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# AGRICULTURAL JOURNAL,

AND

## TRANSACTIONS

OF THE

### Lower Canada Agricultural Society.

VOL. 5.

MONTREAL: NOVEMBER, 1852.

No. 11.

#### RAILROADS, CANALS AND TURNPIKE ROADS.

The advantage of rail-roads canals and turnpike roads, will soon be appreciated in Lower Canada. It is a very general opinion that it is the commercial classes that are most interested in the construction of these works, and they accordingly take the most active part in forwarding them. It is, however, a great mistake, there are no portion of this community who are more deeply interested in the construction of these works than the agricultural and productive classes. The commodities brought into this country are only a fraction in bulk compared to the produce of this country, and whatever reduction can be made in the cost of transporting this produce to market will be so much added to the price the producer obtains. The landed interest are those who are really to be most benefited by rail-roads and canals, and they should use every exertion to have them constructed where they are most necessary for the accommodation of the rural population. No matter who advances the funds in the first instance for their construction, it is the produce of the country that must repay these advances either directly or indirectly, or at least, the greatest part of the expenditure. There is not any thing that will so much promote the improvement of Lower Canada, as rail-roads, canals and turnpike roads where necessary. Facility of communication, not only diminishes the expense of transport, but it brings men in communication with each other, and gives them an opportunity of discussing useful subjects, and of exchanging ideas. We can imagine the immense advan-

tage it will be to Canada when the Grand Trunk Rail-road will be completed from Halifax to Lake Huron, though we can scarcely hope to see it accomplished in our time. Parties object to this great and useful work, who are very little interested in it, and who are not likely to contribute much towards its construction. We advocate it as an agriculturist, and as a work in which agriculturists will be most interested. This rail-road, from Quebec to Halifax would open up a country for settlement that would soon be of more value than the cost of the Grand Trunk Line. What an immense advantage it would be also, to expend all the money required for this work in the country? Every shilling of it would go into the most useful channels of circulation, for the general benefit of the people. We had an opportunity lately of seeing the effects of the Sherbrooke rail-road upon the value of land, and were told, this value had been augmented from three to six fold in some instances. Merchandize is small in bulk compared to its value, and the purchaser from the merchant has to pay a considerable advance when residing at any great distance from our cities. If the merchant buy any produce from the agriculturist he deducts the full cost of transport to a shipping port. Hence, it is the agriculturists who have to pay both ways for transport, and the cheaper the cost of transport is, the better it will be for them, the more they will obtain for their produce, and the less they have to pay for wheat they purchase. Can there then be any doubt as to what class are most interested in the construction of rail-roads, canals, and turnpike roads? We could advance

many other arguments to prove our proposition, if it was necessary. It is the production of the country chiefly, that must pay for these works, unless when they are employed in carrying the production of another country to be shipped for a foreign port, then, of course, the foreign country pays a part. We may also admit, that travellers, tourists, and other parties not agriculturists making use of rail-roads, &c., will contribute towards the support of them, but these works would never be constructed for the convenience of these parties alone; and for mercantile men, they are indirectly interested in, and their profits are chiefly derived from the products of the country. It is agriculturists, therefore, who in reality are most interested in all these means of communication, though other parties act as if they alone were interested, and to be benefited by them.

### FLAX AND HEMP BREAKING AND SCUTCHING MACHINE,

DONLAN'S PATENT.

The increasing necessity for the production of articles of export from Canada to Great Britain, and the interest attaching to the improved methods of growing and preparing Flax and Hemp so as to enable the Canadian farmer to produce an exportable article which will yield cash return in this market, has induced the Canada Company, at a heavy expense, to import from England the Flax and Hemp Breaking and Scutching Machine, now exhibiting at the Provincial Exhibition of Canada West.

In order to make the matter more interesting to the Canadian Farmer, the following particulars on the subject of the growth and produce of the flax crop have been collected which with a drawing and description of the Machine is submitted for general information.

The Canada Company intend to keep the present machine in Toronto in a working state, so that persons desirous of trying it may do so, and satisfy themselves as to its practical value.

#### THE FARMERS' FLAX MACHINERY,

*For the Conversion of Flax Straw into the Flax of Commerce without Steeping, Scutching, or Hackling.*

HEMP AND FLAX GROWERS are informed that this is the only discovery ever made by which Hemp and Flax may find ready and profitable markets, when, divested of seeds, roots, and weeds, and without having recourse to the wasteful, tedious, uncertain, and expensive methods of steeping, drying, and mill scutching, hitherto in great use.

Great Britain is annually paying (as near as may be) *nine millions one hundred thousand pounds sterling* for Hemp, Flax, Flax Seed, and oil cake, to foreign nations—a considerable portion of which could be produced in Canada.

There are upwards of one hundred and fifty thousand ships and vessels, including coasters, employed in the service of the British Empire, and not even one of these is now supplied from materials grown within Her Majesty's dominions. The Hemp trade is now, and has been, exclusively in the hands of foreign nations.

The Right Hon. Sir James Graham, in his Speech upon this subject in Cumberland, stated that the British nation wanted the produce of 700,000 acres for home consumption alone, and that the present growth in the United Kingdom did not exceed 150,000 acres annually.

The following account of flax growing in England will be interesting to Canadians—all amounts are in sterling money.

Mr. Samuel Druce, of Ensham, stated to the Council of the Royal Agricultural Society of England, on the 26th of February, 1851, the result of his practical experience in the growth of flax in Oxfordshire, and particularly the results of his last year's crop, which he had drawn out for the information of the Members into a balance sheet, of expenditure in cultivation, and realization by sale of produce; he thought this statement would satisfactorily show to them the value of the flax crop, and the attention which, under present circumstances, it appeared to deserve. His property lay on the Oxford clay formation, and the piece of ground on which the trial of cultivation, to which he referred, was made, consisted of a deep red loam, and in extent was 5 acres, 2 rods, 36 perches.

	£	s.	d.
Rent of Lands at 48s. per acre.....	13	14	9
Taxes, at 6s. per acre.....	1	14	4
Flax Seed, 13½ Bushels, at 9s.....	6	1	6
One Ploughing, at 10s. per acre.....	2	17	3
Sowing and Harrowing, at 1s. 6d. per acre.....	0	8	0
Weeding, at 2s. per acre.....	0	11	5
Pulling Flax, at 14s. per acre.....	4	0	1
Carting and Stacking, at 4s. per acre..	1	2	10
Thrashing.....	5	7	1
Winnowing.....	0	12	6
	£36	9	9

#### SALE OF PRODUCE.

Sale of Flax Seed, 116½ Bushels, at 8s.	46	10	6
Sale of Flax Straw, 12 tons, 2 cwt., 2 qrs at £3 per ton.....	36	7	0
Sale of Chaff, at 5s. per Acre.....	1	8	7
	£84	6	1

Leaving a net profit of £47 15s. 9d. on the 5A. 2R. 36P., or a trifle more than 5½ acres of land employed in this trial of flax cultivation; and

Mr. Druce concludes by expressing his conviction that flax is not at all an exhausting crop.

N.B.—The chaff is underrated, inasmuch as that it is considered preferable, when properly prepared, to light oats for cattle feeding.

**FLAX GROWING IN IRELAND; BY M. J. J. DONLAN.**

I beg to submit the following Report upon the merits of my Saturated Flax Seed.

*Extract of a Paragraph from the Monthly Reports for June, 1850, of Mr. John Grennan, Practical Instructor to the Scarriff Union, to the Royal Agricultural Society.*

“The Flax Crop, unless when bad seed was sown (which, I am sorry to say, was imposed on the farmers in too many instances), looks well. The Patent Saturated Flax Seed sent me from London by J. D. Macnamara, Esq., J.P., to have sown on his farm at Ayle, as also with the Rev. Mr. Sheehy, has proved itself superior to the best Riga Seed that could be purchased, sown on the same day, same land and preparations; and should it carry its superiority in the after manufacture of the fibre, I know not its value, as compared with all other kinds of Flax Seed that I know.

(Signed) “JOHN GRENNAN.”

The growth of Flax in Ireland, in 1851 has extended to 138,000 acres, average produce 3 tons to the Irish acre, or 414,000 tons of Flax Straw, which at £3 per ton, would reach £1,242,000. 18 bushels of Flax Seed to the acre, at 5s. per bushel, would bring £621,000. Money value to the growers should be at least £1,863,000, but I can fearlessly assert that the growers will lose at least one-third of this sum by the common methods of preparation they are driven to adopt.

This quantity of 414,000 tons would yield one-fourth, or 103,500 tons of available fibre, which, at £32 per ton, the minimum rate offered in the market, would bring £3,312,000, so that the Company established for this commerce would obtain a scale of interest for their capital not usually expected from commercial undertakings. Full and detailed accounts are ready for the inspection of those willing to take an interest in this important business; added to this it will open a new source of additional employment annually to thousands of the labouring poor, from which they have hitherto been entirely deprived.

The first effective cordage ever yet made from Irish material, has been manufactured from flax produced by J. D. Macnamara, Esq., Justice of Peace in the County Clare.

Offers have been made by several Hemp and Flax Brokers, in London, for supplies of No. 1—T. H. D. Flax, at the rate of 35s. per cwt. The samples I have sent to the Royal Exhibition have created intense uneasiness in all the foreign Hemp and Flax-growing nations, and frequent overtures have been made to me for the purchase of my Patent Rights. The Royal Commissioners have requested that these samples

should be presented to them for exhibition in their contemplated Museum, with which I have complied.

What England wants, and what her farmers have, with careful industry, the power to supply to her, are strong fibrous substances, fit for conversion into the following articles namely:—

Cordage, standing and running rigging, bolt ropes, lead and log lines, fine twine, twine ordinary, mackerel lines, seine and trawl lines, shrouds, white lines in variety of sizes, whale lines, fishing lines, fishing nets, sail cloths, rain awnings, hatchway covers, seamen's bags, hammocks, hammock covers, fire engine and watering hose, as well as every other article made from hemp and flax required on ship board.

For inland consumption, packing, cordage, shoe thread, floor cloths, nail bags; corn and flour, coal and coke sacks; railway pauling cloths, waggon covers, cart covers, rick covers, driving bands for machinery, bed ticking, coarse and fine towelling, coarse flax and tow sheeting. For tents, drills, and the respective fabrics required for ordnance uses, warps for carpets, horse hair cloths, and other cloths, as well as warps for silk and cotton velvets, fusians, corduroys, plushes, and a variety of other uses not here enumerated. There are but few, if any, of these articles supplied from materials produced in Ireland.

Extract of Report—(I have many others)—made upon the strength and merits of the New Zealand Sail Cloths, composed of alternate cloths, produced by my processes from unsteeped Flax Straw, and the Phormium Tenax, or New Zealand Flax as compared with the best known manufacture of No. 1 Sail Cloth, made from the longs of the finest bleached and prepared Riga Flax;—

“Royal Dock Yard, Deptford, January 12th 1852.

“A Strip, 1 inch in width and 2 feet in length of New Zealand Flax, twilled woven Sail Cloth, with a knot in the middle, bore, and then lbs broke, but not at the knot, a weight of..... 624

“A ditto, of best Scottish-made Canvass, knotted and in every respect similar... 561

“A Strip of Sail Cloth, made from Flax of Irish growth, of 1 inch in width and 2 feet in length, of the substance of No. 1, or heavy Sail Cloth, bore, carried, and broke at a weight of..... 834

“Memorandum—In my belief the strongest Canvass ever known, it having borne, in the presence of six persons, eight hundred and thirty-four pounds avoirdupois.

“Deptford Dock Yard, J. M.”

N.B.—The original document, from which this is copied, is signed by Mr. John Morgan, one of the Inspecting and Surveying Officers of Her Majesty's Dock Yard at Deptford, at the above date.

NOTE.—The chaff from one ton of unsteeped flax straw will average about 12 cwt; it has

been analyzed by Professor Way, who reports generally, that it is superior, in feeding value for cattle, to wheat straw, although perhaps inferior to good barley straw. The chaff from steeped flax is entirely deprived of this important property.

In speaking of the waste of seed, the Marquis of Downshire stated to the Royal Belfast Flax Society, that on passing for miles through the country they were rolling the flax in the roads, in order that the seeds might be beaten out by horses or cart wheels; and it was quite in vain to draw their attention to the value of the seed or the loss they sustained by so wasting it.

These respective manufactures do not of course come within the dominion of the agriculturists; but not so the raw material from which they are procured. To prove the merits of the fabrics manufactured under my superintendence, from unsteeped flax, I beg to subjoin the following Report, made upon a sail composed of alternate cloths of unsteeped flax and those made from the Phormium Tenax, or New Zealand Flax:—

“SIR,—In answer to your letter I beg to state that the foresail made from your preserved cloth has now nearly completed a service of five years, and has during the whole of that period, been in constant use in every variety of weather; and although this sail has received the roughest possible treatment the crew could give it, and has been put by repeatedly in a wet state, with a view to excite mildew, still we possess no power to excite the slightest symptoms of premature decay in your cloth. (I have often been asked its price per yard.)

“I cannot help saying that I am greatly surprised at the extraordinary durability of this sail, and that during the whole period I have been in his Majesty's service (now about twenty-eight years) I have never met with sail cloth capable of bearing the same tests, or that has been the subject of so much curiosity and inquiry.

“M. J. J. DONLAN, Esq.”

(Signed) “WILLIAM ATKINSON, Master,

This new and important fibrous substance is applicable to all the uses to which Riga, Petersburg, Italian, Hungarian, and all other hemp and flax are now applied. The cultivation of this important produce (from which Great Britain and Ireland are now nearly shut out) will open a new article of trade and commerce throughout the United Kingdom; but should the growers meddle with, or torture the flax straw, by any common-place Machinery, they will render it quite unfit for the service of manufactures. Upon this first process depends the value of the fibre, and if any false step be taken in it, the injury to the farmers will be incalculable, as the material so treated would be rendered unfit for manufacturing into the strong and important articles required for the general service of the country. I am warranted in stating that any offer made by persons ignorant of the treatment of

unsteeped flax straw to supply farmers with cheap machines for the purpose of reducing the bulk of the material, with a view to find sale for the fibre so produced, would be nothing less than a trap or snare, and pregnant with fraud and deception.

The following Report by the Hon R. H. Clive, M. P., Member of the Royal Agricultural Society of England, and published in the Mark Lane Express, dated the 19th day of May, 1852, will be read with interest by the Landowners, Agriculturists, and Farmers.

