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AGRICULTURAL  
JOURNAL  
AND  
TRANSACTIONS  
OF THE  
L. JEWELSON  
LOWER CANADA  
Agricultural Society.

VOL. 4.

MONTREAL, JANUARY, 1851.

No. 1.

THE NEW-YEAR.

We beg to offer our most sincere congratulations to the subscribers to this Journal on the commencement of the New-Year, and wish them all possible health, happiness, and prosperity for this year, and many happy returning New-years. Although our lands may now be covered with snow, our waters covered with ice, and our trees stripped of all their leaves, blossoms and beauty; from past experience of the bounty and goodness of our Creator we should be thankful, and rest perfectly satisfied in the hope, that Spring, Summer, and Harvest will again return and cover our fields with verdure, our trees with leaves, blossoms and fruits, our plants with flowers, that all around us shall be as beautiful as it ever was before, and that the harvest shall again come and fill our barns and store-houses with abundance for man, and for the domestic animals that are under his care. Doubtless, there are few residents

in the country, who can be so insensible as not to feel joy and gratitude in the Spring, and Summer, and Autumn, when nature displays to them the beauties, and rich bounties of their Creator, but in Winter they may forget these blessings, when the fields and the country are despoiled of their charms and their fruits; when the cold wind whistles about their houses, and the snow and the ice covers the land and the waters. But on due consideration, this cold stormy season, is not without its beneficial influences, and usefulness, particularly in Canada, where without snow on our lands and ice on our waters in Winter, we should be very badly off indeed. Had we rain and moisture now instead of snow and ice, the distant parts of the country would be cut off from all communication, or nearly so, with the cities and towns, and there would be an end to our lumber trade. The earth, and every plant that grows upon it, where our lot has been cast, requires

repose in Winter, that it may produce vigorously in the next Spring and Summer. Our climate is the most suitable possible to our country and circumstances, and if it was other than it is, it would be much against our interests. We have, therefore, every reason to be satisfied with, and thankful for our lot, and not less in Winter, than in the finest time of Summer. We most sincerely wish the farmers who drain, plough, manure, and cultivate their land carefully, and manage their business judiciously, every possible success this year, and we wish the farmers who do not act in this manner, that they may be induced from precept, and example, to adopt a better system of husbandry, that they may also have reason to rejoice for good crops, and an abundant harvest.

#### AGRICULTURE IN FRANCE AND THE UNITED STATES.

The President of the French Nation, as well as the President of the United States, appears to be much interested in the progress of Agricultural Improvement. He says, in his message to his Parliament:—“The progress of agricultural science has made such advances as by its importance to rise to the height of a real revolution in politic-economical matters. In the course of the present Session the Government will bring before the Assembly, measures tending to give development to the practice of irrigation. It will call your attention to the modes of drainage, which are in England the object of such extensive encouragement. A Bill will be submitted to you relative to the use of artificial manures. The remarkable methods for cultivating, cleaning, and preparing flax, which have just been introduced into England, Ireland, and Belgium, could not but attract the attention of the Government. It has had the subject thoroughly inquired into, and the result of its examination will be submitted to you in a Bill which will be laid before you. . . . .”

Again:—The positive information required in agricultural matters is disseminated amongst the younger classes of the population by means of Local Schools and Model Farms; and amongst agriculturists themselves, by the publication of reports emanating from men best capable of giving them.” The above is only an extract from what the President of a great Nation, has thought it his duty to say to his Parliament on the subject of agriculture, a subject that would not be thought worthy of notice in other countries, on such an occasion. The following extract we give from the message of the President of the United States. Agriculture is not of less importance to the people of Canada than it is to the people of France and the United States. Other classes, and other interests in Canada, may fancy the business that they are engaged in of more importance than agriculture, but we take leave to assure them, if they imagine this, they are laboring under a very great mistake, and the sooner this delusion is dispelled, the better it will be for the general welfare of their country. The claims of agriculture upon the Government and Legislature, for all the attention and encouragement that are necessary for it, are paramount over all other claims from whatever quarter. This is the extract from the message which we referred to above:—

In surveying the various interests of the country, no one can fail to observe how little has been done by Government to promote the causes of agriculture. It is true, the cultivator of the soil, in common with all other classes of society, enjoys the protection of the laws, and the blessings incident to good Government. But something more seems to be due to a branch of industry which employs more than half our population, and, to a great extent, sustains the other.

The power of the general government over this subject is limited, but this furnishes no good reason why it should not be exercised so far as it does legitimately extend.

But still much may be done by Government, at a small cost, to promote the interests of agriculture. The science is yet in its infancy, and great minds are now

directed to the study and development of its true principles. Experiments are in progress to ascertain the qualities of different soils; the comparative nutritive properties of different animal and vegetable productions; and the utility and efficiency of various manures in fertilizing and renovating the exhausted lands of the old States.

Encouragement may be afforded to enterprises like these, and facilities furnished for the collection of seeds, plants, and vegetables from all parts of the earth, and their distribution throughout the country.

Premiums may be offered for the best practical treatises on the different branches of husbandry, which can be published and sent abroad among the people. By means like these, a spirit of philosophic inquiry may be stimulated, and a great impulse given to the interests of agriculture. Much has already been done in this respect, through the agency of the Patent Office; but the subject is too important to be left in this dependant condition. The last annual report from the department, recommended the establishment of an Agricultural Bureau, to afford to this great branch of American industry the encouragement which it so well deserves. This is no novel suggestion. It had the sanction of Washington, who, in his last annual message, referring to the propriety of creating an Agricultural board, said: "This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common centre the results, every where, of individual skill and observation, and spreading them thence over the whole nation. Experience accordingly has shown that they are very cheap instruments of immense national benefit."

I therefore renew the recommendation of my predecessor for the establishment of a separate bureau, to be entrusted with the duty of promoting the Agricultural interests of the country. The vast extent and rapid development of the mineral resources of the country seem to require that adequate provision should also be made by law for the collection and analysis of the various mineral substances which have been, or may be discovered, so that their properties may be understood, and their value correctly appreciated.

The purchase of a farm in the vicinity of the national metropolis, to be tilled and managed under the direction of the bureau, has been suggested as an important auxiliary in illustrating the best modes of culture. If this idea should be favorably received, I would respectfully add that Mount Vernon, whose soil was once tilled by the hands, and is now consecrated by the dust of the Father of his Country, should properly belong to the nation, and might, with great propriety, become, under its auspices, a

model farm to illustrate the progress of that pursuit to which he was so much devoted.

#### RURAL LIFE IN GERMANY.

We copy the following extract from "A Sketch of German Life," by William Howitt. This sketch of German Life is both interesting and instructive—and we should be glad to see the example given in this sketch, followed in Canada as closely as circumstances would admit. Mr. Howitt in describing a country school says:

"We saw several children sitting on a bench, in the open air, near a school-house, learning their lessons, and writing on the slates; and we went into the school. The school-master was a man befitting the place, simple, rustic, and devout. He told us that the boys and girls, of which the school was full, came, some of them from a considerable distance. They came in at six o'clock in the morning, and staid until eight, had an hour's rest, and then came in till eleven, and then went home, and did not return again until the next morning, being employed the rest of the day in helping their parents; in going into the woods for fuel; into the fields to weed, cut grass, or do what was wanted. All the children of every village, however remote, thus acquire a tolerable education; learning singing is a regular part of it. They have what they call their singing lesson every day. On a black board the song or hymn for the day was written in German character in chalk; and the master, naturally anxious to exhibit the proficiency of his scholars, gave them their singing lesson while we were there. The scene was very interesting, in a wild and obscure region, to see every child of every hamlet and cottage, however secluded, provided with suitable instruction. We took leave of the school-master, his scholars, and his bees, with whose hives nearly all his house-side was covered.

Each German has his house, his orchard his road-side trees, so laden with fruit, that if he did not carefully prop up and tie together, and in many places hold the boughs together with wooden clamps, they would be torn asunder by their own weight. He has his corn plot, his plot for mangel-wurzel or hay, for potatoes, for hemp, &c. He is his own master, and he, therefore, and every branch of his family, have the strongest motive for constant exertion. You see the effect of this in his industry and his economy.

In Germany nothing is lost. The produce of the trees and the cows is carried to market, much fruit is dried for winter use. You see

lying in the sun to dry. You see strings of them hanging from their chamber windows in the sun. The cows are kept up for the greater part of the year, and every green thing is collected for them. Every little nook where the grass grows by roadside, and river, and brook, is carefully cut with the sickle, and carried home on the heads of the women and children in baskets, or tied in large cloths. Nothing of any kind that can possibly be made of any use is lost, weeds, nettles, nay, the very goose-grass which covers waste places, is cut up and taken for the cows. You see the little children standing in the streets of the villages, in the streams which generally run down them, busy washing these weeds before they are given to the cattle. They carefully collect the leaves of the marsh-grass, carefully cut their potato tops for them, and even, if other things fail, gather green leaves from the woodlands. One cannot help thinking continually of the enormous waste of such things in England—of the vast quantities of grass on banks, by roadsides, in the openings of plantations, in lanes, in church-yards, where grass from year to year springs and dies, but which if carefully cut, would maintain many thousand cows for the poor.

To pursue still further this subject of German economy. The very cuttings of the vines are dried and preserved for winter fodder. The tops and refuse of hemp serve as bedding for the cows, nay, even the rough stalks of the poppies, after the heads have been gathered for oil, are saved, and all these are converted into manure for the land. When these are not sufficient, the children are sent into the woods to gather moss, and all our readers familiar with Germany will remember to have seen them coming homeward with large bundles of this on their heads. In autumn, the falling leaves are gathered and stockod for the same purpose. The fir-cones, which with us lie and rot in the woods, are carefully collected and sold for lighting fires.

In short the economy and care of the German peasant are an example to all Europe. He has for years—nay ages—been doing that, as it regards agricultural management, to which the British public is but just now beginning to open its eyes. Time also is as carefully economized as every thing else. They are early risers, as may well be conceived, when the children, many of whom come from a considerable distance, are in school at six in the morning. As they tend their cattle, or their swine, the knitting never ceases, and hence the quantities of stockings and other household things, which they accumulate are astonishing."

There are many things worthy of notice in the above extract. All may not be applicable to Canada, but a useful lesson may be learned from our German friends.

*To the Editor of the Agricultural Journal.*

SIR,—I do not know which to admire most your persevering exertions to promote the interests and improvement of Agriculture, or your efforts to raise the character of Lower Canada as a country, in public estimation. I believe few give you credit for the extent of good your labours have produced in advancing the improvement of Agriculture. I can with justice assure the readers of this Journal that no individual in private life has ever done so much good for Canadian Agriculturists, or for the country of his adoption as you have done, whatever may be your ultimate reward. And as to your defence of the character of Lower Canada, its inhabitants cannot be sufficiently grateful to you for convincing them that they are in possession of a country that is equal, if not superior to any in North America. I as one of them was always disposed to believe that it was much inferior in many respects to Upper Canada and the United States, since I have perused your many articles on the subject I have become quite satisfied with Eastern Canada, and can see many advantages in it that I never happened to perceive before. I wish that your character of the country might be made known in the British Isles. It would bring immigration and capital to us which are the only requisites to the prosperity of Canada.

No man has come forward as you have done to defend the capabilities of the country and clearly demonstrate that they are not inferior to those of the countries which bound us south and west, but on the contrary. I wish you life and health long to continue your valuable labours for the good of your country. What you have done lately in defence of Lower Canada against the absurd pretence of its ruin and decay and its unfitness and inferiority as an Agricultural Country is one of the most valuable benefits of the many you have conferred on your country. I have not been an unobserving spectator of your praiseworthy exertions for many years past, and I regret I have it not in my power to show you a more substantial proof.

A CONSTANT READER.

Montreal, Dec. 17th, 1850.

We give insertion to the communication of "A Constant Reader," and we

feel much gratified that our humble efforts as editor of this journal is approved of by a party who appears to know how to express his approbation. Lower Canada has not been appreciated according to its merits as an agricultural country, and this circumstance has checked its progress and prosperity. Even inhabitants born in the country have not thought favourably of it. This may be an excuse for those who have thought so, not to adopt the improvements required in the country, but we will not admit that there was any grounds for such an excuse. Except in the Garden of Eden, in the time of innocence of our first parents, there is no portion of this earth that would produce the necessaries and conveniences of existence without the careful cultivation and attention of man. It is a very great blessing from our Creator, when we are in a country that will yield a rich variety of products for our use, in proportion to the skill and industry we bestow upon the soil, and we certainly have this advantage in Lower Canada. It is a great absurdity to find fault with the country, instead of adopting measures for improving what is faulty. It is also a great absurdity to expect to improve our condition, except by the means we possess within ourselves. Canada is naturally too fine a country to require bolstering up from any other to make her prosperous and wealthy. It is from her own resources that any prosperity and wealth she ever will possess must come. It may be necessary that, in her present circumstances, she should have assistance of capital to develop her vast resources; but whatever capital she may require or obtain, to work her resources to advantage, there is no country on earth to which capital may be loaned more safely, and which will more certainly be in a position to refund what she borrows. Parties may be in error, and neglect to adopt measures that may be necessary to secure the prosperity of the country, but

whatever may be the errors and neglect, sooner or later Canada must be a great country, and our want of united action, in the right way, may delay the period of its greatness, but cannot prevent it ultimately.

#### IMPORTANT TO FARMERS.

We copy the following article from the "Irish Farmers' Gazette." It contains very useful suggestions for the Canadian farmer as well as the Irish farmer, and we recommend it to the attention of Agriculturists. Every farmer who reads it, will understand where the practice in Canada should vary from that of Ireland, but there cannot be any better modes of cultivating for the several crops treated of than those suggested in this article.

