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AGRICULTURAL JOURNAL,

AND

TRANSACTIONS

OF THE

Lower Canada Agricultural Society.

Vol. 5.

MONTREAL: SEPTEMBER, 1852.

No. 9.

RAILROADS, CANALS, AND TURNPIKE ROADS.

Experience alone can show the vast benefit of Railroads, Canals, and Turnpike-Roads to a country. In most situations that are at any considerable distance from our principle cities and markets, they have the effect of doubling the value of property, and in some instances, even more than this. In a late visit to the rising village of Granby, we were assured by every party with whom we had communication that the advantage of the Turnpike-Road, constructed some time ago to that place, was immense, and every inhabitant in the neighborhood of the road, for a distance of over 50 miles, partakes of these advantages. The country surrounding Granby, as well as the village itself, have every appearance of rapid improvement. They have numerous saw and grist mills, and other machinery, propelled by water power. We can assure our readers there are not any symptoms of "ruin and decay," but, on the contrary, the most active industry. We found the country the whole distance interesting. The road from Longueuil to Chambly is in excellent order and undergoing repairs wherever necessary. It is studded with neat houses and barns the whole way, and the land is excellent, generally. The bridge constructed over the Richelieu, at Chambly, by John Yule, Esq., is not only highly creditable to that gentleman, but to the Province. We have never seen in any part of America so well constructed a bridge and one that is kept in such perfect order. It is not a rickety structure, put up at the least possible expense, to insure a large percentage upon the expenditure. On the contrary, no expense

appears to have been saved that was necessary to secure safety and permanency. Indeed every thing about the bridge is creditable to its owner, and is a pattern for bridge building.

The great Annual Exhibition of the Royal English Agricultural Society took place at Lewes in July last, and we copy that part of the Report of the Exhibition which we conceive may be instructive and interesting to Canadian Agriculturists. Both the live stock and implements were of very superior quality, though the attendance was not so numerous as at former Exhibitions, in consequence, it was thought, of the General Election being going on at the time. The English Society have done much for advancing agricultural improvement in England, and by following their good examples, the Provincial Society of Lower Canada might also do much good, and they have already made some progress in the work they have undertaken. We have a Society organized, and all that is necessary for their successful operation is the hearty co-operation of the members, and particularly the Directors. We cannot forego the opportunity of copying a part of the speech of Lord Palmerston at the annual dinner of the Society, and it may be read with profit by Agriculturists in Canada, if they will only act upon the excellent suggestions of the noble Lord.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(ABRIDGED FROM THE TIMES.)

LEWES, TUESDAY EVENING.—The annual county meeting of the Royal Agricultural Society commences at this place to-morrow. Before the prize lists of implements and stock overtake us, and while we are still fresh upon the ground, it

may be worth while to state shortly what the Royal Agricultural Society is, how it works, what good it has done, what its faults are, and how it may be made more useful for the future. The survey thus proposed is rendered the more appropriate at the present moment when the last decisive battle between Free Trade and protection is, with no doubtful issue, being fought to its close, and when some instruction may be derived by contrasting the fruits of a great political contest with the unostentatious labors of a body of men endeavouring to develop the oldest, the most necessary, and perhaps the greatest, of the useful arts.

The Royal Agricultural Society of England was incorporated in 1839 for a variety of objects. It was to embody such information contained in agricultural publications, and in other scientific works, as had been proved by practical experience useful to the cultivators of the soil. It was to correspond with agricultural, horticultural, and other scientific societies, both at home and abroad. It was to encourage experimental agriculture, to promote improvements in implements and in the construction of farm-buildings and cottages, to develop the science of agricultural chemistry, to ascertain the best means of eradicating weeds and of destroying insects injurious to vegetable life, to help the discovery and introduction of new varieties of useful plants, to raise the standard of education among the agricultural classes, to assist in improving the veterinary art, and to encourage the best modes of cultivation and the best breeds of stock, and, finally, to contribute as far as possible to the comfort and welfare of the laborer. It will be admitted that the society had a wide enough field of exertion thus opened up to it. Let us see how it went to work therein. Its operations may be collected from the privileges of membership (with a Journal published in half-yearly parts), the services of a consulting chemist, the town meetings of the council, at which lectures are read and discussions take place on all subjects of interest included within the scope of the society's charter, a library for reference, the annual country meetings, which include a show of stock and implements, and, finally, some advantages in connection with the Royal Veterinary College. The society may also claim such credit as is due to it for having promoted the Royal Agricultural College at Cirencester—an institution which may yet prove of great value in supplying an enlightened body of land-agents competent for the care of those important interests with which they are intrusted. The college, however, has now no connexion with the society, and is merely mentioned incidentally. Of the different means thus adopted by the Society for the promotion of agriculture, the Journal is certainly one of the most valuable and successful. It has a circulation considerably in excess of the number of members in the society, notwithstanding that the gratuitous distribution to them raises the price to the

public to an exorbitant amount. In this last respect the arrangements do not appear to be at all on a satisfactory basis; and the Council, if they do not speedily make some change, may find private enterprise depriving them of a means of usefulness which cannot be too much. pryed There are hundreds of farmers who would willingly become subscribers for the Journal if the sale of it had not been converted into a practical monopoly for the purpose of securing additional members. The price of each part is 10s., so that in the year the general public are mulcted for it as much as if they had joined the society. Of the value of this periodical in the information which it contains it is difficult to speak too highly. Its pages possess an interest which will often prove attractive to the least professional reader; and while visionary theories are rejected on the one hand, and the bigotry of routine discountenanced on the other, the successful applications of science to practice are elucidated with the greatest care and by the best authorities. Take, for example, the two parts issued last year as specimens. The first opens with an article on agricultural chemistry by Mr. Lawes, of Rothamstead, and Dr. Gilbert; Mr. Pusey writes an account of M^cCormick's reaping machine, and Professor Way treats on superphosphate of lime, and Mr. J. A. Clarke gives an excellent account of the farming of Lincolnshire. In the second part, Mr. Lawes is again found recording an elaborate series of experiments on the comparative fattening qualities of different breeds of sheep. There is a very remarkable essay by Mr. Joshua Trimmer, on the Agricultural Geology of England and Wales—one which opens up an entirely unexplored field of science, and which, pursued in conjunction with Professor Way's researches into the different quality of soils, will no doubt yet throw very extensive light upon the practice of agriculture. The part concludes with a report, drawn up by Mr. Pusey, on the agricultural implements in the Great Exhibition. Copious extracts from that report were published in the *Times* when it first appeared, and the whole forms a most comprehensive statement of the valuable and increasing aids which the mechanical ingenuity of the age is so rapidly placing at the disposal of the cultivators of the soil. No person who refers to that report, or to the able lecture delivered on the same subject before the Society of Arts by Professor Wilson, can fail to be struck with the progress which has been made, and is still making, in this direction, and Mr. Pusey puts the practical results at once truthfully and well, when he says that "the efforts of agricultural mechanists have been in all the main branches of farming labor taken together to effect a saving on outgoings of little less than one-half;" that the new machines have, in addition to that saving, "the merit of very great cheapness," and that they "have given to farming what it most wanted, not absolute indeed, but comparative certainty." Look-

ing back to the few years during which the Journal has been in existence, one cannot help being struck with the freshness and value of the information which it has conveyed. Every new fact or practice connected with agriculture and included in the scope of the society's objects, has found therein a ready medium of publicity. The state of cultivation in each country, and the capabilities of the soil, have been carefully described, experiments have been minutely detailed, and the peculiar systems of widely separated districts, and even countries, recorded for the common benefit and instruction of all. The catch-water meadows of Devonshire, the warp lands of the Trent, the great level of the Fens, drained by wind-mills and steam-engines, are, perhaps, among the most remarkable developments of English agriculture; and it is reassuring, in times of distrust like those which we have lately passed through, to have the attention directed to results which, through many difficulties, and pursued during a long course of years, enterprize and energy have achieved.

The employment of a consulting chymist by the society adds greatly to the usefulness and dignity of its labour; for, however the ignorant may deride the still obscure teachings of chymical knowledge, a time will come, and is already foreshadowed, when the laboratory will form an usual appurtenance of the farm, and when scientific analysis and experiment shall supersede the rule of thumb, by which our fields have been cultivated and our food supplied. The society has felt and still feels all this. Besides those elaborate investigations into the qualities of manures and of soils to which we have already adverted, and which have yielded practical results of the highest value, many examples may be found in the records of the society's proceedings of the unexpected aids which chymistry affords. We may quote as an instance the treatment of flax straw as a substance adapted for manufacture; but the most remarkable proof of the interest felt in this department, and the large expectations entertained from it, is the announcement made a few days ago that the Society would confer a prize of £1,000 for the discovery of an artificial manure as fertilizing as Peruvian guano, and capable of being sold at £5 per ton. Such a discovery is not deemed impossible, and yet the effect of it would be an average increase of production which Mr. Hudson, of Castleacre, told the Earl of Derby recently, would be more than equal to any protective duty the Government could place upon corn.

The town meetings of the council, and the lectures which are read and the discussions which arise therein, form a prominent feature of the Society's means of action. The subjects treated usually possess the interest of novelty, or of circumstances which have arisen to fix attention upon them. Here the business of the society is chiefly conducted by the most active and enterprising landowners and farmers, their continuance in the council being made dependent,

to a large extent, upon the punctuality with which they attend the proceedings. So far the result is satisfactory, and the working of the society efficient; but it is a necessary consequence of the present constitution of the council, that its members have facilities for remaining in office to a degree incompatible with that character for freshness and vigour which should mark the governing bodies of voluntary associations like this. Let an impression once get abroad that the affairs of such an association have fallen into the hands of a clique, and farewell to its usefulness. The Royal Agricultural Society has been more open to this charge than it is at present, and, we believe, perceives its own danger with regard to it. The ordinary meetings of the councils at Hanover-square necessarily command no great variety in the attendance; but means might be adopted, by the formation of committees from the general body of members on special subjects, or by a union with the local societies, similar to that which has recently been organized by the Society of Arts, for giving all parts of the country a practical share in the operations of the society, and thus enlisting them by their own services in the cause of agricultural progress. A few of the leading farmers of England are active members of the society; but the great majority still regard it as a landlord's institution, given over to an amateur spirit of improvement, and comparatively regardless of those economical considerations from which practical men cannot afford to have their attention diverted. This we believe to be a narrow-minded view of the objects of the society, but as long as it exists a great barrier of opinion and feeling is presented to its usefulness. Such facts do not escape observation, as the large proportion of members in the council who come from the very county in which the present year's meeting is held.

