate is, that we should do all that is possible to encourage the improvement, and promote the prosperity of the land we live in, in preference to foreign countries. Any man acquainted with Canada must be convinced that there is great necessity for improvement in our system of agriculture. We take upon us to say, that without some protection and encouragement this necessary improvement will not be effected: because there is no inducement to expend capital in the improvement of land and stock, so long as the proceeds *from* them will not remunerate.—The whole matter is perfectly plain and easy to understand. If farming remunerated for capital, skill, and labour, more of all this would be attracted to that business, and we would soon find it become a fashionable profession. But so long as the returns from agriculture are so inadequate as at present, in consequence of the competition of foreign produce, raised under different and more favourable circumstances than our's is; no man that can avoid it will invest or employ capital in agriculture. This state of things will act as effectually to check agricultural improvement, as if there was a positive law against improvement. Remunerating prices will be the most effectual encouragement to the progress of improvement. We are not advocates for high prices. Moderate prices and certain markets will always be the most profitable for farmers.—Moderate prices, however, are those that would fairly remunerate for capital invested in land, stock, implements, seed, for skill and labour. If low prices were the result of abundant production in our own country, and not produced by importation from a foreign country, we would not complain. But extremely low prices, resulting from the importation of foreign produce to an unlimited extent, and without any duties being imposed, we look upon as unqualified injustice towards the producing classes of Canada. We have under such a state of the law, no certainty of market that would encourage us to produce, because at any time our markets may be filled up with a foreign production. It is very different with us from what it is in England. In that country there are cities, towns, and villages in every direction, and both them and the country are filled with population, and an immense quantity of food is required for them all. Here we have few towns and villages and a very thin population, with boundless extent of excellent land to provide food for them; and with all these advantages our legislators think it expedient that we should be supplied in part by a foreign country with food! We know several farmers in this neighbourhood who stall fed cattle last winter, and when they were fit for sale in spring the market was filled with foreign cattle, so that our farmers lost all the winter feeding. There is so little inducement to fatten cattle on grass or in the stall, that hay is now selling in the Montreal market at prices that will scarcely remunerate the expense of cutting, curing, and bringing to market, without having one shilling per acre to the farmer for his best land. Are not the labourers at our public works and troops in our garrisons partly fed on foreign produce, and hence the large expenditure of English capital will partly go to enrich a foreign country instead of our own. Even our breweries and distilleries purchase largely of the inferior species of foreign grain, that could be produced to any extent in Canada; and though beer and whiskey made here are protected by duties. We say without hesitation, that this would not be so if reasonable encouragement had been given for some years past to Canadian agriculture. We regret that we should feel it our duty to occupy so frequently the columns of this paper with our complaints, when they should more appropriately suggest new and improved modes of cultivation, &c.—As we before observed, the best and most effectual encouragement that can be given to agricultural improvement, will be certain markets and remunerating prices, and without these we are well aware, that all we can say or write in suggesting or recommendation of improvement will be unavailing. It is from this conviction that we so constantly advocate agricultural protection, as the only possible means of producing the improvement and prosperity of agriculture in this country, circumstanced as it is.

TO THE SUBSCRIBERS OF The British American Cultivator

This is the eleventh monthly number that has been published of this Periodical since its commencement in January last, and it is for the Subscribers to judge how far we have fulfilled our engagement to them. It was certainly our earnest desire to make The Cultivator useful and interesting, but it will be for others to show by their future support and encouragement, if we have been successful in our endeavours. The most certain proof of our having given satisfaction will be a greatly increased number of Subscribers for the ensuing year. If we have not given the best practical information to farmers we are not altogether to blame. We offered the columns of The Cultivator to the communications of any farmer who might desire to instruct or enlighten his brother-farmers on the science or practice of agriculture, or any subject connected with its improvement or prosperity. If they have not come forward, but rather concealed their light and knowledge for their individual benefit, it is not our fault. We again promise we shall do all in our power to submit the best information we can collect on the science and practice of husbandry, and always advocate in the best manner we are capable, the interests of agriculture. This publication will be the proper medium for communicating the wants and wishes of Canadian farmers, and we respectfully solicit for it the unanimous support of our agriculturists, and of all those who would wish to advance the improvement and prosperity of agriculture. If Canadian farmers will not support one publication that is exclusively devoted to their interests, at the annual cost of only One Dollar, we must suppose them careless about what should interest them, or that they consider this publication not calculated to forward their interests, or render them any service or entertainment whatever.

ACKNOWLEDGMENTS.

We have received from our respected Correspondent P. L. Simmonds, Esqr., of London, a valuable Essay on the Planting and Management of Timber and Ornamental Trees, from which we propose to make selections occasionally.—Though we have abundant forests in this country, we think, nevertheless, that on almost every farm that is cleared, some trees should be planted occasionally. It is not always possible in clearing forest-land, to have trees exactly where they would be most useful and ornamental, and they are also very subject to be blown down or decay when the forest is cut down around them. We would, therefore, strongly recommend the planting of trees on cleared farms as opportunity would serve. The country is greatly injured and disfigured by the total destruction of all trees, and in very many farms scarcely a tree has been left. Trees are extremely useful as shade to animals, and where lands are destitute of the shade which they afford, we believe that animals pastured upon them are much more liable to disease and death in our hot summers.

We also received from Mr. Simmonds, a List of Members of the Royal Agricultural Society of England, and the Rules and Regulations of the Farmers and General Fire and Life Insurance Loan and Annuity Institution of London. From the latter we make the following selection:—

"Fire Department.—The charge for insuring against fire is so small as to admit of no excuse for persons omitting to avail themselves of the protection. The party who experiences loss by fire for want of being insured, whilst it is in his power to protect Farming Stock to the amount of one thousand pounds for 17s. 6d., and of common insurance one thousand pounds for £2. 5s. —including duty—deserves no compassion. In order to carry out effectually the objects of the Legislature in repealing the duties on Farming Stock and to induce farmers generally to insure, a charge of only 1s. 3d. per cent. with the Average Clause, and 1s. 9d. without the Average Clause, is made."

The charge for Thatched Farm Buildings is only 2s. 6d. per cent., and losses by fire from lightning is made good.

We give this selection to show the great and unaccountable difference between the amount of insurance paid here and in England. Farming Stock and Buildings in this country are charged 25s. per cent., or *twenty-fold* as much as is paid in England, and we do not think the risk so great here as in that country. In towns the risk may be greater here, in consequence of the houses covered with wood, standing close together, they may be more liable to catch fire from each other, but in the country farm buildings stand alone, and if one farmer's place should take fire, there is no danger that it will fire any other building. We would strongly urge farmers to establish such an Institution as that which the English farmers have established for Fire and Life Insurance.

We have received a work on the Growth, Qualities, and Uses of the Acacia Tree, by Wm. Withers of Norfolk, England. This book contains most useful information in reference to the Acacia, or what is better known to us as the Locust Tree. This tree grows well in Canada, and if planted and attended to according to the instructions of Mr. Wethers, it might be profitably grown on almost every farm. Its growth is very rapid, and it is both a useful and ornamental tree. We recommend Mr. Withers book to any farmer who would be disposed to plant and cultivate the Acacia, or Locust Tree, or any other trees. The success of planting depends upon the manner the work is executed, the natural quality and preparation of the soil, and the subsequent pruning and management of the trees. Mr. Withers Book, and Mr. Simmonds Essay, will afford the very best information on all these points. We beg to offer our acknowledgments to the latter gentleman in particular for the favours we have received from him, and for the lively interest he manifestly feels in the improvement and prosperity of Canadian agriculture.

According to a statement which appeared in one of our last file of English papers, the price of four pound of bread made of the best wheaten flour, should be at the rate of one penny for every shilling a bushel that would be paid for wheat. Hence if a bushel of wheat sold for 5s., the flour pound loaf should be sold for 5d., and that this price should leave the baker a handsome profit. By the same rule, the 6 lb. loaf of brown bread should be sold here at 7½d., when wheat is at 5s. the bushel.

NEW-YORK STATE AGRICULTURAL SOCIETY.

We received an invitation to the Cattle Show and Fair of the New-York State Agricultural Society, that was held at the city of Albany on the four last days of September, and should have most gladly availed ourselves of the invitation if we had not been prevented by circumstances. We are perfectly sensible how much we would have been gratified had we been able to attend; and with or without an invitation we hope we shall be at the next Cattle Show and Fair of the New-York State Agricultural Society. Agriculturists of all countries and nations should at all times be happy to meet on the most cordial and friendly terms, and be ready to impart information on all subjects connected with the cultivation of the soil, and the breeding and management of domestic animals, for the benefit of the human race. We may be advocates for agricultural protection, but in this we only follow the example of an elder brother of the same family, who should be wiser than we are. We conceive that if he has found protection necessary for his prosperity, it must be more necessary for ourselves who are younger, and less capable of successful competition with him. These matters, however, should never interrupt the friendly relations that should always exist between the agriculturists of the United States and of Canada; and when great annual Cattle Shows take place on either side of our boundaries, that are no longer in dispute, it would be highly conducive to agricultural improvement and to the establishment of general good feeling, that the farmers of both countries should meet and discuss subjects connected with agriculture at those places, to exchange ideas, and discuss in a friendly manner all subjects connected with the improvement of agriculture. The improvement of agriculture all over the world, will have a very great influence on the welfare and happiness of the human race, and, therefore, to promote this improvement it should be an object of solicitude with the wise and good of all countries, to connect them together by the most commendable of all ties—the desire to promote the general good.

PROTECTION.

We suppose that nothing will be done this Session of the Legislature for the protection of Canadian agriculture, except the imposition of a small duty on wheat imported into this country from the United States. We have assurances, however, that agricultural protection will be taken into consideration immediately after the commencement of the next Session of the Legislature. Perhaps it will be best that some time for reflection should be given to our new Ministry, to prepare measures for the consideration of the Provincial Parliament. Hasty legislation is not always the best, particularly in matters of this nature. The farmers of Canada will not complain if their interests are attended to in the next Session. The longer their interests will be under consideration, the more perfect they will expect the measures to be that will be adopted to forward and secure these interests. Before the next Session, there will be ample time to understand perfectly what is necessary and ex-

pedient to be done. We shall most anxiously wait the result. It is not a matter where only an individual or small class are interested, but one that will have an influence for good or for evil on nine-tenths of the inhabitants of Canada; and give them encouragement to improve and prosper or condemn them to poverty.

ENGLISH AGRICULTURE.

From our own Correspondent.

London, Sept'r, 3rd, 1842.

My Dear Sir,

Until within the last few days we have experienced a continuation of brilliant weather, and it is calculated that the present summer has been the hottest and longest we have experienced in this country for the last 34 years. This fine weather has been very favourable to harvest operations, which are in most districts nearly concluded. The crop notwithstanding the desponding cry of a few croakers may be considered a fair average one. Still it is quite clear that we shall require a large quantity of foreign corn for home consumption, and the arrivals continue to be extensive. The transactions however are limited, the millers only purchasing for their immediate wants. Within the last day or two we have had some very heavy falls of rain.

The *Farmers' Magazine* for September last, published, contains the first part of a very interesting narrative of an agricultural tour in England and Scotland in the year 1840, by Count Conrad DeGourcy, translated from the French. The Count who is an extensive and experienced agriculturist, visited many of our leading agriculturists, and his report of the information obtained from them as to their mode of farming, breeding, &c., and his own observations thereon will be found exceedingly interesting. As an instance of his good sense and impartiality I cite the following passage:—

"I think that for the improvement of our flocks in France, and of our cattle generally, our rich farmers having sons whom they mean to bring up to agriculture should have them taught, instead of the classics, English, a little mechanics, chemistry, and natural history, drawing, book-keeping, &c.; should place in their hands the best works on agriculture, and the best agricultural periodicals, especially those that are published in England, and should instruct them well in French agriculture, and then send them to spend two or three years with the best English breeders and Scotch farmers. If a number of young members went through this training, they would soon do something towards altering the present condition of French agriculture, which is very bad in three-fourths of the Kingdom, especially as compared with that of England, Scotland, and Germany. We have excellent farmers in Flanders and in some other parts of France, but they never dream of improving their breed of cattle."

While on the subject of publications I may state, that a very important and interesting work (at least to British agriculturists and men of estate), has just been published on the management, or rather the *mis*-management of woods, plantations and hedge-row timbers by Mr. J. West of Collingham, Newark, Notts, author of some very sensible remarks on the "Turnip Question." He urges with much force that an improved system of management of the woods, &c., of our beautiful country would yield to proprietors a large increase of revenue, and create new and fruitful source of employment for the industrious poor.

The Council of the anti-Corn Law League has offered three prizes of 20, 10, and 5 guineas for the best practical essays demonstrating the injury done to tenant farmers and farm labourers, by the Corn Laws, and the advantages which those classes would derive from its total and immediate repeal. In order to avoid prolixity and useless discussion on a subject which has latterly attracted so much attention, they have very properly limited the length of the essays to sixteen pages octavo. This is a fine opportunity for some of our intelligent farmers to take up the question. The state of the Corn Markets at present will lend them some assistance in showing what protection they derive from the Sliding Scale.