FARMER'S FLAX MILL.—The Hon. R. H. Clive, M. P., informed the Council that he had paid a visit by invitation to the works of Mr. Donlan, in the Warwick Road, Kensington, where he had inspected the construction and operation of the Farmer's Flax Machines invented by that gentleman. Having taken with him a sheaf of his own flax straw, from which the seed had been removed, this straw was divided into four equal portions; and three of these being subjected to the action of Mr. Donlan's machines, the result was then submitted by Mr. Clive to the Council. The first portion was the original straw, on which no operation had been performed; the second was the next portion, which had gone through the first, or *beating* process; the third portion had gone through the beating process, and had also been passed through the double roller press and undergone the *rolling* process; the fourth portion had been subjected to all the three processes,—namely, those of beating, rolling, and *scraping*, and gave the final results of about twenty-five per cent, of marketable farmers' flax, and about 12½ per cent of tow. The whole of these machines were constructed in the simplest manner, but with the most exact adaptation of mechanical means for effecting the separation of the woody matter contained in the flax stalk from the fibre required by the manufacturer; all the weak, imperfect fibres being retained, and only the strong and perfect ones being allowed to pass through. They were not of an expensive character; and could be worked either by men, women, or children, and by one person singly, or by several at the same time; horse, water, or steam-power might also be used, according to circumstances. The whole of the results then submitted to the Council had been attained by one man in the course of twenty minutes. The farmer's flax, produced under favorable conditions of the straw, was valued at £32 per ton, and the tow at £12 per ton; and for the marketable article thus obtained, the farmer, who under present circumstances could only dispose of this flax-straw at about £2 or £3 per ton or not at all, would find in this country and on the continent a ready sale, the ton of straw, by this mechanical operation, yielding farmers' flax of commerce and tow which together might be estimated at nearly £10; a sum from which would have to be deducted only the very small proportional part of the cost, rent, wear and tear of the machines employed, and the labour required to

work them. The flax, when dry, might be taken at once from the field without stacking, and after the removal of the seed, was ready, without any other preparation, for this mechanical process, which was alike available to the smallest cottager or the largest occupier, and adapted either for manual labour or the application of machinery worked by any motive-power. He could not but regard this subject as one of great importance to the English farmer; and, as it had often engaged the attention of the Council, whose members had long considered such mechanical aid as this now referred to as a great desideratum, he felt that he was only discharging his duty as one of their body in calling particular notice to the machines in question; at the same time, as the Council could not collectively deviate from their usual course, by giving an opinion themselves on an invention like the present, he would request a few of the members in their private capacity to accompany him to Mr. Donlan's works at an early convenient day, in order that they might inspect his operations more accurately in detail, and inform themselves of the full bearings of the question in a practical point of view.

N. B. To show the power I maintain over flax stalks, I have taken green flax straw from off the field in the morning, and had it converted into a strong pauling cloth in the evening of the same day. This operation was performed at the Rugely Factory in Staffordshire, in the presence of sixty individuals.

**INSTRUCTIONS FOR WORKING THE FLAX MACHINE IMPORTED BY THE CANADA COMPANY.**

The machine is intended to break and scutch flax straw, which has not been soaked or steeped—after the seed has been thrashed out and the straw perfectly dry, it may be put under the operation of the machine, and the flax produced, if equal to the sample now exhibited with the machine, could be sold in London, a month ago, at £30 to £32 10s. st'g. per ton.

A boy of 10 or 12 years of age may feed the rollers, and one a little more advanced in age attend to the scutching, which can be readily performed by holding firmly in the hand the broken straw at the end, and passing it between the scutching wheel, and the serrated surface of the board B., and passing in the same manner that part held in the hand. When this is done, you have merchantable flax, fit for home use or for exportation.

The scutching wheel A must be keyed on the spindle A, allowing about one-sixteenth of an inch clearance between the scutching blades H and the serrated surface of the board B. The driving pulleys, C, move in the direction of the arrow and are driven by a leather strap at about 65 revolutions per minute. The weights D D are suspended from the levers D D—when worked by hand, the loose pulley must be removed, and the handle F fixed to the shaft E by means of the set crew. The flax to be broken is laid

open in the feed box F and passed between the rollers in the direction of the arrow accompanying F and delivered in the box C ready for scutching.

In working the machine the following rules should be observed:—

1st.—The straw should be as dry and ripe as possible.

2nd.—The roots should be laid towards the rollers—the flax straw kept as even as possible and spread out thinly in the feed-box F.

3rd.—The flax straw when broken by the rollers should be spread over the scutching board B in the shape of a fan, and held firmly by the person scutching, in order to avoid unnecessary waste.

Both ends of the flax to be scutched.

The machine should be screwed down firmly to the floor.

The quantity of clean Flax produced by this Machine in any given time varies according to the nature and quality of the straw, and we should say from past trials, the harder, coarser, and riper the straw is, the better the machine performs its work, because if the straw is pulled green, as is sometimes the case, it is difficult to separate it from the fibre in scutching, at the same time there is more difficulty in the rollers performing their work.

In giving a statement of the quantity of flax produced, it is, of course, presumed that the straw is free from weeds and to this we would call your attention, we have known a bundle of flax straw to be so foul, that one-third has been actual waste, and it must be remembered that weeds are not only worthless in themselves, but they impede the process, and if passed through the rollers, cling firmly to the fibre, and when subjected to the action of the scutches cause unnecessary waste.

It may perhaps be an improvement, should the flax straw be coarse, to attach more blades (H) to the wheel (A). This can be done by a common carpenter, and also to put a greater weight on the lever, D. The blades should be made of hard wood, and planed to a sharp edge.

The speed at which the machine should be driven is marked on the plan, namely, 65 to 70 revolutions per minute. We cannot point out any particular part of the machine more liable to get out of order than another.

One horse would drive four machines.

One man to scutch and one to feed, would produce as follows:—

28 lbs. straw passed through the machine in 30 minutes.

Flax, as per sample.....	11 lbs.
Clean Tow.....	7
Straw and rough Tow.....	6
Roots and Refuse.....	4

28 lbs.

CANADA COMPANY'S OFFICE, }  
Toronto, 22nd September, 1852. }

## EXHIBITION OF THE INDUSTRY OF ALL NATIONS, AT NEW YORK, 2ND MAY, 1853.

No. 100, FRONT STREET.

NEW YORK, 1st September, 1852.

TO THE INHABITANTS OF CANADA :

My first Circular, of this date, contains a statement of my appointment, by the "Association for the Exhibition of the Industry of all Nations," as Agent for Canada and the British provinces; extracts from the Circular of the Association, signed by the President, Secretary, and Board of Directors; and copies of the documents relating thereto, viz., No. 1, Copy of a Lease of Reservoir Square, granted to the Association, by the Corporation of New York, for the term of five years, on payment of the rent of one dollar per annum—that is a free lease; No. 2, the Act of Incorporation of the Association; No. 3, the creation of the Exhibition Building, or *Crystal Palace*, by the United States' Government, as a *Bonded Warehouse*; No. 4, an extract from the Minutes of the Board of Directors, that the Exhibition be opened on Monday, the 2nd of May, 1853; and No. 5, an extract of the letter to the undersigned, containing his appointment as Agent for Canada and the British Provinces, &c.

I deem it further necessary to make a direct appeal to the people of Canada, stating to them:—

*1st.* The condition of progress which the Association has attained;

*2ndly.* A brief description of what has been already secured, in the way of contributions, from Europe and the States of the Union.

*3rdly.* Some reasons why Canada should respond to the invitation thus extended her, and secure as creditable a representation in the greatest market of the New World, as she has already done in that of the Old.

*1st.* As to the progress attained.

With innumerable difficulties to contend with, the Directors have now to congratulate themselves upon a most successful issue to their labours. Under the generous grant of the City of a lease of Reservoir Square, free of rent for five years, besides ensuring the protection of the property placed on exhibition in the building to be thereon erected, a most auspicious charter by the State, the creation of the building as a Bonded Warehouse, and the most perfect confidence in the gentlemen composing the Board of Directors, the original stock of \$200,000 has long since been taken up, the plan and details of the building decided on, the erection already commenced, and the completion thereof fully secured, long before the time required for opening. The building, when finished, will be the greatest object of architectural attraction in America, as the plan adopted is exceedingly beautiful. It will be erected entirely of iron and glass, at a cost of \$200,000,—a greater expense than at first proposed, in consequence of which the Association have increased their stock from

\$200,000 to \$250,000, and shortly intend adding \$50,000 more. Two calls, of 10 per cent. each, on the subscription to stock, have been paid up, and the remaining 80 per cent. will be called in before May.

*2ndly.* In the way of collection of articles on exhibition, very numerous and valuable specimens of manufacture and art from Europe have been already secured, and are still continuing to be promised. An official letter of date London, 3rd February, ultimo, addressed to Charles Buscheck, Esq., the European Agent of the Association, at No. 6, Charing Cross, London, (Mr. Buscheck, was the Commissioner of the Austrian Government, at the London Exhibition,) states: "I cannot better exemplify the spirit of co-operation in which some of the most eminent living Professors in the highest walks of art have testified their entire confidence in the complete success of the design, than by adverting to those expressive facts, that in addition to the unrivalled group of the 'Amazon' by Kiss, the celebrated Marochetti is engaged in executing a colossal equestrian statue of the greatest of patriots, Washington; while Carew, one of the highest ornaments of the English school of sculpture, contributes colossal figures of the same illustrious man, and of Daniel Webster; and Monti, whose veiled statues have earned for him in this country an enduring fame, is just about completing a new creation of the same marvellous character which surpasses all his previous efforts; all of these works having been commenced expressly for this Exhibition. To the foregoing distinguished names, I am happy to be able to add others of not inferior celebrity, including the sculptors John Bell and Richardson; the painters Hurston, Herring, Foley, Varley, Goodall, and the great wood-cutter W. G. Rogers.

"It must also be borne in mind that the above are artists resident in Great Britain alone. Those on the continent who have notified their intention to take part in this exhibition, are not of inferior reputation. Among them is Fraiken, the first sculptor in Belgium, whose fame is European!"

Referring to annexed papers the same letter says; "From paper A you will perceive that, of 590 persons who have made application at the London office, 375 have declared their intention to exhibit, of which 156 have actually returned to us the space forms duly filled up, representing an aggregate space of 6,076 square feet of walk, 3,152 square feet of counter, and 2,170 square feet of floor. From paper B it appears that we are already aware of 649, including exhibitors, through the London office. Paper C is a general list of articles registered for exhibition, comprising objects in almost every branch of art and manufacture.

"Mr. Sallandrouze, Commissioner General of the French Government to the late exhibition, has given directions for the Arms of the United States of America to be worked in a magnificent carpet, included for exhibition in New York, as

a specimen of the productions of his factory. For Spain, arrangements have been made with Messrs. Saavedra and de Riberolles, for an extensive canvass of that country.

"I must not omit to congratulate you upon the fact, that His Royal Highness the Prince Albert has intimated his willingness to exhibit produce from the Royal farms."

Thus as far as Febuary last, the above are but a few extracts of what had been already promised from Europe, since which time various official answers from the Consuls, Ministers, and Ambassadors of Foreign Governments have been received by the Association, promising the support and contributions of the respective countries. That from C. Musurus, the Ambassador of the Sublime Porte, to London, states that His Majesty the Sultan had ordered a Steam Frigate to be placed in readiness to convey productions of Turkey for exhibiton at New York. With regard to the United States themselves, it would be tedious to enter into any statement as to what they will contribute.

Having, I hope, satisfactorily established the fact of the grandeur and importance of the proposed Exhibition, I come to the important question, Thirdly—Shall not Canada, who has already gained such a high reputation at the London Fair, be represented in New York? Shall not her name appear in a World's Exhibition on a Continent wherein she occupies such extended space and in a country with whom she already possesses such extended commercial relations, affording as it does to her so large a market for her productions, and supplying her in return with so many articles of manufacture?

The importance of cultivating friendly and reciprocal commercial relations with the United States has long been an object of efforts to Canada, and an object whose accomplishment has only been protracted by the continuance in power of a Whig Administration at Washington, whose policy is opposed to unrestricted commerce; and by the influence of monied interests. But now that every thing indicates, during the ensuing Presidential election in November, a change of the administration into the hands of a party predisposed to commercial reciprocity with foreign countries, what more favourable opportunity could possibly be presented to Canadian enterprise, of showing to the citizens of the United States, collected from all parts of the Union, the number, variety, and value of these articles with which they could favourably trade with them upon favourable terms, and of convincing the people of that country who have never yet been appealed to on this point, of the necessity of demanding from their Government immediate legislation to that effect.

The ceremony of the opening of the Crystal Palace at New York, will be one at which there will be present all the high officials of the State and Federal Government of the Union,—invitations will also be extended to those supreme in command in the Government of Canada and the

adjacent Provinces. Thus an opportunity for mutual explanations and concessions, and the furtherance of personal and social good feeling will be afforded, such as may never occur hereafter.

A good representation of Canada in New York would secure for her the personal visit and inspection of numbers of Europeans and Americans, which must necessarily result in creating beneficial impressions of her natural resources and capabilities.

It only requires a speedy and unanimous decision from the people of Canada on this point, and they can get up a representation as creditable to the efforts and as conducive to the interests of their country, at the New York Fair of 1853, as they have already done at the London Exhibition.

JAMES WHITMAN,

*Agent for Canada and the British Provinces.*  
OFFICE OF THE ASSOCIATION FOR THE EXHIBITION OF THE INDUSTRY OF ALL NATIONS,  
New-York, July 12th, '52.

The Association for the Exhibition of the Industry of all Nations give notice that the Exhibition will be opened, in the City of New-York, on the 2d day of May, 1853.

The Municipal Authorities have granted to them the use of Reservoir Square, and they are proceeding to erect thereon a building worthy of the purpose to which it is to be devoted.

The Association desire to make the Exhibition, in fact as well as in name, a Representation from other countries as well as their own, of raw Materials and Produce, Manufactures, Machinery and Fine Arts.

To this end, they have made arrangements with Chares Buscheck, Esq., late Commissioner of the Austrian Empire at the Industrial Exhibition of London, whose skill, experience and high character, offer the most satisfactory security to contributors from abroad.

Machinery will be exhibited in motion—the Motive Power to be furnished by the Association—and applications for the admission of machinery, to be so exhibited, in addition to the general description and the requisition for space, must set forth the amount of motive power required.

The Association deem it proper to announce that Paintings in frames will be exhibited.

As, notwithstanding the magnitude of the proposed building, there must, necessarily, be a limitation of space, the Association reserves the right to modify or reject applications; but, in so doing, will be governed by strict impartiality, looking only to the general objects of the enterprise.

The Association also reserves the right of determining the length of time, not to exceed in any case one season, during which objects shall, severally, form part of the exhibition.

Exhibitors are requested to designate an



Agent, to whom their contributions shall be delivered when withdrawn from the exhibition.

Prizes for excellence in the various departments of the exhibition, will be awarded under the direction of capable and eminent persons.

With this statement the Directors solicit the co-operation of the productive intellect and industry of their own and other countries.

THEODORE SEDGWICK, *President.*

### AGRICULTURAL INSTRUCTION FOR THE JUNIOR PAUPERS IN THE CLONES WORKHOUSE.

(Continued from page 356.)