Looking at the implement-yard as a whole, one cannot help being impressed with the enormous aids held out therein to practical agriculture. Thirteen years of experience have exercised a most salutary influence on the description of machines brought forward, and, whereas formerly there was much useless rubbish, now the practical requirements of the farm are taken as the true guides of invention. Perhaps no more remarkable evidence can be afforded of this than the case of reaping machines, of which no less than seventeen specimens are exhibited, the best makers being competitors. From among them, Messrs. Garrett and Son have deservedly borne away the palm, not only by their selection of Hussey's machine, demonstrating its superiority over that of McCormick, which gained the council medal at the Great Exhibition last year, but introducing a very simple improvement in the construction of the scissor-like knives, which is thus described in the catalogue:—

“In the machines brought over from America the cutters were bevelled on both sides, similar

to a common axe, which was found—in cutting soft crops, such as barley and oats—to have the effect of bending the straw between the guards in which the cutters work, and pulling it off instead of cutting it. By the improved form of cutter, registered by R. Garrett and Son, bevilled on one side only, and cutting against a keen square edge guard made of steel, similar to a pair of shears or scissors, this defect has been completely remedied, and crops of any kind may be perfectly cut with equal precision and facility. It is adapted for lands ploughed flat, as well as for stetches or ridges, and may be worked either lengthways or across the furrows, as required.”

This wonderful machine promises to effect a complete revolution in our harvesting operations, for it cuts every description of standing crop with an evenness and regularity unknown to hand labor, and it works at the rate of an acre and a half per hour; so that, in addition to the mere economy of money, there is the equally important one of time, a farmer being rendered far less dependent on those two very precarious things, harvest weather and harvest hands, than he used to be. The attention which this machine has attracted is one of the most favorable and encouraging signs that have yet been displayed of the increasing intelligence and enterprise among the agricultural body. It is calculated that, within the year, 1,500 of them have been made to order in this country—a sale of a new implement quite unprecedented. Another impression which must be produced on the mind of every attentive visitor to the show-yard of the Royal Agricultural Society is the extraordinary attraction which the manufacturers of machinery or the use of the farm feel and own towards, these annual exhibitions. At great expense, they continue year after year to compete with each other; and so strong is the spirit of rivalry which pervades them, that a blacksmith (not long ago in a very small way in this neighbourhood) exhibits goods to the value of £2,000. Many of these men, who now employ hundreds of hands, commenced business like this blacksmith, and they have risen by degrees till their business at length embraces a variety of mechanical details, and calls forth an ingenuity which makes it not only an important branch of our national industry, but a prominent feature in that great system of labor economized by machinery which is the chief source of our wealth as a people.

We give an extract of the Prussian Ambassador's speech:—

The Chevalier Bunsen was received with loud and prolonged cheering. In returning thanks he described the interest with which he and his colleagues entered the show-yard yesterday, and examined the magnificent exhibition of cattle and the improved show of implements. There was nothing of politics at these meetings—politics were banished (laughter and cheers); but they felt that this was a great national, and might

add a great international, concern; it was a harbinger of peace and a sign of concord to the world, strengthening the feeling of relationship generally between man and man. With the same feelings they had entered this hall, where they saw united at this festive board, not landlords and tenants merely, but warriors and civilians, and statesmen of all political parties, meeting with the tenant-farmers for good and for great purposes. They had thus entered into the very heart and core of British life; and he was sure he would not be contradicted by his excellent colleague when he said that in the midst of all the efforts of their common brethren, the Anglo-Saxon race, there was nothing so important as agricultural improvement and progress. So it had been from the beginning. What was it that nerved the ancestors of the people of the United States, when they brought to a new hemisphere the honored British name; what had made them strong, and able to govern themselves, but their devotion to the hardy and ennobling pursuits of agriculture? They were not a people who dug in the crevices of the rocks for dirty gold (laughter), but they solicited, as was done here, the innocent mother earth to yield her best blessings and her choicest fruits to the labors of the ploughshare (cheers). And no one knew better than his noble friend, the Sardinian representative, that it was the same on the other side of the Alps, and that it was agriculture which had made the men of Piedmont the brothers and colleagues of the Anglo-Saxon race in the determination to uphold their independence and liberty both in peace and war (loud cheers). And, though last not least, his own native country—the native home of the whole Anglo-Saxon race—the part of Germany which he now represented, the kingdom of Prussia was more and more occupied with agriculture, and in all matters of improvement they looked to England for a model.

After eulogizing the journal of this society, which he said was read with equal interest on the banks of the Rhine as on the Thames, and the value of the annual shows, he said that in his opinion they were carrying on a greater work still—they had brought the landlord, the tenant, and the laborer into a closer union than they had ever been in before. This process he had seen going on during the fourteen years that he had been acquainted with them. This was not a blessing for this country alone, but he believed it was intimately connected with the peace, the liberty, and the happiness of mankind all over the world (cheers). If all this were not enough, he might point to the fact that they had assembled in the middle of a great election, which, as was remarked by a great statesman, in any other country would have shaken the foundations of society, but here it scarcely ruffled the surface of its waters (cheers). They had met without any feeling of party heats or animosities (continued cheering). What might their efforts then be expected to be for the future.

LORD PALMERSTON SAID:

Now, gentlemen, the Romans, as we know, were a gre^t people, unsurpassed in some things—in literature and the arts—a people who made great works. Those great works, indeed, were, as we have been told—

“Imperial wonders wrought by nations spoiled,”

and though we cannot, perhaps, surpass them in literature, or in the fine arts, yet I think we may boast that we have surpassed them in our public works. (Hear, hear). They could boast of nothing to compare with the railroads which multiply the communications of this country; and those railroads, instead of being the work of “nations spoiled,” are the works of individuals who, I trust, have not been spoiled (laughter), but will be ample gainers by their investments. (Cheers and laughter). Now, gentlemen, the Romans also were great agriculturists, and I believe they drew great supplies of grain from this island. But to them was closed that wonderful book of knowledge which the scientific investigations of the present day have opened to you in that mysterious science of chymistry, which to them was an unknown book; and if ever there were a case in which it was true that “knowledge is power,” that maxim is peculiarly true in reference to the aids which chymistry affords to agriculture. My noble friend has alluded to the question of guano, and he has mentioned what is perfectly true, that when I held an office which would have enabled me, if it had been possible, to assist the farmer with regard to guano, my endeavours proved fruitless. In fact, the Peruvians were not more disposed to let us put a price on their guano than the British farmer would be disposed to let them put a price upon his corn (Great laughter). But, gentlemen, I cannot but think that the progress of chymical science, and the application of that science to practical agriculture, may lead you to something which will render you less anxious and solicitous about this same guano, and that instead of sending to the other end of the world for more manure for our fields, we shall find something nearly, if not quite, as good within a few hundred yards of our dwellings. (“Hear, hear,” and cheers). Now, gentlemen, I have heard a definition of dirt. I have heard it said that dirt is nothing but a thing in a wrong place. (“Hear,” and laughter). Now, the dirt of our towns precisely corresponds with that definition. (Hear). The dirt of our towns ought to be put upon our fields, and if there could be such a reciprocal community of interest between the country and the towns—that the country should purify the towns, and the towns should fertilize the country (laughter)—I am much disposed to think the British farmer would care less than he does, though he still might care something, about Peruvian guano (Hear, hear, and cheers). Now, we all acknowledge that there are certain laws of nature, and that those who violate those laws

invariably suffer for it. Well, it is a law of nature that nothing is destroyed. Matter is decomposed, but only for the purpose of again assuming some new form, used for the purposes of the human race. But we neglect that law (Hear, hear). We allow all decomposed substances in towns to pollute the atmosphere, to ruin the health, to produce premature misery, to be pestilent to life, and destructive of existence. Well, gentlemen, if, instead of that, there could be a system devised by which these substances, which are noxious were they now are, could be transferred so as to fertilize the adjoining districts, I am persuaded that not only would the health of the town population be thereby greatly improved, but the finances of agricultural population would derive considerable benefit from the change. You all know, gentlemen—all who have attended to the subject and read recent publications must know—that for an expenditure per acre far less than that which produces one manuring of Peruvian guano, you may establish permanent arrangements by which, bringing from the towns fertilizing liquids, you would improve your property, and a permanent improvement would be made in the land at a far less expense than is now required to produce a single crop (Hear, hear). I therefore recommend you, gentlemen, to ponder the maxim that “knowledge is power;” and, as the diffusion of the most useful kind of knowledge is one of the main objects for which the Royal Agricultural Society was established, I am persuaded it will tend mainly and most efficiently to the advancement of the interest and the power of the agricultural class of the country (cheers). Now, gentlemen, there is only one other topic to which I shall take the liberty of adverting, and it is a topic which has already been alluded to by my respected friend the representative of the kingdom of Prussia. I remember to have read in a book published by a foreigner, who visited this country at a period when Parliament had been dissolved, an account of the dreadful disorders of an English election. Here we are, gentlemen, in the midst of an English election (Hear, hear), and I would ask any man who should have dropped from a balloon and found himself in the Snowy^{ard}, and thence have come to this meeting, whether he could have supposed it possible that there was any topic of discussion or difference existing among the people of England (“Hear,” and cheers). It is our good English rule, gentlemen, for men to shake hands before they fight (cheers, and laughter), and if they have no malice in their hearts they shake hands after the fight is over (renewed laughter). But, gentlemen, we are shaking hands in the midst of the fight (cheers and laughter), for during the elections—aye, and during the elections for the counties, which, for reasons that I shall not dilate upon, naturally excite a peculiar interest among those who have turned their attention to agricultural pursuits (great laughter); in the midst of the county election, which takes place

all over England in the course of this week, here you have assembled men of all parties, differing upon every possible subject, and I would defy any man who came as a stranger among you to find any difference whatever, except as to the merit of some particular machine, or as to the over fatness or indifferent breeding of some animal which has been exhibited (cheers and laughter). Well, I say this is a glorious day if on that account alone, for the Royal Agricultural Society, and it is a fine moral lesson given to the world, to show that Englishmen, however they may differ on subjects which are deeply interesting to them in a material point of view, yet can lay aside all their party animosities, and can meet upon common and neutral grounds, as brethren and as mutual friends, with no party but their country and no interest but that of the nation (loud and long-continued cheering).

OXFORD FARMERS' CLUB.

LECTURE ON THE VARIETIES OF VEGETABLE FOOD, AND THE REARING AND FATTENING OF STOCK.