The Committee of the Manchester Agricultural Society which holds its annual meeting on the 27th Instant, having learnt that Professor Liebig, the distinguished author of "Organic Chemistry of Agriculture and Physiology," would then be in England, unanimously resolved that an invitation should immediately be forwarded to him by John Moore, Esqr., F. L. S., to attend the dinner; and many of the first agriculturists of the Kingdom when assembled at Bristol, signified their intention of paying their respects to him in Manchester, where his important discoveries have been so well investigated, and are so highly appreciated. It is universally admitted that Professor Liebig is the first living analytical chemist. As a proof of how much the science of Chemistry is appreciated at the present time in Great Britain, we have only to refer to the leading agricultural periodicals; where we shall find a large space devoted to the writings of such men as Dr. Madden, Professor Johnston, Sprengel, and others. Every local agricultural society is discussing the subject, and I find a course of lectures recently delivered before the Bath and West of England Society, (one of the oldest and best provincial societies), by Professor Robinson, on Chemistry, Vegetable Physiology, and Meteorology as applied to agriculture, spoken of with the highest approbation. The highest advantages of all branches of art have been derived from a knowledge of chemistry, and the agriculturists are too much alive to its importance, to allow such a science to escape attention. On the other side of the Atlantic I observe that its value in connection with agriculture is appreciated by the frequent allusions to its principles in the agricultural journals, and the announcement of reprints of Liebig's, Professor Johnston's, and other works.

The Royal Botanic Society of London held its annual meeting a few days since. The report of the Council for the past year showed that there had been a large accession of members, and that a very considerable sum had been expended upon the gardens, which are laid out with great judgment, the several parts to suit the objects of the Society, and the whole forming an excellent specimen of landscape gardening.—The Duke of Norfolk was re-elected President. Specimens grown in the gardens of various kinds of grass and other plants, lately introduced from New Holland and elsewhere for agricultural purposes, were exhibited at the meeting. I will conclude my letter with two or three extracts from the local papers which may interest, although the statements are hardly credible. However, you have them as I find them.

Lambs as Cheap as Hens.—A woman from the neighbourhood of Beauly went on Friday to Inverness with 20 hens, with the price of which on her return, she purchased no less than twenty lambs at the Muir of Ord Market.—*Rossshire Advertiser.*

An Old Hen.—The *Perthshire Courier* records the death of a hen 35 years old, the property of a farmer at Tullylumb, after laying on a fair calculation 9,000 eggs.

But there is the death of an agriculturist a century older than this hen. There died lately (says a German paper), in the village of Felsöe Foerock in Transylvania, a farmer named Terebesi in the 135th year of his age. He always enjoyed good health, and worked in the field until just before his death!

I am yours very truly,

P. L. SIMMONDS.

THE WHEAT CROP IN CANADA WEST.

A friend of ours has lately returned from a tour in Canada West, and reports that the fall sown wheat had suffered generally and considerably from the disease of rust or mildew. He says that from his own observation and from report he conceives the crop suffered damage to the extent of one-third, or that the produce was a third at least less in quantity and value than it would have been if free from this disease. He mentioned one farmer who had sown wheat last year in the month of August, and this wheat was perfectly free from rust, while wheat sown by the same individual in September, on the same quality of land, was much rusted. This would show the advantage of early sowing. The grain of early sowing is so far advanced towards maturity before the latter end of July—the dangerous season of rust—that if the straw should then be rusted, it will not injure the grain to any extent. The spring wheat he reports to be very good generally. He says that a most excellent system of farming is adopted by many in Canada West, and summer-fallowing executed in true English fashion; but that others pursue a very slovenly and defective system, and that weedy and deficient crops result from this system.—Farmers complain of the high wages of labour and the extremely low price of produce, except hay. Wheat, 3s. 4d. to 3s. 6d.; Peas, 1s. 8d.; Oats, 10d. to 1s.; Potatoes, 10d. to 1s.—rather a poor crop. He mentioned the new mode of constructing houses with unburnt bricks, and what are termed mud walls. He spoke favourably of both, and says they are a cheap and ready mode of construction, and make warm and handsome houses when properly plastered and finished. The roof is allowed to project considerably over the outer walls in order to save them from rain. Stables might be constructed of unburnt brick; they would be warm and cheap.—They should of course have a foundation of stone. We shall refer to this subject again.

Early Maturity.—On Thursday the 8th of September last, a shearling and a lamb were slaughtered at Bermingham, England, the elder weighing 43½ lbs. per quarter, and the lamb 26½ lbs. per quarter. The shearling produced 16 lbs. of wool the 1st of June last.

A New-York paper states that a certain poor person was going to open a banking-house as soon as he could

FOREIGN CORRESPONDENCE.

From our own Correspondent.

LONDON, *October* 3rd, 1842.

MY DEAR SIR,

The importation of foreign grain into the United Kingdom continues to be very large, not only from the northern ports and America and Canada, but also from the Mediterranean, shipped from Russia and Ansher. Indeed there is now quite a glut in the British markets. The farmers are holding on not being willing to thrush out their wheat for sale at the present rates, and since the importation of foreign oxen from the Continental ports they have refused to sell their cattle at the late ruling prices. Although prices have come down considerably, it is evident that these articles of consumption must both fall to a much lower standard. Of the Spanish cattle which have been recently brought over none exceed 700 in weight, and the average is about 500. They are principally cream or fawn colour, and about the head look much like the buffalo. They are very deep in the shoulders but thin in the hind quarter, and have realized hitherto about £10. a head. The highest price yet given is £14. 5s., and the lowest £6., being about 40s. per cwt. There are several more extensive failures this month among corn merchants. The large annual government contract for supplying the navy with Irish provisions, was recently taken at a reduction of about 25 per cent. on last year's prices. The quantity required was 16,000 tierces of beef and 14,000 tierces of pork. It was taken by London houses at from 10s. to 12s. per tierce below the prices of the Irish manufacturers. The prices were from 5, 9, 10, to 5, 14; 8, for pork and from 5, 18, 6, to 5, 19*l.* for beef, the prices of the former being about 30s. and the latter about 26*s.* per tierce lower than last season. The yield of grain has been very productive throughout the country, and a form of prayer and thanksgiving has been issued and ordered to be generally read in churches, for the bounty of Providence in the late abundant harvest and fine weather.

The heat of the last summer was so general and intense, that even Iceland is said to have felt its influence, and had a temperature as high as 20 degrees of Reamur, 77 Farhenheit.

I learn from Mr. Hebeler, His Prussian Majesty's Consul General, that Count Hompeset, a Belgian gentleman, has taken out a patent for the preparation of a manure more powerful and cheaper than any yet invented. His plan is said to consist in fixing all the volatile parts of night soil and other such substances, by means of the ashes of the oolitic shale of Portland. The shale is employed in the first place, as a source from which oil, turpentine, and other substances are extracted; the residue goes to the preparation of the manure, which is said to be converted some where on the Isle of Dogs, and sold in a dry state in the form of bricks, as the materials to be thus employed are inexhaustible, and at present almost valueless, it is expected that the preparation of the fertilizer in question will become a matter of great national importance. As people have become too wise to wonder at sugar being made from old rags, so will they be equally prepared to hear that oil and tallow and soap are to be fabricated from the hardened mud of the coal mines; for such is "Shale."

Nearly four thousand pounds have been already subscribed for the monument to the memory of the late Thomas Wm. Coke, Earl of Leicester. Prominent amongst the subscribers is Lord Woodhouse, the Lord Lieut. of Norfolk, for 50*l.*, who had all through life been opposed to the deceased Peer in politics. This is as it should be, when the interests of our country and the improvements of agriculture are to be served, all petty and party jealousies should be thrown overboard. In the spread of improvement among the cultivators of the soil all are more or less interested, and should combine therefore for the general welfare.

The distinguished founder of Organic Chemistry Professor Liebig of the University of Grissen, has been in England for about a month; one of his principal objects being to examine into the state of agriculture in this country.

The greater parts of the Strand, Oxford-street, Regent-street, Newgate-street, Holborn, are now laid down with fine blocks much to the satisfaction of the several inhabitants. The horrid din is avoided, and the immense traffic going on is almost unheard. Every principal thoroughfare will soon be overspread with timber, Scotch granite has given way to the produce of the Baltic and Irish paviors are altogether at a discount.—Just about this period most of the anniversary meetings of the numerous agricultural societies are held—and there are a great number of shows, dinners, &c., falling about this period. The The American Minister, the Hon. E. Everett, has been attending several in order to make him self acquainted with all the routine of English agriculture.

Yours' truly,

P. L. SIMMONDS.

AGRICULTURAL REPORT FOR CANADA EAST.

SINCE our last Report the weather was very favourable for completing the harvest, and the grain crops are now nearly all safely under cover. Most of the potatoe crop are also secured in the best order. We do not recollect a finer time for taking up this useful crop than we have had since the first of October. We had slight frosts a few nights, but not sufficient to do any injury. From the 1st of August the weather has been as favourable for harvest as could have been desired, and by the late reports the weather has been equally fine for harvesting in the British Isles. We have nothing to add to our last Report in respect to the grain crops; the produce has been well got in, and is in full proportion to the mode of cultivation and fertility of the soil, except the wheat, of which there is only a small quantity. The potatoe crop is not a large one, and on all strong soils in particular the produce is very deficient. Clay soils should not be cultivated for this crop to any great extent. Unless the season is very favourable clay soils do not work well in potatoes. If the weather happens to be too wet at the time they have to be ploughed, the crop is sure to turn out badly, and the land becomes so hard and overrun with weeds and grass, that it receives very little benefit from manure or this fallow crop. Summer-fallowing is a much more certain means of improving strong clays than by planting them with potatoes, and we think a cheaper means, though one crop is lost. It requires a good crop of potatoes to pay the expense of seed and cultivation, and they should never be planted upon land that is not suitable for them and likely to produce a fair crop, unless in cases where a farmer has none of the most suitable soil and wishes to grow what is necessary for house use for his own family: but to cultivate potatoes extensively on unsuitable soil, with a view to make profit by the crop, is a bad speculation, and more probably will cause loss than bring profit to the farmer. An acre of potatoes cannot be cultivated, manured, and planted with seed, at a less expense than from twenty to thirty dollars; and we conceive that if the crop of one acre is not worth ten pounds currency to the farmer when taken out of the ground, he loses by their cultivation. We, therefore, would not recommend planting potatoes, except for the farmer's own use, unless these results can be obtained.

Our estimation of expense may possibly require some explanation, which we beg to offer.—The land requires two ploughings and two harrowings generally, before the drills are made to receive the manure. The drills are then to be opened—about thirty common cart loads of manure is required per acre—this is to be carted on and spread in drills. Since the dry rot has affected seed potatoes, they require that the cut seed should be of larger size than formerly, or be planted whole—and in either case, it will take at least twenty bushel per acre. Seed have to be laid and covered with the plough. When the potatoes are about appearing over the ground they must be bush harrowed. Again, when the plants are sufficiently over ground, the earth has to be ploughed from the drills—they are then to be hoed—harrowed between the drills—and finished by ploughing the earth up to the plants. This is generally the whole process of cultivating potatoes, and perhaps the following is a fair estimate of the cost:—

Six ploughings, at 5s. each.....	£1	10	0
Three harrowings, at 2s. 6d. do....	0	7	6
One hoeing and weeding at.....	0	3	6
Thirty loads of manure, at 2s. each	3	0	0
Carting manure, spreading do.....	0	10	0
Twenty bushels seed, at 1s. per bushel.....	1	0	0
Cutting seed and planting do.....	0	2	6
Total expense of one acre.....	£6	12	6

To this amount is to be added the rent of the land. In some cases the manure may cost more than our estimate and in some less. The carting to the field may also cost more, but seldom less. Altogether we do not think our estimate is much in error. The taking up the crop and putting them under cover is to be added to this estimate. It is on this estimate that we say the produce of one acre of potatoes should be worth to the farmer, when taken up and secured, ten pounds or forty dollars. If sold subsequently they should pay over this amount, the expense of selling or otherwise disposing of them. Strong clays that are well summer-fallowed with a small quantity of manure or lime applied as dressing, will be in a better state to produce a crop of wheat or barley than it would be after potatoes. We have given an excellent article on the process of summer-fallowing in this number, from Low's Practical Agriculture, and recommend it strongly to the attention of our agricultural friends. We

do not think it would be practicable to improve the lands of Eastern Canada by any other means so well as by summer-fallow. They require draining, cleaning, removal of stones, and levelling, and these improvements cannot be effected at any other time so well as when the land is under the process of being summer-fallowed.

The pastures continue good up to this time, and cattle should be in good condition this year, at the commencement of the winter.

The produce of the dairy in butter is very abundant, and selling at moderate prices.—Butchers' meat is very low in price, with no probable change that we can perceive of any improvement. We are not aware of any establishment for preparing meat for the English market; and unless salted meat is suitably prepared, it is not likely to produce profit to the exporters, however low the prices may be here. Fruit has not been a large crop this year, and yet the prices are very low in consequence of the importation of foreign fruit. The ploughing has commenced, but the land is difficult to work where the soil is strong clay. Indeed lands of every quality would require some rain to render them fit for the plough. Light soils do not require fall ploughing for spring sowing with grain unless they are in grass. Farmers may wish to have all the work possible done in the fall, as the spring is often late and when there is much work to be executed at that season: some of it is necessarily too long delayed. From these circumstances it may be prudent to plough all we can conveniently in the fall, though it might not be *necessary* to do so on light or sandy soils, unless full of grass and weeds. The principal good of fall ploughing is to pulverize strong clays, rot and destroy the vegetative powers of grass and weeds by exposure to the winter frost; and in order to have as much as possible of the work done before the spring, in our short and rapid seasons. These considerations should govern the farmer's proceedings in regard to fall ploughing. Light and sandy soils require no pulverization, and therefore if clean and not in grass, they do not actually require fall ploughing, nor are they benefited by exposure to frost and water in a ploughed state. Now is the time for completing the draining of ploughed and unploughed soil, and much of the farmer's success in raising large crops next year, will depend upon his perfect draining this fall. We again repeat, that it is useless to sow, manure, or plant land that is not sufficiently drained, with any expectation of raising profitable crops. Five pounds expended in draining land that requires it, will produce more benefit than ten pounds worth of manure will produce, applied to land that is not sufficiently drained.

Cote St. Paul, 21st October, 1842.