The greater part of our common vegetables were introduced into England in the reigns of Henry VIII. and his daughter Elizabeth, though many of them had been known previously in Switzerland and some of the other countries of Europe. Since that period they have all passed through infinite stages of improvement in the course of cultivation. The wild cabbage, from which all the numerous cultivated kinds are derived, is a little, obscure plant, with a few pale-green leaves, growing on our sea coasts. The field beet can scarcely be distinguished, in the natural state, from the class of common weeds. The carrot and parsnip, in the same condition, produce small, spindling roots, so bitter as to be unfit for human use. The wild potato and turnip can hardly be identified with their descendants of the same species, with which cultivation has now rendered us familiar. While, as regards the cereal grains, if we are to believe that they exist at all in the natural state, the same inventive genius of improvement is known to have effected changes upon them still more extraordinary—changes of character amounting to little short of a total renovation of species. It was not, however, till long afterwards—some hundreds of years—that much attention seems to have been paid to the physiology of our most useful vegetables; and some of the opinions of the older agricultural writers are so much out of the ordinary course, as to excite our surprise that ever they should have obtained a place on the records of public opinion.

So late as the seventeenth century it was the general idea that plants derived their food solely from water; and some of the most successful improvers of vegetable physiology, in the beginning of the eighteenth century, were zealous advocates of this theory. The first great step in the right direction was made, about this period, by the French chemists, in which they were soon followed by those of the German states. Until very lately, the analysis of the vegetable principles was almost entirely overlooked by the British chemists. Davy, Priestly, and above all, Hatchell, were the first who directed their attention to the subject; and now, within the last fifty years, the appearance of this branch of chemistry has been almost entirely changed, and

brought to the state which the chemistry of minerals has acquired. This department of science, too, in its relation of agriculture, has been cultivated, within our own times, with a precision and success never before attained. Priestly in England, Saussure in France, and other distinguished chemists on the Continent, had all investigated the subject, with immense labour and ingenuity, though with results very uncertain and unsatisfactory. Saussure drew up a copious table of the organic principles of the different farm crops from his own experiments. Bous-singault, shortly after, constructed another from analyses of the same plants, grown on his own estate.

The conclusions of these philosophers would lead us to believe, that plants are entirely dependant on the soil for their nourishment. To this principle Schrader conceived there were insuperable objections. Having analyzed the seeds of the grain crops, and ascertaining the exact portion of organic matter which each contained, he made them grow in a medium which could not furnish any earthy ingredients, and he found that they yet contained less or more of earth; some of them even more than had existed in the seed from which they were grown. Similar results were obtained by Braconnot, and Einhof. These chemists analyzed a large number of plants from a calcareous soil, which contained little or no matter, and found that they yet exhibited a considerable portion of silica; while others which had grown on a soil that yielded no traces of lime, were found to contain no less than sixty-five per cent. of that earth. Schrader, therefore, argued, that the organic constituents of plants were not referable to the soil, but to some process of vegetation not known. This theory obtained him the prize essay of the Berlin Academy, in 1800. The authority of Schrader, however, was by no means sufficient to set aside the conclusions of Saussure—that the proportion of organic matter in plants is, at least, considerably influenced by the nature of the soil in which they grow—while his own theory, though it is not opposed to the result of the hypothesis, that the earthy matter had not been taken up from the medium in which the plants grew, is yet manifestly defective in ascribing its formation to the agency of a principle, the existence of which he cannot prove, and admits he does not know. In fact, the very experiments of Schrader, had he attended to the circumstances in which they were made, should have been sufficient to show the imperfection of his deductions.

In all experiments upon growing plants it is obviously impossible to guard against every channel, by means of which foreign substances may have access to them, while under examination. And there necessarily, too, elapses so long a period between the first operation and the final result, that the chain of consequences cannot always be very clearly observed; in this respect there is a peculiarity and a difficulty in

obtaining accurate results from agricultural experiments, which are not experienced, at least to the same extent, in the ordinary class of chemical investigations. These two rival theories, which occupied the public attention for a long time, do not deserve much attention of themselves, though they have since led to many interesting and important researches.

In 1779 Priestly had given it as his opinion, that plants absorbed food from the atmosphere as well as from the soil. The properties of carbonic acid, at that time, were beginning to be understood, and the beautiful experiments of Priestly, Hales, Dauberry, and others had demonstrated, that by means of their leaves plants decompose this substance, which is always present in the air—liberating the oxygen, and employing the carbon as food. The first-mentioned chemist suspected the presence of nitrogen also in the air, and that it probably performed some important office in vegetation; but observing it to exist in such exceedingly minute quantity as to be almost imperceptible, and observing farther its extreme unwillingness to unite with other bodies, he could not conceive how it could be obtained by plants. It seems to have been reserved for Professor Liebig at once to solve the difficulty, and to place the fact of nitrogen forming part of the vegetable aliment beyond a doubt. It occurred to the German chemist, that he could collect it in rain water better than in the air—a very small portion of which can only be submitted to analysis at once. By adopting this expedient he obtained it in solution in sufficient quantity to demonstrate its existence by experiment. The results of his investigations are well known; he informs us, that next to carbonic acid, of all the elements which serve for the food of plants that of ammonia is the most pre-eminently important, and that it is composed of more than three-fourths of nitrogen derived from the air. He tells us that those substances, which are commonly considered as the very essence of fertility, both in soils and manures, do not exist in them at all, but that it is the mineral ingredients of the earth which we are chiefly to regard as the fundamental materials of vegetation; while it is the volatile carbonate and nitrate of ammonia that supply plants with nitrogen for the formation of their albuminous constituents. Thus, within these very few years, the mineral theory of Liebig—the latest and highest authority—has formed a new era in the chemistry of organic bodies, and entirely remodelled the principles of modern agriculture.

The introduction of the drill system into England is to be regarded as another most important era in the annals of British agriculture. This took place in the early part of the seventeenth century. Jethro Tull, an ingenious agricultural writer of that period, from observing the extraordinary effects of efficient culture upon the growth of crops under his own management, conceived the idea that crops of any kind could be raised by tillage alone, performed in a proper

manner and in a due degree, and that manuring substances acted only mechanically on the soil, by admitting a freer circulation of air to the plants. Tull attempted to found a theory of vegetation on this principle, which, however, did not long outlive its author. The error of his theory has been admitted by every one long ago; but the experiments to which he appealed in defence of it are still acknowledged to have exercised a most important influence in giving a direction to the agricultural practice of the times.

The theory of vegetable excretions, next proposed by another eminent authority of later times was equally unsuccessful in explaining the principle of the rotation of crops, which it was meant to establish. The fact of vegetable excretions cannot be well controverted. It is universally known, that some plants will not vegetate well after others, and that some again grow unusually well in ground where certain plants had been growing. But these facts are now accounted for upon other principles. After a crop of beans, for instance, the soil is seen to have assumed a dark colour from the presence of the excrementitious matter in question, obviously derived from the plant; but then the same ground will give a crop of vetches or clover the next season, which could not be, if we are to believe that the excretions of plants are hurtful to others of their own species, for clover and vetches contain much the same elements as beans. This celebrated theory is seldom mentioned now, and the principle of cropping rotations has been based upon a deduction of facts familiar to every farmer which are sufficiently intelligible to demonstrate its truth.

It is now universally admitted, that vegetables derive their nourishment from the two sources of earth and air; from the former, through their roots; from the latter, by their leaves. Both these sources of supply may, of course, be supposed to sustain a loss proportionate to the amount of the substances abstracted from them. In the case of the atmosphere—whence they absorb part of their organic food—this waste is known to be restored by a self-contained principle of reproduction, which, however, does not belong, at least to the same extent, to the soil from which they extract a portion of the organic and the whole of their mineral constituents. Hence exhaustion takes place, and goes on increasing to an extent equivalent to the quantity of nutrient matter, which every succeeding crop withdraws from it during the period of its vegetation. When the produce is sold off the farm, the exhaustion becomes extreme. If the crops are partially returned to the soil, in the form of manuring substances, it cannot be said to have suffered to the same extent; and if a crop, such as rape or vetches, is ploughed into the soil, in that case it is not exhausted but enriched by the entire matter thus given back to it, with the addition of all the carbon and nitrogen which these crops are known to absorb from the atmosphere.

In the case of pasture, too, the produce being consumed on the land, the spontaneous growth of the grass is not found to impoverish the soil, for the yearly decay of a considerable part of the stems and leaves, which takes place upon the surface, has the effect of increasing its fertility, by restoring a greater amount, both of organic and mineral matter, than the crop had taken away. The cultivated plants are much more severe upon the soil. Of these the white crops, such as wheat, oats, &c., are the most severe. They are, no doubt, the most valuable, both as regards their general usefulness and their production of the most human food; but important as they are in this point of view, they are yet to be regarded as the heaviest exhausters of the soil that we have, from the prolonged period that they require to complete their growth; and when we further take into account that usually a considerable part of the straw is sold off the farm, they may be said to exhaust the soil to an extent almost extreme.

The pulse crops, the bean and the pea, bear a resemblance to the white crops, in the effect they produce upon the soil, owing to the same severe demand they make upon it in ripening their seeds; while the straw of these crops, when exhausted of its nutritive matter by the process of maturation, yields but little cattle food, and an inconsiderable return of manure. They differ, however, from the grain crops, in their course of culture being more favourable for the suppression of weeds than the summary mode necessarily applied to the former. The bean is a heavy feeder, but it feeds in the subsoil, in a range of matter remote from the surface mould. It is this that makes it so little an exhausting crop; while the falling leaf, the opening of the soil by the penetration of the taproot downwards, the overshadowing of the land from the heat of summer, and possibly exudation from the plants themselves, seem to have the same effect in checking weeds and generating new carbonaceous matter in the soil which is well known to be exercised by a smothering crop of red clover, or turnips, or rape. It is to these proximate causes that we are to attribute the usual success of employing beans as a forerunner of wheat; for a clean bean stubble, as every farmer knows, is the best possible preparation for a crop of wheat; and hence, too, the advantage of introducing beans into the rotation instead of red clover, when the latter would to a certainty be a failure. The pulse crops are thus classed with the other general division of the farm produce, termed the white crops. These are a most important order, in their relation to the soil. They may all be said to be calculated, in a more or less degree, to recruit the exhausted powers of the soil, both as regards the ground which produces them and the farm in general. Hence, as a class, they are termed restorative crops. They require a liberal supply of manure. We can hardly err in giving too much; for while a white crop would form a bad description of straw rather

than grain, by receiving a direct application of putrescent manure, it is found that a green crop will take up no more than it needs, but leave the remainder to other plants that are to take their place in the rotation. They are sometimes termed fallow crops, from their mode of culture admitting of a complete eradication of weeds and a perfect reduction of the soil—in this way, also, promoting indirectly, but immeasurably, the amelioration of the farm, with every returning cycle of the rotation.

Rye-grass and clover belong to the same class. When cut before they are very ripe, and the greater part consumed by the farm stock, they return fully an equivalent value of manure for the substances they abstract from the soil; but when they are allowed to ripen, and are sold off the land, in that case they become exhausting crops in no ordinary degree. Permanent pasture is not to be considered in the same position as meadow; but when the land has been properly cleaned, and stocked with a suitable mixture of perennial grasses, it is regarded as one of the most efficient means of recruiting the exhausted powers of the soil. Successive strata of new vegetable matter are formed, which become fit for a higher order of plants—thus plainly indicating the tendency to progressive improvement in the order of nature.

(To be continued.)

## ON THE ADVANTAGES OF A SANDY SOIL FOR THE PURPOSES OF AGRICULTURE.

BY E. J. LANCE.

*Continued from page 133.*

I have in my former papers dwelt on the scientific principles of a sandy earth or soil; in this I propose to shew the effect of those principles, when they are correctly applied. On former occasions, successful practice has been pointed out where the arid soil has been made to produce to its uttermost capabilities. It will be seen that local circumstances will have much influence on the capabilities of a district for the production of food for man or the lower animals.

Sandy soils are much more productive in humid situations than in any other; a hill rising above a breadth of water is much more likely to get watered by the dews and fogs than in lower situations; a mountain top is often observed to receive the last kiss of the morning dew, and is moist on the surface when the valley is parching. A canal passing through a dry district has been observed to lose much of its water in a hot day, and the hills near have received a copious dew in the night; thus has *Divine Providence* contrived a means for watering the most elevated spots, how much they do it behove man to observe her ways, to attend her dictates by opening the surface soil to receive those bounteous gifts in the shape of dews and fogs that are periodically showered down on him; if

more attention was paid to this subject more corn might be grown.

The Chinese cultivate their soil up to the very summit of their hills, being saving of all manures, even the shaving of their heads and beards; they have wide drilled and dibbled crops, being very saving in seed and using the hoe much amongst the growing crops. Their saving disposition in respect to all excrementitious matters necessarily would prevent any waste of the liquid matters from manure yards, so generally allowed in this country, for experience would teach them that the liquid contains the salts of potash and ammonia, so essential for the growth of vegetables. The Chinese are said to be a century before us in husbandry, if we are many centuries before them in other arts and sciences. If they were not good managers of their soil, they would not be able to feed so populous a nation within themselves as they now do; they are independent of foreign climes for their daily wants, although their population is considered to equal in number all Europe. Protectionists would wish Britain to be like the Chinese—*independent*. To do this more care is required than is at present practised, a better knowledge of nature and principles is necessary to be known and then only may we hope to see the three great desired points mastered, viz., *an increase quantity, a superior quality, and a great saving in the expenses*. These points gained are very far preferable to any legislative enactments for making corn scarce and therefore of more money value. There is no work of the present day so likely to lead to the successes above pointed out, as that of Morton's Cyclopaedia of Agriculture, as it combines the theory—the practice, and the business of farming.

A sandy soil is the most easily worked on the surface whilst the crop is progressing; an aration, for the admittance of aqueous particles which are deposited in every clear night, as the moisture cannot be held in the atmosphere if there are no clouds to prevent the condensation at the surface. This moisture should be permitted to reach the root of plants; if the surface remains hard and uncultivated, it will soon be covered with weeds, mosses, or green fungi, the growing crop cannot then obtain what is wanted, and any moisture that falls is again soon taken up by the sun's rays or by currents of air.

A sand soil will not hold the moisture like unto clay or lime, or those earths united as a marl, hence the necessity of a sandy soil being more cultivated on the surface, that the roots may soon take up the aqueous particles and hold them for their own wants so far as is necessary; and by having an open subsoil, superfluous moisture will go down, be there retained for future wants, rising by capillary attraction to supply the evaporation of the surface.