A great deal may be deduced from what I have already stated. In the first place, it proves, that unless you have a proper amount of the flesh-making principle in food, what you give your stock will not answer the end for which it is given. If a mother gave her child nothing but arrowroot, which contains no nitrogen at all and no bone earth, that child could not increase in size; or if it did, one portion of its body must grow by absorbing the other. If the amount of nitrogenous food were too small, the child would grow up a little Tom Thumb; it is impossible that it should grow up well, not having that which is necessary to produce muscles and bones in due proportion. Allow me to say, gentlemen, that vegetable food varies very greatly indeed as respects the relative amount of the flesh-producing principle. The life of a vegetable has for its object, as it were, the reproduction of its species—in other words, the production of seeds; and you will find that seeds contain, under all circumstances, a larger amount of nitrogenous substances than any other form of vegetables. Now, 100 lbs. of beef contain 25 lbs. of gluten. The following table will show the amount of nitrogenous matter contained in different varieties of food:

TABLE OF FLESH-PRODUCING PRINCIPLES IN DIFFERENT VARIETIES OF FOOD.

	Gluten, Fibrine, or Albumen.	Unazotised matter.
	lbs.	lbs.
100 lbs.		
Flesh	25	0
Blood	20	0
Beans	31	51½
Peas	29	51½
Lentils	33	48
Potatoes	2	25
Oats	11	68
Barley-meal.....	14	68½
Hay	8	68½
Turnips.....	1	9
Carrot	2	10
Red Beet.....	1½	8½

When you refer to beans and peas, you find that they are a stronger food than flesh itself. The seeds of all leguminous plants contain a large proportion of the flesh-producing principle. Peas and lentils generally are a stronger food than even beef; and a man who was fed upon them would, other circumstances being the same, do a larger amount of work than one who was fed upon an equal weight of animal flesh. When you come to analyse the potato, you soon discover why an Irishman, in order to get through the same amount of work as an Englishman, is obliged to eat a much larger quantity of food. He has to eat such a large amount of food, because the potato contains only a small amount of the flesh-producing principle. The amount of nitrogenous matter will vary in different samples of the same vegetable, grown under different conditions; but the figures which I have given will, in the main, be found correct. Another lesson which may be learnt from what I have advanced is the necessity of mixing different kinds of food together. If the Irishmen were to mix some other kinds of food with his potato, he would obtain the same amount of nourishment much more cheaply than by swallowing such enormous quantities of that one species of vegetable. A man who uses with his bread a portion of cheese, which contains from 30 to 32 per cent. of nitrogenous principles, will be able to do a larger amount of work than if he confines himself to the bread. I am persuaded that there is not a dearer food to be found than potatoes, if used alone. It is well known, that in the case of parties who feed on potatoes alone, a large proportion of the starchy granules passes through the system untouched. So far as subsistence is concerned, these granules are lost, and form part of the excrements. You see, therefore, that in mixing food, it is a point of great importance to take care not to give too much of one kind of food or too much of another. In like manner, too large an amount of the flesh-producing principle will be too expensive: on the one hand, it will not be the best for the animal; on the other hand, it will be extravagant. I don't know what amount of oil-cake is given by gentlemen in this part of the country, but I am persuaded, that in many cases the amount given to animals is far beyond their requirements, and that a considerable portion of it passes through the animal unacted upon, a portion only having been made use of for the purposes of animal economy, and the rest having been applied to the mere purpose of manuring. It is a most expensive article thus to make use of. I have analyzed varieties of oil-cake from London, Liverpool, and Marseilles, and having discovered what amount of nitrogen and bone-earth they contained, I have then compared them with Peruvian guano. Estimating that Peruvian guano contains 16 per cent. of ammonia, I found that one ton of it will give 2½ times as much ammonia, and 6 times as much bone-earth as one ton of oil or rape-cake. No one who knows the relative price of these things in the market will spend his money on oil-cake for the mere purpose of manuring, but will take care that in its use he sees some profit attached to the animals consuming it. Gentlemen, it is perfectly impossible for me, in the time which I have before me, to enter so deeply as I could wish, into many other important subjects. I must curtail my remarks as much as possible. In reference to the cooking of food, however, I want to point out one or two facts which I think it of great importance that you should know. The cooking of food can, under no possible condition, add anything to food. Those who expect that by cooking food they will add to it anything at all in the shape of nutrition

are greatly mistaken. All we can do by cooking food, or by any preparation of food for animals, is to assist the animal in applying it to his own use. We know that the animal is provided with instruments for grinding its food. It has glands which give saliva or moisture for the purpose of its being well mixed together; and if food is cooked or bruised, it is operated upon either by a mechanical or a chemical action, merely to render it more easily available for the animal. It is clear that by cooking oats you render them more digestible, and that they are more likely to prove beneficial. But here let me say that it is possible, in my opinion, to carry this cooking too far. We have been told by learned men—or rather by men who profess to be learned, and who have been attempting to teach you—we have been told that animals having nothing to do but lie down, will get fat much sooner than animals which are differently situated. Gentlemen, that is all very well as far as it goes, but we must look to the whole of the animal system. A certain quantity of saliva must be passed daily into the stomach in order that the digestion may be effectual; and if the chewing of the food be too quickly performed, it is more than probable that saliva will not pass into the stomach to the extent required. There is another point connected with this part of the subject which I must dwell upon for a moment. With respect to animals which chew the cud, it is necessary that there should be a proper amount of solid matter. I have known parties neglect this, and the effect of doing so must be injurious. Unless there is a sufficient amount of chopped straw or some similar material eaten by cattle fed with such succulent food as turnips or mangel-wurzel, it is impossible for the working of the animal economy to be properly carried out. Now, recurring to the elements of nutrition, gentlemen, you will observe that motion is equivalent to consumption. The more motion an animal has, the more food it will require in order to meet the flesh-producing principle in the muscles. We all know that long-legged pigs, requiring a large amount of exercise, never get so fat as short-legged pigs, which seem to take things quietly. Animals which are very much teased by flies while running about, or while at rest, are kept back by that cause; and, speaking generally, animals which have a large amount of motion are not so capable of thriving, and cannot live on so small an amount of food, as animals which are generally quiet. To keep fattening animals at a proper temperature, and to prevent them from having much motion, are the best means of getting them fat on the smallest amount of food. With respect to young stock, gentlemen, the case is different. Here you want a large amount of muscle, particularly as respects breeding stock; and I would never advise you to apply, as some parties do, the very same system for growing stock as you do for fattening stock. Depend upon it that unless the muscles have sufficient action the animal can never be properly developed. In the case of breeding stock for example, you must take care that, in the first two or three years of life there is a sufficient amount of exercise to cause a healthy development of the system. There is another point which I must mention in connexion with this part of the subject—namely, the different varieties of stock. You are all aware that there are great differences between different animals, and that different animals will not fatten equally on the same amount of food. You may take it, however, as a fact pretty well ascertained, that all the best animals—those which are most sought after by practical men—are animals whose lungs, liver, and intestines generally are not so largely

developed as those of the straggling long-legged creatures that we sometimes meet with. The lungs and official of a good animal are smaller than those of animals of the last description; and, practically, this kind of stock is found to answer best. When the lungs are small, less air is taken in and less food is consumed. When the liver is small, less bile is produced and more fat is made. In training horses you should proceed on a plan diametrically opposite to that which you pursue in the case of oxen. In the case of horses you want a good development of lungs; you require a deep chest for wind, so that the animal may be able to endure the greatest speed, and unless a constant supply of air be taken in, the muscles cannot produce the requisite force. There is one other point which I desire to introduce—namely, ventilation. A certain amount of food is consumed every day by men and animals generally, for the purpose of keeping up heat. On referring to this table [turning to a diagram] I find that the amount of carbon consumed every day by man is 14 oz., by a horse 97 oz., by a cow 70 oz. Man takes in each day 27 cubic feet of oxygen from the air, and expires the same amount of carbonic acid gas. The cow takes in 137, and the horse 190 cubic feet of oxygen, and expire an equal volume of carbonic acid gas. Well, now, gentlemen, experiments have proved that the presence of 5 per cent. of carbonic acid gas makes the atmosphere a deadly poison; and if a horse gives out 200 cubic feet, twenty times that amount, or 4,000 cubic feet, will be the quantity of air vitiated in a day by a horse: you will have the air to the extent of 2,000 cubic feet rendered absolutely poisonous. How can we be surprised that in stables which are so constructed as many are, horses and other animals are found with diseased lungs? I have here said nothing of the action of ammonia from the dung on the lungs of animals, and upon their eyes. It is my belief that pulmonary complaints among horses arise in great measure from bad ventilation. I can easily convince you of the poisonous nature of carbonic acid gas, by showing you how soon it will extinguish a light; and remember, that what will extinguish light will extinguish life. I have here some common chalk; on adding an acid carbonic acid is evolved. On immersing a lighted candle into this gas, the light will be immediately extinguished (experiment performed). Now this gas, gentlemen, is entirely identical with that which arises from the burning of charcoal. It is found to accumulate in brewers' vats, at the bottom of wells, and in mines; and in the case of mine explosions, the subsequent effect of this gas, as *choke dump*, on those who breathe it, is far more destructive than the explosion itself. While three or four may have been killed by the explosion, scores have often been destroyed by the operation of this gas. What I have to reiterate with respect to ventilation, so far as you are concerned with the matter is, that it is absolutely necessary for you to take some practical means of releasing your animals from the influence of this carbonic acid gas; for unless you do so, you may rely upon it that you will lose a certain amount of your stock. As regards ourselves, we are very often found, in crowded rooms, breathing this vitiated air, without ever appearing to imagine that we are thereby injuring our own health; but though the action of it may be slow, it is not the less sure; exposure to a vitiated atmosphere is sure to diminish the period of life. Gentlemen, I am sorry that I have intruded so long on your time; I trust that some of the remarks which I have made will appear to you of a practical character; and if any in-

formation can be derived by you from the observations which I have made, I shall feel both satisfied and gratified with the result" (cheers).

GREEN MANURING.

Vegetable substances, in their green and succulent state, are powerful fertilizers when thoroughly incorporated with the soil.

The most pertinent explanation of this fact is furnished by the consideration, that they supply the identical elements that future crops require; in the same manner, that out of the materials of one house, another may be elaborated. And it is true, that many of these materials exist in such union and affinity as renders them especially adapted for the nutrition of the future crop; for it is a recognised truth in physiology, that both animals and plants take up and assimilate from their food a portion of their bulk, in the precise form in which it exists in that food.

The practice of growing crops for the special purpose of ploughing in as a manure for succeeding crops is not justified by this consideration merely. It would seem to be a waste of time and material, to convert the elements of vegetable growth into living forms twice before they are made profitable. Why grow a lupin or clover plant one season, to be buried in order that, from its remains, a cabbage or turnip may be produced? Why, if you build your house, do you not fetch the materials direct from the quarry? These questions would be unanswerable, did plants obtain all their food from the soil. But such is not the case, a great portion of the bulk of green crops is obtained from atmospheric sources; and after a green crop is ploughed in, the soil necessarily contains more of the organic elements essential to vegetable nutrition, than it did before that crop was grown; it is richer, in fact, by the carbon, oxygen, hydrogen, and nitrogen which the green crop has obtained from sources independent of the soil. In like manner, the crop grown after a green crop has been ploughed in, has the advantage of a ready supply of mineral elements, which have been worked up by the roots of the fertilizing crop from the soil and subsoil, and which in many instances, owing to their sparing solubility, are with difficulty obtained under ordinary circumstances.