It is reported that very heavy losses have been sustained by Canadian merchants, who have exported largely to Britain during the last two years American wheat and flour. This is one of the consequences of our carrying trade of the produce of a foreign country. It would be instructive to have a balance sheet made out, that would show exactly the profit and loss of this trade during the period referred to. Unquestionably some parties must have gained by the trade; but if the loss sustained by those whose capital was employed, was more than equal to the whole amount paid upon this wheat and flour during its transit through Canada, we cannot see how this trade can be profitable to this country. If our merchants have lost capital by purchasing and shipping this foreign wheat and flour to Britain, it is perfectly clear that the foreign producers and merchants have gained the full amount which our merchants have lost, as the latter must have paid too high a price for these articles, in proportion to the [illegible]s which they were ultimately sold for in the British markets, for which they were originally and expressly purchased. No speculation can be more unsafe than purchasing bread stuffs at a high rate for the supply of a distant market, that cannot be reached for two or three months, and which during that period, is open to be supplied from the whole Continent of Europe, that is much nearer to home. It is always safe to purchase bread stuffs when very low or at moderate prices, but when very high, to buy largely, generally produces loss. If the loss sustained by our merchants had been paid for Canadian produce, the capital would remain in the country, and the merchant would have some chance to get back part of his losses; but the loss in this instance, has actually gone into the hands of foreigners and there remains. Another great evil of this carrying trade is, the withdrawal of capital from this country, and the employment of it in the encouragement of foreign industry and production. The advocates of free trade should enlighten us on this subject if we have taken a wrong view of it. We confess that we cannot comprehend how this country generally, can be benefited by the trade referred to, under the particular circumstances we have stated. Some parties must have gained all that our merchants have lost for the last two years by the wheat and flour trade; and, as we before observed, we conceive that it was the foreign producer and merchants who were the principal gainers; let the advocates of free trade prove the contrary if they can.

The general interests of this country must suffer injury, when our working capital is diminished and lost by trading with foreigners. Let us not be misunderstood—we are not enemies of commerce—on the contrary, we wish it all possible success. We have, however, every objection to that commerce that is carried on with foreign countries to the neglect and injury of our own, and to that employment of capital which withdraws it from the improvement and production of our own country, to encourage that of a foreign state. We never shall oppose any thing that will be clearly for the general benefit of Canada; but so long as we are connected with this paper, we certainly shall oppose what we shall conceive to be only for the benefit of separate classes, and against the general interests and prosperity of the country. We copy the following article from a late number of *The London Journal of Commerce* — a journal exclusively devoted to commerce:—

"We are not amongst those who, at one fell swoop, would increase the facilities of exportation hither to foreign nations to the same scale as those of our own colonial possessions; for in doing so we should bestow upon the foreigner a large preponderance of advantages. Circumstances have placed many foreign nations in a position which enables them to raise their produce and send it to market at a much cheaper rate than that at which our colonists can bring it forward; and whether this is owing to former or existing misgovernment of our dependencies or to topical disadvantages not yet overcome, still these matters must be taken into the account of facts upon which a proper system of legislation could be adopted. We are assured that such a course could be pursued as would open to us the markets of foreign countries, would act as a main spring to a healthy trade at home, and would, at the same time, reinvigorate and maintain recruited our colonial interests.

"It is impossible to overrate the amount of care which should be bestowed by Great Britain upon her North American colonies. It is her especial duty to cultivate their interests with a fostering hand, when the great experiment that has been tried upon her resources in the late session of Parliament, is considered. That the trial will prove successful, we feel assured; but still it must be remembered that we have compelled this colony to enter upon a new groove of industry, and we are bound in every way to assist its progress forward If the proper aid be thus afforded to it, we have few fears for the result; and we omen that ere many years have passed, Canada will be able to afford to us large supplies of articles required by this country—that these supplies will be derived from permanent resources instead of the comparatively temporary means by which its trade has been hitherto sustained, and that in return this vast dependency will take from Great Britain, on mutually advantageous terms, a largely increased amount of her industrial produce."

We are fully persuaded that this latter picture might be realized; and that by proper care and encouragement, both by the home government and the colonial legislature, to our agricultural interests, Canada would become one of the most valuable appendages of the British Empire—and we are, on the contrary, equally certain that without this care and encouragement Canada will not be that valuable colony, that she is every way capable of, as regards situation, climate, and soil.

When we read of the vast expenditure that is constantly going on in England on public works, steam-ships, &c., &c., we would be at a loss to understand where all this vast means for expenditure is found, if we did not know that almost every shilling so expended remains in the country, and only passes from one person, business, or trade, to another person, business, or trade. The money expended on public works, steam-ships, &c., &c., becomes actually a part of the working capital of the agriculturist, the merchant, manufacturer, and tradesman, who make use of them on their necessary business, in travelling, or carrying their produce upon them, and the payments they make for this use of them, may be considered as the interest they pay for their share in this capital. The cost of travelling and transporting produce, by the modes that were heretofore in use, would have paid the interest of a larger amount of capital than is now required by our new and improved modes. Hence this apparently vast expenditure is actually only *changing* the mode of employing capital very much for the advantage of society. We would recommend those who are disposed to find fault with the expenditure of money on public roads in Eastern Canada, and the establishment of tolls to pay the interest of this money, to consider well this subject in all its bearings, and they will find that the money so expended is a loan to every farmer who makes use of it, in proportion to the extent of that use. We would observe, however, that this money should be judiciously expended, and the tolls not over what was necessary.

It is calculated that the present summer is the hottest and longest we have experienced in this country for the last thirty-four years.—*English paper.*

OBSERVATIONS ILLUSTRATIVE OF THE HISTORY OF AGRICULTURE.

Agriculture may, with justice, be said to be as ancient as the world; it had its origin even in the terrestrial Paradise itself; when Adam possessed the precious but frail treasure of his innocence, the Almighty who placed him in the garden of delights gave him a command to dress it, and keep it.—This culture was not painful and laborious, but easy and agreeable; it was to serve him for amusement, and to make him contemplate, in the productions of the earth, the power, wisdom, and goodness of the Creator.

The sin of Adam having overthrown this primitive order, and drawn upon him the just but dismal decree, which ordains that he should obtain his bread by the sweat of his brow, the Almighty changed his pleasure into a punishment, and subjected him to hard labour and toil, which he would not have known had he continued in a state of innocence. The earth now became stubborn and disobedient to his desires in order to punish his revolt against God, brought forth thorns and thistles. Violent means were necessary to compel it to pay man the tribute of which his ingratitude had rendered him unworthy; and to force it by labour to supply him every year with the nourishment, which before was given him freely, and without trouble.

Hence, therefore, are we to trace the origin of agriculture, which from the punishment it was at first intended, has become, by the singular goodness of God, as it were the mother and nurse of the human race.

It is in effect a source of solid wealth and of real treasure which is not dependent upon the opinionated caprice of man; which at once serves necessity and enjoyment: by which a nation is independent of its surrounding neighbours, and which supplies the defect of all other productions, when through certain casualties, they fail. It is, therefore, no reason of surprise that agriculture was in great honour among the ancients, and that of all professions it was that which was considered the most necessary, valuable, and indispensable. The principal attention of princes and statesmen was in the early history of nations devoted to agriculture.

Among the Assyrians and Persians, the Satrapæ were rewarded in whose government the lands were well cultivated, and such persons published as neglected this part of their duty. Numa Pompilius divided the whole territory of Rome into different cantons. An exact account was rendered of the manner in which the lands were cultivated; during his reign he caused the husbandmen to come before him, that he might encourage those who had their lands well manured and in good cultivation; and where necessary reproach for the want of industry. The riches of the earth, observes Dionysius, Halicarnassus, were looked upon as the most just and legitimate of nature's gifts, and preferred to the advantages obtained by war, which procured by violence, were of uncertain tenure, and of short duration. Ancius Martius, the fourth King of the Romans, who prided himself in imitating the wise institutes of Numa, next to the adoration of the gods, and the reverence of religion, recommended as of much importance, the cultivation of the lands, and the breeding of cattle. The Romans long retained the character of an agricultural nation, and it was usual for him who neglected cultivating this branch of national industry, to have drawn upon him the animadversion of the censor.

Agriculture was in no part of the world in higher estimation than in Egypt, where it was made the particular object and policy of the government; no country was ever better peopled, or more rich or powerful. What history informs us concerning the opulence of several cities in Sicily, and particularly the immense riches of Syracuse, the magnificence of its buildings, the powerful fleets which it fitted out, and the numerous armies which it had on foot, would appear almost incredible, were it not confirmed by the credible and collateral testimony of every cotemporary historian. We cannot believe that the Sicilians derived this wealth from any other internal sources; the produce of their lands was improved with astonishing industry. We may judge of their application to the culture of land, from the care taken by Hiero II, one of the most powerful kings of Syracuse, to compose a treatise upon agriculture, with which he gave several valuable rules for increasing the fertility of the land.

But besides Hiero, princes of other countries are recorded, who did not think it unworthy their birth and station, to leave to posterity, precepts upon agriculture; so sensible were they of its value and utility. Of this number were Attalus, surnamed Philotometor, king of Pergamus, and Archelaus, king of Cappadocia; Mago, a Carthaginian general, also wrote upon agriculture, as did Plato, Xenophon, Aristotle, and other contemporaneous philosophers. When Carthage was taken, the work of Mago upon agriculture was found consisting of twenty-eight volumes, and so much value was set upon it, that the Roman senate ordered it to be translated, a task which was undertaken by one of the principal magistrates. Cassius Dionysius of Utica, had previously translated this work from Punic into Greek. In Rome, consuls and dictators were often taken from the plough; Cicero mentions Attilius, as strewing the seed on the ground with his own hand, when ambassadors came from Rome to invite him to take the consulship. In those happier times, says Pliny, the earth seeing herself cultivated by the hands of triumphant victors, seemed to exult and bring forth her fruits in greater abundance.

Cato had a taste for a rural life, and devoted himself with great attention to agricultural pursuits. He resided near the famous Manlius Burin Dentatus, who having thrice received the honour of a triumph, becoming the greatest among the Romans, conquering the most warlike nations, and driving Pyrrhus out of Italy, was content to live in primitive parsimony, and in the simplicity of his paternal mansion upon a few acres of land. He it was, when boiling his roots, told the ambassador of the Saunites, "That gold was a small thing of value to him who could be satisfied with such a dinner, and he thought it more glorious to conquer those who had that gold, than to possess it himself."—*Selected.*

VALUE OF THREAD FOR LACE.—The exquisitely fine thread which is made in Hainault and Brabant, for the purpose of being worked into lace, has occasionally attained a value almost incredible. A thousand to fifteen hundred francs is no unusual price for it by the pound: but some has actually been spun by hand of so exquisite a texture as to be sold at the rate of ten thousand francs, or upwards of £400., for a single pound weight. Schools have been established to teach both the netting of the lace and drawing of designs by which to work it; and the trade at the present moment is stated to be in a more flourishing condition than it has ever been known before, even in the most palmy days of the Netherlands.—*Mr. Emerson Tennet's Belgium.*

THE WILD RICE.—*Zizania aquatica.*

This splendid and interesting cereal grows in water at the edges of ponds, and in sluggish streams, in various parts of the county of Middlesex. It bears some resemblance to slender stalks of Indian corn, and grows from seven to ten feet in height.

But let us give a short account of it, as it is found in its natural location, the Far West.

This singular and spontaneous grain, is, by the Indians called *Menomen*, and claims particular attention. It is found in inexhaustible abundance in the northern part of Illinois and in Wisconsin and Iowa territories, in almost every one of the innumerable lakes, ponds, rivers, and creeks. It frequently grows when the water is six feet deep, where the bottom is not hard or sandy, and rises above the surface from four to eight feet, and is often so thick as to prevent canoes from passing readily through it. A few days before it ripens, it is usual for the Indians to force their canoes through it, and tie it in large bunches for the purpose of preventing the wild ducks and geese from breaking it down and destroying it. When it is fully ripe, they pass through it again, and spreading their blankets in their canoes, they bend the bunches over them and thrash off the grain with sticks—an operation that requires but little time, and is generally performed by the women. After drying it in the sun, it is put aside for future use. It is said to be as palatable and nourishing as the rice of Carolina. There is a tribe called the Menomonies, or *Rice Eaters*, and their physical superiority and personal comeliness, is thought to be the result of their frequent and long continued use of this kind of food.

Professor Bigelow, in his "Collection of Plants," has given it the following description:—"Culm jointed, as large as the little finger; leaves broadlinear; panicle a foot or more in length, the lower branches with spreading barren flowers, the upper with depressed, erect fertile ones; the seed are blackish, smooth, narrow, cylindrical, about three quarters of an inch long, deciduous—within white and farinaceous — ripens in August."

It may now be found in the Mill Brook; from the banking-house down to the river. It is probable that the seed was originally deposited there by some bird of passage. Horses are said to be fond of it, and no plant employed as forage yields a larger crop.

The wild rice will, probably, at no distant day, become an object of cultivation, since it affords a means of rendering productive large tracts of inundated ground, and stagnant water. Loring's Pond in Concord, and Robbins' Pond in Acton, and perhaps others in this vicinity, have a deep, rich, alluvial bottom. The former, containing seventy or eighty acres, and but three or four feet depth of water, might, probably, with a little trouble in collecting and sowing seed about the borders, be in the course of a few years, entirely covered with it. It is hoped that the proprietors of these ponds, never behindhand in labours of useful enterprize, will not suffer any delay to take place until they have tried the experiment; and if it has the valuable properties of the common rice, its cultivation is certainly a desideratum, and may become a source of additional wealth to the owners of such lands, and to New England. W.