The manures best calculated for a sandy soil to impart permanent food to vegetation, may be valued in the following order:—1st, marl having equal proportions of lime and clay; 2nd, gypsum

united with phosphate of lime; 3rd, refuse lime from a soap boiler, united with the salts of potash and soda. All these earths and alkalis and acids added together would be the very best as a mendment in perpetuity. As a prompt dressing, the litter from under fattening pigs is the very best for some vegetable growths, and old rotten yard manure for other vegetation. Another source or pabulum for future crops may be had recourse to by ploughing in a green crop, such as rape, which might be sown in the spring for wheat food in the autumn; turnips may be used as a pabulum for beans or peas in the spring; buck wheat or tares in the like way may be buried for any future crop.

All the grasses take up much silica as may be proved by drawing the blades between the lips: the rushes, heaths, ling, horse-tail, all flourish in the sands, some of the clovers and the yellow lotus or bird's foot clover is particularly indigenous to the bare sands.

A variety of the *equisetum* or horse-tail is brought to this country from Holland called "Dutch rush," which contains so much of fine silicious particles, that it is used as a polishing article for mahogany and other hard woods.

Most of the fir trees flourish in the deep sands, obtaining their carbon through their leaves from the atmosphere. These trees will flourish luxuriantly if the ground is broken deeply for them, so that they be provided with the means of going downwards, as well laterally for nourishment. Mr. Withers, of Norfolk, has strenuously advocated the necessity of a continual cultivation amongst plantations of trees, he having succeeded most admirably by so doing in a poor sandy soil; he also advocated the manuring of ground previous to any plantation being made.

I have on a former occasion remarked that the capitalist who will take a tract of the poor sands which exist within thirty miles of London, in Surrey, Hants, or Berks, and apply right principles to the cultivations, is more deserving of monuments to his memory than if he had been the gainer of a hundred battles. That person would be a real patriot to his country, having subdued the stubbornness of the earth, using it as a means for the conveyance of a pabulum for raising man's food, and much more worthy of notice than those who cultivate an alluvial rich soil, which has already a full charge of vegetable food. There is little merit in those who make guineas out of gold dust, compared to those who make the gold out of a baser metal. It would be like the mind of man holding within his subordination the matter of the universe, an alchemist that extracts food for man and beast out of the debris, abraded from the quartz rock, is indeed worthy of honours—

"Of more than earth make none partake.  
But knowledge makes the man most like his Maker."

An oasis in the desert has lately been made on the sandy waste, near to Fleet Pond Station, on the S. W. Railway, a spot that had heretofore

produced little else than heath and ling, furze and gorse, and, in the boggy parts, rushes, horse-tail, ferns, &c., is now clothed with fertility, for the whole surface of the farm, consisting about two hundred acres, has now a covering of green vegetation, not of indigenous weeds, but of a kind that will do, as it has done before, fatten or make fit for the butcher more than one thousand sheep: every vacant stubble has been sown with an edible vegetable, and it was my pleasure to observe that the wheat was saved early and in good condition; the spaces between the rows of shocks was ploughed, harrowed, and sown with turnips, mustard, &c., before the wheat was stacked, the other part being brought forward so soon as possible afterwards, thus most of the stubbles were formed into *linchets*, of cultivation, these, when viewed at a distance, had a varied aspect. In some instances, the stubbles are now clothed with luxuriant broad clover, and thus has the forty acres of wheat furnished the stack-yard with ten well ordered mows. The Swede crop is going on in a luxuriant manner, for, where there is no stint of labour bestowed, or food supplied to the arid sand, success must attend the assiduous exertions of the Bailiff, Mr. Joseph Parry, of Brook farm, who, as an experienced husbandman, having "*Whistled at the Plough*" in many distant counties, on the chalks and on the clays, now expresses a preference for the light working sands, when he is backed by an employer who is desirous of improving the staple and capabilities of his own *terra firma*. Forty-three acres of Swedes are now going on with success.

Mr. Parry has favoured me with the *modus operandi*, by which he has been enabled to fill his master's stack-yard; to have made out eleven hundred sheep last year, and has now a prospect of making fit for the butcher an equal quantity this year, and that wholly from produce grown on the land; the gentleman, owner of the estate, making it a point not to purchase any food for his stock; that being done in the shape of manures from various part of the world. There is a railway station near, which communicates with all quarters of the universe, and there is a canal within a mile, which connects London with Basingstoke; on the side of this canal there is waste earths, clay and chalk, laying useless for the past fifty years, this has been taken advantage of, many parts having had a portion spread thereon.

Lime; in the shape of a powder, an hydrate, has been freely used wherever the crop was likely to require it, and a mud from the excavation of a large pond, (the site of a former bog); this being placed under all the animal manures, taking the soakings from the yards, and the stores, is then a fit article to be placed on the land, as an amendment, for it contains it itself much vegetable matter, with soluble silic, but without lime.

Thus has the peaty moors, and the heretofore

useless sands, been treated on the wild commons of Hants.

To accomplish all these improvements, there must have been great energy displayed by the proprietor, who took care at the first outlay that the superfluous waters were taken silently away.

Many other instances might be named, where these sandy soils have been made available for the purpose of raising food for man. The riches and the enterprize of this country is such that the waste sands must give way to the powers of science, particularly since the facilities of transit to London have been so much opened.—*E. J. Lance.*

*A Cyclopaedia of Agriculture; Practical and Scientific.* Part 17. By JOHN C. MORTON. Blackie and Son, Glasgow, Edingburgh, and London.

We give the following as a sample "*On Leicester Sheep.*"—

It is true that the new Leicesters, as a breed, have never produced a weight of fleece, which either the nature of the soil for which they are specially adapted, or the high feeding they generally receive, would have presupposed. In this respect they rank considerably lower than some of those races they have already displaced, or others with which they are maintaining a strong rivalship.

The *mutton* of the new Leicester, when not over-fed, is of a superior description, the fat and lean being more equally distributed than in most heavy breeds, while the flavour is considered little inferior to any, except, perhaps, by those whose tastes are wedded to some favourite breed, which generally cannot be so readily procured. Still, its best market is to be found in manufacturing, and especially mining districts, where its smallness of bone, and considerable amount of fat, make it prized by those whom hard labour preserves from easily cloyed stomachs, and who cannot afford to spend their money in the mere gratification of the palate, but must look to what will "go furthest." It must be admitted, however, that for some time past it has not commanded so ready a market as formerly. The cause of this is to be traced, in a great measure, to its being so frequently over-fed. The mutton of its crosses, from having less of that luscious and oily property objected to in that of extra-fed Leicesters, and from the fat and lean being more equally mixed and finer-grained, ordinarily brings from 3d. to 1d. per lb. more than that of the pure breed, the wool also of many of these, especially that of the Cheviot ewe, is of finer quality, commanding a higher price and readier market, while in weight it is little inferior.

With regard to the *best kind* of Leicester—for, as already noticed, every district seems to possess a variety peculiar to itself—the breeder must learn by experience, what is yest adapted

for his particular locality. True, there are certain understood and well-defined *p. ints* characterising the true breed in every part of the kingdom; but besides those departures which taste, or the expectation of greater profit, have caused to be made from the original type, the silent agencies of soil and climate exert a far more powerful influence on the frame and constitution than is generally supposed. Bakewell's sheep were distinguished by the general parallelogrammic outline; the small head covered with short white hair; the open countenance and white muzzle; the full, yet quiet eye, and long, thin, well-placed ear; the full, but tapering neck, and deep wide chest; the uniform broad and straight firm back, terminating in the square rump, and full, deep shoulder; the well arched rib, full plate, and light offal; the long, full quarter, well turned twist, and uniformly fine bone; the thin, soft, elastic pelt, and mellow handling. While retaining these valuable properties as the basis of their operations, succeeding breeders have discovered that others might be communicated, by which the value of their flocks would be materially enhanced, and the general symmetry rather augmented than diminished. Hence, among other things, the general enlargement of carcase; the greatly increased covering of wool—qualities, indeed, which Bakewell seems rather to have shunned—as well as the greater fertility and better milking properties of the ewe; though the latter may be traced rather to his in-and-in breeding, than to any inherent defect in his sheep as a breed. These, and some minor changes, have somewhat altered the general appearance of the Leicester of our day, though the tastes and caprices of individual breeders will not wholly account for many characters observable to indifferent districts. In one county, for instance, we have a long curly fleece, while in another the wool is much closer and comparatively short: here we have a large, bareheaded, soft-looking animal; and there, one which, without being undersized, seems from its hardy sprightly look, better adapted to withstand the vicissitudes of our variable climate.

When the immense and increasing extent to which the Leicester is employed in the breeding of crosses, is considered, the number of rams reared for this purpose must be very great. This is clearly shown by the complete change in the kind of stock now brought forward at most of the great border markets, compared with what they were fifty years ago.

Such a complete change marks not only the great value of the Leicester as a basis for crossing on the male side, but also the immense revolution which the general introduction of artificial manures and turnip husbandry has effected. When these were but little known, few sheep were fattened during the winter months, and the hill farmer had no small difficulty in finding a market for his annual cast. But as the growing of turnips, and the value of draining and liming became better understood, lean stock were

required to consume the larger quantity of food raised; and, to meet this increased demand, breeders were led, by gradual steps, to improve their flocks; first, by bestowing greater attention upon their breeding and general comforts, and then—as the reclaiming of these arable portions of their grazings progressed—by at length, in many cases, changing their breed of sheep altogether; or, by crossing with other varieties, producing animals more profitable to themselves, and more readily fattened by those into whose hands they eventually fell.

The great value of the breed consisting in a ready disposition to fatten, or, in other words, to arrive at maturity at an early age, it is evident, that the kind of treatment required must be such as will most readily conduce to this end. With the exception of ewes and rams, none are kept until they are more than two years old, while the practice—daily becoming more common—with most breeders, is to have them ready for the butcher at fifteen or sixteen months old, or immediately after being shorn. To be able to attain this, it is necessary that they should be well fed from the day they are dropt. The season when this should take place must necessarily vary in different parts of the country. With the view of gaining a few weeks, it was at one time more fashionable than at present, to have the lambs coming about the New-year; but besides the risk of storms—frequently too severe at that season for newly dropt lambs of a tender breed—the ewes must be fed almost entirely upon turnips or other roots, which neither furnish such an abundant supply of milk, nor of such nourishing quality, as that produced when grass forms their staple food. Accordingly the beginning of March is now by most considered to be sufficiently early, as by that time the influence of spring is being felt on the pastures, which, if still deficient, can be supplemented with turnips or mangold.

By giving the breeding ewes moderate keep from the time their lambs are weaned, until within a few days of their receiving the ram, when they should be supplied with a fresher pasture, they will be found in that condition which has been found to be most conducive to fertility. Besides being beneficial to the ewes, this practice is attended with another advantage, from the best pasture being wholly reserved for the feeding stock, which are thus progressing for an early market.

Though the Leicester, in the hands of Bakewell, and his immediate successors, showed little tendency to produce twins, this arose partly from the high condition in which their ewes were kept, and partly the belief that one lamb was as much as any ewe could bring to that condition and size required by ram breeders; while, from their practice of too close breeding, their ewes generally, were bad nurses, and often unable to do justice to a single lamb. Though still neither so prolific, nor yielding so much milk as some of the other native breeds, the

breed of the present day is by no means so deficient in these respects as formerly, and in most districts the crop is considered to be below an average, when the half of the ewes do not produce twins, while even this proportion is frequently exceeded.

After the lambs are dropt, their successful treatment consists in a careful attention to keep them in a progressively condition. Never, for a single day, must the wants and comforts of the animals be neglected. The great secret of successful feeding consists in cleanliness, and regularity in receiving their food.

In reference to the *locality best adapted* for Leicesters; the county in which it originated, together with its constitution and general habits, point at once a naturally fertile or highly cultivated soil as its habitat. In some districts it has entirely superseded the original breeds. In others, where it has been used as a cross, the increased value of the flock has gone hand in hand with whatever change in appearance marks an improved breed. There are some of its over-ardent admirers who appear to think that every breed of sheep in the three kingdoms cannot fail to be improved by a greater or less infusion of Leicester blood, irrespective altogether of altitude and climate. That such a cross is most beneficial in many cases, is abundantly proved by the success which has attended its adoption among sheep occupying districts of low or medium altitude. There is, however, a limit beyond which it would be unsafe to introduce the pure breed, and others where even the keeping of crosses would be ruinous. The experiment has been tried upon some of the most favourably-situated Scottish borders. Whether time, or the "march of improvement," may still further enlarge its already extended ranges, it is difficult to divine. The effects of draining and planting in affording abundance of shelter, and ameliorating the climate, are well known; and when landlords and tenants have become more fully alive to their respective interests in supplying the present crying deficiency, a future generation may enjoy the double benefit of being less dependent on foreign countries for their supply of foreign timber, and—freed from the dread of storms—that great cause of so much anxiety and loss to the stockmaster now-a-days, may be able to introduce a tender though profitable sheep, in localities where none but the hardiest races could subsist.

As already stated, the New Leicester was for many years made a complete monopoly. At present, when any individual wishes to possess a superior flock of some particular breed, he can begin at once, by purchasing cast shearlings, or old ewes, from breeders of eminence, but for many years such animals could not obtained for such purposes from the Dishley Society. The owners of the best flocks were in the habit either of "spaying" those ewe lambs which did not suit their purpose, or of selling, and their cast ewes to be slaughtered immediately; some of

them attending even personally to see them killed. Mr. Bakewell had, upon his farm, some water meadows, which were flooded early in the season, that a fresh growth might be obtained the same autumn. Upon these he put his superfluous stock for a short time. At first their improvement was rapid, but they soon became tainted by rot, the early symptoms of which his practised eye immediately detected. They were then sold without delay, but were thus rendered unfit for breeding purposes, the principal end he had in view.

It has been said, that for some years past the Leicester, in different parts of the country, has been on the decrease, and that this has arisen from a change in the public taste, extra-fed mutton being less relished than formerly by all classes. Hence many farmers have substituted a crossed flock in place of their Leicesters, while others, from the facility which the great extension of crossing in hill districts affords in procuring lambs, have relinquished the combined practice of breeding and feeding, restricting themselves exclusively to the latter department.

Though graziers are justified in attending to the production of that article which best suits the market, there is no reason for alarm lest the Leicesters either deteriorate or become extinct as a breed. For crossing, it stands unrivalled, and the demand for rams for this purpose alone is already almost incredible, and yearly increasing. In 1850, at the annual September market of Kelso, in Roxburghshire, there were upwards of 500 Leicester rams sold, most of them being purchased by owners of Cheviot flocks from the border hills! Besides the many disposed of in other markets and privately, this one fact, combined with immense number of crossed lambs yearly brought out from the other grazing districts of Scotland, speaks to a large and steady demand for Leicester rams, sufficient to induce numbers of qualified men, whose farms are adapted for such a purpose, to turn their attention to the production of suitable animals.