The practice of restoring fertility to exhausted soils, by laying down to pasture for several years, and the advantage to succeeding green crops, from the introduction into the rotation of depastured seeds, or even clover mown and carried off the field, illustrate the manner in which green crops are beneficial as manures. It is evident, that if such crops did not return to the soil some other elements than those which they found there, no length of time under green crop would restore fertility to an impoverished soil, but that, on the contrary, under the constant abstraction of phosphates in the bones, and of valuable organic elements in the flesh, fat, and blood of animals depastured upon it, deterioration would take place.

But the practice of green manuring is one sanctioned by the authority of experience, as well as of theory. In the remains of stems and roots of clover crops, of depastured seeds, we receive the advantage of a green manure, the value of which, in promoting the growth of oats and wheat, is well understood by every farmer. Perhaps from no single crop does the agriculture of Great Britain reap a greater advantage

than from this. Without it, the alternate system of green and grain cropping cannot be effectually carried out, and, indeed, it is only after a good crop of depastured seeds, that a full crop of wheat can be grown upon the high and dry wolds, and the limestone and chalk hills that are now brought into cultivation in this country. After turnips, barley upon such soils succeeds; but it is only upon the lea that wheat can succeed fully, where the texture of the soil is light. No direct manuring will answer upon fallow. The green sod, when ploughed and furrowed, offers a firm and compact bed for the seed, and furnishes by its gradual decay, a continued supply of food for the wheat plant, through every stage of its growth. But green manuring, if we except the case of clover, is not common in this country.

In certain localities, sea-weed is collected and applied to the fallows in its fresh state, and, in occasional instances, the tops of turnips, potatoes, &c., are ploughed into the soil, instead of being carted off to the dung-heap; or, as it is most usual, being permitted to decompose upon the surface of the land. But in other forms, the practice appears to be hardly recognised in this country.

The tardiness of vegetable growth, and the necessity which the farmer finds for making every inch of available space produce food of some kind for his stock, upon which the continued fertility and the profit of his farm materially depend, render it difficult for him to find a place in the rotation for a crop of this kind, without displacing a fodder crop, by which he usually secures two valuable objects instead of one. Speaking on this point, an American writer, Judge Buel (*Cultivator*, vol. ii. p. 13) says—"The practice is chiefly suited to warmer countries, where vegetation is very rapid, and even there it argues a somewhat low state of the art, and is not the best way of producing decomposing matter. When we are able to raise green food of any kind, it is better that we apply it in the first instance to the feeding of animals, for then it not only yields manure, but performs another and not less useful purpose."

That there are, however, circumstances under which these objections do not apply with sufficient force to prevent the adoption of the system, will be seen when we treat of the *modus operandi* of the practice.

The condition or state in which vegetable substances should be applied to the soil, is a question of some importance. Plants of quick-growing habit, when they have attained their full vigour, and are coming into flower, contain a larger proportion of organic matter, which they have obtained at the expense of the air, than at any other period. At this period they are quick of decomposition, and appear best adapted to the purpose of a manure of this kind, which, to be useful, must be alike quick in its growth, from the period of sowing to that of ploughing in, and in its decay.

The kind of vegetable substances that are available as manures, may be considered under two classes. First, Crops ploughed into the soil upon which they are grown. Second, such as are collected from other sources, and applied as manures.

Crops ploughed into the soil upon which they are grown, are of two kinds. Such as have been partially consumed or reaped, and such as have been grown for the special purpose of manure.

Of green manures that have been partially consumed—old sward, clover stubble, clover aftermath

depastured seeds, which are ploughed in for a green crop, are instances familiar to all in practice.

In addition to the matter these plants collect from the air and from the subsoil for the use of the future crop, we must not overlook the physical influence which they possess. In a strong clay, warmth and porosity are given; and upon a light and friable soil, where the furrow is properly pressed, tenacity and firmness are imparted by the fibrous roots. Without a previous crop of this kind, many lands are much too light to grow wheat. Upon the writer's own farm, are many fields of magnesian limestone, that will not grow a good crop of wheat in any other course than after seeds or clover. However highly a fallow or stubble may be manured, it will not produce a field of wheat equal to that grown after seeds or clover. The universal practice which holds with reference to the ploughing in of grass, its adoption as an indispensable part of the four-cours system, and of every other rotation—four, five, or six years—by which it is deemed most judicious to keep up the powers of the farm, render it unnecessary to say many words on the details of the system. The advantages of good workmanship in ploughing out such crops, are known to all practical men.

Green manures, grown for the special purpose of being incorporated with the soil in their fresh state, are usually vegetables that are of quick growth, and capable of being grown upon poor soils.

The plants that have been recommended for this purpose are Italic rye-grass, clover, buckwheat, lupine, rye, spurry, rape, mustard, tares, &c. The practical farmer who is situated so as to obtain a crop of the kind, will have little difficulty in determining which is best adapted to the circumstances of locality, season, climate, and soil, under which he is placed. Upon strong clays which have been open fallowed, if worked sufficiently early, a green crop of rye or tares may be occasionally obtained. This, if ploughed in, will not only furnish the succeeding wheat crop with useful food, but will improve the texture of the heavy soil.

This crop should not be sown early enough to prevent the fallow from being well made, nor to become a heavy crop; a fog crop five or six inches in length, is quite sufficient. Clover, which is of slow growth, is too difficult to obtain for food purposes to allow us, in old cultivated soils, to attempt to grow it for green manure, when by so doing, we are likely to make our soil clover sick sooner. Mustard, rape &c., may occasionally be grown upon light soils after an early crop of grain. To effect this, no time must be lost in preparation. Still, disappointments will often occur in a climate like that of Great Britain.

When *buckwheat* is permitted to grow up and get into bloom before it is ploughed under, a roller is passed over it, marking such lands as it is intended to plough; and the plough is run the same way as the roller went. A short piece of very heavy chain, dragging from the upper part of the coulter, in the furrow, will bend the tall stems under, and bury them effectually.

Green manures that are collected from extraneous sources, and applied in their fresh state as manures, are much more numerous than individually important. In the aggregate, however, they furnish us with an amount of fertilizing power that should not by any means be permitted to be neglected.

Separately, in some instances, they may be made

available to an extent that is well entitled to the farmer's attention.

Sea-weed, farm weeds, garden-weeds, hedge-trimmings, turnip-tops, potato-haulm are of this class.

We record a single experiment, made by Dr. B. W. Gortstone, Suffolk, as an evidence of the action of sea-weed as a green manure. "In October, 1819," says he, "a violent gale of wind drove to this part of the coast an unprecedented quantity of sea-weeds; these were eagerly scrambled for, and from my greater vicinity to the beach, I collected twenty-seven cartloads, each as much as four horses could draw; and, although other persons deposited their collections in their farm-yards, to rot among their other manure, I spread mine, fresh and wet, upon little more than an acre of bean stubble, instantly ploughed it in, and dibbled wheat upon it on the 6th of October. I then salted the adjoining land with three bushels per acre, manured it with fifteen loads of farm-yard dung per acre, and dibbled it with wheat on the 15th of November. The result was, that the sea-weeded portion gave three times the produce of any equal part of the field."—*Morton's Cyclop. Agri.*

GRAZING.

SHEEP GRAZING.—This department of grazing will include every other kind of pasturage on the farm not qualified to fatten cattle, or not usually so appropriated. The inferior grass lands, grass seeds, clovers, tares, trefoils, sainfoins, lucernes, &c., are all more or less consigned to the grazing of sheep. Those lands named as the second-rate "bullock lands," are exceedingly well adapted to the fattening of sheep, and they are for the most part applied to this purpose, being found to leave a larger margin of profit from grazing sheep than if grazed of cattle. The better class of these lands will fatter from four to seven sheep per acre, according to their breed, size, and age, and the peculiar tendency of the variety of sheep to lay on fat. We deprecate dogmatism upon any subject, and therefore beg our readers to view favorably the opinion we here advance (as it were in a parenthesis) upon the comparative merits of sheep—we think it correct. We do it with a view to their guidance, or at least to call to it their attention. We think these good *sheep lands* will fatten sheep of the various and most approved breeds in nearly the following proportions:—Heavy long-woolled sheep, five per acre; Lincolns and large Leicesters, eleven to two acres; small Leicesters, six per acre; Hampshire downs, thirteen to two acres; small downs, seven per acre; half-bred long wools and downs, six per acre; half-bred Leicesters and downs, thirteen to two acres. We also think that the lighter breeds of sheep possess still greater proportionate advantages in their propensity to fatten, and their quickness in fattening; but this is in some degree retarded by their more restless habits, and greater tendency to rove or roam about the field, than in the larger and heavier breeds—they certainly are by no means so docile, nor do they rest so quietly or so long on their lair as the larger breeds. We

offer no opinion further as to the relative merits of different breeds. Our own aim is to breed that kind of sheep from which we can obtain the most mutton and wool of the greatest money value, at the least expense, and in the shortest time. We think a large breed of sheep of quick growth best for our purpose, and have adopted it, but it is by no means applicable in all cases. However, without saying more upon this point, we do urge our readers to think much upon this subject, as upon the proper stocking of grass lands depends the profit of grazing. We think the grazier in proceeding to stock his lands ought to be guided in some measure upon the principle we have named—the relative value and adaptation of the breed of sheep and the land to be stocked, and the site or localit^y in which it is situate, also the design of such stocking, whether it be for folding or otherwise. These and various other considerations will of course have due weight with the grazier in determining his course of procedure.

The best Sheep lands.—These lands should be treated in precisely the same manner recommended relative to “bullock lands”—the sheep being kept on turnips or similar food to as late a period in the spring as possible. They should then be stocked in accordance with the principle named above. As soon as the grass shows signs of taking a decided lead, young cattle should be put thereon, at the rate of one for every five acres; the cattle will graze upon the strongest growing places, and thus keep the pasture level and good. Care must be taken to remove them so soon as the pasture declines—for fattening sheep, as for fattening beasts, it must at any sacrifice be kept right, neither too full nor too short. In some seasons, almost daily changes of the young stock may be found requisite to keep the pasture in its most feeding state. This a point not to be neglected, if profitable grazing is to be insured. If the sheep are not made fat, the summer's grazing is nearly thrown away, and ultimately resort must be had to turnips or rape, to effect in winter what ought to have been done in summer.