This being the first exhibition of the Athy Agricultural Society, I am sure that the committee, subscribers, and the public, who have visited the show to-day, must be highly pleased with the fine specimens of green crops brought forward; the samples of grains were not so numerous as might have been expected from this grain-growing district; however, from the many expressions which I heard at the show, I think it is not likely to be so another year; and at present it would not be out of place to make a few practical remarks on the cultivation of the different sorts of roots shown. The turnips formed the most prominent part of the exhibition, as might have been expected; green cropping may be considered the foundation of all good farming. But the cultivation of green crops is but very imperfectly understood; for at this present date I see some fields of turnips, which have neither been singled out nor hoed. Such slovenly farming only leads to failure and disappointment, and brings turnip culture into disrepute; for to cultivate them successfully, they not only require to be thinned in proper time, but must be kept thoroughly clean from weeds by frequent hoeings, both with the hand-hoe, the scuffle, and rod; the small, fibrous roots of the turnip are fond of the deep, loose, well-tilled soil to run in, in search of food; therefore, subsoiling from 14 to 18 inches deep, must be beneficial, especially in a dry Summer, as it retains the moisture longer than a hard, compact soil; and on the other hand, in a wet season the land will be considerably drier, and can be worked sooner after rain, as the porosity of the soil allows the water to percolate through it, more readily than in hard, unbroken ground; and the first crop of turnips will do

more than pay the expense of subsoiling, which is not very great. The Autumn is the best time for subsoiling, when preparing for the following year's green crops, as the Winter frost pulverizes any subsoil that may have been brought to the top, and the whole soil, by lying in a rough state exposed to the weather during the Winter, will be much easier to a fine tilth, before laying down the crops in the Spring. There is much diversity of opinion about the proper time to commence sowing Swedish turnips. I generally begin, if the ground be in a fit condition, from the 5th to the 10th of May, while many good turnip growers will not sow a turnip of any kind before the 15th or 20th of May. With respect to the best time, there are several things to be taken into consideration, such as on high and exposed situations, where the tops are generally smaller, in proportion to the size of the bulb, than in low and sheltered situations, and of course grow slower, and require longer time to come to maturity, and may be sown a week or so earlier than in warm situation, where, if sown too early, they often start to seed. I always begin with Laing's Fettercairn, and the old purple-top Swedes, and Skirving's Swede a fortnight later, in drills 28 inches wide, which will answer most sort of turnips, while 26 inches between the drills are sufficient for Laing's and Fettercairn Swedes, and singled out to from 10 to 14 inches in the lines, according to the sort. I invariably find that the mixed manures give a heavier crop than when only one kind of manure is applied; I therefore, as far as the farm-yard dung will reach, give 30 tons of it, and when spread in the drills, apply 2 cwt. of the best Peruvian guano, sown broadcast over it, to the Irish acre; the guano gives an early start to the young plants, while the dung keeps them growing late in the season. In applying guano and bone-dust, I give 3 cwt. of the former, and 15 bushels of the latter per acre, sown broadcast over the drills, after they have got a single stroke of the harrows along them, then drill up. I consider this to be the best way of applying hand manures, as the partly harrowing down the drills forms a nice loose bed for the roots to go down in; but sometimes in applying this manure I sow it on the flat, and give a turn of the harrows before drilling up.

Superphosphate of lime is a new manure only just coming into use, and is considered to be an excellent manure for turnips. Last year I used some of it, which I made at home, by dissolving a quantity of bone-dust in one-third its own weight of sulphuric acid; I also applied some raw bone-dust along with it. The early growth of the young turnips was very rapid from the effects of the superphosphate, and the crop turned out to be good, although the ground, previous to laying down the crop, was in the most wretched state. The same ground produced

an excellent crop of oats this season, which shows that the fertilizing matter was not all taken up by the turnip crop. This is an excellent manure to raise a crop of turnips, to be eaten off by sheep, as it is, perhaps, the cheapest manure that can be had; 4 cwt. is considered sufficient to grow a good crop, and can be purchased for 8s. per cwt. In using guano alone I have found it to answer well to keep back part of it when laying down the crop—say, 1½ cwt. per acre, and to apply it broadcast when the tops of the young turnips were nearly met between the drills, and to give a turn of the scuffle to harrow it in, and any that remained on the leaves was washed down by the first shower of rain. This gives a fresh start, just when they are beginning to bulb.

The mangel-wurzel were very fine, and this may be considered one of the most valuable crops that can be raised; even raw it is an excellent food for cattle or pigs, being rich in saccharine matter; and when boiled or steamed, it will fatten pigs, rapidly. It is of easy culture, and not liable to be attacked by any sort of insect, and will grow well on any land that may be considered a turnip soil; indeed, it will thrive in heavy clay soils, when dry and deeply worked, as the roots penetrate deep into the soil; when subsoil at least 18 inches deep, and some well-rotted dung worked into it, a little guano near the surface, when the crop is laid down, will much assist the early growth. The seed should be soaked, for a few days previous to sowing, in a little manured water, which will insure a regular braird, even if the weather should become very dry after sowing. About the middle of April is the best season for sowing them, or, perhaps, the last week of that month, as they are apt to start if sown too soon. I sow in drills 26 inches wide; after they get a turn of a wooden roller, the seeds are dibbled in, about 15 inches apart in the drills, when they get another turn of the roller, which covers in the seeds, and finishes the operation of sowing. Of course the young plants are singled out to one in each hole. I sometimes sow them only eight inches apart in the drills, and draw out every other plant during the Summer and Autumn for pigs and cattle; this leaves the plants that are left to come to maturity at 16 inches apart in the lines.

Carrots deserve to be cultivated much more extensively than they are, not only on account of table use, but they form one of the most nutritious foods which can be given to animals in the way of green food, especially to horses, as I find that work-horses will thrive better, and do more work on one feed of carrots and one of oats, than they will on two feeds of oats per day. On two feeds of oats and one of carrots, horses will stand any work, without being cut down or reduced by it. The soil best adapted for

their growth is a deep, sandy loam ; but they will grow in any light soil to almost a pure peat-mould ; it should be dry and thoroughly worked to at least two feet deep, and some well-rotted manure, well incorporated with the soil in the Autumn, which answers much better than using fresh dung at the time of laying down the crop. The last week in April is the time that I generally sow in ; I lay down the crop in the same manner as stated for mangel-wurzel ; two feet between the drills is sufficient, and from six to eight inches in the drills ; the seed should be mixed a few days before it is sown, with some fine sand, and the whole moistened with weak manure water ; this will cause the seeds to germinate regular and sprout stronger. The best sorts for field culture are the white Belgium, long orange, and Altringham or Surrey. The Belgium gives the harvest crop, and is said to be as nutritious as any of the other sorts for cattle.

Khol Rabi is a vegetable which only requires to be better known to bring it into general cultivation ; it is very hardy, and will stand the severest frosts in Winter. When used young and tender the bulb makes a very good vegetable for table use, and, too, the leaves answer well for greens at any season of the year ; but they should not be gathered too closely, as that would retard the growth of the bulb, which will sometimes weigh a stone. There ought to be a few lines of it in every cottier's garden ; and those who may wish to cultivate it on a large scale for cattle or sheep will grow it in the field ; perhaps the best way is to make a seed-bed in some sheltered corner to sow the seed in, and to nurse the young plants, until they are finally planted out, early in May, in drills 26 inches apart, and 16 or 18 inches in the drills. Cloudy weather is best suited for this operation, or the seed may be sown at once in the drills, same as turnips ; but as the seed is rather dear, it is economical to dibble in the seeds at the proper distances, and then single out the young plants to one in each hole ; sheep, cattle, and pigs are very fond of it, and in strong, well-prepared land, with plenty of manure, it will give a very heavy crop, perhaps forty or fifty tons per Irish acre. Those twelve bulbs shown to-day, formed one of the greatest attractions at the exhibition, and were only passed over without a prize, because no prizes were offered for them. If we are to consider the specimens of potatoes shown to-day as fair samples of what are to be met with in this locality, we may congratulate the country on the mitigated nature of the disease, as finer and healthier looking potatoes could hardly have been produced in the potato days of old, and I find that those which were taken up a month ago, are keeping well, and as sound as when dug out of the ground. Much has been spoken and written on the disease, but we

are just as much in the dark about how it came and when it will go, as the first day that it was observed in the country, and to give any specific remedy is beyond the power of man. However, different treatment on various soils may, more or less, mitigate or tend to restore them. I have planted at all seasons, from 1st of November to the 1st of May ; the earlier and nearer to maturity that both stems and tubers are before they are attacked, the better will they stand the scourge. In planting in the Autumn, whole potatoes should be used for sets, and even then some of them will perish during winter, and the produce is generally small. I, therefore, generally plant in February, having the manure worked into the ground the previous Autumn, or only using a very little well-rotted dung when planting, and allowing plenty of room between the drills, so that they can expand their foliage without crowding one another, as a free circulation of air amongst their stems and leaves is of the greatest benefit to encourage a healthy flow of sap. We ought to encourage new sorts, either from seed or importation, as it appears to me that they stand the disease better than the old sorts, such as the cups and lumpers, which are nearly worn out, and become an easy prey to the blight.

With respect to the cultivation of the different sorts of grains, I shall only make one remark. I have tried a system of mixing two sorts of oats for seed, selecting two kinds to sow together, that ripen about the same time, and the yield is greater than when only one sort is sown by itself ; for instance, the potato and Hopetoun oats together, or either of the sorts, with the sandy or the early Angus oats, will answer very well together, selecting the earliest of the two to have the rather shortest straw, as it will be somewhat retarded in ripening by the taller oats, and this causes them both to be ripe about the same time. I am often told by farmers that they have seldom a good crop of wheat after a crop of turnips—that they have better crops after a bare fallow without any manure ; this, I think, must arise from their not clearing off the turnips, in time to allow the ground to be properly ploughed, and the seed sown in season ; for although some sorts of turnips are more scourging for the ground than others, yet they do not exhaust the manure of the ingredients adapted for the growth of wheat, and, too, the ground is generally better worked under a crop of turnips than bare fallow. In a field of a few acres I have grown wheat and turnips alternately with a stolen crop of vetches between them, for the last six years—viz., three crops of wheat, three crops of vetches, and three crops of turnips ; or to be more explicit, in six years each acre has produced twenty-four barrels of wheat (this year's crop was awarded the first prize for red wheat to-day,) six tons straw, thirty tons



vetches, and ninety tons of turnips, with twelve tons turnip-tops; the manure applied was about twenty-five tons of dung for each crop of vetches, and four cwt. of the best Peruvian guano for each crop of turnips. These crops when taken singly do not appear very great, neither are they, but when taken together they look better, more especially when the time and barren nature of the soil are taken into consideration. I need hardly add that the condition of the ground is greatly improved, and that this system might be carried on for any length of time.—JAMES ALEXANDER, in *Leinster Express*.

#### REPORT OF THE AGRICULTURAL INSPECTOR TO THE COMMISSIONERS OF NATIONAL EDUCATION.

Subjoined we present our readers with the second report of the Agricultural Inspector (Doctor Kirkpatrick) to the commissioners of National Education, which we extract from the sixteenth report of the Commissioners of National Education in Ireland.

As this report contains much valuable information on the discipline and management of the agricultural department of national education, of such interest to the public, we beg to call particular attention to it.

GENTLEMEN—In submitting this, my second report as to the progress and prospects of that branch of the national system of education with which my duties are connected, I may be permitted to preface it by saying, that if the anticipations in which I ventured to indulge in my first report, as to the speedy and extensive spread of agricultural schools throughout the kingdom have not been fully realized, any disappointment in that respect may be but too readily explained by the unparalleled difficulties with which every class connected with land in Ireland has had to contend during the past year. Indeed, the chief wonder is, that while suffering from the actual pressure of difficulties, which might well render them impatient of any slow remedial process, the owners or occupiers of land should have been induced to yield attention to any system, holding out no promise of immediate relief, and proposing only those remote and prospective benefits which are the sure but slow results of agricultural improvement. Nevertheless it is most gratifying to be able to state that, in the midst of all these difficulties, and of the conflicting opinions as to their cause and cure by which society is divided, one strong conviction seems to have impressed itself on the minds of every reflecting man connected with land—namely, that without a total change in those methods of farming hitherto in such general use throughout Ireland, and an energetic employment of all the means which improved husbandry de-

mands, all other remedies, of what nature soever, will be utterly unavailing to restore the agricultural classes to even the comparative prosperity they heretofore enjoyed—much less to place them in that position which they should occupy, representing, as they confessedly do, by far the most important branch of Irish industry.

To the strength and prevalence of this conviction must doubtless be ascribed the numerous applications that have been addressed to the Board, during the past year, for the establishment of model and ordinary agricultural schools in various parts of the kingdom, and it may be safely assumed that the number would have been greatly increased, had it not been for the serious embarrassments in which so many landed proprietors have been, and still are involved. It is much to be regretted that, in the case of model agricultural schools so applied for and sanctioned, unavoidable delay should have taken place in getting them into active operation. A chief cause of this delay has been the difficulty of fixing on a scale of farm buildings that should unite the two essential conditions of economy and suitable accommodation, thus rendering them what they purport to be—models for imitation by the owners and occupiers of land. With this view various plans have been submitted to the Commissioners, but none as yet which seemed effectually to combine these two essential requisites; nor is the difficulty of effecting this so slight as might be imagined; for while on the one hand it is indispensable that sufficient accommodation be provided for house-feeding and other improved methods of farming, on the other it is equally indispensable that the cost of such buildings shall not exceed the means placed at the disposal of the Board for such objects, or the outlay that might reasonably be expected from improving landlords or substantial tenants.