#### EXPERIMENTAL OR MODEL FARMS.

The following paper on the most judicious method of conducting the experimental farm, by J. M. Goodiff, Esq, Granard, was read. The views contained in the paper excited considerable discussion, in which Mr. Montgomery, Mr. Hanson, and several members, took part:—

Perhaps I may be permitted to offer, in the pages of the journal of the society, some observations on the experimental and model farm that the Chemico Agricultural Society of Ulster is about to institute for the furtherance of its inquiries, and for examples to the farming community. I would, however, first say, that the extended publication of the journal, and more especially in connexion, with this farm, appears to me most judicious; as it will afford the means of conveying the details of its experiences and economy

to those who are too distant to watch the daily practice on it; and, while it thus extends the instruction the farm purposes to convey, it will record much that would escape the closest observer. The journal will really make the farm the farm of Ulster.

It is evident, at first sight, that a strong line of distinction lies between the experimental and the model intent of the farm, the first being appropriated to theoretical, crude, and doubtful experiments, entailing expense without certainty of profit—a searcher for truth, and inquirer for facts. The latter, although in it may not be possible, nor perhaps desirable, altogether to exclude experiments, yet they should be limited to the more practical objects of agriculture, should not involve much extraordinary expense, and should be morally sure of exposing to no loss. The expenditure on this part of the farm ought not to exceed the average of that which the persons could reach to whom it is proposed to serve as a model. We are in this respect, too, to recollect it is not intended to convey instruction to the rich and educated capitalist, but to the humbler and less wealthy class of farmers, the men, indeed, who are rather guided by what they see than by what they can reason upon. It is to the experimental part of the farm that the inquiries of the former must be directed.

Although, in the establishment of model farms in general, we should be guided in the amount of capital we appropriate them—not by that which would ensure the highest interest for our money, but by the average of the farming capital of the neighbourhood—and, though our outlay must not exceed that which the farmers whom we would lead into our plan of tillage could afford, yet, under the peculiar circumstances of a model farm, established in the wealthy neighbourhood of Belfast, for the service of a wide range of country, some little more capital may be employed than the farming wealth of the country it is intended to reach would authorise.

There exist some other difficulties in making a farm near Belfast serve for a model to a distant country in the market the town affords for certain products which would not be found in the country. It may be a question whether we should submit to loss by an abnegation of the advantages our position would afford, or whether we should make the most of it.

The simplest way would be in cropping, manuring, &c., to throw out of view the vicinity of Belfast, and to act as though the farm were located at a greater distance, so as to fit it for a school of instruction to such a range of country as may be supposed to be under the influence of the Chemico-Agricultural Society of Ulster.

In the management of this farm, we do not now require to press on the public the advantages we derive from the alternating of green and grain crops, even horsefeeding itself scarcely need be urged; these must, however, necessarily enter into its economy, but we want to

show how a capital which is inadequate to these purposes may be so productively employed as gradually to supply us with the means to enable us to pursue these objects to the extent of what is designated “highfarming.” I believe such a system may be found possessing an elasticity which will suit it to any amount of capital, and which will at once find competent the money capital of the country which is so deficient, and take up the labour capital which has hitherto been considered so superabundant.

It is simply to avail ourselves more than we have been used to do, of the natural means of fertilising our lands, by mechanically keeping the soil open, at all times, to ærial influences and making our grain crops, equally worked, fallows with our green ones.

It is notorious that a very great deal of the lands of Ireland are in an unproductive and supposed exhausted state—that the rents and taxes of such land are nearly altogether paid out of the lands that are presently productive—that these unworked fallows slowly, through ærial influences, recover fertility—that if these fallows were worked, but uncropped, they would, in a much shorter time, recover their fertility—that, indeed, by ploughing, grubbing, &c. these lands, so as to prevent the formation of superficial crust, which obstructs the inflow of the atmosphere, light rains, and dews, we in twelve months render the soils, which we have exhausted of their immediate available elements of fertility, capable of returning a remunerative grain crop.

In making our grain crops fallows ones, we obtain a great advantage over the weeds, with which, instead of being engaged in a perpetual struggle, we at once close accounts, and thus throw the whole force of the soil into production of the crops we cultivate, while we prepare the land for reception of the small seeds of our green crops.

We have ample proofs that as large crops may be produced in grain sown at sufficiently wide intervals to admit of fallowing operations through the whole period of its growth, as by broad-cast tillage, and we have as good proofs that land will produce several successive remunerative crops of grain, without manure, in consequence of these fallowing operations; there exists, then, nothing to object to this system on these points. This system, in its clean tillage and free exposure of the growing crops to light and air, will be found valuable to the wealthy farmer, by counteracting the injurious effects of over-luxuriance, superinduced by heavy manuring; while it will assist the struggling man with his inadequate means by permitting him to lay them all out on a portion of his land, while he avails himself of the natural sources to fertilize the rest, laying on this last only that labour of man and horse, which we know very often lie idle, and from this land he then will obtain returns that he now rarely acquires from land on which he has employed all his means to force a crop.



# Agricultural Journal,

AND  
TRANSACTIONS

OF THE

LOWER CANADA AGRICULTURAL SOCIETY.

MONTREAL: NOVEMBER, 1862.

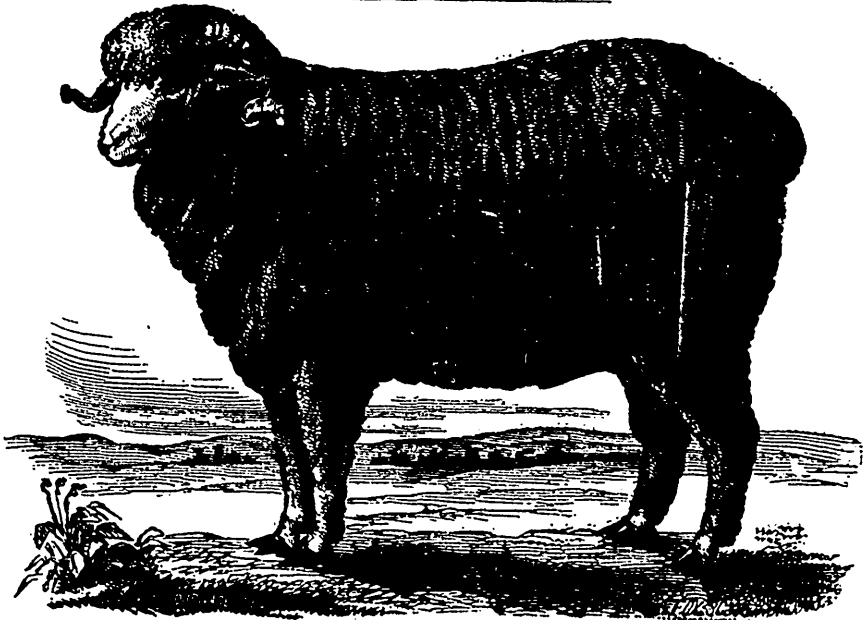
THE AGRICULTURAL JOURNAL.

This Journal has now been carried on, first, by ourselves, and latterly for the Lower Canada Agricultural Society, for a period of nine years, and whatever may have been its merits, it was constantly our wish to advocate the interest of Agriculture so far as we understood what they were, and to suggest and recommend such improvements as we conceived might be profitably introduced. The selections we made were those which we thought would be the most useful for farmers, and we have carefully rejected exaggerated statements that we thought calculated only to lead inexperienced Agriculturists into error. Indeed, we are often surprised at articles we read in Agricultural publications, they are so directly at variance with our own long experience in agriculture. These absurd statements cannot impose upon practical farmers, but they do create very extraordinary ideas of the products and profits of agriculture, that frequently causes severe loss, to amateur farmers, who are deceived by them. It is for the subscribers to this Journal, and not for us, to say what amount of good the publication has produced. We know, however, that it has been sent into every section and parish of Lower Canada, though the number of subscribers may have been few. There is one advantage in publishing an Agricultural Journal, that the first and principle interest in the country is represented in the publications of the day, though it may be only in proportion of one to fifty. There are, perhaps, fifty newspapers that advocate chiefly, other interests, and we may well express our surprise and regret, that Agriculturists, even for the name of the thing, would not encourage and support amply, one monthly publication solely

devoted to their interests. In our monthly Agricultural Reports, we do not confine ourselves to a description of the growing crops, state of the weather, and the work in progress with farmers, but we submit such suggestions of improvement, as from seeing the crops and farms, we may conceive to be necessary in future cultivation. We have constantly invited correspondence, but we have to complain that few agriculturists will take the trouble to assist us in making the Journal more useful, by recording their practice and experience, or by offering their advice on agricultural subjects. If they had objection to their names appearing, there would be no necessity that they should be known. Without correspondents, it is almost impossible to avoid repetition, when we are confined to one subject. Our readers will understand this difficulty, and excuse our occasional unavoidable repetition. Under the existing circumstances of the country, there is not, we are confident, any means that can be adopted so well calculated to create a general interest in agriculture, and keep up a spirit of improvement, as by an agricultural periodical that would be well conducted, and that would in future be the organ of the New Board of Agriculture and under the controul of the Minister of Agriculture. Indeed it will be actually necessary under the New Agricultural Bill to have this publication, as the official organ of that Department, and we may safely presume, that the whole expense, of the publication, would be a mere trifle, compared with the general good it might produce, under a new order of things. We are certain, however, that by employing a qualified agent to visit the country, the journal would be self-supporting, particularly under the improved circumstances which the Bill now before Parliament will place the Agriculture of Canada. If the Journal is honored with the patronage of the Minister of Agriculture, and made the medium of communication between the New Board of Agriculture, and the rural population, it will have a numerous circulation, and be well supported. In England, where agri-

culture is conducted upon the most perfect system, and with all the skill and capital required to work it successfully, there are several Agricultural publications besides the Journal of the Royal English Agricultural Society, which latter publication is said to be so highly prized, as to be the chief bond of union of the Members of the Society. The publication of the Agricultural Journal in English and French, is much more necessary in Lower Canada, and through its publication we may have the most useful selections of British publications brought before us, with whatever useful information can be added by contributors in this country. Whatever changes may be introduced under a new order of things, we hope the publication of the Journal will not be abandoned, upon any consideration of a trifling saving of expense, (even if it should be an expense for the first year) as the publication will now be more necessary for the successful working of a new system, than it was hitherto in

Lower Canada. The introduction of agricultural books into the common country schools, is now generally thought to be advisable, and certainly the Agricultural Journals might be so prepared as to be made suitable for reading and study at schools by youth of a certain age who attend these schools. Indeed they might receive more lasting information and instruction from such reading, than men of full age would do. We have gone into this subject at considerable length, but at this particular period, we thought it necessary to bring the matter before the public for consideration. When even one copy of the Journal is subscribed for in a parish, it may be the means of inducing the party who receives it to try some of the improvements recommended or suggested; and if this party succeeds with his experiment, he is sure to be imitated by others who see his success. It is in this way agricultural improvement may be advanced through the remotest sections of Lower Canada.



FRENCH MERINO BUCK, "KING OF TERRORS."

Owned by S. W. Jewett, H. S. Morse, and O. F. Holabird, Imported from France in 1851:  
Bred by Mons. Cugnot. The above is from a daguerreotype likeness:

The peculiar characteristics of the French Merinos are, that they combine both mutton and wool qualities. Weathers of this breed, at full age, dress from 40 to 60 pounds the quarter, and they shear from 8 to 18 pounds of a beautiful quality of washed wool. They are also very prolific, raising many more lambs than ewes. They are very tame and docile, and require but little fence to control them.

Mr. Morse, of Shelburn, the town adjoining Burlington, has a flock of two hundred of the pure breed, imported, and their lambs, upon his farm.

## MONTREAL DISTRICT CATTLE SHOW.

This exhibition took place at Terrebonne, on the 6th of October last, and the attendance was numerous, though the day was not favorable. The officers of the Society had provided ample accommodation for any stock that could have been expected, and we regretted to see the pens were not all occupied. The show of stock, though very good, was not so numerous, or so generally excellent, as we might reasonably expect for the District of Montreal. There was a numerous display of horses, and a few of them very good. We may apply the same remark to the brood mares, colts, &c.,—some were good, and others of very middling quality. The show of neat cattle, both English and Canadian, was very creditable, but we did not observe any very superior specimens upon the ground. We admit that we might have been difficult to please after seeing the Toronto exhibition, but we would have wished to see at Terrebonne a show of neat cattle that would be very little inferior to those exhibited at Toronto, as we believe the District of Montreal is fully capable of keeping as good and profitable a stock as any District in Canada. We do not advocate the expediency of cultivating the Durham cattle generally, but we would wish to see a good selection of neat cattle at our exhibitions, that would be creditable and profitable to farmers, and show that we possessed excellent specimens of suitable breeds for the country. The habit of bringing inferior animals to our shows is calculated to injure the character of these exhibitions, and it shows a want of judgment when very inferior stock are brought forward. It is difficult, however, to check this evil, and it is only time and experience that will cure it. There is also a defect in the mode of exhibition, which might readily be remedied. We allude to the manner in which the stock are kept upon the ground, either in pens, or scattered over the ground. It would be a much better plan to fix several ranges of railing to which the animals might be secured, and each class kept completely separate, and

thus afford Judges an opportunity of comparing the merits of each animal competing in the same class, which it is impossible to do, while kept in high pens, or scattered over the show-ground. The necessity of this arrangement is so manifest, that it is astonishing more attention is not given to it. At the great exhibitions in England, Ireland and Scotland, no animal is allowed into the show-ground without being secured by the head, by a chain, strap, or cord, by which they can be placed in their proper position and secured there. If this plan was adopted here, parties would be more particular about the stock they brought to Cattle Shows, and those that would be brought there, would appear to much more advantage when in their proper places and classes. We have been constantly recommending this plan, but to little purpose, up to this moment. If Cattle Shows are calculated to be useful, it is certainly our duty and our interest to make them as much so as possible, and one of the principal means of making them so, is to give Judges a fair opportunity of making awards according to real merit, and this is almost impossible as our present exhibitions are managed. It is very injurious to agriculturists to award prizes for animals that do not possess sufficient merit, as it is calculated to lead those who have not sufficient experience into grave errors. There is another regulation which we think would be generally expedient—that is, not to allow any competitor to enter more than one animal in the same class. We abhor the system of prize catching and we are persuaded that any party who wishes to obtain all the prizes offered in any one class, deserves the appellation of a prize catcher, better than that of a lover of the general improvement of agriculture. We must now return to our report of the exhibition. The show of sheep was very fair, and some were excellent stock. In Leicester sheep, we believe, we might enter into a fair competition with our agricultural friends of Upper Canada, but not in the South Down breed. Some good pigs were exhibited that proves we have good

breeds of these animals in the country. In the sheds were dairy produce, domestic manufactures, and other articles were exhibited, they were so crowded, that we had not an opportunity of seeing them, but we have no doubt there was a good show of these things.