The inferior Grass Lands.—In this class of grazing lands we include down or hill pastures, as well as all other grass lands of inferior quality. These are best to be stocked with the leanest and most inferior sheep on the farm, or, if the grazier has to purchase sheep for them, he must take care not to obtain such as have been well fed, or have been grazed upon superior pasturage. The rule is progression—from worse to better, from better to better still. As the sheep improve in condition, they will not only be constitutionally strong enough for removal to a good and more nutritive pasture, but will, in fact, require it to promote their progress; if not, they will retrograde; and as their pasture falls off in the autumn, they should be supplied with cabbage or turnips to a moderate extent; or, failing these, corn or cake should be substituted. By due attention to supply the flock, when needed, with artificial aid of this kind, the inferior grass

lands may be made to fatten vast numbers of sheep, and the extra food thus supplied will tend very much towards the permanent improvement of such lands. The most beneficial purpose, however, to which such lands can be applied, is in grazing breedingsheep, and young sheep, together with a proportionate number of young cattle. The will graze advantageously in conjunction, and the pasturage be kept in a far better feeding state, than if either were alone to be depastured upon it. The proportion we recommend in this kind of stocking is, one young steer or heifer to five young sheep or four breeding sheep (ewes and lambs); and if the season is a very abundant one, the proportion of young cattle may be still larger. The pasture ought on no account to be allowed to grow too fast, to get too rough or gross, so as to become unpalatable to the stock—a full complement of young cattle will always prevent this. They consume chiefly all the strongest grown or “benty” pasturage—the sheep the finer and shorter pasturage, and thus all is kept in a fruitful and nutritious state. We like to see pastures properly grazed, it argues well for the occupier—we at once pronounce him to be a man of judgment and sagacity; there is neither loss in stock nor waste in grass—all is freely and profitably consumed. But we cannot sufficiently deprecate the conduct of the careless occupier, who will allow the best of a summer's growth; and form tussocks similar to the tufts in forests herbage, a very slight examination will prove the great injury done to the pasture—the florin, cocksfoot, smoothstalked meadow grass, broom grass, and other strong growing grasses, having destroyed the finest herbage grasses, had rendered the field thin of plant, and the pasturages consequently comparatively unproductive. All pastures ought, at some period between Midsummer and Michaelmas, to be completely eaten up, so that no rough or old grasses are left for the winter. We think the best time for clearing up the pasturages is during the month of harvest, beginning with some single field; this field or fields (as may be required) we would lay-in for a time, to take in that portion of the fattening stock we desire to push forward; the others, as they are fed off, we would lay-in for winter service, by turning the stock on to the stubbles, where for a time they will do well—breeding ewes, for instance, will do exceedingly well upon stubbles, and we think it is advantageous to them, in as much as at this period, their lambs are taken from them, they require a change, to dry up their milk. The lambs upon being taken from their dams will require the best of the inferior grass pastures, and on which, and not on stronger, they should be put. As they grow and gain strength, they may be placed on weak-land eddishes or after-maths; or what perhaps is still more preferable, if they are not too luxuriant, on the young clover eddishes, and from these to turnips, or other winter food. The ewes, after they have partially run over the stubble lands, should be

returned to their summer pastures to gain condition and such forwardness as will prepare them earlier to receive the ram. These laid-in pastures are admirably adapted to benefit the breeding flock at this period, and ought invariably to be prepared for this purpose. No flockmaster will ever repent making due provision for his ewe flock at this time—it will insure him from barren ewes, and yield him a large fall of lambs. The young or yearling sheep may remain on the stubble lands at convenience, care being taken that they do not lose condition: from these they should go to their winter pastures, or other winter keeping, as the grazier may require for them.

Hill and Down Pastures.—In stocking hill or down pastures, we should choose from those varieties of sheep well calculated to travel—hill and vale graziers generally require their sheep folding purposes on the arable lands; no heavy sheep will profitably perform this service. The active Southdown is, we think, just the very animal for this purpose—his light gallop, and great perseverance in search of food, makes him invaluable for this department of grazing. The ewe flock, in particular, we prefer for this use. They like to travel over much ground, and to select their food as they best can. No lambs are ever found to thrive so well as those having a large breadth of surface to roam over, and no breed of sheep bear folding better.

Grass Seeds.—In grazing grass seeds we should adopt the same course as we would pursue in stocking and depasturing inferior grass lands, except putting on so much cattle. We think a somewhat heavier stocking with sheep would answer every purpose, and the whole of the herbage would be by them profitably and without waste consumed; but we see no objection to a fair proportion of cattle, if required by the economy of the farm.

Clovers.—These we think should be wholly grazed and consumed by sheep, and we prefer partial folding for this purpose. Clovers should be allowed to attain some strength of herbage before stocking: it is best for the plant—it is best for the stock. If the young clover is kept constantly cropped, it will not carry much stock; but if permitted to get into bloom, it is almost impossible to over-stock it, and the stock will not only eat less, but thrive much faster. Our practice is, to divide our clover fields into compartments, and stock them successively, as our judgment, dictates. We first mow for hay, and only consume the eddish or aftermath; but if the requirements of our farm were less, and we could afford to graze the whole crop, we should prefer adopting the same course. Clovers must be well grown before stocking, or much loss will issue to both stock and crop.

Tares.—This is a far more succulent crop than the clover, and can never be grazed to its best advantage without folding; it ought on no account to be stocked till it has well grown, and then only with sheep. In a moist and fruitful

season this crop will grow very rapidly, and will require much care in grazing it. We think a field may be well grazed in two parts: we allow the crop to get pliant and a fair amount of herbage, and then heavily stock the one part whilst the other is growing, and as we finish off the one part change to the other, and so on through the summer, or till such time as we require the field for other purposes, or rather to sow with turnips. It is very desirable in grazing tares to supply the stock with dry food for them to take at pleasure: bean or pea haulm, or even wheat straw will be useful; but bean or pea meal, or similar food, is of great value.

Trefoils.—These we would graze and treat precisely as clovers; but as the lands are generally inferior upon which they are grown, we would recommend as much adventitious aids to be given as the grazier can afford.

Sainfoins and Lucernes.—These are not often grazed, but mown for hay. We would merely say, that if a grazier is, by force of circumstances, compelled to graze them, he must avoid close grazing.

Chicory, Burnet, &c.—These are in some separate in localities adapted to grazing purposes. The former we are acquainted with, and know that it will produce a good crop for the scythe, but not for grazing. Burnet we also know is so unproductive as to be of little value to the grazier.

We have thus cursorily and hastily run through some of the departments of grazing. We feel that we have not done common justice to the subject—it is one that might in detail fill volumes. Our aim is to set our readers thinking, and care not if it is even at our absurdities, if so it should strike them. We wish to advance every interest connected with agriculture, and if our very humble efforts are of the slightest avail in this respect, we shall be sincerely gratified.

DRAINING PLOUGH.

The implement which attracted the greatest interest was the draining plough invented by Mr. Fowler, of Bristol. This plough was in constant operation in a field outside the show-yard during the whole day. We quote the following from Mr. Pusey's report of the agricultural implements shown at the Great Exhibition, addressed to his Royal Highness Prince Albert:—

“But for the American reapers, Mr. Fowler's draining plough would have formed the most remarkable feature in the agricultural department of the Exhibition. Wonderful as it is to see the standing wheat shorn levelly low by a pair of horses walking along its edge, it is hardly, if at all, less wonderful nor did it excite less interest or surprise among the crowd of spectators when the trial was made at this place, to see two horses at work by the side of a field, on a capstan which, by an invisible wire rope, draws towards itself a low frame-work, leaving but the traces of a narrow

slit on the surface. If you pass, however, to the other side of the field, which the framè-work has quitted, you perceive that it has been dragging after it a string of pipes which still following the plough's snout, that burrows all the while four feet below ground, twists itself like a gigantic red worm into the earth, so that in a few minutes, when the framework has reached the capstan, the string is withdrawn from the necklace, and you are assured that a drain has thus been invisibly formed under your feet. The jury decided as follows:—The implement went through the trial very well, laying in the tiles with great apparent ease, worked by two horses, with a capstan which was firmly and easily fixed into the ground, and afforded a firm traction to the plough by means of a wire-rope and pulley. Progress has been made, since the implement was exhibited at Exeter, in rendering the level of the drains in a degree independent of the level of the surface; but there is still room for further improvement in giving to the drain an uniform incline. The award, therefore, of the jury was honorable mention. Since that trial, I have thought it right to make further inquiry into the work of the draining plough. In the first place the trial drains were opened and laid bare from end to end. Straightness is of course one requisite, and the pipes were laid straight; closeness of contact another, and they were perfectly joined. In level, the point on which the jury doubted the perfection of the work, there was some deficiency which, on entirely flat ground such as this, was a decided fault. That fault, however, has since been remedied, for clay-land at least. As the plough was shown last year at Exeter, it could not possibly lay a level drain, because its under and upper parts being fixed at an unvarying distance, any unevenness of an undulatory surface must be faithfully copied by an undulating drain below. This year the two parts were so connected that the workman, by turning a screw, can raise or lower the underground snout which burrows out the drain. But at the trial the use of this screw depended on the workman's judgment, which cannot give the drain absolute accuracy. A balanced level, however, has now been added to the plough, by which the changes of surfaces are made plain to his eye. Other improvements have also been made in the implement. The horse-power required has been reduced by a fourth, and the windlass at which the horses work need now be shifted only once in the day. As to the economy of using the draining-plough, it is too expensive to purchase, unless for a large landowner.²²

The accounts of Mr. Pusey and of the jurors were fully borne out by the experiments here, and we were glad to hear that this wonderful machine was now beginning to be appreciated, the patentees having drained in the months of March, April, and May last, no fewer than 2,000 acres on the estates of Lord Portman, Mr. Oakly, and other gentlemen, at a cost of from

25s. to 42s. per acre without tiles. The cost of this draining under the old hands system would have been from £3 10s. to £5 10s. per acre; and we were assured by Mr. Oakly that in any case the saving was never less than £1 per acre, and in many cases much more. In clay-lands, "the invisible drain" so graphically described above by Mr. Pusey, requires no pipes, and will last for 30 years, while the interest on the cost of the pipes thus saved will amount to a sum sufficient to pay the expenses of cutting new drains every twelve years. In sandy and loose soils, however, pipes are indispensable. In ordinary soils the cost of draining by this machine is about 32s. per acre (including main drains), and the land drains eight yards apart.—*Post.*

EXPERIMENTS WITH SALINE SUBSTANCES.

Can mineral or saline substances, applied alone, be depended upon as manures for our cultivated crops, on the generality of soils?

This question has been forced upon the attention of practical men during the last two or three years, in consequence of the broad assertions made by some writers upon the subject, whose knowledge of practice was not sufficient to enable them to take into consideration all the points which the question involves. It has also become an important economical question, because of the vannted universal virtues of many so-called *inorganic* or purely mineral and saline manures which are now offered for sale, and the purchase of which has been a cause of frequent loss to the rent-paying farmer, on whose land and crops they were by no means suited to produce a profitable effect.