☞ The above description of the wild rice of the Western waters, copied from the Concord (Ms.) Freeman, leads us to suppose that we have seen it the present season, on the borders of the outlet stream of Wenham Pond. When cutting our grass there, we

and several stalks for which we knew no ame, and which were new to us. Our exination of them was not very particular, t our remembrance of them is such as to isfy us that they were the same plant at is described by "W." in the foregoing icle. The plant is worthy of attention.—B. N. E. F.

ON THE NATURE AND PROPERTIES OF THE OXEYE DAISY, AND THE MOST EFFECTUAL MODE OF EXTIRPATING THEM AND PREVENTING THEIR SPREAD. By P. L. SIMMONDS, MEMBER OF R. E. A. SOCIETY, HON. MEMBER OF THE MONTREAL DISTRICT AGRICULTURAL SOCIETY, CORRESPONDENT OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.

The great white oxeye daisy (*Chrysanthemum Sencanthemum*), is a perennial weed ry common in many pastures. The spes and varieties of the germ of plants to ch it belongs are exceedingly numerous, d many of them are of great beauty.—ey derive their generic name from *Chrys*, gold, and *Anthemon*, a flower referring the brilliant yellow colour of some of the ers. The great oxeye is known in vas districts and localities of Great Bri- and North America, under the several rincial names of moon-daisy, mandlinmidsummer daisy, &c. The root is nched, tough, and woody, with many fibres e stem is erect, solid, five-cornered, sim- or branched, varying in luxuriance acding to the soil, from one to two feet high. e leaves are oblong, obtuse, cat, primati- at the base, clasping the stem, and of a p green hue. The radical leaves are rate, and stalked. The flowers are large, minal, solitary, not inelegant with a broad low disk, and brilliant white radins. The ds have no down. Thus much for its anical description. The flavour of the ole plant is herbaceous, and slightly, but pleasantly aromatic. Its nutrient pro- ies are unimportant. Like the crowfoot many of her herbs, mixed with the na- l grasses, it forms part of the hay crop, does not appea o be grateful to horses attle.

ome plants accommodate themselves to ry extensive range, and of these the e daisy is one. It is found very gener- is most countries, although more abun in some localities than others, and es- ally tenanting light soils. It has been d growing at an elevation of 2,000 yards e the level of the sea.

his noxious perennial, like the corn momile (*Anthemis Arvensis*), which it mbles in flower, though not in leaf, occns great trouble to the agriculturist, is hardly to be got rid of without correct ring and sowing down, followed by weeding in the young grass, before the s have become strongly rooted, or the s of any of them have been allowed to gate. If suffered to ripen its seed, eed will generally be spread widely the ground with the manure. There o modes of extirpating this weed, both ich have been successfully tried by riter. The first is that of irrigating nd, where it can be done so as to place mpletely under water by flooding, which not only kill the oxeye, but freshen and ate the pasture. The oxeye usually ses rapidly in dry seasons, and therewhere water is not at hand, to be made ble for irrigation, the most effectual to get rid of the weed, will be to top- the grass land well so as to ensure a produce of about two tons or more of hay to the acre, and the clover will then effectually smother and kill the weeds.

The corn marigold (*Chrysanthemun Segetum*, Scimmus), is a congener of the great oxeye, but being annual inhabit it is a much less pernicious weed.

The stalks are round, stiff and branched, growing two feet high. The leaves stand irregularly, growing close to the stem in an alternate order, they are deeply indented at the sides, besides being long and very broad, smallest at the base and growing broader as they advance to the end. They are of a blueish green colour. The root is tapering and fibrous. The flowers are like those of the common marigold, large, broad, brilliant, and of a beautiful yellow. In Scotland this plant is called "yellow gowans," "quills," "gools," &c.; in Kent, "yellow bottle"; in Norfolk, "buddles," and "budland": in the midland counties of England, "golds," "goulds," or "gowls," and in the north, "gowlans," "goldens," and "gules." It particularly infests arable lands and is abundant in corn and turnip fields. The corn marigold, together with the dead nettle (*Lamium purpureum*), and the wild Kale (*Raphanus raphanistrum*), may be expected in light sandy or loamy soils, especially such as have been imperfectly cleared and laid down. This plant is found growing at an elevation of from 300 to 800 feet, in climates where the main temperature is about 45½ degrees, and generally indicates a surface soil of light black loam on a clay subsoil.—It is very averse to dung, and hence it is seldom to be met with in richly manurad lands. A dressing of chalk or lime applied to soils where it abounds will totally exterminate it. Some farmers recommend the land to be manured in autumn, summer-fallowed, and harrowed in about five days after sowing.

Professor Martyn asserts that it can only be eradicated by hand before the seeds ripen. This may be true when the plant has reached an advanced stage of growth—but by timely care it may be kept under and got rid of before it comes to seed. In Denmark there is a law which compels farmers to extirpate this weed; and it is stated in the 2nd volume of the "Statistical Account of Scotland," page 4, that the late Sir Wm. Grierson and other landholders of that district, in order to prevent the spread and growth of this weed, held what were termed *gowl* or *gule* courts of inspection, for the purpose of fining those tenants on whose growing crops three or more heads of the marigold were found. Sir John Sinclair, when President of the English "Board of Agriculture," justly observed upon this subject, that "some regulation of police for fining those who harbour weeds, the seeds of which may be blown into their neighbours grounds, has no injustice in the principle."

The nutritive properties of the corn marigold are very insignificant; it is asserted by some that horses will eat the fodder, made from the plant when cut young and in flower, but I have never tested the fact.

RECREATION. — Recreation is a second creation, when weariness hath almost annihilated one's spirit. It is the breathing of the soul which otherwise would be stifled with continued business.—*Fuller.*

SELF DEPENDENCE.—A firm trust in the assistance of an Almighty Being naturally produces patience, hope, cheerfulness, and all other dispositions of mind that alleviate those calamities which we are not able to remove.—*Spectator.*

Capital necessary for a farm of 500 acres, according to Professor Low's Practical Agriculture, would be between five and six pounds sterling per acre. He sets down all the items, stock, implements, seeds, &c., and shows how this amount of capital is employed. The calculation is made for a farm situated in the South of Scotland. — Three hundred acres supposed to be in tillage, and 200 acres in meadow and pasture. He observes:—

"The capital necessary for a farm is the sum which a farmer must possess, in order that he may carry on his business. This partly depends upon the customary degree of credit in a country. The farmer does not usually pay ready money for all the commodities he requires, but trusts to that degree of credit which is common in his business. And the same remark applies to almost every class of traders in this country. A merchant rarely limits his trade to the extent of his ready money, but trusts to that degree of confidence which exists: and in this way the greater part of the trade of this country is carried on.

"In like manner, the person who enters on a farm may not find it necessary to possess all the capital which would be required were he to pay for every thing; yet the nearer his funds approach to this condition, the greater will be his security. To many engage in extensive farming on a loose and imperfect estimate of the funds required, and find, when too late, that they have miscalculated their means.

"A want of necessary funds is often more injurious to a farmer, than even an obligation to pay a high rent. With an inadequate capital he is impeded in every step. He cannot render justice to his farm; he must often bring his goods prematurely to market to supply his wants, and he will pay largely for the credit which he is compelled to seek. The farmer who has ready money at his command has, like every other trader, a great advantage over one who is forced to seek credit, and will be enabled to make a profit on many transactions in which the other would sustain a loss.

"While, therefore, it cannot be contended that a farmer who lives in a country where credit is the soul of commerce, is not to avail himself of this benefit, yet he must be careful not to miscalculate its effects—and, at all events, and like every prudent man, he must make himself acquainted with the real amount of his pecuniary obligations.—This is the true principle upon which the capital required for a farm should be computed. The sum to be determined is that which the farmer has to advance, before a quantity of produce is raised upon the farm sufficient to replace the advance, and supposing all payments to be in money."

These remarks apply as well in Canada as in Scotland. Without sufficient capital at the command of the farmer here, he cannot expect to make much profit of farming, or to carry it on with credit to himself,—whatever may be his skill and industry. The prices of produce here must be in nearer proportion to the wages of labour, and the prices of other commodities that a farmer has to purchase, than they are at present, or capital will not be employed to the required extent in agriculture. Every imported article are at a high price. No agricultural implement can be purchased here for any thing near the English price. The most inferior articles are sold here, and

such as would not be made use of upon an English farm. This may not appear to be of great consequence, but nevertheless it is a very great loss to the farmer to have implements of inferior description. We do not say that all agricultural implements are bad, but certainly a large proportion of them are so. A labouring man, working on a farm, can do much more work with a good implement than with a bad or ill made one.

PREPARATION OF LAND FOR CROPS.

There is much strong clay land in this country, and we have constantly recommended summer-fallowing as the best means of cultivating and preparing them for crops of any kind, and particularly for wheat. In our Treatise on Agriculture, we have given a short chapter on the process of summer-fallowing, but as many of our subscribers may wish to have the opinion of other authors on the subject, we copy the following from Professor Low's Practical Agriculture:

"The fallowing of land consists of a course of tillage continued for a certain time. — When it is continued for an entire season, the process is termed the summer-fallow.

A course of tillage during only a part of the season is adopted in the case of preparing land for such crops as the turnip, the cabbage, the potatoe, which are thence frequently termed fallow-crops. This preparation consists of a series of ploughings, harrowings, and other operations, continued until the land is cleaned, and otherwise fitted for the crop to be cultivated.

It is chiefly on the stiffer clays that the summer-fallow may be held to be an essential branch of farm management in this country. These are tilled with greater difficulty than the lighter soils, and do not always admit of the cultivation of those particular classes of plants, as the turnip and potatoe, which are suited to the lighter soils, and which render upon them an entire summer-fallow necessary. A further reason exists for the adoption of a summer-fallow on the stiffer clays, namely, that the most valuable of their productions is wheat, for which the summer-fallow affords the best preparation. The manner of performing this process, therefore, merits the serious attention of farmers in this country.

Whatever be the nature of the soil to be fallowed, the first ploughing is in all cases to be given in autumn, or before winter, so that the soil may receive the influence of the winter-frosts, and the growth of weeds be checked; for certain weeds will grow during the months of autumn, and partially in winter and in early spring: but by inverting the surface, and exposing the roots of those plants, and the under part of the soil, to the frost, the vegetation is checked until the process of ploughing can be resumed in the following spring.

In all cases the first ploughing should be as deep as the plough can conveniently be made to go. A good plough with a pair of horses can easily plough from eight to nine inches deep, and this is in most cases an efficient tillage. But should the nature of the soil render it necessary, an additional force of draught must be employed, so that the requisite depth of furrow may be given.— Thus, in some of the marly and tenacious soils of England, four horses may be required to give sufficient depth to the first ploughing of fallow.

Often it is beneficial to give a deeper ploughing to land than the ordinary depth of furrow. This may be effected by what is termed trench-ploughing, in which one plough, deprived of its mould-board, follows in the track of another: but, in place of the latter, there has been recently employed a species of plough termed a subsoil plough. It is constructed wholly of iron, weighs about 4 cwt., and requires the active force of four horses, It has a stout share, but no mould-board. Rising from the share, and parallel to the body of the plough, is a flat piece of iron, the use of which is, that when the plough is struck by stones they may be forced upwards by means of the inclined plane which the piece of iron presents. This is a most efficient instrument, and of admirable use in stirring the subsoil without mixing it with the upper stratum.

With respect to the manner of laying the ridges, that kind of ploughing must be adopted which is calculated to keep the land dry during the months of winter, this being an essential point of practice in the class of soils for which the summer-fallow is required.

A good manner of preserving the land in a dry state is cleaving with open furrows. In this manner each ridge is divided into two, so that good provision is made for allowing the free egress of water.

Sometimes the ridges may be gathered, and at other times, when the land is moderately dry, they may be cast. In whatever manner the ridges are ploughed, they remain in the same state till the following spring, and care, therefore, must be taken that all the necessary cross furrows and channels shall be made and carefully cleaned out, so that no water may stagnate upon the field.

In the ordinary management of the farm, the first operation in spring, as soon as the weather allows, is the sowing of the spring crops of grain. When this essential labour of the season is completed, which in England is generally from the middle to the end of April, the tillage for the land intended for such crops as the turnip, the potatoe, and other fallow-crops, is to be resumed. But though these are the first in the order of preparation, and must necessarily be the first attended to, yet the summer-fallow should not be neglected at this early season, but should receive one ploughing, not later than the month of May, and the earlier in the month the better.

Now this, the second ploughing of the summer-fallow, may be done in two ways. The land may be either cross-ploughed, or ploughed in the direction of the former ridges. On the lighter and drier soils, in the cases where such soils are subjected to the summer-fallow, the cross-ploughing is the better method. But, in the case of stiffer clays, the ploughing in the direction of the former ridges is to be preferred; for this is a provision against the effects of heavy falls of rain, which, were they to occur at this early season, when the land was ploughed, without open furrows to carry off the water, might so saturate it as to render its subsequent tillage precarious and difficult.

The next ploughing, which is to be as early in June as the other labours of the farm will allow, is to be made across. Immediately after this ploughing the land is to be harrowed by repeated turns—the direction of each double turn crossing that of the previous one. These double turns are to be repeated four, five, or more times, as occasion may require; and the roots of all plants which are dragged to the surface by the harrows are to be carefully collected by the hand and laid in heaps. A cart then passing along the rows of heaps, the collected plants are to be forked into it, and carried off the ground. They are to be formed into a compost by being mixed with quick-lime so as to destroy their vegetative powers.

Sometimes these weeds are burned on the ground, and their ashes spread upon the surface: but this practice is not to be imitated, the ashes yielding an inconsiderable quantity of manure compared with that which is produced by forming the weeds into a compost.