Edward Masson, Esq., of Terrebonne, President of the County of Terrebonne Agricultural Society, gave a very splendid entertainment at his house, to a numerous company of gentlemen who attended the exhibition. Amongst the number we observed the Hon. A. N. Morin, Provincial Secretary, and member for the County of Terrebonne, who had come from Quebec to be present. Another member of the Legislative Assembly, Dr. Poulin, was also present. The Hon. Mr. DeBleury, J. Fraser, Esq., of St. Marc, T. Dumas, Esq., of Montreal, and Alfred Turgeon, Esq., of Terrebonne, we recognised at the table, and many more whose names have already appeared in other reports, and therefore it is not necessary to mention them here. We had the satisfaction of hearing the address of Mr. Masson, and the Hon. Mr. Morin, which were excellent, but we left immediately after. Mr. Masson's entertainment was the best we ever had an opportunity of witnessing at an Agricultural Meeting. Indeed there was a profusion of good things, and served in superior style. It forcibly reminded us that agriculture was beginning to obtain the consideration it is so well entitled to receive from those who wish the prosperity of Canada. It is quite evident that if Mr. Masson did not regard it favorably, he would not have taken so much trouble to do honor to gentlemen who attended the Meeting. It was most gratifying to see men of different politics meet in perfect harmony on this neutral ground, to encourage and promote agricultural improvement. It is a matter of regret, however, that they do not meet oftener for the same object, and if they did, improvement would make rapid progress. The free discussion and interchange of ideas, on subjects connected with our agriculture would produce the most beneficial and happy

results. It is not to catch prizes that should bring agriculturists together to these exhibitions, but rather to see the products of systems of husbandry, including live stock and their management—to become acquainted with these systems, and to hear discussions on useful subjects. If agriculturists have superior animals or other products, it is very proper that they should show them for their own credit, and for the information of others; and it is also right that they should be awarded prizes, as a certificate of excellence, and to reimburse them the expense of bringing stock or other products to these Shows. This would be very reasonable, and is altogether different from exhibitors showing a grasping desire to catch a great number of prizes, where there would not be a numerous competition, and in consequence where animals of very questionable merit might gain prizes, because there were no better. We beg to submit these observations for consideration, with a sincere desire that what is best for the interest of agriculture, may be adopted as a general governing principle at all Agricultural Exhibitions.

#### COUNTY OF MONTREAL CATTLE SHOW.

This Show took place at Montreal, on the 30th of September last, but it was not so numerously attended as might be expected, nor was the exhibition of stock very superior for the County of Montreal. There was, however, some excellent imported sheep, belonging to the President of the Society, John Dodds, Esq., and to John Penner, Esq., of Lachine, who also exhibited other good sheep. We mention the names of these gentlemen as regular importers of sheep, a plan that is well calculated to improve this useful stock. We did not observe any new specimens of neat cattle, and the show of these animals disappointed us. There were some good horses. We noticed particularly two or three two year old colts, which were very promising. The show of brood mares was good, though we have seen better in the County of Montreal. We did not see many horses that we would suppose

to be of pure Canadian breed, and we regret this circumstance. The show of sheep and pigs was sufficient to convince us that we have good breeds of these animals in the country. We did not observe any new agricultural implements deserving of particular notice. We did not see the exhibition of dairy produce, or domestic manufactures.

#### COUNTY OF QUEBEC CATTLE SHOW.

We had the satisfaction of being present at this interesting Exhibition on Friday the 8th day of October last, on the Plains of Abraham, near the City of Quebec, and having acted as one of the Judges on that occasion, afforded us an excellent opportunity of seeing most of the articles exhibited, including the neat cattle. We were glad to see that with the exception of Dr. Valois, M. P. F., for Montreal, Dr. Poulin, M. P. F., for Rouville, and ourselves, all the other Judges were from Upper Canada (now attending their duties as members of the Legislature,) and included the Minister of Agriculture, the Hon. M. Cameron, and the late President of the Agricultural Association of Upper Canada, T. C. Street, Esq. The Upper Canada gentlemen had thus an excellent opportunity of seeing samples of many of the products of Lower Canada, that was highly creditable to that section of the country, and particularly so, to the skill and industry of some of the inhabitants residing in the county of Quebec. The Judges first inspected "Agricultural Productions, growth of 1852." There was several samples of spring wheat, of very good quality, perhaps as good as any that could be grown in any part of Canada. The samples of barley, oats and peas, were also of excellent quality, fully equal, if not better than any we had the opportunity of seeing at any Exhibitions this year. The flax, and timothy seed, were very good. Samples of the various grains were exhibited in the sheaf, which we conceive to be an excellent plan, and these samples in general, showed a very healthy growth of both straw and grain. The Dairy products were

next inspected, and the show of butter was superior though not in large quantity. The samples of cheese, however, were not of the first quality, and it appeared to us that there was few competitors. The maple sugar was of ordinary quality. Woollen and Flax goods, and other domestic manufactures, were the last that was inspected, while all the judges acted together. This department we found to be the most interesting of any of the Exhibition. The articles shown, were not the produce of regular manufacturing establishments, but the handy work of private country families, who acquired their skill in their own homes. The flannel drugget, shawls, stockings and woollen yarn, were most convincing evidences of the skill and industry of Canadian country families. The woollen yarn was of as fine quality as we have ever seen spun, by hand, and the stockings made of the same material, were very superior. The lady who exhibited the shawls, said they had been woven in her own house. We noticed the Canadian hay hats and a bonnet, manufactured by ladies residing a short distance from Quebec—Madame Couture, and two sisters by the name of Martel. There was several hats, but only one bonnet, and we have no hesitation in saying, they were of the finest quality we have ever seen, and would do credit to any manufactory on earth. Some of the plat was also exhibited. We could not say too much in commendation of these latter articles, and we only wonder that such superior skill and industry would not be duly encouraged. These very creditable domestic manufactures are proper objects for the encouragement of Agricultural Societies, and for every society, and individual who would wish to see the country prosperous and happy. We would be much more disposed to give rewards for such proofs of domestic skill and industry, exercised by unpretending country families, than for the best animals that ever appeared at an Exhibition. The owners of such animals will be sure to obtain sufficient reward by

high prices, when they have good stock, but self acquired skill industriously exercised in country families, is worthy of all commendation. It may be replied to us, that the few articles exhibited at Quebec, are not entitled to so much praise; but we would observe that these fine articles are a proof what beneficial results might be expected, were this skill and disposition to industry by families residing in the country, to be encouraged and fostered. Were these articles not favourably noticed, the exhibitors might have returned to their homes discouraged, and use no further perseverance in their commendable industry; but now it will be otherwise with them, as their skill has been approved, and it will be sure to act as a stimulant to them and others to further exertions. When the judges had made all the awards in these classes, they separated into two or three parties, so as to be able to go through the business of the day. The neat cattle were assigned to David Christie, Esq., of Wentworth, Upper Canada, and to ourselves; and this gentleman being an excellent judge, there was not much difficulty in awarding the premiums. There was a few very fine animals, but with the exception of those exhibited by John Gilmour, Esq., of Quebec, of pure Ayrshire breed, we thought that the other stock were of mixed breed, in a greater or less degree. As to pedigrees of pure blood, there was none given, except by Mr. Gilmour. In Ayrshire cattle, however, it is easy to see when they are of pure breed, and a cross with the Durham is generally perceptible, particularly in the males. The show of neat cattle was not very numerous, and some were of very inferior quality. There was only two yoke of oxen, and there was two prizes. The show of Canadian cattle disappointed us, as we expected to see a large number of good animals of this breed, but there was only a few entries, and the stock were not superior. We regret exceedingly to see Canadian farmers holding back from these exhibitions, and some of the most skilful of them, and who

have the best stock of cattle. They should have confidence in themselves to be able to compete at any show, and if they feel any deficiency in stock or other produce they should use every exertion to overcome it. The work of Canadian farmers' families cannot be excelled by the families of old country farmers, and why should Canadian farmers not enter heartily into a laudable competition, and do all in their power to excel. In the present age, men are not contented to remain stationary, they must be moving, and at a rapid pace, and unless we join in the movement we shall be left far behind, and at great disadvantage. We do not advocate rasing in every foolish and absurd scheme that may be got up, but in the laudable rase of agricultural improvement we must move onward if we wish to gain the advantages that others enjoy before our eyes. We have the example of trade, manufactures, ship, and steamboat building, in what state would they be at present, if the improvements introduced by those who first discovered these improvements was not promptly adopted, by all others engaged in these various occupations. If any parties held back and did not adopt them, they would have to retire from business, as they could not compete with those who did. The same reasoning holds good in agriculture; those who reject useful improvements, will be at a great disadvantage in competition with those who adopt the most improved system of husbandry. To continue to cultivate defectively for crops, and keep on inferior stock of cattle, will have the same effect, as if manufacturers and others engaged in trade was to continue to use the machinery that was in use at the commencement of the present century, or to use now the same description of steamers that were in use on the St. Lawrence thirty or forty years ago. From all these considerations, therefore, we hope that Canadian farmers will use all diligence in their calling that they may be competitors at cattle shows, and for crops and farms in

numbers proportioned to their vast numerical majority in the country.

The show of roots was very creditable, and must have convinced gentlemen from Upper Canada that we can excell them in green crops, if not in cattle; and the fact that we can grow superior root crops, establishes another fact that we can also have a good stock of cattle if we desire to introduce them, and manage them properly. We were so occupied, that we had not an opportunity of seeing the horses or sheep. From whatever cause, we believe there were many good herds of cattle and sheep in the County of Quebec, no specimens of which were exhibited at the show.

We attended the Ploughing Match on Saturday, the 9th, but did not remain to see all the work finished. We seen sufficient, however, to convince us that they are not so particular as they should be to execute the work properly, some of the ridges were of unequal breadth, and this is a great defect, as it completely disfigures a field. We do not think that the land was originally laid down in this way, and therefore the ploughmen had no excuse for altering the size of the ridges. Some of the work was fairly executed, but none so carefully as would be desirable at a Ploughing Match. The finishing of some of the ridges was particularly defective, the two last furrow slices being too large. We did not observe much difference between the class for English and Canadian ploughmen in the execution of the work, but as we before observed, we did not wait to see all finish. We were surprised to see that very few persons attended the Ploughing Match, though very near the city. This circumstance is to be regretted. It acts as a stimulant to men competing at a ploughing match, to see a numerous assemblage interested in this most useful of all works upon the farm. Wm. Dunscomb, Esq., Treasurer, E. J. DeBlois, Esq., President, and — May, Esq., Vice-President, of the Society, Dr. Valois and Dr. Poulin, members of the Legislative Assem-

bly, were present to see the work. Ploughmen may very well suppose that their best exertions creates very little interest, when parties will not take the trouble of going to see them competing in this most necessary of all works, and indeed there cannot be a more interesting sight, than a number of ploughs working together in a field. Many enjoy the fruits of the labourers toil, but feel no interest in the manner in which this labour is executed, nor desire to encourage the labourer even by the sacrifice of an hour of our time. This is not the way to advance the improvement of Agriculture. We have been so confident as to imagine that we shall be allowed the privilege of writing freely upon those subjects, without giving any offence. Our only object in doing so is, to submit a correct report of what we see, suggest such improvements as we conceive might be expedient to introduce at these exhibitions, and offer such remarks as we think might be conducive to make them more useful.

The County of Montreal Agricultural Society Ploughing Match came off at St. Laurent, on the farm of Mrs. Lunn, on Wednesday, the 20th day of October last. The day was beautifully fine, and the soil was in good condition. Twenty-six ploughs started, 16 we were told, in the class for English ploughmen, 4 in the class for Canadian, and six in the class for young men under 18 years of age, either English or Canadian. The attendance to witness the Ploughing Match was very fair, and a great interest was manifest in all to see the progress and finish of the work. We have been present at many Ploughing Matches, and the last only confirms our opinion, that in the County of Montreal there are ploughmen that can compete successfully with any on this Continent. The work in general was exceedingly well executed, with one exception, that some of what are known as the prize ridges were rather narrower than some of the other ridges, and this is an inattention that should be remedied. It was most satisfactory to see such beautiful ploughing, every furrow as straight as it was possible for them to be. It is the opinion of many

that ordinary ploughing will answer as good a purpose as ploughing executed so very scientifically. We, however, maintain, that what is understood as a well ploughed ridge of grass land, is the best for every purpose that land can be applied to, if sown before it is again ploughed. A well ploughed ridge forms a better seed-bed; and the seed is better covered upon it than is possible on an ill-ploughed ridge. Parties of no great skill in ploughing, can understand this, when pointed out to them. We were rejoiced to see a Canadian, who ploughed with a plough he had obtained as a prize at a former Ploughing Match, make as good work as any in the field. Perhaps it might not bear so close an inspection as some other ridges, but for our part, we should as soon have this man's ploughing as any in the field. We were surprised to see a Canadian with one hand only, ploughing, very well indeed, and this man we conceive, was entitled to be rewarded for his industry and ingenuity in learning to plough. We copy the awards of prizes from the *Montreal Herald*.

#### *First Class.*

To the Ploughman who shall plough two ridges best in a given time—1st, James Drummond, \$8, and a new plough (Jeffery make), the gift of John Dodds, Esq., President of the Agricultural Society; 2nd, Thos. Hodgkiss, \$7; 3d, Matthew Hutchison, \$6; 4th, Mr. Munro, \$5.

#### *For Young Ploughmen.*

To the Best Ploughman under 20 years of age, who never before won a Prize at a Ploughing Match—1st, Wm. Muir, \$5; 2nd, Wm. Holsworth, \$4; 3rd, S. Cloutier, (a French Canadian), \$3.

The premiums to French Canadian ploughmen were well contested, and the work was excellently done, and reflected great credit on the competitors.

We have learned that the names of the Canadian competitors who were awarded prizes were:—

#### *French Canadian Class.*

1st Prize, Alexander Desmarchais. 2nd John Brookshaw.

The President of the Lower Canada Agricultural Society, P. E. Leclère, Esq., was on the ground until the business was completed.

We need not say that the President of the County of Montreal Agricultural Society, John Dodds, Esq., and several of the Directors and Members were present. We also noticed John McBean, Esq., of Berthier, who, we believe, farms a large quantity of land; and Joseph Lepout, Esq., of Longpoint, who we know to be a good Canadian Farmer. As we are delighted to see these Meetings well attended, we may give some of the names of gentlemen who were present, and omitted in other reports. The Rev. Mr. Villeneuve, Messrs. Greenshields, Bellanger, two McFarlanes, Thompson, Watson, Dease, &c. Exercise during the greater part of a day in a field where so many ploughs were at work, is sure to create a good appetite, and we were very glad to accompany the President of the Lower Canada Agricultural Society, P. E. Leclère, Esq., and several other gentlemen to the residence of Wm. Thompson, Esq., close by, who had kindly given an invitation to take refreshments at his house, and certainly that gentleman and his lady entertained the party with the greatest attention and hospitality. We were sorry that there was not much time to see Mr. Thompson's farm, but there was sufficient to show what great improvement he has effected within a very few years. He has underdrained several acres, and we seen the ties laid in rows in a field he proposes to drain this fall. We had an opportunity of knowing this farm before he purchased it, and therefore we can perceive now, how much it is improved. We were glad to see that several ploughs of the manufacture of Mr. Jeffery, Petite Côte, of the latest and most approved construction, were upon the ground, and we think they are fully equal to any imported ploughs of the same make—and they were ploughs of this make that gained the three principal prizes.