This two-fold consideration enhances the importance, as well as the difficulty, of the subject, and if the time bestowed in deliberation and inquiry shall issue in the adoption of a plan of farm buildings, combining economy with suitable accommodation, it will more than compensate for the slow progress that has been hitherto made in carrying out the applications for such model agricultural schools as have received the sanction of the Board within the past year.

I must also refer to another cause of delay as regards some of these applications—namely, the difficulty of adopting a uniform standard as to the amount of pecuniary aid, as well as personal supervision, on the part of the applicants. To any one acquainted with the present condition of the country, it cannot be matter of surprise that difficulties should arise on both these points. Many landed proprietors are willing and anxious to grant land for model farms on reasonable

terms, and to give their personal aid in carrying out the objects for which such farms are set on foot, but at the same time are not in a position to afford pecuniary contribution to the work; others are prepared to contribute their fair proportion to the funds of the undertaking, but in some cases are so circumstanced as to be unable to give personal care or supervision. This varied condition of things must necessarily modify any general rule that the Commissioners, on the first view of the subject, might be disposed to lay down, and as the whole end and aim of their labors in this particular department is to supply the means of agricultural instruction by every available instrumentality, I would respectfully suggest that while general rules are laid down and acted upon as uniformly as circumstances will permit, they should preserve to themselves the faculty of determining to what extent a departure from those rules should be allowed in special cases. As the arrangements for establishing "ordinary" agricultural schools present few difficulties, there has, consequently been a considerable increase in that class of schools during the past year, and I am happy to be able to state that in general they are working very satisfactorily. It is also a source of true gratification to me that, as regards the "model" agricultural schools, which are, and have been for some time in acting operation, I can, with rare exceptions, report most favorably. In the appendix to this report will be found the balance sheets of four of these schools—viz., Markethill, Loughash, Rahan, and Larne, with reports from their respective teachers as to the operations and results of the past year; and I would respectfully bespeak attention to these reports as satisfactorily showing the fitness of these teachers for the discharge of the trust committed to them. In those statements, but more especially in those of Markethill and Larne, a very serious falling off is shown in the farming profits of the past year as compared with those of the preceding one. But this cannot be regarded as detracting in any degree from the usefulness of these institutions, seeing that the decrease of money profits is in no wise attributable to defective husbandry, or to any diminution of that persevering industry on the part of the teachers, which, in the case of Larne especially, was so successfully exerted the preceding year; on the contrary, there has been, both in the Markethill and Larne Model Farms, an actual increase of farm produce, and a corresponding increase of dairy stock, and this has always been regarded as the most certain source of profit, as well as the surest test of good farming. Thus the unfavorable results of 1849, as compared with those of 1848, can only be regarded in the case of these farms as unmistakable evidence of a change in the value of farm produce, the consequence of which no skill

nor industry can wholly avert. I trust I shall not be misunderstood as intending to deduce from this change any argument or inference affecting those important questions, relative to land and its produce, which now agitate the public mind. I merely state an admitted fact as sufficiently accounting for the serious diminution in farming profits of the Markethill and Larne schools, during the past year, and as showing that such diminution of money profit in no way effects the claim of those institutions to the title of "model agricultural schools," fairly exemplifying, as far as the size of their farms, and the means at their disposal will permit, the most approved methods of modern husbandry. In corroboration of this view of the subject, I would beg permission to refer to a passage in my last report, page 167 of the 15th Report of the National Board, in which, after commenting on the favourable results of Mr. McDonnell's farming operations for the year 1848, it is added—"I take no account of the profit supposed to be realized: that must depend on the price of farm produce in different years and in different localities, but such variations leave altogether untouched the conclusive fact, that, upon such a limited parcel of ground, such an amount of food for man and beast was *actually* raised; this is the real point to which all agricultural improvement must tend. The best system of farming is that which, without impoverishing the soil, raises the largest quantity of food from a given portion of land." Judged by the foregoing test—the soundness of which will not, I presume, be disputed—the managers of these farms are just as well entitled to approval and support at the present moment as when their operations were productive of more profit to themselves. One consequence alone I would venture to deduce from the change above referred to, because the caution it suggests seems to come fairly within the sphere of my duties—namely, that in all future arrangements for the establishment of model farms, care should be taken to protect those teachers who are made responsible for rent, against the effects of such depression in the value of farm produce, as the past year has witnessed. The mode of effecting this object, should the principle be adopted, must be matter for consideration between the Commissioners and the patrons of schools; but it certainly seems desirable, that whenever the agricultural teacher can give satisfactory proof of having employed both skill and persevering industry in the management of the farm committed to his care, his labor should not be altogether unremunerated.

I have already stated that, as regards the general working of the "model agricultural schools," now in operation, I can report most favorably. They are, with rare exceptions, satisfactorily fulfilling the objects of their institution; and now, after another

year's experience and close observation, I feel justified in again expressing my strong conviction that it is perfectly practicable and eminently useful, to combine with the ordinary branches of a sound English education, as taught in our national schools, such an elementary course of agricultural instruction as shall prepare youths for the higher branches of agricultural science, should the opportunity of acquiring such knowledge be presented to them, and what is of still greater moment, shall teach them to detect and avoid those grossly defective methods of farming hitherto practised, and still in too general use throughout the greater part of Ireland. All this, I venture to affirm, may be, and is taught in national agricultural schools, without interfering injuriously with the literary instruction which should, doubtless, constitute the essential business of such schools. On this part of the subject, I cannot better express my own strong convictions than by quoting the words of a gentleman who has watched the experiment of combined education in the Larne school from its first commencement to the present hour, and whose testimony is the more to be relied on, as he was rather sceptical as to the success of the undertaking when it was at first proposed, and only yielded his unreserved acquiescence when experience had fully satisfied him that such a system of education was as efficient in practice as excellent in principle:—

“As to the question, whose solution was, at one time, thought so difficult, of how far it was practicable to combine agricultural instruction with literary teaching, in such schools as that of Larne, the experience of ten years, and under two successive teachers, would seem to give it a conclusive answer. Persons from every part of the empire, and even from America, have visited the school within that time; and though some of them have been decidedly opposed to the ‘national system,’ and many sceptical as to the possibility of combining efficient literary instruction with agricultural teaching, yet all, with a single exception, have expressed themselves satisfied that, in the latter respect the experiment in the ‘Larne school,’ has been eminently successful. But what is of still more weight in this regard, the successive inspectors, whose stated duty it is to see that nothing shall interfere with the literary progress of the pupils in the ‘national schools,’ have borne the strongest testimony to the high standard of literary attainment in the Larne school, and the assiduous and successful teaching of its masters. Thus, then, it appears that while an amount of agricultural knowledge is acquired at the Larne school, which prepares youths for the very highest walks of scientific agriculture, this is effected without the slightest interference with those literary pursuits and acquirements which form the sole business of ordinary

schools. If this fact be established, it surely furnishes a conclusive answer to any objection, founded on the supposed inefficiency of agricultural instruction, given there, to meet the wants of the practical farmer; for it must be remembered that such institutions as the Larne school are not intended to supersede, or supply the place of such establishments as Glasnevin or Templemoyle, but to serve as nurseries for those more extensive establishments; and, above all, to diffuse amongst the children of the Irish peasant such sound principles of husbandry, as will at once enable them to detect the gross errors and defects of that system hitherto practised in Ireland; and as has already occurred, in innumerable instances, to induce their parents to alter and amend that system.”

#### ON THE DIFFERENT VARIETIES OF WHEAT CULTIVATED, OR CAPABLE OF BEING CULTIVATED WITH ADVANTAGE IN SCOTLAND.

We have seen lately a descriptive catalogue of the several varieties of wheat that are known in the British Isles. There are an astonishing number, 150, of distinct varieties, capable of being distinguished from each other, either in the straw or grain. Amongst them is one called the “Fern Spring Wheat,” which is highly spoken of both as regards its quality, produce, and early maturity. It would be very desirable to obtain some of this wheat in time for Spring sowing, and there is very little doubt we might have it in time. The following is the description given of it in the “Catalogue” we have seen. “Fern, or April Red, ear long, bearded; grain longish and lightish brown; this sort is well adapted for late Spring sowing, and from its early ripening quality, it is found most suitable.” There are other wheats in the catalogue adapted for Spring sowing. The “Red Tuscany” has the ear the medium size, no beard, grain long and pointed, very early in ripening—the quality is not stated. Red Chinese, also a Spring wheat, ear short and bearded, grain rather above the medium size, of a dark reddish colour; these last are all red wheats. The following are white varieties for Spring sowing:—Barbary or thick chaffed, ear,

short, bearded, grain large, yellowish, and rather coarse. Bellevue Talavera, ear long, no beard; grain large, white and fine sample. Bearded Yellow Caucasian, ear, long, bearded, grain large, yellowish. Chili Square, white, ear short and close, bearded, grain small, ears very smooth and white. Common Bearded Spring, ear short, bearded, grain small, ear a little pyramidal. Common White Spring: ear long, no beard, grain medium and plump, a dull yellowish colour. Hard Spring White; ear medium, no beard, grain medium, strong chaffed, not easily shaken. Small Square Spring; ear short, bearded, grain small and roundish. Square Sicilian Spring; ear short, bearded, grain small and roundish. Talavera; ear longish, no beard, grain large, dullish white, semi-transparent. Tall Tuscan Wheat; ear short, no beard, grain small, longish and flinty. Victoria; ear short, bearded, grain longish and semi-transparent. White Leghorn; ear medium, beards very short, grain medium, light coloured, clear and transparent. White Tuscany; ear long, no beard, grain same in appearance as the White Leghorn. White Cape; ear long, bearded, grain large, white and painted. There is another wheat called the Hoptoun, used in Scotland for early Spring sowing with good results.

We have given the whole of the Spring wheats in the catalogue, to give an opportunity of making a selection, that might be imported for the next Spring. We shall publish the whole of the catalogue in a future number. We also give in this number Mr. Lawson's general remarks upon the several species and varieties of wheat. Although they may not be considered as particularly applicable for us, there is much useful and interesting information to be found in them.

The following valuable paper was prepared by Mr. Lawson for the last monthly meeting, but, from the length to which the proceedings extended, it was not read. We have much pleasure, through the kindness of the Secretary and Mr. Lawson, in laying it be-

fore our readers. It possesses much value, as a full statement on this important subject, and will be highly useful for reference:—

I have been requested by our Secretary to say a few words as to my experience, with reference to the subject under discussion this day.

I have much pleasure in doing so at least in so far as our business as seedsmen has afforded me an opportunity of observing the peculiarities and characteristics of the different varieties comprehended in the species of this vast and most important genus.

It would be presumptuous in me to offer here any observations as to the culture of wheat, I shall therefore confine myself as a practical seedsman to the distinguishing characteristics of the varieties cultivated, or capable of being cultivated with advantage, in Scotland. In doing so, with your leave, I will premise with a few remarks upon the species.

It is unnecessary for me to enter upon the botanical characteristics of the genus *Triticum*, which are, no doubt, well-known to all present. Of the origin and history of our cultivated wheat, little more can be said, than that the subject is to this day a comparative mystery.

I shall at once proceed to the specific distinctions.

The multiplicity of names which have been adopted by some botanical authors, are, to say the least, of very questionable utility.

From the great diversity of form in the numerous cultivated varieties, and the near approximation to each other, of many, arranged under separate species, much uncertainty and confusion exists in defining the limits of those different species.

That there are several distinct species, there can be no doubt, and after a close examination, I am of opinion that the whole, as enumerated by many botanists, may be reduced to seven, viz:—

Sativum,	Polonicum,
Turgidum,	Amylleum.
Durum,	Spelta,
	Monocicum.

The three last have adhesive chaff, and are not cultivated, or capable of being cultivated with advantage in Scotland. The Polonicum is only fitted for excessive warm climates, and altogether unsuited for our country—consequently, it is only with the first three—

Sativum,
Turgidum,
Durum,

that we have to do with here.

Without entering into any botanical classification, those three species may be held as three primary classes—the last of which, the “Durum,” “Hard or Horny Wheat,” is so little known, and considered generally so unsuitable for cultivation with us, that it may

be noticed chiefly as subject for experiment. Of the "Turgidum," or "Turgid Wheat," we have several varieties, but the species of by far the greatest importance in this country, is the "Sativum," or "Common Cultivated Wheat."

A brief description of those three classes may not be uninteresting, and with the specimens before us, I can easily point out, in manner sufficient for all practical purposes, how they may be distinguished, either by the ear, grain, or in the growing state—

1st. The Durum—Hard or Horny Wheats They are all awned; the ears are very short in proportion to their breadth; the grain is rather long, hard, and flinty, and the straw stiff, short and upright.

2nd. The Turgidum, or Turgid Wheat, are also all awned; the ears are of average length, compact, and generally with four equal sides. The grain large, long, and as a market article, what would be considered coarse. The straw long, hard, and often almost solid.

3rd. The Sativum—Common Wheat. The great class which contains nearly the whole of the varieties cultivated, or, I believe capable of advantageous culture either in the proper wheat districts of Scotland, or in the better parts of the other districts, where wheat is occasionally grown.