There are two facts which I think will give us a safe general answer to the question, whether mineral manures alone are to be depended upon as fertilizing substances?

1o. All fertile soils, in every part of the world and in every climate, are found to contain a notable quantity of organic matter, either animal or vegetable. And although the fertility does not depend upon, and is not proportional, therefore, to the quantity of this organic matter—as is seen in the case of peaty soils—but rather upon the chemical state in which the organic matter exists, yet it appears certain, as the result, of universal experience, that animal or vegetable matter must be contained in sensible proportion in every soil from which good crops are to be reaped without any further addition.

2o. Plants, as we have seen, consist of an organic and a mineral part, and live partly on mineral food. Of this organic food, they draw a portion directly from the soil. Chemical physiology, therefore, confirms the results of experience, that, to produce good crops, a soil ought to contain a proper quantity of available organic matter.

Now, from these two facts it clearly follows, that a manure, whether natural or artificial, which shall, in all circumstances and in every soil, cause good crops to grow, must, in addition to mineral or saline contain also some animal or vegetable substances, or, in their stead, some ingredients of organic origin which chemistry may point out as likely to supply the place, by performing the natural functions of animal and vegetable matter.

This general result is by no means inconsistent

with the good effects which are, I believe, truly enough stated to have, in numerous cases, followed from the unassisted application of purely mineral as well as of purely organic substances or mixtures, to certain soils and crops. But the circumstance of such results being possible only shows more clearly the money value to the practical man of that kind of knowledge which is likely to enable him to distinguish where and when they can respectively be expected to succeed, and, in what circumstances the chance of failure and of consequent loss predominate.

Some of these circumstances, as regards purely mineral manures, are stated, or may be inferred from what is contained in the following section.

Circumstances in which saline or mineral applications are likely to produce the most ; sensible effects.

1o. Saline substances act most immediately and most efficiently when they are in an exceedingly minute state of division, and when the land and crops to which they are applied are already most, or when rain falls soon after the application.

2o. Generally they produce most effect upon soils which contain the least of the several ingredients of which the saline substances themselves may consist.

This general rule, however involves and may be subdivided into several special rules or cases. These—

a It is the result of observation that saline applications of certain kinds, whether single or mixed, produce the most marked effects on comparatively poor soils. Those which are naturally rich, in the ordinary sense of the term, are less likely to exhibit striking differences when a top-dressing of a saline substance is applied to them, because the quantity of the substance laid on, compared with the weight of the same substance already present, in such a soil, is usually much less than in the case of one that is naturally poor. That a substance produces no sensible effect upon a given soil is, therefore, no satisfactory proof that it is not propitious to the plant we are growing. It may be that the special circumstances in which we apply it are not fitted to display or to allow of the development of its peculiar action.

b It is also the result of observation that, in some districts and on some soils, the natural or artificial application of mineral matter alone is productive of most profitable results. Thus, in the neighbourhood of Vesuvius, according to Mohl, * the permanent richness of the soil is owing in part to the ashes sprinkled over its surface from the mouth of the volcano, which ashes destroy the growing crop, on an average, every eighth year. So, also, the artificial application of inorganic or mineral manures to certain soils in our country have, without other addition, produced largely increased crops. But these good effects are in every instance dependent upon the natural presence in the soil of a sufficient supply of those organic forms of food required by the plant, and which are not contained in the mineral substance or mixture applied to the land.

From a consideration of such facts we obtain a key in the circumstances or conditions under which mineral manures may be tried, alone or by themselves, not only with profit, but with positive benefit to the land, as well as an explanation of certain methods of treating the soil, which in practice have, in some localities, been found advantageous. Thus—

First, If the land is rich, and in good heart, as it is called, saline or mineral manures, without any

admixture of nitrogenous matter, may be applied with a fair prospect of advantage.

Second, When the land, in consequence of the excess of organic matter of a particular kind, causes the grain to tiller much, and to fall or lodge, the use of unaided mineral manures is indicated.

In practice, this tendency to straw is counteracted by taking two or more corn crops in succession to *bring it down*—by raising turnips with peat ashes alone, where these are easily obtained—by growing potatoes with wood ashes or with artificial admixtures of saline substances—or by paring and burning preparatory to any crop. It is obvious that both skill and judgment are required in determining when and how often any of these practices ought to be resorted to, with a view not only to the benefit of the crop which is immediately to follow, but also to the future good of the land ; for though it may be clear that one or other of these forms of treatment is the most advisable for a given time, it is quite certain that a continuance of such procedure will by-and-by—that is, in proportion as the organic matter becomes exhausted—both diminish the crops and injure the land.

I merely mention, as a third result of observation, that, on many soils, organic matter alone—or, generally, substances rich in nitrogen applied alone—succeed well, and, without any admixture of mineral matter, add largely to the crops the land is made to produce. The reason of this is, in most cases, exactly the converse of that to which I last adverted. The soil being more or less rich in mineral and poor in organic matter of the proper kind, is most grateful for an addition of the latter, and for a time returns large profits upon every application of it.—*Johnston's Experimental Agriculture.*

HOT SUMMERS.—The excessive heat which prevails at present gives some interest to the following account of remarkable hot summers :—“ In 1132 the earth opened, and the rivers and springs disappeared, in Alsace. The Rhine was dried up. In 1152 the heat was so great that eggs were cooked in the sand. In 1160, at the battle of Bela, a great number of soldiers died from the heat. In 1276 and 1277, in France, an absolute failure of the crops of grass and oats occurred. In 1303 and 1304, the Seine, the Loire, the Rhine, and the Danube were passed over dry-footed. In 1393 and 1394 great numbers of animals fell dead, and the crops were scorched up. In 1440 the heat was excessive. In 1538, 1539, 1540, 1541, the rivers were almost entirely dried up. In 1556 there was a great drought over all Europe. In 1615 and 1616 the heat was overwhelming in France, Italy, and the Netherlands. In 1646 there were 58 consecutive days of excessive heat. In 1678 excessive heat. The same was the case in the first three years of the 18th century. In 1718 it did not rain once from the month of April to the month of October. The crops were burnt up, the rivers were dried up, and the theatres were closed by decree of the lieutenant of police. The thermometer marked 36 degrees Réaumur, (113 of Fahrenheit). In gardens which were watered fruit trees flowered twice. In 1723 and 1724 the heat was extreme. In 1746 summer

very hot and very dry, which absolutely calced the crops. During several months no rain fell. In 1748, 1754, 1760, 1767, 1778, and 1788 the heat was excessive. In 1811, the year of the celebrated comet, the summer was very warm and the wine delicious, even at Susènes. In 1818 the theatres remained closed for nearly a month, owing to the heat. The maximum heat was 35 degrees (110.75 Fahrenheit). In 1830, while fighting was going on on the 27th, 28th, and 29th of July, the thermometer marked 36 degrees centigrade (97,75 Fahrenheit). In 1632, in the insurrection of the 5th and 6th of June, the thermometer marked 35 degrees centigrade. In 1835 the Seine was almost dried up. In 1850, in the month of June the second appearance of the cholera, the thermometer marked 34 degrees centigrade. The highest temperature which man can support for a certain time varies from 40 to 45 degrees (104 to 113 of Fahrenheit). Frequent accidents, however, occur at a less elevated temperature."—*Calignani's Messenger*.

GLASTONBURY THORN.—It is handed down that when Joseph of Arimathea, during his mission to England, arrived at Wearyall Hill, near Glastonbury, he struck his travelling-staff into the earth, which immediately took root, and ever after put forth its leaves and blossoms on Christmas day, being converted into a miraculous thorn. This tree, which had two trunks, was preserved until the time of Queen Elizabeth, when one of the trunks was destroyed by a Puritan; and the other met with the same fate during the great rebellion. Throughout the reign of Henry VIII. its blossoms were esteemed such great curiosities and sovereign specifics as to become an object of gain to the merchants of Bristol, who not only disposed of them to the inhabitants of their own city, but exported these blossoms to different parts of Europe. There were, in addition to these, relics for rain, for avoiding the evil eye, for rooting out charlock and all weeds in corn, with similar specifics, which were considered at that time *the best of all property*.—*Notes and Queries*.

AN AGED OAK.—In Burgauer Revier, near crown Leipzig, there is an oak which is believed to be about 1,000 years of age. The circumference of the trunk near the ground is 24 yards; at six feet above the ground 12 yards, and the when in leaf, is 165 yards in circumference. Its vast branches rise to the height of 50 yards. On the 18th of May, 1809, Friedrich August "der Gerechte," first King of Saxony, paid a visit to this aged tree, which has since received the name of "Royal Oak." It is well known King Fiederick was a zealous and learned botanist.

FAT PEOPLE.—We like fat people—good, jolly, laughing, broad-visaged, fat people. We love fat women, fat boys, fat babies, fat purses,

a fat list of subscribers, a fat job, fat advertisers, fat everything. Fatness is a big sign of big health. Fat men are never treacherous, fat women are not sharp-tongued, fat boys are not mischievous, fat babies are always good; in fine, fat people are the kindest, and therefore the most popular. Commend us to fat people.—*American Paper*.

THE CANADIAN INSTITUTE.

COUNCIL OFFICE,

Toronto, June 1, 1852.

Sir—In pursuance with the instructions of the acting President and Council of the CANADIAN INSTITUTE, I have the honor to transmit to you the accompanying papers:—

First—A brief outline of the object of the CANADIAN INSTITUTE, for the information of those who may not yet be acquainted with its establishment. The Council will be much gratified and encouraged by evidences of extended support from the various sections of the Province; and it has instructed me to transmit forms of the Regulations, and other information to all who may express such a desire.

Second—A series of enquiries relative to the Indian remains, in the form of Mondus or Indian Intrenchments, which are known to exist in some localities, and are supposed to be of not very uncommon occurrence in various parts of Upper Canada.

I am directed to state, that you will confer a favor, which will be gratefully acknowledged, by communicating information with respect to any of these interesting objects which may occur in your neighbourhood, or of which you may have heard, and to call your attention to the importance of losing no opportunity of collecting particulars, and making the surveys or measurements indicated, while such remains are in tolerable preservation.

Third—Enquiries regarding the various kinds of Limestone throughout the Province.

Fourth—The Prospectus of "THE CANADIAN JOURNAL," for the early publication of which active steps are now being taken. It will be the medium of publication of the transactions of the Institute, and published and edited under the control of the Council.

I have the honor to be
Your obedient servant,
SANDFORD FLEMMING,
Secretary.

PROSPECTUS OF THE CANADIAN JOURNAL;

A RECORD OF THE PROCEEDINGS OF THE CANADIAN INSTITUTE,
AND A REFERTORY OF INDUSTRY, SCIENCE AND ART.