The Agricultural Exhibition for the Districts of St. Francis and Three Rivers, held at Melbourne, on Wednesday, the 13th day of October last.

We attended this Meeting, but did not find



so large a show of stock as we expected. There was a good arrangement made for keeping the stock upon the ground, and the several classes were kept separate, as they ought to be at all exhibitions. The horses and brood mares were not numerous or of superior quality, but perhaps we expected too much. There was a few yoke of very fine oxen, and some good steers. Some of the cows and heifers were good, but we confess, with the exception of two or three Durhams, not equal to what we expected to find in the Townships. We were told that a large number of stock were expected from Stanstead and Sherbrooke, but did not come in consequence of the conductors of the Railroad not making arrangements for carrying stock. From the District of Three Rivers, we believe, there was not one animal brought to the Show. There was some excellent sheep, and very fine lambs. The President of the County of Sherbrooke Agricultural Society, U. Aylmer, Esq., showed some fine Leicester sheep he imported this year. He was awarded the first prize for sheep in several classes. Some merinos were classed with short woolled sheep, which we conceive to be very objectionable. There should be a separate class for them, and for English short woolled breeds of sheep. There was some good South Down sheep at the Show, that would yield a good fleece of wool, and a valuable carcass of mutton; but the merinos that were there, might give a light fleece of fine wool, but they had scarcely any flesh on their bones. Though we awarded with the other gentlemen who acted with us as judges of sheep, two prizes to the merinos, as short woolled sheep, we had strong doubts that they were not the best or most profitable description of sheep for this country, however fine their wool. At all events, this breed of sheep should not be classed with any other in justice to the judges. A South Down sheep is an animal of quite different qualities from a merino, and they are not fit to be classed in competition with each other. Indeed it is an absurdity to class any distinct breed of animals in com-

petition with another distinct breed, as what would be a perfection in one breed, might be an imperfection in another, and one breed might be very suitable in one situation, while another breed would be most suitable for another situation. It is sufficient for judges to be called upon to decide which are the best animals of a distinct breed, competing with each other. For mixed breeds or crosses, there should be separate classes also, but it might be very advantageous at great exhibitions to have classes for sweepstakes, where some of all breeds would be allowed to compete together, and thus be able to determine which was the best breed or cross. We hope we may be pardoned for submitting these remarks. The show of swine was very limited, though there was a few good pigs, but except three or four, none of very superior merit. We were so much engaged, we had not an opportunity of seeing much of the exhibition, except the live stock, and it was the stock we were most interested in seeing, conceiving as we did, that they were of most consequence in Township farming.

There was an excellent dinner in the evening at half-past six, the President of the Society, U. Aylmer, Esq., presiding. We were invited with three other gentlemen from Montreal who acted as judges, A. Kempton, James Sommerville, and Hugh Brodie, Esquires. The dinner was excellent and most abundant, amply sufficient for three times the number who partook of it. The wines were also in abundance, and the usual toasts, and many healths were given and cheered with hearty good will. Mr. Aylmer and other gentlemen delivered appropriate addresses, and the evening passed off very pleasantly. Mr. Aylmer presided in the most gentlemanly manner, and was most attentive to the company. The health of the host Mr. Hardy was drunk, and he was returned thanks for the excellent dinner and wines he had provided. We did not stop for the Ploughing Match which took place on the 14th of October. We were told that only seven Ploughs were upon the ground for com-

petition. It is difficult to account for the number not being five times as great.

We should not omit returning thanks to — Webster, Esq., Secretary of the St. Lawrence and Atlantic Railroad, for having given us a free passage to Melbourne and back, and we believe he allowed the other Judges the same privilege.

Great efforts are being made in Britain to improve roots and grain by a choice of the best descriptions of seeds of every species. This is a matter of great importance in agriculture and very much neglected in Canada. Grain and other seeds are frequently mixed with seeds of weeds, and also different varieties of the same species are mixed. We have seen as much as five or six varieties of wheat growing mixed in the same field. It must deteriorate the sample, and lessen the value of the crop to the farmer to have it thus mixed. The "*Mark Lane Express*," has the following observations on the subject; they are very much to the purpose :

Numerous recorded experiments prove, not only that some particular kinds of crops, both grain and roots, are better adapted to one description of soil than another, but also that a very great difference exists in the prolific qualities of grain, and root seeds, in which there is not a sufficient distinction between others of the same kind as to warrant their being styled different varieties. In fact, if quality and quantity be considered, there will be found to be a vast difference between the produce of two different samples of seed or grain, in which there is no perceptible difference to the eye. This admitted, and it will not be denied by practical farmers, how vastly important, not only to the inexperienced, but to the experienced agriculturist, to be enabled to rely with confidence on the parties from whom he purchases his seeds. We believe there is no department connected with agriculture in which so much charlatanism is practised as in the puffing off and sale of every description; not even in horse-jockeying.

It is in vain to clear the land in preparing it for a crop, if we sow the seeds of weeds with the grain we wish to cultivate. There is nothing more unprofitable, and discreditable to Canadian agriculture, than the weeds that are allowed to prevail to so great an extent, in crops, in pastures, and in waste places. Weeds may, no doubt, be converted into manure, but so might other plants that would

grow instead of weeds. If what the earth produces was returned to it again, after it has served for food to man and other animals, the lands might be kept in a state of constant fertility. The Creator has so ordered things as to have it in the power of man to keep up the fertility of the land from its own productions, if judiciously managed. Land will not of course bear to be robbed of all its produce year after year, without making adequate returns to it in the shape of manure, summer fallow, or rest. The earth is bountiful of her gifts, but she cannot be always giving without receiving. We believe a farm under good management—a due proportion in tillage, meadow, pasture, and a proper rotation of crops established upon it, might be maintained in sufficient fertility and be constantly improving, provided a due portion of stock was kept upon it. A great help of manure may be obtained by forming compost heaps for top-dressing grain and meadows. Top-dressing grain, or harrowing in short manure with the seed, is a good plan, but it is not always possible to cart the manure upon soil at the particular time it is required in spring. We believe a load of short manure, or compost, will produce more good applied as top-dressing, to a young crop of grain, or meadow than it would in any other way. It is put near the roots of the plants, and is washed into the surface of the soil, where it appears it is most suitably placed to supply nutriment to the plants. It is by practical experience that we can ascertain the best mode of applying manure. For the permanent improvement of land it is best to plough in manure, but for a crop of grain and the succeeding crop of hay, top-dressing will produce the greatest amount of effect.

The Bill for establishing a bureau of agriculture, and to consolidate the laws relating to agriculture, has received a second reading in the Legislative Assembly, and there is scarcely any doubt of its passing the present Session of Parliament. We rejoice that there

is to be a new Agricultural Bill, as some changes were necessary, and it is very desirable that the Agricultural Acts for Upper and Lower Canada should be as nearly similar as would be consistent with the relative circumstances of both countries. We view this Bill as calculated to produce great benefit to agriculture, though some parties may think some of the details objectionable but these can be remedied hereafter. The establishment of a bureau and minister of agriculture alone is a great boon to agriculturists, for which they have a right to be thankful, however well entitled they may conceive themselves to be to this concession. They will in future be directly represented in the Government, where their wants and wishes will be sure to receive every consideration. This is an advantage which we have advocated for many years, and the Government and Legislature who have made the concession are entitled to the lasting gratitude of the agricultural classes in Canada. We have no patience with those who would undervalue the concession that has been made. Let agriculturists only improve the advantages of their present position, and they will stand as high, and exercise as much influence as any class in the community. The new agricultural Bill contains many excellent provisions, that if worked out properly and with sincere good will, cannot fail to be productive of much good, and encourage the progress of agricultural improvement. Statistical returns, and agricultural reports from all parts of the country will show the state and progress of agriculture, and this will be the most certain guide to the minister of agriculture is his department. It is impossible to know the best remedies to apply, and what changes it would be necessary and expedient to introduce, without a perfect acquaintance with the true state of agriculture throughout the country. It will not be for one section, or particular locality that the minister of agriculture will have to act, but for the whole country, and it will therefore be necessary

that he should be perfectly acquainted with the true state of agriculture throughout Canada. It is not from the most improved sections of the country that information will be most required, but rather from those localities that are most backward and defective in their system of agriculture. The care and attention of all those who feel any interest in the general improvement of agriculture, should be directed chiefly to where improvement is in reality most required. It is because the minister of agriculture will be equally interested for all, that makes the appointment of so much value to the country. We hope, therefore, that agriculturists generally will give their hearty support to an establishment that is well calculated to promote their interests and prosperity.

We extract from the "Troy Daily Whig" of the 14th October, that the public sale of George Vail's celebrated herd of short-horned Durham Cattle took place, near Troy, on the 13th instant, and was attended by some of the most noted breeders in the United States and Canada. Mr. Vail's stock of Durhams was considered the best on this continent. The competition was brisk and satisfactory on most of Mr. Vail's own breeding and importation, while some heads obtained from other American stocks, sold at comparatively low rates or were passed. The herd consisted of sixty-one in all, and realized 9735 dollars.

The principal attractions of the day was ten head (eight cows and heifers and two yearling bulls) of the Dutchess family, from the herd of the late Thomas Bates of Kirkleavington, near Yarm in Yorkshire, the most successful breeder of short horns in England, and we observe that one of them, Lady Barington the 7th, a heifer of great promise, (and in calf to Kirkleavington the 2nd, a Bates Bull, which realized at the sale 350 dollars,) was bought for Mr. Watts of Drummondville in the Eastern Townships for 240 dollars. This we are told makes the fifth short horn heifer besides two bulls imported by that gentleman within the last few years. And

we are authorised to state, for the information of farmers in Lower Canada wishing to improve their herd, that Mr. Watts has some animals of the most approved breed of short horns, known in England, which he has paid a high price for in order to have them of pure blood. We believe Mr. Watts to be an agriculturist of spirit and enterprize, and to have studied the true principles of breeding, though we never had the advantage of seeing his farm and establishment.

We beg to call attention to the description of the "Flax Breaking and Scutching Machine," (Donlan's Patent) imported by the Canada Land Company. We have copied this description from a pamphlet published by the Company, which we obtained at the Toronto Exhibition. The Canada Company deserves the thanks of Agriculturists for importing an implement that is so much wanted in the country. For years we have been endeavouring to persuade some parties to establish machinery for preparing Flax and Hemp for exportation, but up to this moment scarcely any action has been taken in the matter. Farmers have been blamed for not growing Flax and Hemp, and if they did do so, it would be a dead loss to them, except the seed, as they could not dispose of the fibre or straw. We know by experience, that these plants will grow in Canada, if properly cultivated, in as great perfection as, perhaps, in any part of the world. If Dutch or Russian seed is sown, Flax can be grown to the height of from 36 to 40 inches and Hemp to the height of from ten to twelve feet. American Flax seed will not produce Flax of more than 24 to 30 inches in length. We have no doubt but two ton of straw might be produced to the acre, and from 12 to 20 bushels of seed, or perhaps more. Of hemp we are not so sure of what the produce would be, but from the great length of the straw, suppose it must be very large. In England they expect to grow from four to six cwt. of fibre to the acre, and from ten to twelve bushels of seed, but here we believe the produce would

be much larger, if cultivated properly. Flax and Hemp, and the seed of both, might be very valuable articles both for home use and for exportation, if we had only machinery for preparing it, and parties ready to purchase the seed and straw from the farmers when produced, at a fair price.

We received the following letter from James Whitman, Esq., and submitted his "Circular" and papers which accompanied it, to the Meeting of Directors of the Lower Canada Agricultural Society, which took place on Tuesday, the 19th of October. We received instructions to reply to Mr. Whitman's letter, and acquaint him, that the Directors had resolved to communicate with the Minister of Agriculture on the subject, with a view of ascertaining the sense of the Government on the question. We publish the Circular No. 2, and a part of another, for the information of parties who may be disposed to send products to the New York Exhibition, and we wish it all possible success. Canada, we have no doubt, will be creditably represented there, as she was in the Great London Exhibition of 1851:—

DONEGANA'S HOTEL,  
Montreal, 5th October, 1852. }

Sir,—May I request your attention to the above Circular and beg that you will lay it before the Agricultural Association of Lower Canada, to take such steps in the matter as they may deem proper. The Agricultural Association of Upper Canada have put themselves in communication with the Ministers of Agriculture, as you may see by Mr. Buckland's letter to myself, published in the Toronto Daily Patriot of 27th Sept., and re-copied in the Montreal Herald last week.

I have the honor to be,  
Your obedient servant,  
JAMES WHITMAN.

WM. EVANS, Esq., Secretary }  
Agricultural Association of L. C. }

We beg to state that P. E. Leclere, Esq., has determined to set off for Europe on the 8th of November, and it would be very desirable that any Agricultural Societies, or other parties who would wish for new seed wheat from the Black Sea, should immedi-

ately give their order, addressed to Mr. Leclere or to us, as it would be necessary that gentleman should have some idea of the quantity required. We would observe that parties will not be bound to take the wheat unless the most satisfactory proof is given of its genuine quality, as three month wheat, of the same variety as was first imported into Canada about ten years ago, and cultivated for some time with so much success, and if it does not suit them in price and quality, and the price is not expected to exceed ten shillings the minote. So favorable an opportunity may not occur for years, and Mr. Leclere is determined to visit the country where the wheat is grown, and obtain all the information possible about it. We require new seed, and we know by experience a suitable article cannot be obtained unless by a competent party visiting the country where it grows. Mr. Leclere can there make arrangements for obtaining a regular future supply of seed wheat of the right description, so that it can be ordered whenever it may be required.

We beg to tender our thanks to B. P. Johnson, Esq., Secretary of the New York State Agricultural Society, for a copy of his excellent "Report on the Great Exhibition of the Industry of All Nations in London in 1851." Mr. Johnson was well qualified to make such a report, as Agent of the State of New York, appointed to attend the exhibition. The Report forms a neat volume of 193 pages, and contains a plan of the Crystal Palace, and several other illustrations. We have also to thank Mr. Johnson for sending us annually, the "Transactions" of the New York State Agricultural Society, which always contains a vast amount of useful and interesting information. We are sorry we cannot make a better return to Mr. Johnson, than a copy of the Agricultural Journal.