In attempting to arrange the numerous known varieties of the cultivated wheats, I shall endeavour to adopt a simple and intelligible mode of recognizing the different sorts, and previous to entering upon the varieties of the Sativum, I beg for a moment to refer to the remarks of Mr. Stephens in his *Book of the Farm*, upon the classification of wheats, which is also applicable to the Durum and Turgidum.

Mr. Stephens proposes as the basis of a system of arrangement, the form of the ear and grain, in recommending which he says, and I entirely concur with him, "that each can be described by its own characteristics; and, if desirable, each can be illustrated by the characteristics of the other. In this way confusion would be avoided between the characters of the ear and of the grain, and the farmer who grows it in the ear, and sells it in the grain, should be acquainted with both."

In following out this mode, I divide the ear into three classes, and which may be illustrated by the specimens produced.

1st. A short, close, and compact ear, which is occasioned by the spikelets being set near each other on the rachis, or jointed stem, which has a tendency to make the chaff short and broad, and the spikelets also. 2nd. The ear of medium length and breadth, and the spikelets placed just so close upon the rachis as to screen it from view; the ear is not so broad, but longer than those of the first division; the chaff is of medium length and breadth. In this class I would include

the more profitable varieties. 3rd. The ear long and narrow, the spikelets of which are set apart, or so far asunder, as to permit the rachis to be easily seen between them.

The division I propose to adopt with reference to the grain is the simple one of color, arranging them: as Red and White, classing those sometimes denominated Yellows according to their dark or light shade—that is, those of a dark dull or brown with the Reds, and those of a light creamy or straw with the Whites.

This concise, but perhaps inaccurate, though at all events practical, classification, will be found of use in bringing the hosts of varieties of the Sativum into something like order; and as it is more particularly with reference to the varieties of the Sativum that I recommend it to your notice.

Having said this much as to the classification, I have attempted a description of the varieties which have come under my own observation, as cultivated at different times in this country—they amount to above 150, and I have drawn up a brief Synoptical Table, which, however, I shall not take up your time by reading. I may just observe that I make 4 columns;

1st. For the name of the Wheat.

2nd. For the ear, whether short, medium, or long.

3rd. Whether bearded, or beardless.

4th. Remarks as to form of grain, thick or thinness of skin—quality of straw—earliness and fitness for Spring sowing, &c.

The whole of those varieties are cultivated less or more extensively and successfully in the different wheat growing countries in Europe. I have grown most of them to the extent of samples, for information and experiment, and my observations on the greater part, have been already submitted to the public in our Manual.

There are many more varieties already known, some of which we have in progress of experiment. We find that the importance of attention to the different varieties, engages the consideration of the foreign grower, from the circumstance of orders for the new sorts as they are introduced, coming less or more from the wheat growing countries on the Continent.

A few of the numerous varieties have originated in Scotland, but the greater part of what may be termed British sorts, have emanated from England.

In Scotland, the great or general culture embraces about 22 kinds, which I shall enumerate, classed as Red and Whites, and in the order of their adaptation from the finest to the coarsest wheat soils, adding a few observations relative to them, but which on account of their qualities being so generally well known, will be very brief.

These sorts in general culture are;

OF THE WHITES.

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|-----------------------|--------------------|
| 1. Chiddam,           | 8. Brodie's White, |
| 2. Golden Swan,       | 9. Talavera,       |
| 3. Eclipse,           | 10. Tall Cluster,  |
| 4. Pearl,             | 11. Hopetoun,      |
| 5. Archer's Prolific, | 12. Hunter's,      |
| 6. Red Chaff Pearl,   | 13. Fenton,        |
| 7. Red Strawed White. | 14. Mungo's Wells, |

OF THE REDS.

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|------------------|--------------------------|
| 1. Lammas Red,   | 5. Blood Red,            |
| 2. Belgian Red,  | 6. Spaulding's Prolific, |
| 3. Clover's Red, | 7. Fern or April Wheat.  |
| 4. Golden Drop.  |                          |

The only variety of the Turgid Wheat grown to any extent worth notice is the White Cone Rivet, perhaps better known under the name of Antistly Wheat.

The whole of those sorts are well adapted for all the districts in Scotland, where wheat may be cultivated to the best advantage.

OF THE WHITE SORTS.

The first nine have finer grain, generally obtain the top price, and are more especially suited for the better soils and sheltered situations; the other 5 sorts may be termed more hardy and prolific, especially on secondary soils and situations, although the grain generally rates from 5 to 10 per cent. less per quarter.

OF THE RED SORTS.

The Lammas, the Belgian and Clovers, may be considered the finest, but the whole of them are well adapted for every district in the country, where wheat is grown.

For early Spring sowing, the Hopetoun and Talavera are extensively used; and for late Spring sowing, the Fern or April variety, from its early ripening quality, is found the most suitable.

In the better parts of those districts where wheats are not generally grown, the Fern, or April Wheat, is occasionally cultivated with advantage.

After all, in what may be termed the proper wheat districts of Scotland, I think I shall be justified in saying that the Hunter's, Chiddam, Hopetoun, Fenton, and Pearl amongst the Whites; and the Lammas and Spaulding's Prolific amongst the Reds, are the favorites at present.

No doubt each locality, from various circumstances, may require a particular variety suited to those circumstances, and this can be best ascertained by the farmer himself, after various and repeated trials.

The number of varieties known, give great scope for experiment, and perhaps, after all, none come completely up to the point aimed at, but which cannot fail ultimately to be obtained by hybridization between the sorts nearest approaching perfection.

To enter upon the subject of experiments in wheats, would, I am afraid, be intruding too much upon your time; I shall, however, venture a few observations regarding it.

The comparative experiments in Scotland have not been many, those reported to have been made in England are more numerous, and the results different to some extent on the same sorts similarly experimented with in Scotland—*e. g.*

The Bellevue Talavera of Le Couteur, so highly praised in some districts in England, and which obtained the highest premiums at several wheat shows, was found, by an eminent wheat grower in the East-Lothian, to be the most profitable sort he ever cultivated.

The caution with which new varieties should be brought into general cultivation is further illustrated by the trials made at the recommendation of our Society in 1841 or 42, with several sorts of the prize wheats of that year, which were Chiddam, Pearl, Woolly-eared, Dantzig, Blood-Red, and Belgian Red. I speak from recollection, but I think that our well-known sort, the Hunter's, with a single exception, proved the most profitable in every district, and that exception was the woolly-eared Dantzig on Mr. Dickson's farm at Saughton.

The great attention which has been given by Dr. Anderson to the analysis of various wheat soils in Scotland, as published in a recent number of the *Transactions of the Society*, shows that the wheat soils vary much in their component parts; and when we look to the variation of the qualities in the different varieties of wheat, it is not improbable that further chemical experiments with the grains, as well as with the soils, may point out certain varieties as the most profitable to be grown on certain soils; but, irrespective of chemical investigation, the length and compactness combined, of the ear, presents a characteristic which recommends certain sorts to the attention of the farmer, as suitable for experiment, with the view to increased produce in grain.

The sorts I would name, besides those 22 in general cultivation, and already enumerated, are,

- 1st. Of the white sorts, the  
 Silver Drop.  
 Vilmorin's White.  
 Old Uxbridge.  
 Snowdrop White.  
 Berkshire Improved White.  
 White Hungarian.  
 White Flanders.  
 Dwarf White Cluster.  
 Gregorian and  
 Bearded White Shanry.

- Of the Red sorts—  
 Red Kent.  
 Champion Red.  
 Harvey's Prolific.

Red Marigold.  
Rattling Jack.  
Piper's Thick Set, and  
Kessingland.

And especially for Spring sowing—  
The white-bearded Tuscan, and  
The Red-bearded Mendoza.

The Turgid Wheats are all so late and coarse that I should be doubtful as to most of them, except the Antifly—already mentioned.

The Smooth Wheat of Tangarock is the best, and, so far as I can judge, the most likely to be cultivated with advantage in our country.

In making comparative experiments with different sorts, care should be taken to select localities uniform in all respects, that is, having the same composition of soil, and subsoil, exposure, &c.; and also that the former cultivation has been the same.

I would also recommend a good portion of land for each sort, say an acre or an acre and a-half, in order to give accurate results; and it is also very desirable to sow the same quantity of seed, not only with reference to the measure, but to the actual number of grains—being the same in each variety experimented with.

It must also be kept in view that the different varieties sown at the same time, come into bloom at different periods; and that in a comparative experiment, when all other circumstances are alike, it may happen that some varieties may be injured by casualties which others may escape.

All circumstances, therefore, should be noted, in order to determine whether the differences in produce can be ascribed to peculiarities inherent in the sorts, or to contingencies which may have occurred in course of the experiment.

As the laboratory is to the chemist, so is the field to the farmer, both may be considered as work rooms, and the strictest observation should be given to every circumstance, however trivial, which might disturb the experiment in progress.

Repeated experiments under the guidance of science are to be recommended, and if we do not attain a perfect similarity of results in all cases, we shall at all events gain sufficient information for practical purposes, which, after all, is the great aim of theoretical science.

**THE HUNGARIAN SWINEHERD.**—The Kanasz, or swineherd, whose occupation everywhere is unpoetical and dirty, is doubly troublesome and dirty in Hungary. Large droves of pigs migrate annually into the latter country from Servia, where they still live in a half wild state. In Hungary they fatten in the extensive oak forests, and are sent to market in the large towns, even to Vienna,

and still further. The task of driving the animals is shared by the Kanasz, several of whom have to attend each drove, his dogs, and his ass. The jackass heads the drove, bearing a large bell round his neck, like the bell-wether of a flock, and carrying the provisions of the driver on his back. The dogs, of a handsome and strong race, called the white Hungarian wolf-dog, run incessantly round and round the drove, and keep the pigs together. Whenever the Kanasz wishes to rest, he makes a signal to the dogs, when they fasten and hang upon the ears of the jackass, so that he can proceed no further, but stands there, with his uncomfortable ear-drops and his wo-begone face, a veritable picture of misery. It is a true enjoyment to live in these shady forests. The oak attains a finer and more luxuriant growth on the Hungarian soil than in any part of Germany. The hogs find food in profusion, and commonly stuff themselves to such a degree that they lose all desire for roving about; so that dog, master, and ass lead a comparatively easy life and are left to the quiet enjoyment of nature—*Schlesinger's War in Hungary.*

**ANIMALS IMITATING DEATH TO SAVE THEIR LIVES.**—During a visit to Cumberland we found several hedgehogs in Inglewood Forest. One of these, in order to destroy it, we put in the pond. It swam about in a circular direction for sometime and reached the shore. After putting it in the water a second time, it remained motionless, and apparently dead, and we left it on the grass. During the night, however, it walked away. The spider will imitate death to save itself; and canaries have been taught by some showmen to look as if they were dead. The most curious case, however, is that of a fox in the north. A farmer had discovered that he came along a beam at night to seize his poultry. He accordingly sawed the end of the beam nearly through, and in the night the fox fell into a place whence he could not escape. On going to him in the morning, the farmer found him stiff, and, as he thought, lifeless. Taking him out of the building he threw him on the dunghill, but in a short time Reynard opened his eyes, and seeing that all was safe and clear, galloped away to the mountain, showing more cunning than the man who ensnared him.—*Preston Chronicle.*

There are some people in the world who seem to have especially studied the amiable art of casting a damp over the feelings of their friends—to whom it would appear that the very tones of happiness or enjoyment convey offence, if one may judge from the eagerness with which they hasten to repress them.

**Agricultural Journal**  
AND  
**TRANSACTIONS**  
OF THE  
**LOWER CANADA AGRICULTURAL SOCIETY**

MONTREAL, JANUARY, 1851.



It is a subject of serious consideration, whether we are excusable in putting off for an indefinite period, the introduction of measures which we had every reason to believe, would be calculated to prove advantageous to the community, or even to a large proportion of them. It is perfectly proper that caution should be observed when measures of a doubtful character are proposed, but when we can be convinced that our condition may be improved by the adoption of certain measures proposed to us, we certainly cannot be the friends of progress while we put off providing for their introduction. We believe it is generally admitted, that at present, the produce of Agriculture in Canada is far below what it would be capable of producing under a better and more perfect system of husbandry. We do not pretend that it would be prudent to adopt a system of high and expensive farming, such as has been introduced in many instances in the British Isles; we only propose improvements that are manifestly required in Canadian Agriculture in general, and which might be introduced with a certain prospect of favorable results. One of the first requisites to a better system of husbandry, is the employment of more capital, *skilfully applied*. To know how to employ capital in agriculture, skilfully and judiciously, is necessary to its profitable application. What then is to be done? How are we to acquire additional capital, and the necessary know-

ledge of the practical art of Agriculture to employ it to profit and advantage? There are many farmers in Canada well acquainted with their business, who have not sufficient capital to carry it on to advantage, but there are a vast majority of them who are not acquainted with the practise of the most approved systems of husbandry, and would be incapable of employing a large capital profitably in Agriculture. We have frequently submitted, in the Agricultural Journal, the means which we conceive would be required to teach the science and practice of good husbandry, and also the means that might be adopted for supplying sufficient capital for the farmers. We do not pretend that the measures we submitted would be the best, but we may be permitted to believe them the best until better are proposed; and we cannot help thinking, that so long as those measures or others that would be preferable are not provided for, justice is not done to the farming class, or all that might be done to promote the improvement, and prosperity of Canadian Agriculture. The means we submitted were, Agricultural Education in Schools and Colleges, Model Farms, the publication of an Agricultural Journal, such as this, or a better one, and the establishment of "Associations of Agricultural Credit." We have never seen any public objections offered to the introduction of these measures, and so long as they are not objected to, and proved objectionable by fair and open discussion, we shall feel persuaded that the necessary means for securing the improvement of Agriculture, and the prosperity of agriculturists are withheld. We have no object to serve by advocating these measures, except the interests of nine tenths of the population of Canada and the prosperity of this nine-tenths would be the best guarantee of the prosperity of the remaining one-tenth. What objection can be advanced to the introduction of suitable Agricultural books for the reading of youth at the country schools as in Ireland? What objection could be offered to providing that



competent parties should be employed to make periodical visits to country schools to see that these books were read by the scholars, and to examine them as to what advance they had made in acquiring a knowledge of the principles of Agriculture?