The objects of this Journal are essentially of a useful character. It is intended to minister to the wants, and to promote the interests, of a young yet enterprising and rapidly advancing people, and to fill up a blank in Canadian literature, the existence of which has been deeply regretted, and has of late been most seriously felt by artisans, manufacturers and the public generally throughout the Provinces. There are, indeed, many political publications in which there may occasionally be found a brief notice of, or a few insulated facts respecting some new triumph in science or some new success in art, but

there is yet no Provincial periodical, the pages of which are devoted solely to the pursuit and development of those subjects—no connecting medium with the arts and sciences, as they flourish in Europe—no direct literary evidence of their existence here. It is therefore proposed to occupy this vacant field in Canadian Periodical Literature, by supplying such a publication as will afford a medium of communication between all engaged or interested in Scientific or Industrial pursuits—will assist, lighten, and elevate the labors of the mechanic—will afford information to the manufacturer, and generally minister to the wants of that already numerous, and still increasing class in British America, who are desirous becoming acquainted with the most recent inventions and improvements in the Arts, and those scientific changes and discoveries which are in progress throughout the world—a knowledge, not only desirable but necessary, to all who entertain any desire to keep pace with that rapid march of intellect, which so strongly and pointedly characterises the progress of modern civilization.

The Canadian Journal will be the direct and official organ of the Canadian Institute, and the medium of publication of its transactions, so pagged, however, that they can be bound separately, if desired. As such, it will be delivered to all resident members, being subscribers of Twenty Shillings per annum, and to non-resident members, being subscribers of Fifteen Shillings per annum. It will, at the same time, be the advocate, the supporter, and the organ of Mechanics' Institutes, and all Societies of a Scientific character. The transactions of these, and all matters relative to their interests, with reports of the best and most useful Lectures delivered at these Institutions, will be found in its pages, thus affording a new incentive to Lecturers to improve the character and usefulness of their discourses, by giving to them a wider and enduring circulation. Professing to be the supporter of Industrial Exhibitions, the Journal will contain careful reports of their several excellencies, with occasional Illustrations of the superior and most useful articles: thus bringing them more prominently to public notice, inciting increased zeal and emulation amongst Exhibitors, and contributing to the maintenance, extension, and permanent establishment of these most desirable Institutions.

Besides the diffusion of practical information, for the benefit of the engineer, the architect, the surveyor, the machinist, the artisan, a great aim of this publication will be cultivation and promotion of a taste for Art amongst all classes of society—nothing having a more salutary or direct effect in refining and elevating mind. This effort will constitute an essential feature in the Journal, in which it is intended to republish, from time to time, such works connected with the Fine Arts, or such new and approved Designs connected with the various branches of Mechanical Industry, as may appear in European works. In its pages will also occasionally be found views of the Public Buildings and Engineering Works of the Province, accompanied by descriptive letter-press: and notice will appear of new inventions and improvements in Mechanical Engineering as applied to marine, railway, and other machinery. It is further intended to publish a record of all Patents issued in the Province, accompanied by occasional illustrations, and also furnish copious notes of those obtained in Great Britain or the United States, which may have any bearing on the interests represented by the Journal. The regular publication (under authority) of the Meteorological observations, recorded at the Royal Observation at

Toronto, and of the reports and investigations connected with the Geological Survey of the Province, will give to the Journal an important utility; whilst the publication of information relative to the construction of Roads, Railways, and Canals; the reports of Public Meetings held in connection with such enterprises; together with all Local Intelligence of a Scientific or Industrial character, will impart additional interest to the Periodical. Finally, copious extracts from, and probably, in some cases, entire reprints of the most valuable articles of a fitting nature appearing in the best European Magazines, will give a sterling to the work, which can scarcely fail to render it generally acceptable, and worthy of an extensive support.

With respect to the Illustrations, the promoters have much pleasure in stating, that they have secured the services of some of the best Artists in the Province, in their several departments of Art; they are therefore confident, that the different Engravings, whether on copper, wood, or stone, will be produced in the best style that the Province can afford; and as the Editorial and general management of the publication will be undertaken entirely gratuitously, the amount of subscriptions paid will be devoted, without deduction, to its artistic and mechanical execution. The progressive improvement and extension of the work will therefore depend upon and be commensurate with the support which may be accorded to it by the public, and the degree to which the Canadian Institute may be successful in soliciting and combining the talents of those classes to which it appeals—if that support be generous, the promoters have every hope that the Canadian Journal will do credit to the Province.

The Publication will be conducted by the Council of the Canadian Institute at Toronto. Many able gentlemen have already volunteered their valuable assistance and co-operation as permanent contributors to the work. The suggestions and correspondences of others friendly to the undertaking, are respectfully and urgently requested, especially with a view to the transmission of intelligence, and to the illustration and description of new inventions, public buildings, or other works of interest in the locality with which they may be connected.

The Journal will be published in monthly parts, in size, and on paper, similar to that on which the Prospectus is printed. Each number will contain 24 pages, double column, to be gradually extended as the success of the work advances. The price will be 15s. per annum, payable in advance.

An advertising sheet will accompany each number, which is expected will afford a desirable medium for the advertisements of all parties connected with Art, Science, or Manufactures; insertions subject to the following charges:—

One eighth of a column, first insertion.	£0 5 0
Each subsequent insertion.	0 1 3
One quarter of a column first insertion.	0 8 9
Each subsequent insertion.	0 2 0
Half a column first insertion.	0 15 9
Each subsequent insertion.	0 3 9
One column, first insertion.	1 5 0
Each subsequent insertion.	0 6 3
Professional cards not exceeding six lines 10s. per annum.	

All communications to be addressed to "The Secretary of the Canadian Institute, Toronto," and all letters must be prepaid.

Toronto, June 1, 1852.

Agricultural Journal,

AND
TRANSACTIONS

OF THE

LOWER CANADA AGRICULTURAL SOCIETY.

MONTREAL: SEPTEMBER, 1852.

The Monthly Meeting of the Directors took place this day. Gentlemen present: The President of the Society, P. E. Leclere, Esq.; Major Campbell; John Yule; F. A. LaRocque; P. L. LeTournaux; M. Valois, M. P. P.; Alfred Pinsonnault; L. A. Moreau; A. Kierzkowski; David Laurent; J. Hurteau; L. A. H. Latour; and Wm. Evans, Esquires.

The President having taken the chair, the Secretary stated that he had given notice of the meeting in the English Agricultural Journal, and by letter, addressed to each member.

The proceedings of the last Monthly Meeting having been read, the Secretary submitted a memorandum of a meeting of Directors which took place at these Rooms on Thursday, the 22nd day of July last, but stated that he had not recorded the proceedings in the Transaction Book of the Society, as the meeting had not been regularly convened, and as neither the President, nor any of the Vice-Presidents were present, (which is necessary to constitute a legal meeting for the transaction of business); he had merely made a memorandum of what had occurred, which he now read. This course was approved of by the meeting this day, and the subject was not further discussed.

The business of the Model Farm was then introduced, and after considerable discussion it was resolved that the gentleman who composed the Committee who took possession of the Model Farm at La Tortue, last year, substituting A. Kierzkowski, Esq., for Joseph Vincent, Esq., be the Committee to carry out the giving up of the said Model Farm, and they are to report on the 24th instant to the

Directors, on which day a special Meeting of the Directors shall be convoked, and the Committee named this day shall examine the accounts of the Treasurer and Directors of the Model Farm, and report upon them also.

This Resolution was adopted unanimously. Messrs. Leclere and LaRocque reported that they had visited the Model Farm at La Tortue, on the 15th of July last, and found the establishment in very good order in every respect. The neat cattle were in as good condition as could be expected from the state of the pasturage, this extremely dry season.

It was then moved by J. Hurteau, Esq., seconded by John Yule, Esq., and passed unanimously. That the above Report be received and adopted.

It was then ordered that the Secretary make out a copy of all the Resolutions adopted subsequently to the tenth day of February last, included which might be interesting to the Minister of Agriculture, and that the same be transmitted to the Hon. Malcolm Cameron.

The Meeting then separated.

By order,

WM. EVANS,

Sec. & Treas. L. C. A. S.

Agricultural Rooms,

Montreal, August 11th, 1852.

ROOMS OF THE LOWER CANADA AGRICULTURAL SOCIETY,

Montreal, 24th August, 1852.

A Special Meeting of the Directors of the Lower Canada Agricultural Society took place this day, pursuant to the Resolution adopted at the last Monthly Meeting of the Directors on the 11th instant, and to written notices addressed to each Member by the Secretary.

GENTLEMEN PRESENT:—A. Kierzkowski, J. Hurteau, John Yule, J.F. Allard, Esquires; Major Campbell; Hon. Mr. DeBleury, P.E. Leclere, P. Le Tournaux, David Laurent, Alfred Pinsonnault, John Drummond, William Evans, Esquires; P.E. Leclere, Esq., the President, took the Chair.

The proceedings at the last Monthly Meeting having been read, the gentlemen who composed the Committee for visiting the Model Farm at Le Tertue, made their Report, and being read; it was proposed by Major Campbell, seconded by John Yule, Esq., that the Report be received and adopted, which passed unanimously.

Mr. Pinsonnault objected to the Report in several particulars, but after considerable discussion it was proposed by A. Kierzkowski, seconded by the Hon. Mr. DeBleury,—

That to put an end to all difficulty now existing between the Society and Alfred Pinsonnault, Esq., proprietor of La Tertue Farm, and to arrive at an amicable settlement, *quoad* the said Farm, grain and implements of the same, now about to be returned to the said Alfred Pinsonnault, the Society offers to the latter that the parties should remain mutually quit and respectively discharged of all claim whatever, the Society abandoning all claim, *quoad* the sum placed in the hands of the said Alfred Pinsonnault as Treasurer, for the purpose of, and towards paying the expenses of the said Farm, which proposition the said Alfred Pinsonnault, here present accepts, and now gives and grants to the Society a full and final discharge.

This Resolution was passed unanimously, and the President of the Society, and Alfred Pinsonnault, Esq., affixed their signatures to the Resolution.

At this stage of proceedings, Major Campbell, and Messrs. Yule, Allard and Le Tournaux left the room.

The Hon. Mr. DeBleury proposed, seconded by John Drummond, Esq.,—

That the thanks of the Society are due to Alfred Pinsonnault, Esq., proprietor of the La Tertue Farm, for his liberal acceptance of the above offer, and of his abandonment of the sums which he pretends to be due to him by the Society. Adopted.

Proposed by the Hon. Mr. DeBleury, seconded by J. Hurteau, Esq.,—

That Mr. Ossaye, Director of the said Farm, which he has with the consent of the Society, given up this day to Alfred Pinsonnault, Esq., be, and he is hereby discharged as such Director. The Directors of the Society hereby acknowledge his services in the capacity of Director of the Model Farm at La Tertue. Adopted.