It is of great importance at this period of the summer-fallowing, to drag to the surface and collect as large a portion as possible of the roots of vivacious weeds in the ground; for, this being the period of active vegetation, every part of these roots which is left in the ground will grow again and extend itself.

It is by the repeated action of the harrows that these roots are detached from the soil, and dragged to the surface. When necessary, the roller is also to be employed. This, bruising the clods or indurated masses of earth upon the surface, enables the teeth of the harrow to act upon them. When the roller passes over the ground, the harrows immediately follow. At this time, too, the grubber may be employed, as subsidiary to the action of the harrow.

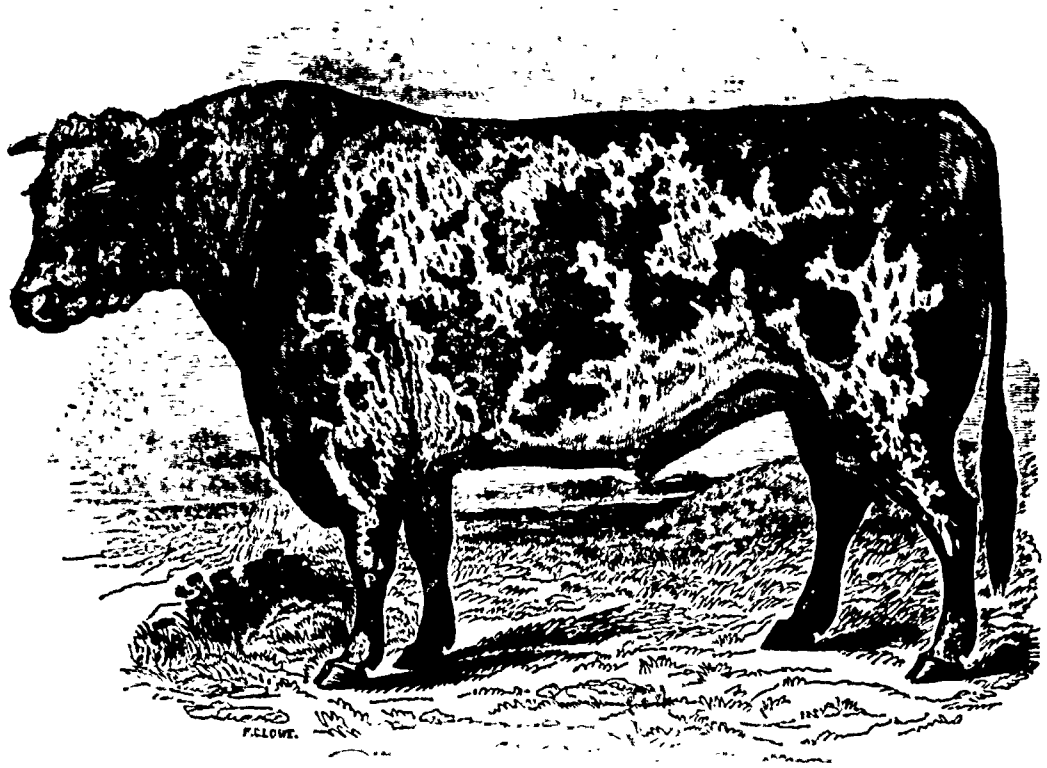
This is a period of the summer-fallow at which all obstructions arising from land-fast stones and other impediments to tillage are to be removed; and if drains are required, it is now convenient to form them. Not only at this time, but during all the subsequent operations of the summer-fallow, draining, the removing the obstructions to tillage, and other works, are carried on.— The obstructions of this kind to be removed are, generally speaking, any thing that may impede the path of the plough, and interrupt the common operations of tillage, such are the roots of trees, stones, inequalities of the surface, and the like.

It has been seen, that, in the management of the summer-fallow, the first ploughing is to be given before winter, when the land is ploughed lengthwise, in such a manner as that the land shall be kept dry until the tillage can be resumed in the following spring: that the second ploughing is to be given as early as possible in May, and, in the case of stiff soils, lengthwise; and that the third ploughing, which, in the common course of farm-labour, we may hope to accomplish in June, is to be given across, when the principal labour of harrowing, rolling, and disengaging weeds, is performed, and when opportunity is taken to begin to drain, clear the ground of stones, and perform similar operations required.

As soon after the last ploughing and cleaning as the state of the weather and the labours of the farm will allow, the fourth ploughing is to be given. This ploughing may be performed in two ways. It may either be given lengthwise, and the land formed into ridges, or the whole may be ploughed into deep divisions, without regarding ridges, as in cross ploughing. The former method may be adopted when the season is critical, and the land stiff and naturally wet. This is to avoid further hazards from great falls of rain; for, by forming the land into ridges, it is placed in a state of comparative security. But it allows of a better subsequent tillage of the land to lay it flat, by ploughing it in large divisions without yet forming it into ridges.

(To be concluded in our next).

DURHAM BULL "COMET."



Bred and Owned by JOHN HOWITT, Esquire, Guelph, Western Canada.

To the Editor of The British American Cultivator.

DEAR SIR,

Herewith I send you a correct Portrait of my pure bred Durham Bull "COMET." He was calved on the 16th of May, 1838,—being of a red and white colour as delineated in the accompanied drawing. Comit was sired by Reformer, which was imported by Rowland Wingfield, Esqr. Reformer was selected from the celebrated herd of the Rev. Henry Berry, Acton Rectory, Worcestershire; and was got by Worcester, dam Favourite, by Warden; grand dam Amelia, by a son of Atlas; great grand dam Actonia, by Duke Humphreys great g. g. dam, by a son of George; great g. g. g. dam, by Badsworth. Worcester was got by Whardale, dam Miss Kindsor, by a son of Wellington; grand dam by a son of Windsor.

Comet's dam was Cowslip—a roan cow—imported from England in 1833, by the above mentioned Gentleman; and selected from the same herd with Reformer. Cowslip was got by Warwick; dam Yellow Neck, by R. Collings' Pilot. Warwick was got by Wharfdale; dam Peace Blossom, by Mr. Whitaker's Triumph; grand dam Rose, by Mr. Binns' Arthur; great g. dam, by Allison's Grey Bull; great g. g. dam, by a son of Favourite. Triumph was got by Prince of Waterloo, out of Mr. Whitaker's Moss Rose, by Western Comet. Moss Rose was judged to be the best cow in England. Peace Blossom's dam won a sweepstake in 1818 at Lancaster, and in 1819 she won the cup.

At the last Gore District Agricultural Show held at Dundas, Comet weighed 2,025 lbs.

Permit me to add, that I have twelve thorough bred Durham cattle, four of which are cows that will calve in a few months; besides a number of half bred and other grades of the same breed. I have also twenty thorough bred sheep and lambs of the pure South Down breed, carefully selected from the flocks of the best Down breeders in England.

Respectfuly yours,
JOHN HOWITT.

GUELPH GRANGE,
October 26th, 1842.

EXTRAORDINARY FARM PRODUCE.

Notwithstanding all that has been said and written on agriculture in Ireland, and besides the many instances of successful practice in parts of the country, comparatively little is yet known of the real fertility of the soil, and immense capabilities of this hitherto neglected part of the empire. The people know not the extreme powers of their land, for in few instances has a farm been brought by judicious cultivation to the maximum point of its production. Perhaps the most successful example of what land is capable of, under proper management, in Ireland, and what immense crops can be raised, may at present be seen on the national model farm, under the Board of Education, at Glasnevin, near Dublin. This farm is strictly conducted on the improved system of green cropping and house feeding. The farm contains fifty-two statute acres, is conducted on a scientific rotation; on it are kept during the year twenty-two head of cattle, with three horses. It supplies on an average ninety persons during the year with farm produce, such as milk, butter, potatoes, vegetables, &c., &c., and the farming establishment with pork, besides a number of private families in the above articles: a considerable of vegetables are carried to market, and all kinds of grain which is abundant. There is at present a crop of oats upon the farm, the produce of fourteen and a half British acres; it is secured in eight stacks, and is estimated by the best judges to be equal to the average produce of fifty acres. It stood perfectly close upon the ground, average six to seven and a half feet in height, the head and ear corresponding. The other crops, potatoes, turnips, Italian rye-grass, &c., &c., of like quality. The manager conducts the farm on his account, pays 257*l.* 7*s.* 8*d.* per annum of rent, besides other expenses, amounting in all to upwards of 400*l.* per year; and we are informed and believe that he realizes a very handsome annual sum from it besides. He labours and manages it almost exclusively by a number of boys, agricultural pupils, and teachers, who are there in training in the science and practice of agriculture.

As a test of what land is capable of producing when brought to its maximum point, there are few examples such as we have in this particular instance; there is perhaps more crop raised, more cattle kept and fed, more human beings supplied with the common necessaries of life, more manure accumulated, more employment given, and, in fact, more money made, on this spot of ground, than on any farm of the same extent (conducted on a proper scientific rotation of grain and green crop) in any part of the empire, or the world. Did the average land of Ireland produce only one-half the value according to quantity that is on the model farm, we should hear no more of corn laws, tariffs, or want of employment among the people. A VISITOR.

There are at the present moment in the Cobourg Dock, at Liverpool, four of the largest steam-ships in this or any other country—the Great Western, 1,400 tons; the Acadia and Columbia, 1,200 tons each; and the new steamer Hindostan, recently launched at the above port, and burden 2,017 tons, making altogether a burden of 5,817 tons, and in value estimated at upwards of 200,000*l.*—*Liverpool Mail.*

From Alison's Population.

When the wealth which has accrued to society from the surplus produce of those engaged in agriculture has become considerable, the natural tendency of the human mind to long after luxuries and increase enjoyment by the productions of distant states, leads to the growth and extension of COMMERCE. The means of amassing wealth, which this profession is speedily found to bestow, attracts multitudes to its occupations, and leads to the utmost privations and dangers, being cheerfully undergone in the insatiable thirst for gold. If it be true, as it undoubtedly is, that the love of money is the root of all evil, it is also the source of much good; and among its beneficial influences none is more deserving of notice than its effect, from the very first ages of society, in extending and dispersing the civilized races of mankind. In vain is the inhabitant of wealthy regions chained by habit, friendship, and artificial enjoyments to the place of his birth; the wealth of commerce proves an irresistible magnet, which draws him into distant regions, and in the very number of his artificial wants, and the variety of his acquired enjoyments, are to be found additional motives, which prompt him to penetrate distant regions in quest of the wealth by which alone these enjoyments can be purchased. From the very earliest ages, accordingly, commerce has been the great propelling force which has driven civilized man into distant regions, and given rise to those stations for the transit of merchandize, or the mutual convenience of buyers and sellers, which has afterwards grown into the greatest cities.

But the habits of commerce and the desire of gain only render man a transient sojourner in distant regions. When his wealth is made, when his object is gained, he returns to the land of his birth, and all the labours of his manhood are sustained by the hope, that he may ultimately settle in the place of nativity, and have his bones in the tomb of his fathers.

The acquisition of comfort, the production of wealth, the growth of luxuries, form a part only, and, in a moral view, an inconsiderable part of the destiny of man. Riches are not always essential to happiness, either in nations or individuals; wealth may accumulate and men decay; poverty and suffering may reanimate the species, and awaken again, after the slumber of centuries, the sacred fire upon which the real welfare of the race depends. Although the subject of national wealth, and the means of increasing it, is unquestionably of very high importance, yet the exclusive direction of national attention to the objects which it embraces, can hardly fail to be attended in the end with pernicious consequences: and as it leads men aside from the *real* end and aim of his being, it is constantly attended, if exclusively engrossing the national thought, with those premonetory symptoms which warn him that he has gone astray.—*Ib.*

Without agriculture, men would live wandering and unsettled lives, disputing with each other for the possession of such animals as they could make their prey, and for the spontaneous fruits of the earth. They would have no bond of society nor country.

By multiplying the resources of food, agriculture has permitted men to unite themselves into communities for mutual assistance. Whilst some cultivate the land, to increase its production, others apply themselves assiduously to furnishing society with the necessary implements of industry. It is thus, by reciprocal intercourse and exchanges, commerce has been established and civilization extended.—*Selected.*

NOXIOUS PLANTS USEFUL.—Many productions of nature is good in its kind; and if any thing is found to be noxious, it is because we do not make a proper use of it.—Hence it happens that what promotes the life of one animal, occasions the death of another, and the same plant which in certain circumstances is regarded as poisonous, in others is highly useful and salutary.—The number and diversity of vegetables growing upon the earth is prodigious, and we must not imagine that they were all created for the use of man: some are designed for beasts, some to exhale grateful odours, and others are useful in many of the diseases to which the animal economy is subjected. The same thing holds good with regard to many living creatures, which, though very dangerous to man, are useful to other animals, as affording food or medicaments. Many birds feed upon insects which are considered as noxious; domestic fowls are fond of reptiles—peacocks and storks will feed upon serpents. Some of the most efficacious medicines are composed of the most poisonous herbs. The number of plants and animals of a poisonous or venemous nature is very considerable, compared with that of those which are evidently useful and beneficial; and both men and animals have a natural repugnancy and aversion for every thing which is hurtful or prejudicial to their nature.—*Stevens' Reflections.*

To the Editor of The British American Cultivator.

SIR,

In compliance with your request, I now offer you a short sketch of the Great Agricultural Meeting of the New-York State Society, held in Albany upon the 27th, 28th, 29th, and 30th days of September—an exhibition which has afforded me the highest gratification in all respects.

I left Kingston upon Monday the 26th for Oswego, and made the acquaintance of Mr. Haynes, a very intelligent Canadian farmer from Dunders County, who was also on his way to the Albany show. Mr. H. gave me some very interesting information regarding the ravages, in his quarter, committed by the grub of the Hessian fly upon the wheat crops—a subject of the deepest interest to the agriculturist—and I much fear, an evil beyond the power of man to avert, though something may be done to alleviate the scourge. We had a beautiful day, and in due time reached Oswego, were transhipped into the canal boat, joined the rail-road at Syracuse, and after a pleasant run down the Mohawk Valley, got into our excellent quarter at the Eagle without any mischance. The late stormy and wet weather has greatly retarded wheat sowing in New-York State, and it was rare to see a field in a finished state.