There would not be any difficulty to adopt this plan, and it would be one step in the right direction. It is an absurdity in this age of the world when improvement is making such rapid advances, that we should stand still and not introduce measures that are so manifestly necessary to our welfare. The expense is the grand objection, but as our revenue has to be paid chiefly from the products of Canada, in proportion as these products could be augmented, we might hope our revenue would be increased. It never can be ruin and decay with a country of abundant Agricultural productions. If our lot was cast in a poor barren country incapable of improvement; we should make up our minds to be content with our situation, but we have been favored with a country that has, perhaps, a more generally fertile soil, than any other country in the universe, and we are bound by every obligation to make it as productive as possible, that we may have a surplus to supply the people of other countries less favored in regard to fertility of the soil and good climate. Then as to "Associations of Agricultural Credit;" can there be anything more reasonable than to allow farmers to raise, or be able to obtain accommodation upon the security of their lands, houses, and stock, according to the usual conditions of these "Associations?" The accommodation usually granted, is only a small portion of the value of the farmer's property, the borrower is obliged to pay back a certain portion annually, and if he fails to do this, his property is taken out of his hands until the arrears are paid up, but he does not finally lose the property, nor is he subjected to law expenses. This plan has succeeded admirably in other countries, and we do not see any reason why it should not succeed in Canada. We shall copy

in future numbers, the full report of these Associations as they are conducted in Prussia, and in other nations of Europe, and we trust the subject will receive due consideration. The security that might be given for establishing these Associations is so unquestionable that there cannot be any well founded objection made against them. In fact, the whole landed property of the country, the buildings upon them, the stock, &c. &c., would be the security, and a security that would be always forthcoming. We are aware of the danger of farmers borrowing money which they would be bound to refund in a short and stated period without fail. It would not be so in borrowing from the Association; the borrower would only be subject to an annual payment for a certain number of years, and could not be called upon for the whole amount at once. The amount that could be borrowed would not be equal to more than a small portion of the farmer's property. The managers elected by the Association in each locality, would be obliged to have a constant superintendance over the parties borrowing, and if they found the farmer not acting properly with his business, and not making his payments regularly, they would have to report, and the farmer would be obliged to settle up, or give up his farm until the arrears would be paid, but he would not lose it altogether.

We have been instructed by the President and Directors of the Lower Canada Agricultural Society to state that they have entered into an arrangement with Mr. Robert W. Lay, Bookseller, of this City, to publish for a term of years, under the control and auspices of the Society, the "Agricultural Journal, and Transactions of the Lower Canada Agricultural Society," from the 1st day of January next 1851—in both the English and French languages; the Society continuing to provide the Editor. Mr. Lay has been authorized to collect, for the Society, all subscriptions remaining due for the Journal up to the 31st December 1850, and

the Society expect that those subscriptions will be paid up with as little delay as possible. The subscribers to the Journal may rest assured that it will continue to be made as useful and interesting as possible, and as there will be more time and opportunity to prepare the matter for it, it is expected that there will be a considerable improvement in the Journal for the future. It will also have a few choice Illustrations in each number, of Animals, Implements, &c. We hope it is not too much to promise, that the Journal shall be equal to any Agricultural Periodical published in North America, and we therefore solicit the support of Canadian Agriculturists to this Canadian Publication—if they desire to give encouragement to native industry and enterprise.

#### AGRICULTURAL REPORT FOR DECEMBER.

Agricultural operations in the fields were suspended in the first week of December, but we believe the plough was at work the 2nd and 3rd of the month. It was not until the 7th, that we had a sufficient fall of snow for sleighing in the neighbourhood of Montreal, but it then fell upon well frozen roads. There was not any frost previously, however, that would injure grass, or fall sown wheat, and we have seen the latter look exceedingly well near Montreal when the snow fell. The Fall has been very favorable for wheat sown in time; there was no check to its growth up to the 4th of December, and it must consequently have sufficient roots, in well prepared soil, and where it has been properly covered in drills or otherwise. To cover with small branches of trees previous to any fall of snow, as we before suggested, we have no doubt, would be a good plan; and the expense would not be great, of either putting it on, or gathering off in the Spring. It would have the effect of collecting the snow, or rather keeping it upon the wheat, and would also afford

shelter to the plants in Spring. If the small branches could be had conveniently, or any description of small brush which it might be useful for the land to cut down, we do not think the expense would exceed at most a dollar the acre and the brush would be worth something after, for burning weeds or clay for manure. We are in duty bound to give Fall wheat a fair trial in Lower Canada, before we decide that the country is incapable of producing it. As we have always said, early sowing, on land that is properly prepared by summer fallow, and sowing in drills, (as there is no difficulty of doing,) will be giving it a fair chance. If we are unwilling to incur the expense, we need not try the experiment of sowing Fall wheat, but it is unfair to condemn our country for not producing this, that, or the other crop if we will not use the necessary means for their production. On our first coming to Canada, we were told by a gentleman acting as Superintendent of a military settlement, that he had given out seed potatoes, amongst other seeds, to one of the discharged soldiers, (who had been a foreigner in British service) and in making his usual visit to them in harvest, to inspect the result of their summers labor, he found this man had no potatoes. He inquired the cause, and was told the seed did not grow. He further inquired how the man had managed planting. He answered that he had chopped up the seed into small pieces, and raked them in amongst the fallen leaves as well as he could. The superintendent told him he must be a fool to expect a crop from this sort of cultivation. The man replied "that he did not expect in new fertile land that it would be necessary for him to labor like a slave in the old countries in cultivating the land for potatoes, and if it did not produce them in that way he would leave the land, and have nothing further to do with it." We do not give this account of new settlements in Canada as having had a personal knowledge of it, but we certainly had per-

fect confidence in the gentleman who related it to us. There is not a party in Canada, who knows anything of the careful cultivation required in the old countries for producing wheat, who could expect a good crop of wheat here, from the manner of cultivating the soil for it with Canadian farmers generally—by simply once ploughing (and that not in the most perfect manner.) land that has been lying under natural grasses, and weeds the previous Summer. If our soil was not naturally of superior quality, and our climate good, we would not raise as much as the seed sown, by such management. If we prepared the soil by summer fallowing, executed properly, we might expect to have a good crop. We have seen a report in a late exchange paper, that better crops of wheat had been raised in England after summer fallow without any manure, than on manured land of the same quality where potatoes or turnips had been grown. This we had experience of ourselves, in the old country. We have no doubt whatever, if the lands of Lower Canada, were even summer fallowed, as in Upper Canada and the United States, we should raise a much larger average produce of *all crops*, than in either of these countries. Our soil and climate, are unquestionably superior for raising oats, barley, peas—flax, hemp, hay, and all descriptions of root crops, and vegetables, to either Upper Canada or the United States. The character of Lower Canada has been most unjustly depreciated, by parties who were not qualified to form a correct estimate of the country. What matter is it that our winters should be colder and longer, than in parts of Upper Canada and the United States, if 100 acres of our land can be made to yield as large an annual produce, as 100 acres would do in either of these countries, which we are certain it can. We go further and say, that 100 acres of our land will produce as much food for the support of domestic animals in a year as either of the other countries. The difference then in the

expense of keeping cattle with us can only be in providing, perhaps, better shelter and a longer attendance upon them in this shelter, than would be required for cattle on pasture. But when it is recommended to keep cattle in the yard or stalls the whole year in the temperate climate of England as being more profitable than keeping them on pasture, what difference should it make with us to keep them half the year in the stables, if our land can produce as much food for them in summer, acre for acre, as the land of any other country in North America? The present state of our cattle may be urged as an objection to what we say—but this is not a proof of any incorrectness in what we advance. Our cattle have not been attended to in breeding, nor provided with suitable or sufficient food in either winter or summer. Let them have the produce of the land in good pasture, and in hay, and not be chiefly fed on straw that should only go to make manure, and on pastures that have no grass, because they were under crop the year previous and left for pasture for one year without any grass seeds sown. Our horses by a little care in breeding and feeding, might as well be worth 50 per cent more, and with scarcely any increase of expense to the farmer. Horses might form a large item in our Agricultural produce that we would have to dispose of. Milch cows have brought a good price this Fall and if farmers would manage to have a good milch cow to dispose of in the Fall or Winter, it would be sure to bring a remunerating price, as there is always a demand for fresh calved cows in Fall or Winter, in large towns. We have not seen the market better supplied with fowls of every description than this year. We do not believe there is a market on this Continent that has a better supply of fowls than Montreal, and we might add butchers' meat generally. When we have this to boast of now under an admitted defective system of husbandry, what would it be under an improved and more perfect system of Agriculture?

We do not expect that the prices of produce will rule very high this winter, neither do we suppose that prices will be very low. Barley is scarce this year, as we anticipated, and sells at a fair price, but this scarcity is the consequence of brewers only giving, last year, about two-thirds of what it should have sold for in proportion to the prices of other grains. The price last year, was much under what it was worth by weight, compared with oats. It is, however, imprudent for farmers to give up sowing barley, although brewer<sup>s</sup> may not purchase it, as an acre of land suitable for barley may produce as much food in barley as it would in oats, and it is the best crop that land can be seeded down with for grass. It is also prudent to have a variety of crops to suit the soil, time of sowing, &c. We hope, should we be spared to see the close of the present year, we may be able to congratulate farmers on having so favorable a season as the past has been. We know the general average return has not been very large, but we must not expect very large products, until we take more pains to cultivate for crops. We do not know any country that will yield a larger produce in proportion to the cultivation the soil receives, than Lower Canada. The rapid progress of vegetation here in summer, on well cultivated and fertile land particularly, is most astonishing, and it is in reality surprising the quantity of produce that we obtain here from a very inferior and defective system of husbandry, although we are proud to say there are very many farms well cultivated and managed.

December 31, 1850.

#### THE CANADIAN HORSE.

We have frequently expressed our regret that it was difficult to find many of the pure breed of Canadian horses in the neighborhood of Montreal, and that in consequence, the quality of our horses in the country was considerably deteriorated and lessened in market value. There are particular characteristics that distinguish

this breed from any other in Canada, that cannot be mistaken, and the slightest cross with other breeds is quite perceptible. The pure breed of Canadian horse, is a perfect picture, for strength, and durability, a fine head, neck, and shoulders, the latter well thrown back, the back is short and strong, the body round, the chest deep, broad, and very full at the girth, the arm, or forethighs full, strong, and muscular: the legs clean, strong, and flat-boned, the pasterns straight and short, the hoof circular and broad, the legs on the back part having strong hair in considerable quantity for two thirds of its length from the knee joint to the pastern. This latter characteristic is the most certain indication of pure breed, and we have never seen an instance of the pure Canadian horse without this long strong hair on the legs, short straight pasterns, and a broad circular hoof.

These horses may be brought to a sufficient size, by careful breeding, and sufficient feeding, but we have seen small sized horses of this breed, of great strength and durability. The grand point is, to have the breed pure, and to make a business of raising good horses as an agricultural produce for the market, that will probably be always in good demand. It is necessary that farmers should endeavor to have such products as will sell at remunerating prices, which certainly would be the case if good Canadian horses were raised. The neighboring States will be a sure market for them, and let us only have a good description to command a fair price. This past year we have seen horses of every quality and size selling readily in Montreal, and throughout the country, at good prices according to quality. It would take a considerable quantity of the farmers' grain to make up the amount at present prices, that he could obtain for even a small sized horse. For more than twenty years we have constantly endeavored to recommend attention to the breed of the Canadian horse, and to bring them to as great perfection as possible.

### PREPARATION OF FOOD FOR CATTLE.

It is a good plan to cut up clover hay to mix with oats for horses, as it causes the horses to masticate and break the oats better before they swallow it. We do not think it necessary generally to chop hay for horses, unless where they are fed with boiled roots, given to them in mashes. In that case, either hay or straw cut into chaff might be mixed with the boiled roots. Oats unthreshed, might be cut into chaff and fed to horses, straw and grain as it comes from the chaff-cutter. Where neat cattle are kept as well as horses, by farmers, any hay wasted by the latter, will be greedily eaten by neat cattle if fed to them. It is only to prevent waste, that would justify the expense of chopping hay generally for horses, and therefore it is seldom necessary for the farmer to incur this expense. For sheep, it might be very well to cut strong clover hay into chaff, to be fed to them in the yard in troughs, mixed with grain, cut potatoes or other roots, as they might not otherwise eat the clover so well. For stall-feeding cattle or milch cows that are fed on boiled roots or grain, it will be useful to have hay or straw chopped to mix with their mashes, but we certainly should not chaff either hay or straw for them, except to mix with their mashes. The chaffing of hay or straw cannot improve its quality, and if they are good, cattle will eat them as well without being cut into chaff. Strong clover will certainly be eaten better by cattle when cut into chaff, and mixed with boiled or steamed roots—linseed, or barley, oats, or bean meal. As regards straw, whatever may be said on the subject, we should think it would seldom pay for the expense of cutting into chaff for cattle food in Canada. Indeed we think that farmers should only make use of it for feeding in the yards to cattle, and for litter and manure. Every farm should have as much hay and roots upon it as would feed the necessary stock, without forcing them to exist upon straw, and then the straw would be nearly all for manure. We do

not wish to recommend farmers to incur any expense that might be of doubtful advantage to them. Parties who may have proved the advantage of the general use of the chaff-cutter, should by all means continue its use; but we do not think the chaff-cutter a necessary implement in every farmer's establishment, unless to be made use of under the circumstances we have stated. It would, however, be very desirable if parties who have made use of the chaff-cutter, would, for the advantage of Agriculture, report the results of their experience. This would show how, and under what circumstances the implement might be made use of profitably.