We beg to remind subscribers to the Agricultural Journal, that payment is now expected for the present year, together with any

arrears previously due to the Society. Subscriptions to be paid to the Secretary and Treasurer of the Society, Wm. Evans, Esq., at the Rooms of the Society, No. 25 Notre Dame Street, Montreal, or to be sent through the Post Office, Montreal.

We have received a letter from George Buckland, Esq., Secretary of the Upper Canada Agricultural Association, stating, that at the Annual Meeting of that Association, on Friday, the 24th of September last, it was resolved unanimously—"That the thanks of the Association be communicated to the Delegates of the Lower Canada Agricultural Society, for their attendance on the present occasion," referring to the Toronto Exhibition which took place last September.

The Chemico Agricultural Society of Ireland, at one of their late meetings adopted the following resolutions, and as they are as applicable to Canada as to Ireland, we copy them:

2. "Believing the publication of the reports of the society, and the various communications read at the monthly meetings, calculated to diffuse much useful information and to promote the improvement of the country, the meeting calls upon the proprietors and farmers of the province to sustain the council in this department of their operations for the ensuing year."

3. "Fully recognising the advantages to be derived from the application of science to the business of the farmer, and believing that, as in all other professions, it is requisite for those who desire to maintain their position to avail themselves of every improvement which is calculated to introduce economy or greater certainty into their operations, the meeting regard the opportunities which the lectures and various meetings in connexion with this society affords to the farmer of Ulster of acquiring professional information, as of great importance to the cause of agricultural improvement in this country."

#### AGRICULTURAL REPORT FOR OCTOBER.

The month of October was as favorable for agricultural purposes as could be expected. The land was generally in good order for ploughing, and the weather was sufficiently dry for taking up the root crops, and storing them in good condition, and this is a matter of importance to those who grow

them. There is no doubt that turnips, mangold-wurtzel, carrots and parsnips, would grow and increase considerably in size in such open weather as we have now, but there is a risk in leaving them out after the last of October, that, perhaps, it would not be prudent to incur. Those who have cultivated root crops this year, will find the benefit of them for feeding stock, and saving the consumption of hay, that is likely to be very high in price. It is not only in Canada, but in the United States, that hay is scarce and dear, and must continue so until we have the new crop. It is very probable that the high price of hay this year, succeeding a year that the price was so low, as scarcely to pay for taking to market, will prevent hay from being sold at such a low price for some time. Well saved hay, stored in barns, or stacked and thatched in a proper manner, will keep good for three or four years, and will generally pay a high interest for capital invested in hay. Storing hay is one of the safest speculations a farmer can make when it is at a low price, provided always, that it is so stored as to be safe from injury by the weather. Vermin will not injure hay as they would grain or other produce. Hay has been frequently sold in Montreal at ruinously low prices—indeed, at such low prices, as not to give the farmer one shilling an acre for his land which produced it. It is not advantageous to either buyer or seller to have the price of the farmer's produce too low. It only encourages waste of produce that might be much wanted at another time. This year, upon the whole, has been a favorable one for farmers. Though wheat has suffered some from the fly, we believe, notwithstanding, that the average produce will be larger than last year; and as to barley, oats and peas, the crop is decidedly larger than last year. Potatoes has not been so good and safe a crop for several years past, and there is not up to this time, many complaints of rot. There is no doubt that some varieties of potatoes are less liable to rot than others, and that the

quality of the soil, as well as the manure, has a great influence. Dry and light soil will be more likely to produce a sound crop, than heavy clays or damp soils; and we are certain that manuring heavily with recent manure has a bad effect, and produces a tendency to rot. Dry weather at this time is also very favorable for preventing the rot. In storing potatoes, great caution should be observed not to have them in too large quantities, particularly if the temperature is much over 32 degrees. It induces rot, and it causes them to sprout and become injured, for either table use or for planting. Other roots, such as mangold-wurtzel, turnips, or carrots, should be stored in separate piles in root-houses, where the temperature should be little above freezing if possible. By piling roots with alleys between the piles, they will keep well throughout the winter if put up dry. Ploughing should by all means be executed in the fall, where there is so much to be done in the spring; and if the farmer has manure, it would be a good plan to plough it in where it is necessary. For root crops such as Mangold-wurtzel, carrots, parsnips and potatoes, in particular, it is the best time. It is a great advantage in preparing soil for deep rooted crops, to subsoil the land. The plants will grow on land so prepared, much larger and finer, provided it is previously well drained. Open drains should be carefully cleaned out at this season of the year, and the earth taken out, carted away to the compost heap. In all open draining, it is a great and useful improvement to cart away the banks and not allow the earth to accumulate on the edge of the drains where the land ought to be lowest. Sufficient draining is indispensable in all good systems of husbandry, and next in importance is good ploughing and sufficient manuring. It is also of importance to have good meadows and pastures for keeping a due proportion of live stock, which are as necessary and profitable as tillage. Old pastures, if the quality of the soil is suitable,

soon become equal to pastures in the British Isles. We have a field ten years in pasture, that is equal to any pasture of the same age that we have seen in the Old Country. As a sure indication of richness, it produces mushrooms in the proper season, and this we only seen on old sheep pastures at home. There is at the present moment, encouragement to cultivate horses, neat cattle and sheep, with a prospect of fair profit, and we have very little doubt that this encouraging prospect will continue. Farmers had not, during our residence in the country, more favorable prospects before them than at present, if they improve them. Prices of every kind of produce are remunerating, and in all probability will continue so until the next year's crop. In our last number, we stated the necessity of having our cattle houses so constructed as to prevent our animals from suffering by the severity of our winters. By doing this, we shall not feel any disadvantage by our position in regard to climate. There is no part of North America where people may pass the winter more comfortably than in Lower Canada, because they have their houses and clothing suitable for resisting the most severe cold. We must only endeavour to provide comfortable lodging for our domestic animals also, and the additional expense of doing so, is not so great as one would imagine. An acre of our land if properly managed, will produce as much and we think, more, cattle provender, than an acre of land in any part of North America that we have seen. Let us therefore only provide shelter for our stock that will allow them to make use of this provender in comfort, and we shall not have any cause to think that our climate is unfavorable for keeping live stock. It will be a great benefit to farmers if the weather should continue open for the present month to enable them to finish ploughing and draining. We have seldom seen less water in the drains at this time of the year, than at present. We have had considerable rain lately, but the soil was

so excessively dry previously, that it soaked up all the moisture at once. It is very satisfactory, and cause for humble gratitude to the Giver of all good things, that the year has turned out so favorably for us, and that our country has not been visited by plague or pestilence. Every country has advantages and disadvantages peculiar to itself, but we are convinced that Lower Canada possesses her full share of advantages—and frost and snow in winter are some of them, and though a dry season this year has lessened the quantity of hay, it has been beneficial to the country in other respects. We have always seen that a dry season turns out more profitably for the farmer than a wet one or even an ordinary season.

Montreal, October 25th, 1852.

METEOROLOGICAL RESULTS TAKEN AT

ST. MARTIN, ISLE JESUS, C. E.

BY CHARLES SMALWOOD, M. D.

For July, 1852.

BAROMETER.

	<i>Inches.</i>
Mean Height of the Barometer, corrected and reduced to 32 F. . . . .	29.555
Highest, the 19th day . . . . .	29.914
Lowest, the 30th day, . . . . .	29.002
Monthly Range, . . . . .	0.912

THERMOMETER.

Mean Height of the Standard Thermometer,	72°33
Highest of the Maximum, do. the 8th day,	100°5
Lowest do. Minimum do. the 19th do.	43°0
Monthly Range, . . . . .	57°5
Mean of Humidity, . . . . .	.845
Greatest Intensity of the Suns Rays,	122°5
Amount of Evaporation in inches, . . . . .	4.15
Rain fell on 11 days, amounting to 8.596 inches, and was accompanied by Thunder and Lightning in 7 days.	
Most prevalent Wind, . . . . .	W.
Least do., . . . . .	N.E.
Most Windy day the 3rd day, Mean Miles per hour, . . . . .	13.24
Least do. do., 5th day, do. do. . . . .	0.973
Aurora Borealis visible in 5 nights, at 10 p. m.	

For August, 1852.

BAROMETER.

Mean height of the Barometer, corrected and reduced to 32 F. . . . .	29.668
Highest, the 17th day, . . . . .	29.980
Lowest, the 27th day, . . . . .	29.462
Monthly Range, . . . . .	0.488

THERMOMETER.

Mean height of the Standard Thermometer,	68.02
Highest of the Maximum do. the 4th day,	91.00
Lowest of the Minimum do. the 17th do.,	41.00
Monthly Range,	50.00
Mean of Humidity,	.867
Greatest Intensity of the Sun's Rays,	112.0
Amount of Evaporation in inches,	2.62
Rain fell on 9 days, amounting to 4.127 inches, and unaccompanied by Thunder and Lightning on 2 days.	
Most prevalent Wind,	E.N.E.
Least do. do.,	N. by E.
Most Windy day the 19th day, Mean miles per hour,	14.75
Least Windy day the 27th day, Mean Miles per hour. Inappreciable.	
Aurora Borealis visible on 4 nights, at 10 p. m.	

For September, 1852.

BAROMETER.

(Corrected and reduced to 32° F.)

Highest Reading, the 17th day,	30.042
Lowest do. 12th day,	28.832
Monthly Mean,	29.645
Monthly Range,	1.208

THERMOMETER.

Mean Reading of the Standard Thermometer,	59° 15
Highest Reading of Maximum Thermometer, the 8th day,	96° 0
Lowest Reading of Minimum Thermometer, the 26th day,	25° 0
Monthly Range,	71° 0
Rain fell on 10 days, amounting to in inch.	6.252
Amount of Evaporation, do.	2.020
Mean Humidity,	.920
Most prevalent Wind,	W.
Least do. do.	E.S.E.
Most Windy day the 26th day, Mean Miles per hour,	12.83
Least Windy day, 11th day, Mean Miles per hour,	0.153
Aurora Borealis visible on 6 nights.	
Lunar Halo on 1 night.	

IF I WERE A VOICE.

BY CHARLES MACKAY.

If I were a voice, a persuasive voice,  
That could travel the wide world through,  
I would fly on the beams of the morning light,  
And speak to men with a gentle might,  
And tell them to be true.  
I'd fly, I'd fly, o'er land or sea,  
Wherever a human heart might be,  
Telling a tale, or singing a song,  
In praise of the right—in blame of the wrong.

If I were a voice, a consoling voice,  
I'd fly on the wings of air;  
The homes of sorrow and guilt I'd seek,  
And calm and truthful words I'd speak,  
And save them from despair.  
I'd fly, I'd fly, o'er the crowded town,  
And drop, like the happy sunlight, down  
Into the hearts of suffering men,  
And teach them to rejoice again.

If I were a voice, a convincing voice,  
I'd travel with the wind,  
And whenever I saw the nations torn  
By warfare, jealousy, or scorn,  
Or hatred of their kind,  
I'd fly, I'd fly, on the thunder-crash,  
And into their blinded bosoms flash;  
And, all their evil thoughts subdued,  
I'd teach them Christian brotherhood.

If I were a voice, a pervading voice,  
I'd seek the kings of earth;  
I'd find them alone on their beds at night,  
And whisper words that should guide them right—  
Lessons of priceless worth;  
I'd fly more swift than the swiftest bird,  
And tell them things they never heard—  
Truths which the ages for aye repeat—  
Unknown to the statesman at their feet,

If I were a voice, an immortal voice,  
I'd speak in the people's ear;  
And whenever they shouted "Liberty,"  
Without deserving to be free,  
I'd make their error clear.  
I'd fly, I'd fly, on the wings of day,  
Rebuking wrong on my world-wide way,  
And making all the earth rejoice—  
If I were a voice—an immortal voice.

THE BRANCH OF WILD HOPS THAT GREW OVER THE STREAM.

I love the bright tints of the rich summer rose  
As its petals unfold to the sun.  
What floweret a fragrance so sweet can disclose,  
As that of this loveliest one!  
The lily and cowslip were friends of my youth,  
And daisies—a glittering store—  
They taught lessons of purity, sweetness, and truth,  
And I feel that I love them the more;  
But the fairest of all in my memory's dream,  
Is the branch of wild hops that grew over the stream

I remember the time, it is long since gone by,  
When I sought out the shadiest spot.  
The beauties of summer were faded, and I  
Was sad—for the blue-bells were not;  
And I longed for a wreath to entwine in my hair.  
But no favourite bud could I see,  
Till my eye caught a branch that was streaming in air  
From the stem of the sycamore tree.  
And my garland was formed of its pale yellow beam—  
Twas the branch of wild hops that grew over the stream.

Since then, I have wandered by streamlet and fell,  
'Mid scenes that were lovely and new,  
With friends that I love and who love me as well;  
But they are not so dear to my view  
As my own native Kent with its turf growing wild,  
The home and the blue-fly and bee,  
Were gaily I frolicked, a mirth-loving child,  
In the shade of my favourite tree;  
And I long to be twining its beautiful frame  
With the branch of wild hops that grows over the stream.

A VOICE FROM HAMPSHIRE.



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Montreal, 1st April, 1851.

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- 7,000 lbs. Dutch Red Clover,
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- 500 do. East Lothian " " "
- 200 do. Laing's Improved " " "

The above varieties of Turnips warranted from Rape

- 400 lbs. Mangle Wurzel,
- 100 do. French Sugar Beet,
- 200 do. Aberdeen Yellow Turnip,
- 200 do. White Globe Turnip,
- 200 do. Belgim White Field Carrot,
- 200 do. Attringhasor " "
- 200 do. Long Orange " "
- 100 do. " Surray " "

The Carrot Seed are the growth of Canada, from the Subscriber's Nursery Ground.

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**GEORGE SHEPHERD.**

Nursery and Seedsman to the Agricultural Society for Lower Canada.

1st Mach, 1852.

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**T**HE Secretary and Treasurer of the Society is in attendance daily, from ten to one o'clock.

The Library has already some of the best works on Agriculture. Also, the Transactions of the Highland and Royal Irish Agricultural Societies, the London Farmer's Magazine, the Transactions of the New York State Agricultural Society, and many other British and American Agricultural Periodicals which are regularly received. The Agricultural Journal and Transactions of the Lower Canada Agricultural Society, both in English and French are to be had at the office from the commencement in 1843, up to the present.

All communications in reference to the Agricultural Journals from the first of January, instant, to be addressed post-paid to Wm. Evans, Esq., Secretary of the L. C. A. S. and Editor of the Agricultural Journals.

Members of the Lower Canada Agricultural Society are respectfully requested to pay up their annual subscriptions immediately.

**WM. EVANS,**

Secretary and Treasurer, L. C. A. S.

1st January, 1852.

Copies of Evans' Treatise on Agriculture, and the supplementary volumes both in English and French to be had at the office of the Society with complete files of the Lower Canada Agricultural Journal for the years 1844, 1845 and 1846.

## MATTHEW MOODY,

MANUFACTURER OF

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