Wednesday the 28th came in, as fine as could be wished for. The agricultural implements, which were far too numerous for me to detail, had been the subject of experiment and competition on the preceding day. The materials and workmanship of the plough, &c., seemed to me of the first order.

The arena of competition was admirably adapted for the purpose. The Trotting Match Course, one mile in circumference, is enclosed by a boarded fence about 14 feet high, and the interior area is a rich and verdant meadow, of which about twenty acres were selected for the show. In the centre was erected a very large booth for roots, fruits, and flowers, and other vegetable productions, the coup d'œil of which was truly beautiful and arranged with much taste.—The President, Vice-Presidents, Secretary, &c., occupied a very large Marquee, where the Chairmen of the various Committees received their instructions and made their reports. About twenty smaller Marquees were allotted to the various Committees and Judges. The cattle were disposed of round the outside of the great circle, in their several classes, and commodious pens received the calves, sheep, and pigs in different parts of the field. I was gratified to find that the excellent regulations of the Highland Society of Scotland were minutely adopted. The animals were ticketed with a note of age and a certain number, and no reference allowed to names of owners. The entrances and exits were extremely convenient, and the receipts at the gate on the 28th, came nigh to $800. besides the other days. It is impossible for me to give any correct account of the host of fine animals on the ground. In fact my attention was entirely absorbed in the duties of Chairman of the Committee upon Bulls, and the intelligent gentlemen who acted with me, will readily corroborate the difficulty of the task imposed upon us. I send you a list of the premiums awarded. I was aware that much attention had been paid to Short Horn Stock in New-York and adjoining States, but I was not prepared to see animals of symmetry and beauty, which might have competed successfully in any British exhibition. I was much pleased with the sheep pens. Leicester, South Down, and Cotswolds in high perfection. The great size and fine form of the latter, will be a sure panacea for renovating Leicesters when they become *too* fine.

The evening was closed by a Public Meeting in the Chamber of the House of Assembly, where some able addresses were made upon the subject of agricultural schools.

Thursday the 29th proved another lovely morning, and by nine o'clock, omnibuses and vehiles of every description were rattling out to the "*Bull's Head*," about a mile from town, where the show was held. The great attraction that day was a Ploughing Match, which was well contested and gave much satisfaction. The attendance of ladies at the Cattle Show added much to the interest of the scene, and as they drove round the race course, they had the best possible opportunity of *seeing* and of *being seen*.—Among the *great* subjects of wonder and admiration, I must not omit the *Genesee Ox* of my friend Mr. Rust of Syracuse—an animal truly stupendous, and weighing about 4,000 lbs. live weight.

At two o'clock the public again assembled in the Capitol, where Governor Seward delivered an address upon the subject of agriculture, and upon the whole did considerable justice to the subject. Upon the motion of a member the Governor was unanimously thanked, and requested to furnish a copy for publication.

Next came the announcement of the awards, and this was conducted in a manner perfectly new to me. Each Chairman of a Committee seemed to have the option of handing his report to the President, or of mounting the rostrum and reading it him-

self. I think this seemed to be the favourite mode of procedure, and considerable pains appeared to have been taken to dress up the reports in a smart shape. The report upon the pigs was so wittily interspersed with gibes and jokes that I was not a little confounded, but upon inquiry I found the facetious Chairman was a privileged joker upon pigs, and had been for some years in the annual habit of relaxing the muscles of his auditory upon the grumphess.

This afternoon closed with a public dinner in Knickerbocker Hall, and a first rate dinner it was. J. S. Wadsworth, Junr., Esqr., of Genesee, President of the Society, filled the Chair, and discharged the duties in the same gentlemanly sensible manner, in which he has comported himself through all the labours and difficulties of the week.—Some very clever public men were present, and many excellent speeches were de. ered. It would be most ungrateful and ungenerous in me, were I to pass unnoticed, the truly handsome and kindly terms in which the relations of our two countries were treated. For myself as an individual, I must say that the hearty spirit of hospitality and good fellowship with which I was universally greeted, left me nothing to regret, except the absence of Canadian friends to witness and partake; an enjoyment which I trust they will not deny to themselves upon future occasions. I verily believe that six months would not have sufficed me to exhaust the frank and urgent invitations I received to visit new acquaintances and friends.

I beg you will excuse this report, crude and defective as it certainly is, but my time does not permit me to enlarge.

I remain, Sir, your well-wisher in the good cause you have in hand,

ADAM FERGUSSON.

Woodhill, October 4th, 1842.

To the Editor of The British American Cultivator.

Sir,

Your paper is avowedly undertaken and published for the purpose of advocating improvement, and I heartily wish you every success, and trust your laudable attempt may effect the double object of remunerating you, and proving useful to the community. It needs no microscope eye to discover innumerable points where improvements may be effected, in the present slovenly mode in which farming operations are too generally carried on in this naturally fine country. The cases are numerous, indeed, so far as my observation goes, they form the majority, among farmers, where the implements used, and the modus operandi, are but a degree superior to the state of things in Britain at the time of the Roman invasion; but, unfortunately, the class of which I speak, for the most part lie without the sphere of any *direct* influence from a publication like yours, for the simple reasons that many *can* not, and the others *will* not, read it. The only way by which, in my apprehension, improvement can be effected among these persons, is by the establishment, and judicious operation, of local societies; by which a spirit of emulation and amendment may be awakened among the more intelligent, which, by sure though perhaps slow and imperceptible degrees, would permeate the whole mass, as a little leaven leaveneth the whole lump.

One great object of your attention should therefore be to stimulate and promote the formation of Agricultural Societies, but I cannot but heartily agree with you that, so far from its being an object unworthy parliamentary care, nothing, in an essentially agricultural community like this, can by any possibility be conceived more worthy the gravest and most anxious deliberations of the government than the encouragement, improvement, and protection of the farmers. Who are the Colonists of this Province but the farmers? Of what is the bulk of the community composed but farmers? What interest can reasonably and legitimately be opposed to theirs? Is it that of the carriers and storekeepers? I look upon these but as the baggage train and sutlers of the camp; and what good general ever placed them in the foremost rank? Let me tell the farmers, or rather do you Sir, tell them that they are blind to their own interests, and wanting in their duty to those dependent on them, unless they make it a *sine qua non* with those whom they elect to represent their opinions, and to promote their interest, their real interest, that they be impressed with the paramount importance, and pledged to the advancement by legislative enactments, of measures beneficial to the *majority* of this corn-growing community. Among these, the placing some restriction to the importation of foreign grain is a point upon the necessity of which the opinion of the agricultural classes is unanimous. Why then is a protecting duty not imposed?—Again, would it not be for the general benefit to close with the offer which I understand has been made by the home government to admit Canadian corn duty free, on condition of the abolition of Colonial duties on British productions? What objection can be raised to this fair instance of reciprocity? It is however abundantly clear, that if the latter of these measures be adopted the former must of necessity accompany it, otherwise we are only making ourselves more literally than we are at present, a mere cat's paw or go-between for the benefit of our dear and affectionate relative "over the border."

While upon the subject of legislative enactments I would call your attention, and that of the Assembly, to what I believe is the fact that the Act William IV. c. 12, for the regulation of line fences and watercourses has been allowed to expire. This was an useful and beneficial act to the well intentioned and anxious-to-improve part of the community and ought to be re-enacted.

Yours, &c.,

F. JONES.

Carradoc, Sept'r. 26th, 1842.

THE GRUB.

To the Editor of The British American Cultivator.

Sir,

I observe in the end of your July number, some Queries by a Subscriber, in relation to the "Grub or Cut-worm." I forward to you last month, some dried specimens of the grub, and its progeny, viz.:

1. The Grub itself, its chrysalis, and shells of the latter after the escape of the fly.
2. The fly produced from the chrysalis.
3. Shells, or remains, *of eggs* of the grub, and
4. Flies produced from these eggs.

In Cobbett's English Gardener, p. 224, (Edn. 1833), I find a grub described, which resembles the appearance and habits of the grub alluded to. Cobbett says, "Black Grub.—It should be called the brown grub, for it is not black. In its workings, it is half way between a rockworm and a catterpillar. It lies snugly under the ground near the roots of the plant in the day time, and comes up at night, eats the plant off at the stem, or eats out its heart." My attention was drawn early in the summer to a bed of carrots and onions, which were disappearing every day, (or night, as it happened), the tops being bit off close to the ground, and no cause could be discovered. The fly, the vexatious of gardeners and turnip-growers, which was sporting about in the sunshine enjoying an early harvest was blamed, but only because *it* has a bad name. I considered after a while, that not perceiving any thing disturbing the plants in the day time, and finding on more than one occasion a grub snugly reposing under some protective from the sun rays, *night* must be the time this species of the Lepidoptera, would be at work. I sallied out after dark, lantern in hand, and found my *enemy*. Having discovered that it made its harvest while darkness reigned, I was afterwards prepared,—and indeed might have been previous to this, had I, on the subject of gardening, been *less ignorant*. The grub this season has been very destructive on some farms in this neighbourhood, to peas, barley, and potatoe tops, and I believe, in a few cases to spring wheat and oats.

I gathered all the grubs I could find, and I found that by close observation, their retreats could be discovered in the day time—by noticing the ground a little fresh turned up, under which they lay. I gathered them in a tumbler. Common whiskey would not destroy the grub quickly, for though to all appearance dead, yet when the whiskey was poured off, would in a few hours recover. I tried sulphur on them for some weeks, having fed them with leaves, but though twisting and turning in the sulphur, yet they eat the leaves, and seemed nothing the worse. I then kept a number of grubs in a tumbler, for many weeks, and fed them, but on more than one occasion when, for a week, I gave them nothing, I found the stronger ones devour the weaker. The rest of the number, I still kept confined, (the number of days and weeks, in the several changes referred to, in this letter, I cannot say with exactness), and by the bye I found one change to the chrysalis state, then another, till there were six or seven so changed. I recollect of finding a grub at this time, in the garden, and I put it in the tumbler, but it killed the remaining unchanged grub, by cutting it into two. I noticed that for some short time before the grubs changed, that they eat nothing, though supplied with the same food they had lived on. The changes, I think, happened in the night time. I kept no earth in the tumbler. The chrysalis was of a light brownish colour at first, and by and bye grew a little darker, but never so dark as those I found in the earth on digging. The specimen No. 2, show the fly after it emerged. It is a *night* or *twilight* moth, of a greyish colour, of the group I suppose, called Nocturna by Zoologists.

A short time before the first of the moths appeared from the chrysalis, I found two grubs, and put them in the same tumbler, when in a very short time, some days, one of them laid a parcel of eggs, (see specimen No. 3), all attached as it were to each other, by the silky wool of their coverings, and then in about two days died, the other grub shortly after laying eggs, and then dying also. These eggs were rather more than 2-16ths of an inch in length. The moths, one by one, were appearing, and in the progress of time the small eggs, (which had increased in size a little), burst at the one end, and produced a light brownish slender fly, with four wings, two smaller than the others. (Specimen No. 4), I should like much to see some of your correspondents

explain this, in comparison with the other change of the grub.

I was particular in not allowing any living thing have communication with the contents of the tumbler, for I kept it in a shady place in my house, and covered. I have this week found two grubs which I have confined and am now feeding—but if an opportunity occurs next season, (some may say, God grant that such will not be)! I will be more minute in my observations.

I am, Sir,

Your most obd't. servant,

JOHN J. E. LINTON.

STRATFORD, HURON DISTRICT, 6th *October*, 1842.

SIMCOE COUNTY AGRICULTURAL SOCIETY.

For the British American Cultivator.

The ploughing, and show of grain, took place on the 11th instant, at Mr. Richard Drury's, Penetanguashine Road. Six teams competed for the premiums, which were awarded as follows, viz.:—

1ST CLASS.

		£.	s.	a.
Best Ploughing,	George Cadwell,	1	15	0
Second do.,	William Hill,	1	8	9
Third do,	Charles Kerredge,	1	2	6
Fourth do.,	Wm. Buchannan,	0	17	6

2ND CLASS.

Best do.,	Chs. Partridge, jnr.	1	0	0
Second do.,	William Read,	0	17	6

GRAIN.

Fall Wheat,	Richard Drury,	1	0	0
Spring do.,	Do.,	1	0	0
Barley,	William Gardner,	0	15	0
Peas,	Michael Bergin,	0	15	0
Oats,	George Caldwell,	0	10	0

The ploughing was excellent; as also the show of grain. The wheat was very good, and the oats of first-rate quality, weighing 41 pounds to the bushel.

The day was remarkably fine, and none host of the Farmers' Arms regaled the ploughmen with an excellent dinner; after which the party broke up well pleased with the day's amusement. As this was the first show of the kind in the county, we hope for a more full attendance next year.

JAMES CARNEY, Secretary.

Barrie, 11th October, 1842.

From Alison, on Population.