### FARM YARD AND BUILDINGS.

It is of great advantage to a farmer to have his farm buildings so placed as to afford shelter to his animals in winter. In very many instances the arrangement of the buildings is defective, and does not afford shelter. The buildings should, if possible be so constructed as to form three sides of a square, and to have the fourth side open to the south. There is scarcely a farmer in the country who has not sufficient farm buildings to form a sheltered yard if placed judiciously, and if a building was wanted to complete the yard, it would not be difficult to erect a shed on one side. The grand requisite is that farmers should be aware of the advantage of a well sheltered yard, and have a desire to have their buildings so placed as to afford this advantage. Where this desire exists, there will be means found to have suitable buildings and yards. It is very injurious for stock to stand perishing with cold of a Canadian winter's day, without proper shelter from the wind and drift, striving to collect straw from amongst the dung. It is well, however, that this defect is in most cases in the farmers' power to remedy. If the buildings may not be properly placed, it would not cost much to remove them to their proper place, without taking them

down. Good shelter is as necessary for stock as food, if stock are to be made profitable. The convenient arrangement of buildings for the animals is also of great consequence, and we would particularly recommend that each animal should be able to eat its own allowance of provender without being robbed by the next one to it. If the stock are well littered, there will not be much loss of liquid manure, and if all the urine goes into the dung heap, it will be a much better way than to attempt to save it separately, under ordinary circumstances. Litter the animals abundantly, keep plenty of straw in the yard, and save the manure from snow and rain as much as possible until carried to the field, and there will not be much loss of liquid or other manure.

#### AGRICULTURAL SOCIETIES.

We are sorry we cannot give a regular list of the Agricultural Societies of Lower Canada, but shall endeavour to do so in a future number. The Lower Canada Agricultural Society have been organized in 1847, and Incorporated by act of the Provincial Parliament the same year. They have had a grant from the Legislature of £600 annually for the last two years. In each county there is one or two Agricultural Societies, who have an annual grant from the Legislature of three times the amount subscribed by the members of each society, but in no case to exceed £150. There is also a grant of £500 annually for the County Society, in the district of Montreal and Quebec, whose turn it shall be to hold a District Cattle Show, and this is determined by seniority, each County Society having the privilege annually in succession. In the districts of St. Francis and Three Rivers, the annual grant, we believe, for District Societies is £300 for each. These societies would be calculated to produce much benefit to the country, and they do so, where conducted on judicious principles, but in many instances, considerable changes would be necessary to be intro-

duced in the regulations and the modes for determining, and awarding prizes to competitors. The whole amount of the grant by the Legislature for Agricultural Societies in Lower Canada the past year, was, we believe, £5600, and a like amount for Upper Canada. Assistance by the Legislature is actually necessary for the support of Agricultural Societies in Canada for the present. We have not here, as in the British Isles, numerous and wealthy proprietors, whose interest it is to contribute largely to the encouragement of Agricultural improvement, and therefore aid is required from another quarter.

If each County and District Agricultural Society were bound by law to furnish an Annual Report to the Provincial Society of Lower Canada, giving a full statement of their proceedings and showing the improvements that resulted from their exertions, these Reports, might be published in this Journal free of expense to the Societies, and would be productive of much good to the country. It would show what each Society was doing, and the improvement produced by the particular operations of each. The Lower Canada Agricultural Society might make their Report from the County and District Societies Reports, to the Legislature. Some such plan as this is actually necessary to be adopted in order that the progress of improvement may be generally known. The simple report of premiums paid at Cattle Shows or for crops and well managed farms is not sufficient. It would be of much more consequence to report the general state of the Agriculture of the county, and the means that were adopted by each Society for improving the system of husbandry, where its improvement was most required. We feel persuaded that paying premiums at Cattle Shows is far from being the best means of producing the improvement required in Canadian Agriculture. The improvement of the land, by draining, and by judicious cultivation, and cropping, should be the first

objects for encouragement with all Agricultural Societies, under the present circumstances of our Agriculture.

#### USEFUL IMPROVEMENTS.

It is a very extraordinary circumstance that Canada with all her natural means of wealth, should be deficient in capital for any useful purpose, that it would be necessary to employ it in. How is it with our neighbors on the other side of line 45? Have they better means or better security for supplying capital for their wants? Without hesitation we answer that they have not. Why then should they be in a more thriving or prosperous condition than we are, when we are possessed of more natural advantages than they are? This is an enquiry that is of great interest to every inhabitant of Canada. If a railroad or other improvement is required in Canada, there is a difficulty to obtain money for it, while on the other side the lines, in a much poorer country, money can be had in abundance for all their improvements. The people of the United States have so much confidence in Canadian securities, that contractors come in from that country to build our railroads for these securities. They know that they can invest money safely in Canadian improvements, but we appear afraid to do so. We have rich and fertile lands of almost boundless extent—we have vast forests covered with valuable timber—we have lakes, rivers, and canals. We have cities, towns, villages, farms, farm-buildings, stock, and implements, and the whole debt due by Canada for all these, is not nearly equal to half what her agriculture alone would produce in one year; what then would be the difficulty to her progress in every improvement necessary to her prosperity? There is no difficulty that is not in our own power to remove, nor is there a country on this continent more independent in circumstances and richer in natural resources.

Parties may differ with us, and question our proposition, but we shall be most happy to meet all objections that may be brought forward. Wealth and the means of prosperity are lying under our feet, and we do not adopt the means that are in our power to bring them forth for our use. We should not want the means for the improvement of our agriculture, or the construction of necessary railroads or canals, while we have as good security to offer for the means to do all this, as any country in the universe. We only want united action, and to know ourselves, our country, and the immense value of our resources; and, after knowing all this, if we have not sufficient confidence to proceed, there cannot certainly be any hope for us, but the fault will not be to the country, but on ourselves.

#### WORK FOR THE WINTER.

Now is the time to make manure, to attend to cattle, and to remove the manure from the yard to the fields where required in Spring. In making up manure heaps in the field in Winter, they should be carefully piled, and not left scattered about under the snow. The heaps should be made high, and not spread out over much surface. This precaution will prevent the manure from being washed by snow water or heavy rains. Where farmers have to provide fence or fire wood, in the Winter is the time to do so. There is not much idle time for farmers, as much work can be done in the Winter that would occupy the Spring and Summer if left for that season. The repairs of implements and preparation of fence and fire wood for use in the hurry season, will take up all the spare time for the Winter four months. For the younger members of the farmer's family the Winter is a suitable time to attend to their education, and we hope that education will be as much as possible agricultural as it should be always for farmers' children, but with instruction in other branches that are necessary.

As we constantly advocate Agricultural Education and Model-Farms, we are glad to give insertion to any matter that supports our views on these subjects. The Report of Dr. Kirkpatrick, to the Irish Commissioners of National Education—which will be found in another column—is well worthy of attention by all friends to Agricultural Improvement in Canada. We feel persuaded that until Agriculture, in science and practice, is regularly taught to our youth as a part of their education, we shall not make that progress in Agricultural Improvement, that is necessary for the general welfare of the Canadian people. Let those who would be opposed to this plan of instruction, state the grounds of their opposition, and show that the children of farmers would be better without such instruction. Let them also demonstrate, that an education that has no reference whatever to their future occupation in life, would be more suitable and profitable for the children of the rural population, than an education that would make them perfectly acquainted with the science and practice of the occupation of their future lives, and which they were to be dependant upon for this subsistence and success in life. In all countries people are beginning to be aware of the great want of an Agricultural education for those who would wish to be farmers, and are now making provision for such education. Let us not lag behind in this necessary improvement, but introduce it at once. We lament the backward state of Agriculture, but we would ask what has been done to promote its improvement, that we could reasonably expect to be successful? The past action of Agricultural Societies has not certainly been able to do what was required. Let us begin where we ought to begin, and then we may expect that good will result. This subject is of importance, not only to those directly engaged in Agriculture, but is so to every class in this community. We trust that, at the next Session of the Provincial Le-

gisature, it will receive all due attention as a subject of the greatest importance that can occupy our Legislatures. The President of the United States, in his late Message to the Congress, has recommended providing a separate department for Agriculture, under the direct superintendance of a minister. If we desire to go ahead, like other countries, we must adopt the necessary means to enable us to go ahead successfully, and without faltering. Now is the time for action, and there is every encouragement for us to commence. We have a fine country and soil, a very favorable climate, both for good crops and for health. We have a very respectable annual revenue, with every prospect of a rapid increase—what then do we require but judicious action.

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#### MANAGEMENT OF THE LEAVES OF GREEN CROPS.

The Rev. Mr. Huxtable, of Sutton Waldron, England, has successfully preserved in a succulent state, the leaves of turnips, mangels, and carrots, so as to continue a supply of green food through the winter. He buries them in a pit, the bottom of which admits of drainage, and mixes common salt with them, in the proportion of 2 lb. of salt to 112 lb. of leaves or tops. By this process he has kept them for two years and a half, at the lapse of which time they were eaten with avidity by cows, sheep, and pigs. The tops of an acre of turnips, mangolds, or carrots, would yield a considerable quantity of food to be preserved in this way, but they should be fed to stock in the beginning of Winter, or in the commencement of Spring, and not in extremely cold weather. David Milne, Esq., a Scotch gentleman, who makes the report of his visit to the farm of the Rev. Mr. Huxtable, says:—"The implements of husbandry are mostly of iron; the sub-soil ploughs, however, are, I think, of wood. All the ploughs, light as well as heavy, are made with wheels, which Mr. Huxtable prefers to any other kind, on



account of being more easily drawn and managed. In confirmation of his own opinion; he mentioned to me, that a proprietor of Dorsetshire, a few years ago, got a Scotch bailiff to manage his home farm, who brought up with him several Scotch ploughs, and after testing the comparative merits of the two kinds, he was induced to discard those of his own country." The Rev. Mr. Huxtable is spoken of by Mr. Milne, as a most exemplary parish clergyman, who has built a new parish church at his own expense for the accommodation of his parishioners. He has also established Sunday schools, to which he personally attends. Mr. Huxtable commenced farming from motives of benevolence, that he might have the means of giving regular employment and good wages to the able-bodied laborers of his parish. This good man is constantly employed in the most useful manner for the human race, and we wish him health and long life to continue his valuable and praiseworthy labors.

#### PUBLIC PROMENADE.

When we published the second volume to our Treatise on Agriculture in 1836 we endeavoured to show the great want of a public and suitable Promenade and Botanical Garden in the neighbourhood of Montreal, for the convenience, and recreation of the citizens. Since that period, we have frequently, brought the same subject before the public, and we are now rejoiced to find that at last some action has been taken in the matter. Montreal has extended most surprizingly since 1836, in fine houses and streets, but it appears the accommodation of a public Promenade or Boulevard, and a Botanical Garden, was not considered a necessary appendage for a City of 50,000 inhabitants, and where the immediate neighbourhood afforded sites that are almost unrivalled in suitability for such a purpose. Quebec is not destitute of suitable Promenades from which there are delightful prospects of the scenery which surrounds that City, that

are worth a journey across the Atlantic to behold. We congratulate the inhabitants of Montreal, and particularly the working classes of them, on the prospect that now exists that they will soon have a beautiful Boulevard to take the fresh air, without trespassing on private rights, as they were obliged to do heretofore, when they did take a walk in the country to see the trees, and green fields. We have no doubt whatever, that such enjoyment is conducive if not actually necessary, to the health of parties residing in cities, particularly to those classes who have to work, and are subject to confinement, in, perhaps, not the most commodious, and well ventilated houses or apartments. There is no question of the obligation upon those who build up cities for the residence of a large population, to provide, if possible, for the health of this population. The owners of property in cities have the value of this property vastly enhanced by the residence of a large population, and it is therefore their duty to provide such accommodation as will secure their health. It is population that makes houses valuable, and the fact cannot be too well established that "property has its duties as well as its rights" although we regret to say, this *fact* is frequently lost sight of. Those who are so fortunate as to be favored with wealth can take care of themselves, as they have the means, but the producers of wealth have a claim upon the wealthy for due care and attention to their health and welfare, which never can be neglected without incurring a greater or less degree of guilt. In almost all the European cities, ample provision has been made for the accommodation of the people, by Public Promenades, &c.

#### TWO CROPS IN ONE YEAR.

Near great cities and towns in England, they contrive to raise two crops on farms, in the year. They have the seed potatoes sprouted under cover, and immediately the land is in a fit state to work in Spring,

they plant this sprouted seed, and these are generally dug out before the end of June. They have the seed prepared in the same way by sprouting, for the second crop, which is planted when the first crop is removed, and they raise a good second crop. Sometimes they grow Swedish turnips, instead of potatoes, for the second crop. In this case they raise the plants in a seed bed and have them ready to plant out when the potatoes are removed, and they produce a good crop, if the season is not too dry. This year, a farmer in England raised a crop of early potatoes, which he had sold the 11th of June. He then sowed the same land with barley and harvested the crop the 11th October, which he estimated would produce between 30 and 40 bushels to the acre. We have grown in Canada an excellent crop of potatoes, which were sold from the 15th to the 31st of July, and we sowed the land with turnips as the potatoes were dug out up to the 1st of August, and realized a good crop of turnips. This may be done successfully, any season that is not too dry, and turnips of rapid growth are best for the table.