If we consider the situation of man at his first appearance in the world, and for a long period after his species had begun to multiply, it is evident that an unlimited operation of the principle of increase is requisite, in order to overcome the physical difficulties with which he is surrounded. Without the strength of many of the inferior animals,—without food provided by nature for his support,—endowed with a constitution which required artificial covering, and placed naked in the world, without any protection from the weather,—compelled to maintain an incessant, and often doubtful, struggle with beasts of prey, and destitute of any weapons to counterbalance their advantages, he is compelled to contend from the infancy of his being with want, hardship, and suffering. Accustomed, as we are, to the powers which ages of civilization have conferred upon mankind, and to the complete subjugation of the lower animals, which has resulted from the extension of his numbers, we can hardly imagine the difficulties with which our forefathers had to contend, when society was in its infancy, and when the human race seemed placed in the midst of boundless forests or morasses, only to become the prey of the innumerable savage animals by whom they were peopled. It is the researches of modern travellers alone which can carry us back, as it were, to the first ages of the world; which have explored those regions where man seems lost in the immensity of nature; where the powers and numbers of the animal tribes bear a fearful proportion to his feeble frame, unprotected limbs, and unarmed hands; where the incessant roar of beasts of prey resounds, save at the hour of sleep, through forests of measureless extent and impassable thickness; where every element teems with enemies of superior strength, perfect equipment, and inveterate hostility; and where his race, so far from advancing, seems to be hardly able to maintain its ground against the difficulties and animosities to which it is exposed. * * * If the precarious and difficult situation of man in the savage, or pastoral, state is considered,—exposed to perpetual hardship from the inclemency of the season; doomed to constant toil for the acquisition of subsistence; subject to many of the diseases and calamities incident to our condition, and ignorant of all the means which experience or science has discovered for their alleviation; unacquainted with the mechanical arts, and but imperfectly skilled even in the simplest methods of cultivation, it seems surprising how his numbers could ever have increased, or the tender plant have taken root, amidst the rude shocks to which it was exposed. Nothing has enabled it to overcome these obstacles, and emerge into an easier and more prosperous state, but the incessant operation of the principle of population, unrestrained by notions of prudence, unfettered by the operation of reason. It is this which has provided a constant addition to the numbers of the species, more than sufficient to repair its losses; which, under circumstances where reason would perhaps have dispaired of the fortunes of mankind, has constantly led to its multiplication; and, through all the difficulties of infant existance, has born aloft, in every age, the standard of the human race.

From Liebig's Chemistry.

EFFECTS OF SALT.—Fresh flesh, over which salt has been strewed, is found, after twenty-four hours, swimming in brine, although not a drop of water has been added. The water has been yielded by muscular fibre itself, and having dissolved the salt in immediate contact with it, and thereby lost the power of penetrating animal substances, it has on this account separated from the flesh. The water still retained by the flesh contains a proportionally small quantity of salt, having that degree of dilution at which a saline fluid is capable of penetrating animal substances. This property of animal tissues is taken advantage of in domestic economy, for the purpose of removing so much water from meat, that a sufficient quantity is not left to enter into putrefaction.

In respect of this physical property of animal tissues, alcohol resembles the inorganic salts. It is capable of moistening, that is, of penetrating animal tissues, and possesses such an affinity for water as to extract it from most substances.

When a solution of salt, in a certain degree of dilution, is introduced into the stomach, it is absorbed; but a concentrated saline solution, in place of being itself absorbed, extracts water from the organ, and a violent thirst ensues. Some interchange of water and salt takes place in the stomach; the coats of this viscus yield water to the solution, a part of which having previously become sufficiently diluted, is, on the other hand, absorbed: but the greater part of the concentrated solution of salt remains unabsorbed, and is not removed by the urinary passages; it consequently enters the intestines and intestinal canal, where it causes a dilution of the solid substances deposited there, and thus acts as a *purgative*.

PUTRID POISONS.—The poison of bad sausages belongs to this class of poisonous substances. Several hundred cases are are known in which death has occurred from the use of this kind of food. In Wurtemberg especially, these cases are very frequent, for there the sausages are prepared from very various materials—blood, liver, bacon, brains, milk, meal, and bread, are mixed together with salt and spices; the mixture is then put into intestines, and, after being boiled, is smoked. When these sausages are well prepared, they may be preserved for months, and furnish a nourishing savoury food; but when the spices and salt are defficient, and particularly when they are smoked too late, or not sufficiently, they undergo a peculiar kind of putrefaction, which begins at the centre of the sausage. Without any appreciable escape of gas taking place, they become paler in colour and more soft and greasy in those parts which have undergone putrefaction, and they are found to contain free lactic acid, or lactic of ammonia,—products which are universally formed during the putrefaction of animal and vegetable matters.

The cause of the poisonous nature of these sausages was ascribed at first to hydrocyanic acid, and afterwards to sebanic acid, although neither of these substances had been detected in them. But sebanic acid is no more poisonous than benqaic acid, with which it has so many properties in common; and the symptoms produced are sufficient to show that hydrocyanic acid is not the poisen.

The death which is the consequence of poisoning by putrefied sausages succeeds very lingering, and remarkable symptoms. There is a gradual wasting of muscular fibre, and of all the constituents of the body similarly composed; the patient becomes much emaciated, dries to a complete mummy, and finally dies. The carcase is stiff, as if frozen, and is not subject to putrefaction. During the progress of the disease, the saliva becomes viscous and acquious, and an offensive smell.

Experiments have been made, for the purpose of ascertaining the presence of some matter in the sausage to which their poisonous action could be ascribed; but no such matter has been detected. Boiling water and alcohol completely destroy the poisonous properties of the sausages, without themselves acquiring similar properties. Now this is the peculiar chaacter of all substances which exert an action by virtue of their existing condition,—of those bodies the elements of which are in the state of decomposition or transposition; a state which is destroyed by boiling water and alcohol, without the cause of the influence being imparted to those liquids: for a state of action or power cannot be preserved in a liquid. Sausages, in the state here described, exercise an action upon the organism, in consequence of the stomach and other parts with which they come in contact not having the power to arrest their decomposition; and entering the blood in some way or other, while still possessing their whole power, they impart their peculiar action to the constituents of that fluid.

The poisonous properties of decayed sausages are not destroyed by the stomach as those of the small-pox virus are. All the substances in the body capable of putrefaction are gradually decomposed during the course of the disease, and after death nothing remains except fat, tendons, bones, and a few other substances which are incapable of putrefying in the condition afforded by the body.

It is impossible to mistake the *modus operandi* of this poison, for Colin has already proved that muscle, urine, chuse, cerebral substance, and other matters, in a state of putrefaction, communicate their own state of decomposition to substances much less prone to change of composition than the blood. When placed in contact with a solution of sugar, they cause its putrefaction, or the transposition of its elements into carbanic acid and alcohol.—*Ibid.*

We shall make further extracts from the same author, "Liebig," on the subject of "Poisons, Contageons, and Miasms;" in continuation of what we have selected above, and we doubt not that our subscribers will find them to possess considerable interest. The effects produced by inorganic, orgahic, putrid, and morbid poisons, and their mode of action, are subjects not unworthy the attention of agriculturists.

ACKNOWLEDGMENTS.

We have since our last issue, received regular files of *The New Farmers' Journal*, London, England, bearing date up to the 25th of September, for which favour we beg to tender our sincere thanks to the publishers of that journal.

We have also to acknowledge the receipt of an August number of *The Gardeners' Gazette*, London, England. We are most happy to place this valuable journal on our *Exchange List*, as we intend to devote more attention to the subject of Horticultural improvement, in the future numbers of The Cultivator, than has been heretofore bestowed to it in its columns.

Our friend John Hannam, Esqr., will please accept of our sincere thanks for *The Leeds Intelligencer* sent us. We might extract much interesting matter on agricultural topics from this journal, but we must forbear for the present for want of space. We would however beg to give the following items from the proceedings of the Wetherby Agricultural Society's Exhibition, held on the 21st of September last, for the information of our readers:—

"Mr. John How, of Arkendale, exhibited a remarkable large red Norfolk turnip, which measured 36 inches in circumference—and Mr. Wm. Inman of the same place also exhibited a white Norfolk turnip, which measured 42 inches in circumference.

A fine specimen of Giant Clover, sown May 18th, 1842, and grown upon strong clay, was exhibited by Mr. John Cramant, gardener to Col. Thompson, of Bolton Lodge, near Tadcaster, which measured nearly 4 feet in height. Also a sample of Yellow Chaff Wheat, grown upon turnip-fallow, sown March 22nd, and reaped August 23rd, 1842, weighing 65 lbs. to the bushel, was shown by Wm. Hannam of North Deighton."

Among a long list of extra premiums, given for Prize Essays, &c., we notice one awarded of £10. to John Hannam, Esqr., on the various methods of applying hand Tillage upon Corn and Turnips proved by practical experiments, showing their respective merits both with regard to the costs and produce, more particularly in reference to the broadcast and drill system. We would consider it a favour were the Essay alluded to sent us for publication in The Cultivator.

Mr. Robert Denison, in a lengthy and able speech delivered on the above occasion, alluded to Mr. Hannam's Essay in the following flattering terms:—

"He now held in his hands the Essay written by Mr. John Hannam for which the prize had been awarded; and they might come boldly forward and say that not even in the Great Agricultural Society of England, had there ever been an essay or paper brought forward, which had exhibited so much information with regard to the different varieties of soil, and the chemical properties of manures, as the one which had eminated from this, the Wetherby Society. (Hear). He was sure that he spoke not only his own opinion, but the opinion of the Committee, and of all who had any thing to do with the Society, that the thanks of all were due in a most eminent degree to Mr. Hannam for the most valuable essay he had given them. (Cheers). And he would say further, that if the Wetherby Agricultural Society had done no other good, this essay, produced through its means, would be worth all the trouble they had been at."

Two September numbers of *The Farmers' Gazette*, Dublin, Ireland, came to hand. A very creditable journal, and one which will no doubt have much influence in elevating the character of husbandry in that fertile Island. We noticed in one of the numbers alluded to, a yield of wheat from 6 acres of ground, Irish measurement; ribbed in the manner which we recommended in the July number of The Cultivator, in the article "*Hints to the Wheat Grower*"—which produced the enormous quantity of twenty barrels of twenty stones each (barrel) to the acre, being upwards of 93 bushels per acre. The variety is called "The Prince Albert," and may be had at the office of *The Farmers' Gazette*, or at Murray's Seed Warehouse, Dublin.

HOME DISTRICT CATTLE SHOW.

We had the satisfaction of witnessing the above Show, which was held on the grounds allotted and fitted up for the purpose near the New Gaol. The cursory view we took of it will not admit of our descending to particulars, as might have been otherwise our pleasure to do, had we not previously made arrangements to attend the Dundas Show on the following day, and being consequently obliged to leave the ground at an early hour for the two o'clock boat for Hamilton. As the herald of truth, we are bound to express our opinions frankly. It is the general opinion abroad that the Home District Agricultural Society is in advance of all other similar societies in the Province, and that farming is managed with greater skill and proficiency in this District than in any other portion of the Province. Much of the above impression is well founded, especially as it regards the latter; but we fear we would not be doing justice to the Province generally, were we to assert that the former was exactly the case. We however look forward to the day, which we hope is not far distant, when the proceedings of the Home District Agricultural Society may looked up to as a proper pattern for other societies to follow.

If the farmers generally were to become members of Agricultural Societies, and honour the exhibitions with their presence and influence, their profession would be respected by other classes, and then would there be some hopes of their interests being attended to in the Legislature of their country. The great agricultural movements which have taken place recently in England, and which are still in progress, have done much towards drawing the attention of Government to the necessity of continuing protection to that class from foreign competition. May we not reasonably suppose that a similar result would fallow, if corresponding measures were adopted in this country?

In conclusion, we assure the Officers and Members of the Home District Agricultural Society, that no exertions on our part shall be withheld from causing their Society to be—what we flatter ourselves it soon will—second to none in the Province in point of numbers and usefulness.

GORE DISTRICT CATTLE SHOW.

We were highly gratified at being present at the above exhibition, held at Dundas on the 13th of September, and are bound to declare that we were a little disappointed, but as a friend of agriculture we are equally constrained to bear witness to the pleasurable results we experienced in that disappointment. We saw in numerous instances demonstrative evidence of the beneficial tendency of these celebrations. The spirit of emulation which has been awakened in the District within the last few years, by a few public spirited gentlemen, whom we may take the liberty to advert at some future period, was manifest in every department; and one, which if cherished as it no doubt will be under their control, will contribute still more and more to the improvement and success of the several employments it is designed to promote.

Our attention was particularly directed to the horned cattle, which were worthy and do credit to that rich and enterprizing agricultural district. There were a great number of bulls of the pure-bred Durham breed, two of which in particular do much credit to the gentlemen who bred them. We mean the celebrated bull "Comet,"—a portrait of which may be seen in the present number; and the other owned by Mr. Davis of Wellington Square. There were a number of yoke of working oxen, some of them of the Devonshire crosses, of deep red colour, fine form, well trained, and active and powerful in their movements. There were also a number of head of Ayreshire stock, owned by James Ewart and George Stanton, Esqrs., which also deserve their meed of praise.—As a proof that the Gore District Agricultural Society are doing much good, and have it in their power to do much more; we beg to state for the information and benefit of our subscribers generally, that the Secretary has upwards of 300 paid subscribers on his book, and that the list is augmenting with rapid strides.

APPLICATION OF LIME.