#### WHAT INFLUENCE HAS THE MOON.

We have always doubted the influence attributed to the Moon over the weather of this Earth, or on the growth of vegetation. We have heard and read many statements on the subject, but we have never seen any satisfactory proof of the correctness of these statements which attributed such influences to the Moon. We have for many years endeavored to ascertain for our own satisfaction, whether the changes of the Moon had any influence upon the weather or the growth of plants, and we never could discover that it had the slightest influence upon either. Bare assertion on such matters would have very little weight with us without the clearest demonstration of the facts. It has pleased the Creator that the Moon should show us light, and her changes

mark periods for a large portion of the inhabitants of this Earth, but we cannot understand what other influence she could possibly exercise over us or our atmosphere. It is very easy to assign influences to the Moon, but it would be a difficult matter to prove these influences satisfactorily. We think it the greatest possible absurdity to abstain from committing our seeds to the soil at certain periods of the Moon, and perhaps by this means lose the chance of sowing until too late. We are rejoiced to see lately that some Astronomers of great eminence have given their opinion that the Moon had not any controlling influence over the weather or the growth of vegetation. Dr. Olbers, a distinguished German Astronomer, who discovered the Planets Pallas and Vesta, after an examination founded on *careful meteorological observations for fifty years* in different countries, says:—"I believe that I have *demonstrated* that the influence of the Moon upon the weather is so small that it is *totally lost* amid the great variety of other forces and causes, which change the state of our atmosphere, and that its pretended influence on man, animals, or plants, is, all of it, due to illusion or prejudice." We had not so good an opportunity of being confirmed in our ideas on this subject as Dr. Olbers, but we have taken some trouble to ascertain to our own perfect satisfaction that the Moon has no influence upon weather or vegetation, that has ever come under our notice. Illusion or prejudice on these matters may have a very bad influence upon parties who entertain them, and we do not believe that any farmer, from the time of Noah to the present has gained one shilling by allowing the changes of the Moon to have any influence upon his ploughing, sowing, or harvesting, unless so far as he has made use of the light of the Moon, in the absence of the light of the Sun. We may further state that we had no experience of any influence of the Moon on domestic animals in castrating them or

otherwise, but on this part of the subject, we would not attempt to put our opinion in opposition to parties who had better means of experience than we had. It is very proper that farmers should pay attention to the changes of our atmosphere, to the rising and setting of the Sun, and changes and force of the winds, and we can assure them they will be able to know more of what the weather is likely to be for a short period in advance, from such observations, than they can learn from the changes of Moon, or the time of changing, no matter how high the character of Astronomers who may lay down rules for the sort of weather we are to have, by the time of day or night at which the Moon makes her changes. We have seen statements published in agricultural periodicals of the products of seeds sown at different changes of the Moon, and the great difference in quantity altogether attributed to the Moon's influence. We conceive such statements in Agricultural Publications, are calculated to do considerable injury. We cannot conclude these remarks better than in the following lines from Ecclesiastes. "He that observeth the winds shall not sow; and he that regardeth the clouds, shall not reap. In the morning sow thy seed, and in the evening withhold not thy hand: for thou knowest not whether shall prosper, either this or that, or whether they both shall be alike good."

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#### EXHIBITION OF 1851.

The Royal Commissioners for the English Great Industrial Exhibition of 1851, have signified to the Royal English Agricultural Society, "that the Agricultural Implement Department would be entrusted to their management." This is as it should be, and what we would have expected from the high standing, and character of the Royal Commissioners. They, no doubt, considered that it would be more proper to confide the management of that part of the Exhibition which strictly belonged to Agriculture to a Society that had

been organized and incorporated by Royal Charter, for taking care of the interests of Agriculture, than to leave them to the management of parties not so directly interested in, or connected with Agriculture. By this judicious decision, the Royal English Agricultural Society will be able to hold their great annual show of Cattle, Implements, &c., at the same time of the Great Industrial Exhibition, and when left to the management of parties who understand, and are directly interested in Agriculture, we may be sure that the show of Cattle, Implements, &c., will not be surpassed by any Cattle or Implement Exhibition that has ever taken place in England or any other country. The benefit of Agricultural Exhibitions mainly depends upon their judicious management by parties who understand Agriculture. The correct awarding of prizes is of great consequence. When prizes are awarded to animals or implements, it has considerable influence in recommending them, and if the awards are not correctly made, as we believe is sometimes the case, unskilful parties may be imposed upon, and injured by the purchase of these animals or implements in preference to others that might be better, although not awarded prizes. All these matters require great attention. No prizes should ever be awarded under the sanction of an Agricultural Society, unless the animal or article exhibited was well entitled to it by real merit. It is no excuse for making awards for worthless animals, or other matters, that there was no better exhibited. There should be a strict rule for withholding premiums in cases of want of merit, and Agricultural Societies should reserve their right to withhold premiums, in cases of manifestly incorrect awards by judges.

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We are requested to solicit attention to the advertisement in the present number from the "Provincial Mutual and General Insurance Company" of Upper Canada. This Company will effect Insurances upon

more moderate terms, than any other Company in the Province, and we would recommend all farmers to Insure their property when they can effect it on moderate terms. It is a very serious injury to a farmer of small capital to lose his house or barn by fire, with, perhaps the whole of the produce of his farm for a year. A Mutual Insurance Company, is a union of parties who contribute a certain amount to constitute a fund to pay accidental losses that may occur by fire to any of the parties contributing to the fund, and is the most legitimate mode of providing for losses by fire. The terms of Insurance may be seen by application to the Agent of the Company at Montreal, and they will be found so favorable for farmers, that every farmer in Lower Canada may insure.

We proposed to give a page or two of useful receipts in this number, but they have been crowded out this time by other matter. We shall, however, in future endeavor to make up this deficiency, and give in each number a few of the best receipts we can select from a numerous collection. We are particularly anxious to interest the female portion of subscribers' families in the Journal, and we promise them that we shall not neglect our duty in this respect in future. We may not be able to submit anything new to them, but we shall, at all events, show our disposition to interest them in favor of the Journal. If the ladies would only be favorable to it, there would be little doubt of a vastly increased circulation.

NOTICE.—A Meeting of the Directors of the Lower Canada Agricultural Society is to take place at their Room, in this City, on Friday, the 24th instant, at 11 o'clock, A.M.

By Order,

WM. EVANS,  
Secretary, L. C. A. S.

Montreal, 1st January, 1851.

## PHILOSOPHICAL ESSAYS.

BY JACOB THOMPSON DUNNE.

### ESSAY ON METEOROLOGY.

The *Dublin Review*, No. xviii., Nov. 1840, in an article on the *Economy of the Atmosphere*; makes the following remarks:—"The electric fluid is subject, also, to regular perpetual friction, from the earth moving on its own axis. It is yet to be ascertained whether this action of the earth on the electric medium by which it is surrounded, is not intimately connected with the northern and southern auroral lights, and also with the direction and variations of the needle. The friction in question undoubtedly increases the intensity of the fluid near the surface of the earth; and this intensity would go on always augmenting, unless some provision were made for restoring the equilibrium of the fluid of the atmosphere. Now, according to the doctrine of Professor Daniell, there is twice as much light and heat absorbed in the polar regions as there is in those of the tropics. If this be so, there must be a constant current of the electric fluid (which is, in fact, a heated, subtle element, always capable of being made luminous) from the Equator towards the Poles. The magnetic needle is, very probably, but the index of that current, as the vane is of the prevailing wind; hence the direction of the compass in a direction that would always be parallel to the axis of the earth, were it not for the divergences which take place in the electric current as it approaches the poles. Those divergences would seem to be necessary to the due distribution of the fluid throughout those colder regions of the atmosphere; and when, from any cause, the current is swollen with more of the fluid than those regions can absorb, it will be driven back. The action of repulsion would render the superfluous portion of the current more or less luminous, and hence might arise the phenomena which we call *auroral lights*.

"When we say that the surplus portion of the fluid absorbed in the 'colder regions' of the poles, will be 'driven back,' we assume that there are regions, both in the extreme north and the extreme south, which are less cold than those where the greatest accumulation of ice takes place. This assumption, though apparently paradoxical, is justified by the fact, that the late Russian expedition, under the command of M. Von Wrangle, has discovered an open, navigable sea beyond the 72 deg. of north latitude; and when we consider the briny character of that sea, which prevents it from being frozen, we seem justified in concluding that the climate, between lat. 72 and lat. 90 degs., is much milder than it is at what may be called the *zone of perpetual ice*, found southward of lat.

72 degs. It is, moreover, well ascertained that the auroral lights do not ascend from the higher regions of the atmosphere; on the contrary, they uniformly ascend from the lower regions to the higher, and, indeed are usually seen within a few miles of the earth's surface. They would appear, therefore, to be altogether of earthly origin; and this induction further favours the supposition, that as there is a southern as well as a northern aurora, so, also, there is an extreme southern as well as an extreme northern, unfrozen polar ocean."

Such are the opinions and conjectures at present prevalent respecting the cause of the *Lumina Borealia*, which for the last 100 years have been oftener seen than in former ages, but I may venture to say that the real nature of these lights is yet unknown.

*The Rainbow.*—This beautiful arch is occasioned by the complicated reflection and decomposition of the sun's rays in passing through drops of falling rain. It is only seen when the sun is unclouded and the rain falling in the opposite quarter of the heavens.

*Halos* are coloured rings which surround the sun at considerable distances from his body; sometimes two and even three in number. They are supposed to arise from the action of the icy particles in the upper air upon the rays of light. These particles naturally aggregate into needles or prisms of three or six sided, and the reflection of the light through them would account for the colours of the rings, and for the distances at which they stand from the sun.

*Parhelia* or Mock-suns, and *Paraselenæ* or Mock-moons, are supposed to be owing to refraction from the same icy particles. Phenomena of this kind have been arranged into four classes:—"1st, circles surrounding the orb which occupies their centre; 2nd, circles passing through the orb; 3rd, arcs of circles touching those of the first class; and 4th, parhelia and paraselenæ found at the points where the circles cross each other."—See Messrs. Chambers' *Meteorology*, a work to which I am indebted for many remarks in this essay. Phenomena of this description, though not frequent, have been seen at different periods.

Augustine takes notice of two mock suns which were seen before the Christian era. Zonaras mentions two seen after the death of Christ; Palmerius, three seen in 1466; Sarius, three seen at Wirtemberg in 1514; Fromundus, three seen in 1619; Cardan, three seen at Venice, in 1532; and on the 25th of March, 1798, there were two beautiful mock suns seen at Niort, from six to nearly eight in the morning; they were so bright that the eye could hardly look at them: with the real sun as a base, they seemed to compose a triangle.

"In Britain, according to old chronicles, five suns were plainly seen in the year 346;

they were at a great distance from one another: three were seen in 812; three in 953; and five in 1233 Lilly mentions three seen on the 19th of November, 1644, and three seen on the 29th of February, 1648. A most remarkable phenomenon of this kind, where five parhelia were seen at once, is mentioned in the eighth volume of the *New Transactions of the Imperial Academy at St. Petersburg.*"—

The *coronæ*, or *glories*, which surround the sun or moon when a thin cloud passes over them, are to be distinguished from the *halos*. The *coronæ* depend on a different optical principle. We know that if any fine dust is interposed between the eye and a luminous object, rings of colours are formed, whose size depends upon the dimensions of the powdery particles.

Dr. Young has shown that rings eight degrees in diameter are produced from particles of powder, or drops, not more than 1-2185th of an inch in diameter. The fine particles of visible vapour produce the *coronæ* in the same manner as the light dust of a room occasions the rings which we often see round the flame of a candle.

*Shooting Stars*, which we observe more especially in fine serene nights in November, and often in August, are considered to be nitrous particles kindling in the air and running with a long tail till exhausted; some are of opinion that they are *meteoric stones*, the luminous line being formed by the extraordinary friction they cause in passing through the air. These *stones*, called also *aerolites*, from the Greek words *aer*, atmosphere, and *lithos*, a stone, most likely are fragments flying through space and coming into the sphere of the earth's attraction, are thereby drawn down to its surface. *Aerolites* have been found in many places, and are quite unlike any mineral or terrestrial substance. Some of them appear, but do not fall, the earth only deflecting them a certain way, but not being able to draw them to its surface.

There is another luminous meteor which I have not yet mentioned—namely, the *Ignis fatuus*, or 'Will-o'-the-wisp,' which appears at night on marshy grounds, church-yards, or wherever decomposition or putrefaction is going on. It is thought to be occasioned by an evolution of phosphoretted hydrogen gas; the flame is not real, but only faintly phosphorescent. This lamp appears about a foot or two above the earth; it moves about here and there, but is often stationary. If we follow it, it eludes us by means of the motion we give the air in our pursuit.

\* Fooling the follower betwixt shade and shining.  
*Fairy Castles*, the *Fata Morgana*, near Rhegium, in the south of Italy; landscapes with companies of men and women, armies, herds and other apparitions, are caused by the reflection and refraction of light from fogs and vapours arising from the sea, lakes,

or morasses replete with *marine* and *vegetable salts*.

The *Sceptre of the Brocken*, in the Hartz Mountains in Hanover, is an optical delusion. Something like it is alluded to Judges ix. 36., where it says, "Thou seest the shadow of the mountains as if they were men."

OUR EARLY YEARS.

Our early years—how bright they seem,  
As memory bears us back  
To gaze upon the stars that gleam  
On childhood's rainbow track.  
Our spirits, burdened by the gloom  
Of life's maturer cares,  
Would fain recal the light an bloom  
That blessed our early years.

It may be we had trials then,  
Shading life's sunny part,  
But sorrow hath no iron pen!  
To grave on childhood's heart!  
Hardly had shadow touched the brow,  
Ere sunshine dried our tears;  
Would that our griefs could vanish now,  
As in our early years!

Then, innocence and truth were ours—  
Bright, blessed angel pair—  
No thorn amid the clustered flowers  
That bloom'd so fresh and fair.  
But now our earth-soil'd spirits sink  
Beneath our gathering fears—  
Life hath no blossoms round its brink,  
As in our early years.

Now disappointment from the heart  
Its cloud will not remove,  
We bend beneath neglect's cold dart,  
Our unrequited love;  
We pine when sadly crushed beneath  
The knell hope ever hears,  
Once more to wear affection's wreath,  
As in our early years.

The young heart's fresh unsullied leaves,  
Which opened like a rose,  
Now wear the taint that error leaves,  
Where'er its current flows;  
Our very hopes are darkened by  
The soil which passion wears—  
No marvel, that we sadly sigh  
For life's pure early years!

Our early years—their memory steals  
Across life's later track,  
And thus the saddened spirit feels  
It may not call them back.  
Their light is changed for darkness now,  
Their smiles for bitter tears,  
And life again may never know  
The bliss of early years.

How certain the man of a weak head, a bad heart, and great fortune, is to obtain the attention which needy merit is an humble competitor for.

THE HORTICULTURIST,  
AND  
Journal of Rural Art and Rural Taste.

EDITED BY A. J. DOWNING,

AUTHOR OF "LANDSCAPE GARDENING," "DESIGNS FOR COTTAGE RESIDENCES," "FRUITS AND FRUIT TREES OF AMERICA," &c., &c.

This magazine is devoted mainly to Horticulture. Gardening, in a thoroughly practical as well as scientific sense, is its leading object; and it is hoped, through its columns, not only to render simple and easy to the novice, the practical care of all that belongs to the garden, but also to disseminate, in all parts of the country, a knowledge of all new and important discoveries in Horticulture. It embraces, in its scope,

- I. THE DESCRIPTION AND CULTIVATION OF FRUITS AND FRUIT TREES—a subject of vast importance, and in which we are already more interested than any other people.
- II. THE DESCRIPTION AND CULTIVATION OF FLOWERS AND FLOWERING PLANTS AND SHRUBS, from the most delicate and tender to the most hardy and robust.
- III. TO THE DESCRIPTION AND CULTIVATION OF ALL EDIBLE PLANTS, which are, or should be, grown in our gardens.
- IV. TO GARDENING, AS AN ART OF TASTE—with designs for Ornamental or Landscape Gardening.
- V. TO RURAL ARCHITECTURE—embracing Designs for Rural Cottages and Villas, Farm Houses, Lodges, Gates, Vineries, Ice Houses, &c., &c.
- VI. TO ARBORICULTURE—or the Planting or culture of Forest and Ornamental Trees.
- VII. TO BOTANY AND ENTOMOLOGY—so far as these branches are connected with the general subjects to which the work is specially devoted.

THE HORTICULTURIST has now (Dec. 1850,) been published four and a half years; and its influence on the progress of Gardening and Rural Taste is too strikingly apparent to need a word of comment. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. To all persons alive to the improvement of their gardens, orchards, or country seats,—to scientific and practical cultivators of the soil,—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable.

A NEW VOLUME, (the 6th,) commences with the January No. for 1851; and it will be the constant aim of the Editor and the Publisher, by every means in their power, to render it still more worthy, by every practicable improvement, of the liberal patronage it is receiving.

The work is issued on the first of each month, in the best style of the periodical press, each number containing 48 pages, embellished with a frontispiece and several other engravings.

TERMS—Three Dollars a year.—Two copies for Five Dollars, payable in advance.

All business letters to be addressed to the Proprietor, LUTHER TUCKER, Albany, N. Y., or R. W. LAY, Montreal, Agent for Canada.  
Albany, N. Y. January 1, 1851.

RULES

OF

THE LEGISLATIVE ASSEMBLY,  
RESPECTING PRIVATE BILLS.

ADOPTED on 3rd August, 1850, and substituted for the Rules (numbered 60 to 72) heretofore in force.

60. That hereafter no Petition for any Private or local Bill will be received by the House, after the first fifteen days of each Session, unless the

Petitioners shall have first applied, after notice thereof, for leave to present such Petition, and obtained permission of the House to do so.

61. That hereafter this House will not receive any Private or local Bills, except within the first four weeks each Session.

62. That this House will not receive any Report of a Standing or Special Committee, upon any Private or local Bill, except within the first six weeks of each Session.

63. That the Clerk of this House shall, immediately after the issuing of the Proclamation convoking the Provincial Parliament for the despatch of business, announce, in the Canada Gazette, and other newspapers published in this Province, until the opening of Parliament, the day on which the time limited for receiving Petitions for Private Bills will expire, according to the Rules of this House; and the said Clerk shall also announce, by notice set up in the Special Committee Rooms, and in the Lobby of this House, by the first day of every Session, the days on which, according to the Rules of this House, the time for receiving Petitions for Private Bills, Reports on those Petitions, and Reports on the Bills upon those Petitions, are to expire.

64. That all applications for Private or local Bills, whether for the erection of a Bridge the making of a Rail Road, Turnpike Road, or Telegraph Line; the construction or improvement of a Harbour, Canal, Lock, Dam, or Slide, or other like work; the construction of works for supplying gas or water; or for the incorporation of any particular Profession or Trade, or of any Banking or other Commercial Company, or Cemetery Company; the incorporation of a Town or City; the levying of any local Assessment; the division of any County or Township; the regulation of a Common; the re-survey of any Township, line, or Concession; or for granting to any individual or individuals any exclusive rights or privileges whatsoever, or for doing any matter or thing which in its operation would affect the rights or property of other parties; or for making any amendment of a like nature to any former Act, shall require the following notice to be published, viz.:

In *Upper Canada*—A notice inserted in one newspaper published in the County, or Union of Counties, affected.

In *Lower Canada*—A notice inserted in one newspaper in the English, and one newspaper in the French language, in the District affected (if any be published therein), and also affixed at the Church door of every Parish or Township that such application may affect, or in the most public place where there is no Church.

Such notices shall be continued in each case for a period of at least two months, during the interval of time between the close of the next preceding Session, and the presentation of the Petition.

65. That before any Petition praying for leave to bring in a Private Bill for the erection of a Toll Bridge is presented to this House, the person or persons purposing to petition for such Bill shall, upon giving the notice prescribed by the 64th Rule, also, at the same time, and in the same manner, give a notice in writing, stating the rates which they intend to ask, the extent of the privilege, the height of the arches, the interval between the abutments or piers for the

passage of rafts and vessels, and mentioning also whether they propose to erect a drawbridge or not, and the dimensions of such draw bridge.

66. That parties publishing notices of intended application for Private Bills under the 64th Rule, shall be required to send, addressed to "Private Bill Office, Legislative Assembly," (as soon as may be after its publication) a copy of the local newspaper containing the first insertion of any such notice (or a certificate of the insertion thereof, by the proprietor of such paper); and also, after the presentation of the Petition, a copy of the paper containing the last insertion of the said notice (or a certificate thereof), together with proof of notices having been affixed (when required) at the Church doors.

67. That every Private Bill shall be prepared by the parties applying for the same, and printed by the contractor for the Sessional Printing of the House, at the expense of the said parties, and one hundred and fifty copies thereof shall be deposited in the Private Bill Office, for the use of Members, before the second reading.

68. That Bills of a private nature shall be introduced on a Petition, to be presented by a Member, and seconded.

69. That when any Bill shall be brought into the House for confirming Letters Patent, a true copy of such Letters Patent shall be attached to the Bill.

70. That the expenses and costs attending on Private Bills giving any exclusive privilege or advantage, whether for the erection of a Bridge, or the construction of a Railroad, Turnpike Road, Telegraph Line, Harbour, Canal, Lock, Slide, Dam, or other like work; or for the incorporation of Banking or Commercial Companies, Cemetery Companies, or Companies for the construction of Gas or Water Works, or for any other objects or profit; or for amending, extending, or enlarging any former Acts in such manner as to confer additional powers, ought not to fall on the public, and that for the purpose of defraying the same, the parties seeking to obtain any such Bill shall be required to pay into the hands of the Clerk of this House the sum of fifteen pounds, before, in any case, the said Bill shall be further proceeded upon after being read a second time.

71. That every Private Bill, after having been read a second time, shall be referred to the Standing Committee on Private Bills, if any such shall have been appointed, or to some other Standing Committee of the same character.

72. That whenever any Petition or Bill presented to the House shall have been referred to a Committee to examine the matter thereof, and report the same as it shall appear to them, to the House, the House will not admit any Petitioners to be heard, by themselves or Counsel, against such Petition or Bill, until the matter shall have been first reported to the House.

73. That all persons whose interest or property may be affected by any Private Bill shall, when required by the Committee, appear in person before them to give their consent, and if they cannot personally appear, they may send their consent in writing, which shall be proved before the Committee by one or more witnesses. And in every case the Committee upon any Bill for incorporating a Company, shall require proof that the persons whose names appear in the Bill as

composing the said Company, are of full age, and that they are in a position to effect the objects contemplated by the Bill, and have personally consented to become so incorporated.

74. That no Committee on any Private Bill, based upon a Petition, notice of which is required by the 64th Rule, shall sit thereupon, without first causing a week's notice of the day of sitting to be set up in the Lobby.

75. That the Committee to whom any Private Bill shall have been referred, shall report the Bill to the House, whether such Committee shall or shall not have agreed to the Preamble, or gone through the several clauses, or any of them, and when any alteration shall have been made in the Preamble of the Bill, such alteration, together with the ground of making the same, shall be specially stated in the Report.

79. That when the Committee on any Private Bill shall report to the House that the Preamble of such Bill has not been proved to their satisfaction, they shall also state the grounds upon which they have arrived at such a decision.

77. That a filled up Bill containing the amendments proposed to be submitted to the Committee on the Bill, be deposited in the Private Bill Office, one clear day before the meeting of the Committee upon such Bill.

78. That the Chairman of the Committee shall sign, with his name at length, a printed copy of the Bill, on which the amendments are fairly written, and shall also sign with the initials of his name, the several amendments made and clauses added in Committee.

79. That no Private Bill be read a third time, until the party interested shall have delivered to the Clerk a certificate from the Queen's Printer, that the cost of printing one hundred and fifty copies of the Act for the Government, has been paid, or secured to him.

80. That (except in cases of urgent and pressing necessity,) no motion shall be made to dispense with any Sessional or Standing Order of the House, relative to Private Bills, without due notice thereof.

81. That a Book, to be called the "Private Bill Register," shall be kept in a room to be called the "Private Bill Office," in which Book shall be entered, by the Clerk appointed for the business of that Office, the name, description and place of residence, of the parties applying for the Bill, or their agent, and all the proceedings thereon, from the Petition to the passing of the Bill; such entry to specify briefly each proceeding in the House, or in any Committee to which the Bill or Petition may be referred, the day on which the Committee is appointed to sit, and the name of the Committee Clerk. Such Book to be open to the public inspection daily, during Office hours.

81. That the Clerk of the Private Bill Office do prepare, daily, lists of all Private Bills, and Petitions for Private Bills, upon which any Committee is appointed to sit, specifying the time of meeting, and the room where the Committee shall sit; and the same shall be hung up in the Lobby.

Office of the Lower Canada Agricultural Society at No. 25, Notre Dame Street, Montreal, over the Seedstore of Mr. George Shepherd, Seedsman of the Society, where the Secretary of the Society, William Evans, Esq., is in attendance daily, from 10 to 1 o'clock.

PROVINCIAL MUTUAL AND GENERAL

# INSURANCE COMPANY.

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Toronto, April 8, 1850.

982-q

Wm. Evans, junr., Agent for Montreal, will receive applications for Insurance in writing, addressed to him at his residence Côte St. Paul, or left for him at the Hardware Store of J. Henry Evans Esq., St. Paul street, Montreal.

## MATTHEW MOODY,

MANUFACTURER OF  
THRASHING MACHINES, REAPING MACHINES, STUMP AND STONE EXTRACTORS, ROOT CUTTERS, REVOLVING AND CAST-STEEL HORSE RAKES, PATENT CHURNS, WAGGONS, &c. &c. &c.

THE Subscriber has been employed since 1846 in manufacturing his improved THRASHING MACHINES, with Horse powers. He was awarded the highest Prize at the Terrebonne County exhibition after competition with many others. They have thrashed and cleaned, with 2 horses, from 100 to 124 minots of Wheat per day, and from 200 to 250 of Oats, and have given universal satisfaction. He guarantees all purchasers for any recourse by Paige & Co., of Montreal, who allege having a patent for these machines, dated December, 1848! and warrants them equal to any made here or elsewhere, for efficiency and durability.

One of his Reaping Machines may be seen at Kerr's Hotel, St. Lawrence Street, price £25.

Having lately erected new and enlarged Works for the above articles, he will execute promptly all orders in his line.

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