As we hope our agricultural friends who have lime stone convenient and wood in abundance, will make use of lime in preparing land for wheat, we copy an article from a late number of *The Mark Lane Express*, on the best mode of applying lime, and we perfectly concur with the writer. The article referred to recommends 160 bushels to the acre, or a bushel to the square perch.—This quantity may be reduced at the option of the farmer. By putting only half a bushel in each heap, it will make the quantity 80 bushels per acre, and at three quarters of a bushel for each heap, it will make 120 bushels per acre. The following is the article:—

"There seems to be a growing difference of opinion as to the state in which lime should be applied to the soil. We have always been of opinion that lime, generally speaking, operates upon the soil in two ways, namely, chemically, and mechanically when it is merely to operate mechanically, as to lighten heavy soils, it is of no moment whether it be applied in a caustic state or not: but when intended to act chemically, we hold that it must be applied in a caustic state. We can speak of our own personal experience as to the practice over a very large district many thousand acres of reclaimed land in the West of England, where lime was the article generally used in the first instance to stimulate the land to fertility. The lime is deposited on the land in heaps a perch a part each way, the heaps of course varying in size according to the quantity per acre required to be applied, but ordinarily one bushel in each heap. It is then covered with a portion of the soil, and suffered to remain until it begins to slack into powder, and which of course varies in point of time according to the dryness or moisture of the weather: the heaps are then turned and suffered again to stand until the small lumps remaining are slacked, when it is spread upon the soil whilst yet in a caustic state, and immediately well harrowed into the soil. That it is more effective in a caustic than an effete state, has been frequently proved in cases where, from some cause, two or three rows in a field have been suffered to remain uncovered, and by being exposed to heavy rain, was run to mortar before spreading; in such cases, the difference has been manifest in the crop. We know it to be the practice in some districts to mix the lime with head lands, ditch scrapings, and any other mould that can be collected, in large heaps turning it over, and in due time carting it on the land. The operation of the lime, however, in this mode, is precisely the same as in the mode first described, with the difference, that in the former method its immediate effect is on the soil of the field, in the latter on the soil collected in the heaps with which it is mixed. It has been said that, in as much as lime in a caustic state has been found not to be injurious to animal life, it therefore would produce no effect upon the soil; abstractedly this may be true; but it is the application of moisture which causes it to operate upon the soil, and were water applied in proper quantity, it would immediately become destructive to animal life. This subject is of great importance to the farmer."

In a communication addressed to the Royal English Agricultural Society upon the same subject by a Mr. W. H. Fisher of Conduct Street, London, are the following observations:—

"The lime will be found, if properly burned, on a second ploughing to be crumbled into pieces or powder, and on harrowing will be ultimately mixed with the soil. From the heat evolved during the slacking of the lime under ground, and its causticity, which diffuses itself by the agency of the moisture it meets with through the soil, it will be found to destroy, or at any rate to be exttemely obnoxious to wireworms, slugs, grubs, and other enemies which the farmer has to contend with, and which are frequently the cause of failure in his crops, as well as in rendering most vegetable matter in the soil soluble, and food for future crops. In conclusion, the good effects of applying lime in the manner recommended, that is, in the unslacked state, I have myself experienced, and have received ample testimony to the like purport from extensive agriculturists, who at my suggestion have adopted the plan."

From these observations of experienced agriculturists, the Canadian farmer cannot be at a loss as to the best mode of applying lime. The first mode recommended we conceive to be the best.

SOILS.

Surface soil of a fine-grained loam, from the vicinity of Brunswick, being analized. 100 parts of the soil contained:—

Silica and fine seliceous sand	87,859
Alumina	2,652
Peroxide of iron with a large proportion of protoxide	5,132
Protoxide and peroxide of manganese	0,840
Lime principally combined with silica	1,459
Magnesia *idem*	0,280
Potash and soda *idem*	0,090
Phospheric acid in combination with iron	0,505
Sulphuric acid in combination with lime	0,068
Chlorine in common salt	0,006
Humus	1,109
	100,000

This soil is remarkable from the circumstance, that not a single year passes in which corn plants are cultivated upon it without the stem of the plants being attacked by rust. Even the grain is covered with a yellow rust, and is much shrunk. It does not suffer from want of drainage; it is well exposed to the sun, is in an elevated situation, and in a good state of cultivation. In order to ascertain whether the rust was due to the constituents of the soil, (phosphate of iron?) or to certain fortuitous circumstances unconnected with their operation, a portion of the land was removed to another locality, and made into an artificial soil of fifteen inches in depth. Upon this barley and wheat was sown; but it was found, as in the former case, that the plants were attacked by rust, whilst barley growing upon the land surrounding this soil was not at all affected by the disease. From this experiment it follows, that certain constituents in the soil favour the development of rust.—Lime in sufficient quantity, is considered to be the most effectual remedy, applied to soils that produce the disease of rust in corn crops. Soils sometimes contain a small portion of sulphate of the protoxide of iron, (*green vitriol of commerce*), and this salt exerts a poisonous action upon plants, until its action is checked by the application of lime to the soil.

Analysis of a very fertile alluvial soil, from Honigpolder; no manure had ever been applied to it. 100 parts contain:—

Seliceous sand separated by the sieve	4,5
Earthy portion of the soil	95,5
	100 0

100 parts of the latter consisted of:

Silica and fine siliceous sand	64,800
Alumina	5,700
Peroxide of iron	6,100
Peroxide of manganese	0,090
Lime	5,800
Magnesia	0,840
Potash, principally in combination with silica	0,210
Soda, *idem*	0,393
Phosphoric acid combined with lime	0,430
Sulphuric acid, *idem*	0,210
Chlorine (in common salt)	0,201
Carbonic acid, combined with lime	3,920
Humus soluble in alkalies	2,540
Humus	5,600
Nitrogenious matter	1,562
Water	1,544
	100,000

Corn has been cultivated for seventy years upon this soil, which never has received dung or any other kind of manure; it is, however, occasionally fallowed. The subsoil retains the same composition as the surface soil for a depth of six to twelve feet, so that it may be considered inexhaustible. When one portion of the soil is rendered unfitted for use, the inferior layers are brought up to the surface.

Surface soil of a field, in Germany, very remarkable for its fertility. It has never been manured or allowed to lie fallow, and yet has produced for the last 160 years the most beautiful crops; thus furnishing a remarkable example of unimpaired fertility. 100 parts of the soil consisted of:

Coarse and fine siliceous sand with a little magnetic iron sand	35 0
Earthy matter	65 0
	100 0

100 parts of the same soil contained:

Silica	77,200
Alumina	8,514
Peroxide of iron	6,592
Peroxide of manganese	1,520
Lime	0,927
Magnesia	1,160
Potash, principally in combination with silica	0,240
Soda, *idem*	0,640
Phospheric acid, combined with lime and iron	0,651
Sulphuric acid, combined with lime	0,011
Chlorine (in common salt)	0,010
Humus soluble in alkalies	0,540
Nitrogenious matter	1,108
	100,000

It is apparent from the above analysis that, notwithstanding the long period which this land has been cultivated without manure, it still remains very rich in matters adapted to the nutrition of plants.

Liebeg gives many more analysis of soils, made in different parts of the globe, to show the ingredients of which they consist, and their different degrees of fertility; but we think it unnecessary to copy them all. He concludes the chapter on the "Chemical

Constituents of Soils," in the following words:—

"In the preceding part of the chapter we have inserted a number of analysis of various soils, as well as the conclusions deduced from them, by means of which the farmer may be enabled to ascertain the manures best adapted for each variety of soil. By inspecting the analysis of the sterile soils, it will be apparent that it is in the power of chemistry to point out the causes of their sterility. The general cause which conduces to the sterility of soils is either the absence of certain constituents indispensable to the growth of plants, or the presence of others which exert an injurious or poisonous action. The analysis are those of Doctor Sprengel,—a chemist who has unceasingly occupied himself for the last twenty years in endeavouring to point out the importance of the organic ingredients of a soil for the development of plants cultivated upon it.—He considers as essential all the inorganic bodies found in the ashes of plants. Sprengel has shown that mineral manures, such as ashes, marl, &c., afford to a soil alkalies, phosphates, and sulphates; and further that they can exert a notable influence only on those soils in which they are absent or deficient. In a former chapter I have endeavoured to point out the importance of considering these constituents as intimately connected with the vital processes of the vegetable organism, and have shown that the different families of plants, contain unequal quantities of inorganic ingredients. This subject is of much importance; for the application of manures must be regulated by the composition of the plants which are cultivated upon any particular soil. Still the composition of the soil must always be kept in view. Thus it would be perfect extravagance to manure certain soils with ashes, marl, or gypsum; whilst, on the contrary, these compounds would produce the most beneficial results on other lands.

"In a former part of the work, the principal action of gypsum upon vegetables was ascribed to the decomposition and fixation of the carbonate of amonia contained in rain-water; but gypsum exerts a two-fold action. The power of decomposing the carbonate of amonia, and of fixing the amonia, is not peculiar to gypsum, but is absorbed also by other salts of lime, (chloride of calcium for example). But it acts also as a *sulphate*, and when useful as such cannot be replaced by any other salt of lime which does not contain sulphuric acid.

"Hence gypsum can be replaced as a manure only by a mixture of salt of lime with amonia, and a salt of sulphuric acid. Sulphate of amonia can therefore be substituted for gypsum, and exerts a more rapid and effectual action. In France, sulphuric acid has been poured upon the fields after the removal of the crops, and has been found to form a good manure. But this is merely a process of forming gypsum *in situ;* for the soils upon which it is applied contain much lime, which enters into combination with the sulphuric acid. It would certainly be much more advantageous to form sulphate of amonia by adding the acid to putrified urine, and to apply this mixture to the field."

A great means of happiness is a constant employment for a desirable end, and a consciousness of advancement towards that end.—*Selected.*

American and English Women Contrasted.—Our girl, with her delicate features, and nymph-like figure, is far more lovely in her first freshness than the English; but the English woman, in her ripeness and full development, far surpasses ours. She is superb from twenty to twenty-five.—*Miss Sedgwick.*

It is unquestionably true that wealth produces wants, but it is still a more important truth that wants produce wealth. Each cause acts and re-acts upon the other; but the order both of precedence and of importance, is with the wants which stimulate to industry; and with regard to these, it appears that, instead of being always ready to second the physical powers of man, they require for their development 'all appliances and means to boot." The greatest of all difficulties in converting uncivilized and thinly peopled countries into civilized and populous ones, is to inspire them with the wants best calculated to excite their exertions in the production of wealth. One of the greatest benefits which foreign commerce confers, and the reason why it has always appeared an almost accessary ingredient in the progress of wealth, is its tendency to inspire new wants, to form new tastes, and to furnish fresh motives for industry.—*Matthus's Political Economy.*

It is by availing themselves of all the aids of modern science, by laying hold and giving a practical direction to every new scientific discovery, that the manufacturing and mechanical arts have so rapidly advanced in Great Britain. But agriculture, slow and deliberate in her movements, looking backward rather for counsel and direction to the times and ways of her forefathers, than either to the *opinions and demands of the present or to the hopes and prospects of the future.* Agriculture has availed herself but little of the enlargement of modern knowledge. *She has even rudely repelled the cultivators of science when they presumed to intrude upon her domain.—Blackwoods' Magazine.*

Such is the constitution of the human mind, and so marvellously is it adapted to the changing circumstances in which the race is placed, that there is no situation in which it is not qualified to reap felicity; and all the evils to which at one period it is subjected, are compensated by sources of enjoyment which are then, in a peculiar manner, placed within its reach.—*Selected.*

Matrimonial Statistics. — A curious compilation. not yet published, bearing the title of *Paris Moral,* contains the following matrimonial statistics of Paris, in 1837:

Wives who have deserted their husbands	1132
Husbands who have deserted their wives	2348
Couples legally separated	4175
" living in open variance	17,345
" living in secret variance	13,279
" mutually indifferent	55,140
" reputed happy	3175
" nearly happy	127
" truly happy	13
	96,834

Extraordinary Rail-way Train. — On Thursday the 14th of July, the six o'clock train, A. M., from Paddington to Taunton, carried the immense and unprecedented number of 2,115 passengers! the great attraction being the Agricultural Meeting at Bristol.—*Berkshire Chron.*

POETRY.

THERE'S A CHARM IN THE WOODS.

BY JAMES STONEHOUSE.

There's a charm in the woods at the beautiful dawn,
When the bright sun is warming the earth with his ray;
When dew-drops, like diamonds, ensparkle the lawn,
And the lark high in air seems to welcome the day.
Then sweet 'tis to rove where the rivulet streams,
Where for ever it singeth its sweet little song;
Oh! the breath of the morning most exquisite seems,
Perfumed by the flowers in floating along.

There's a charm in the woods when the daylight declines,
When the hum of the village no longer is heard,
When the glow-worm's pale lamp on mossy bank shines,
And stilled are the voices of bee and of bird.
Then wander with me: for, though morning may waken
The heart's gayest feelings of gladness and joy,
At the twilight alone earth's care are forsaken,
And we think that such moment possess no alloy.

THE TIME TO PLAY AT CARDS.

When Scott's wild witchery is o'er,
When Byron's verse can charm no more;
When Milton's heavenly muse we scan,
And Shakspeare's magic light is out;
When Ratcliffe, Smollett, Irving, Fielding,
Have lost the power of pleasure yielding;
When Music is no longer blended,
And Humour's stories all are ended;
When Sense, nor Wit, nor Mirth regards,
Then is—*the time to play at Cards!*

USEFUL RECEIPTS.

To Prevent Horses being Teased by Flies.—Take two or three small handfuls of walnut leaves, upon which pour two or three quarts of cold water; let it infuse one night, and pour the whole next morning into a tea-kettle, and let it boil a quarter of an hour; when cold it will be fit for use. No more is required than to moisten a sponge, and before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, namely, between and upon the ears, the neck, the flank, &c. Not only the lady or gentleman who rides out for pleasure will derive benefit from the walnut leaves thus prepared, but the coachman, waggoner, and all others who use horses during the hot months.

To Eradicate Corns.—Take a small piece of flannel which has not been washed, wrap or bind it round the corn and toe. One thickness will be sufficient. Wet the flannel where the corn is night and morning with fine sweet oil. Renew the flannel weekly, and at the same time pare the corn, which will soon disappear.—*Leeds Intelligencer.*

Courage.—A traveller, relating his adventures, told the company that he and his servant had made fifty wild Arabs run; which, startling them, he observed, that there was no great matter in it, "for," says he, "we ran, and they *ran after us.*"

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