Proposed by J. Hurteau, Esq., seconded by David Laurent, Esq.,—

That a Committee consisting of five Members, of whom three shall be a quorum, be named to examine and report upon a manuscript presented by Mr. Ossaye for publication, and that said Committee be

composed of Major Campbell, John Yule, P. E. Leclere, A. Kierzkowski, and J. Hurteau, Esquires. Adopted.

The Secretary presented a letter he had received from George Buckland, Esq., Secretary of the Agricultural Association of Upper Canada, which was read before the Meeting. It contained an invitation from the Board of Directors of that Association to the Office Bearers of the Lower Canada Agricultural Society, to be present at the Exhibition of the Agricultural Society of Upper Canada, which is to take place at Toronto on the 21st, 22nd, 23rd, and 24th of September next; and also requesting that some of the gentlemen who might attend, would consent to act as judges.

The Secretary was instructed to reply to Mr. Buckland, and return thanks for the invitation, and to acquaint Mr. Buckland that the President of this Society, P. E. Leclere, Esq., A. Kierzkowski, J. Drummond, Esquires, and the Secretary, Wm. Evans, Esq., are deputed to attend the Exhibition, and to state further, that it is probable that other Members of the Board of Directors, may also be present. The Meeting then separated.

By order,

WM. EVANS,

S. & T. L. C. A. S.

We were delighted to read the speech of His Excellency the Governor General at the opening of Parliament, now in Session. It is, in reality, a picture of the state of our country, that every inhabitant of Canada may be justly proud of. Such an encouraging document is well calculated to banish all further speculation on "ruin and decay," and every pretence for "Annexation," by the few who ever entertained such an idea. There is not a spot on the continent more favoured in every respect than Canada, if we will only endeavour to improve, and not mar the great advantages of our position. As an humble advocate of the interests of Agriculture, we are rejoiced to find that His Excellency has introduced the subject of Agriculture in his speech and declared "that the interests of Agriculture are

entitled to the special care and attention of Government, in a country where so large a portion of the community is employed in Agricultural pursuits." This paragraph cannot fail to be highly satisfactory to the Agricultural class, who for long complained that their interests did not receive that degree of attention they were intitled to. There is reason for hope there shall be no longer any grounds for this complaint, but that Agriculture shall receive all due attention. though it may not have such eloquent advocates to take care of its interests, as those employed in other occupations. Agriculturists are generally working men, and have not much leisure for writing or making eloquent speeches as several of the members of other classes may do, hence, agriculturists requires the special care and attention of Government to give it any chance of success. We do not wish to be understood as stating that there are not many agriculturists, or at least many who have engaged in agricultural pursuits, but are as highly educated and qualified in every respect to occupy a high position as any members of any class of this community. Indeed we believe they have greatly the advantage in this respect, though the majority of agriculturists are plain working farmers having no higher pretensions. There is another evidence of the attention of Government to Agriculture, in the appointment of a Minister of Agriculture. By this appointment the most important interest in the country is directly represented in the Government, and we may reasonably hope that every possible aid will be afforded to secure the improvement and prosperous condition of Agriculture. We do not presume to ask for any unreasonable aid or advantage above other classes, but we conceive ample provision should be made for the education and practical instruction in the science and art of Agriculture for all who might be disposed to be instructed. Schools and Colleges are amply endowed for other branches of education, while not one shilling has been appropriated for

instruction in the art that is beyond all comparison of greater importance to the human race, than any other. This injustice to the Agricultural classes we have always complained of, and shall continue to do so until it is remedied. No wonder Agriculture should be in a backward state, when a suitable education and training was never thought necessary for its successful practice. There is a very large amount of capital employed in Agriculture, including the value of lands, buildings, stock and implements, and the education and training of those who are engaged in this pursuit is by no means in proportion, to this amount of capital, compared with the education and training of those who have the management of capital employed in any other business or profession. Trade and commerce has vastly a greater amount of education and skillful training to direct the employment of the capital engaged than agriculture possesses, and it is therefore no wonder that the latter profession should not be so profitable as the former. There are not many parties who become merchants, traders or manufacturers, who have not been previously educated and trained for these occupations. In Agriculture it is not so, many engage in the business without any previous training, and if they are in circumstances to enable them to employ labour, they are entirely dependent upon the skill and industry of those they hire. Those who have not the means to hire labour, are in a worse condition still, for they have to make a living by a business they are ignorant of, and they are not capable of training their children skilfully in the art of agriculture, and hence a defective system of husbandry is carried on from generation to generation. If institutions were established for instruction and training, practical skill might be acquired by any who desired it, and thus the amount of skill employed in the management of agricultural capital would be vastly augmented. These are plain facts that must be manifest to any one who will take the trouble to reflect upon the subject. We

hear frequently of heavy losses incurred by farming, but if capital was to be employed in other business by parties utterly unacquainted with the occupation they chose, much greater losses would be the result than has ever taken place in Agriculture. This matter deserves serious consideration as it is of the greatest importance to every country that its capital and labour should be employed skillfully, and to the best advantage. Every member of the community is interested in this question as well as the agriculturist. The greater the amount of our annual production, the better it will be for every class who have their permanent residence in Canada. The calamitous fire that occurred in Montreal lately was considered to be a loss from which we should not recover for many years. From the proud position of the Province, however, in regard to her credit Montreal will, probably, before the end of seven years be a much finer city, and have a more numerous population than she could boast of previous to the late fire. Canada must "go a head," though it is quite possible her progress might be retarded by the injudicious conduct of parties, who would wish to make us believe we are surrounded by tokens of "ruin and decay," while every thing about us shows the contrary. It is a fortunate circumstance for Canada that strangers appreciate us, and understand perfectly our favourable condition and prospects. For our agriculture, we have every thing to hope. Improvement is making sure progress, and during the present Session of Parliament there is no doubt measures will be adopted that will have a tendency to accelerate the progress of improvement, by providing suitable means of instruction for the agricultural population.

We have received a letter from the Secretary of the Agricultural Association of Upper Canada, George Buckland, Esq., inviting, on behalf of the Board of Directors of that Association, the Office Bearers of the Lower Canada

Agricultural Society, to be present at their Great Exhibition, to take place at Toronto from the 21st to 24th September next. The Directors of the Lower Canada Agricultural Society have named a Deputation to attend, and expect that several other members will also be present, who have not yet been made acquainted with the invitation; a duty we shall perform without delay. It would be very desirable that as many of the Directors of the Lower Canada Agricultural Society as could make it convenient, would attend the Exhibition, as we have no doubt it will be worthy the country, and amply compensate for the time and expense of going to Toronto. In Upper Canada they have a numerous stock of excellent animals, of the most favorite breeds, and their implements are home manufacture of the best description. From past experience, we can assure agriculturists they will not be disappointed in attending the Exhibition. The situation is also favorable, as the accommodation is likely to be ample. It is very desirable that there should be a hearty co-operation and union between the Members of the two Provincial Societies, who have only one object in view, namely:—the improvement and prosperity of Agriculture in Canada. This object affords no grounds of jealousy or rivalry, but should be carried out by all parties with hearty good will. It is an object that may unite men of all parties and political opinions, as it may be worked out without any reference to politics or party views. Unfortunately there is not at all times, that cordial union that ought to subsist between Agricultural Societies desirous of doing all the good that was possible. Between the Provincial Association, however, we confidently hope that the very best understanding will always be maintained, and we can answer for the present Directors of the Lower Canada Agricultural Society, that they are actuated by the most cordial and friendly feelings towards the Board of Directors of the Sister Association of Upper Canada, and will be happy to cultivate the most friendly relations with them. We humbly conceive that it would have a

very favorable influence to correspond regularly between both Societies, on subjects connected with agriculture, and that this correspondence should be published in the Journals of each Society. Information or suggestions coming from such sources would possess great interest, and could not fail to be useful. The Provincial Societies have it in their power to effect much good, particularly by the Journals which they publish. We shall be glad to hear from our respected friend, Mr. Buckland, on this subject, what he thinks of our proposition. A monthly communication would be very acceptable to us, and we shall do all in our power to reciprocate the favor, though we are sensible of our deficiency, to make it equally interesting and useful as Mr. Bucklands.

The legitimate object of Agricultural Societies is to promote the general improvement of agriculture in the county or district where they are located. The question is, how can this be best accomplished in regard to that portion of the rural population who are most deficient in agricultural skill, and whose system of husbandry is most defective. It appears to us that it is the most unskillful farmers who require to be instructed and encouraged to adopt a more perfect system of farming, not those who already understand their business, and would be offended if any one was to presume to teach them, or say they required instruction. It is an absolute absurdity to offer prizes to parties for doing what they know perfectly well it is their interest to do, and who would not follow a defective mode of cultivation if they were to be offered a premium for doing so. There are many farmers in Canada who have had favorable opportunities of acquiring a perfect knowledge of agriculture, and by the practice of a good system have learned to estimate the value of it, compared with a bad system. These men know their own interest too well, to give up a good system of husbandry, and practice a bad one, and require no premiums to bribe them to this course. There are other farmers, and they are much the most numerous class,

who have not had these favorable opportunities of learning their business, or practicing a good system of husbandry, and it is this class which we conceive to be the proper object to instruct in the art of agriculture, and encourage them to adopt such improvements as they will learn to be necessary by a proper course of instruction. We have as good farmers here, as is necessary in any country, but it is not to these that the schoolmaster should be sent, but they should rather be the schoolmasters to instruct the ignorant, and encourage them to be better farmers, and employ the funds of Agricultural Societies to accomplish this good work. We submit these suggestions for consideration, and we hope some good men, and friends to their country, will propose some judicious plan for carrying our suggestions into effect. We could submit a plan, but for the present we shall leave it more able hands. Perhaps our suggestions may not receive any consideration, and in that case, it would be only waste of time to go further into the subject. If good husbandry ought to be encouraged, we should offer this encouragement where it is most required, and the mission of Agricultural Societies should be in that direction: How do we act now? Our encouragement is all to our best farmers, and the bad farmers are left without instruction or encouragement, to continue the defective systems of their fathers, or those they have themselves adopted, without an previous training. As we have frequently observed, if Agricultural Societies were to be organized, who would be altogether dependent upon their own subscriptions as funds, they would of course be at liberty to employ these funds as they thought proper, but when this is not the case, we are persuaded that public funds should be employed to obtain a better system of husbandry where it does not exist at present. We do not object to exhibition of excellent breeds of animals, implements, products, and manufactures, when under proper rules and regulations, because this is necessary to show the comparative merit and excellence of all these things. We only suggest that other means

than is adopted at present, are necessary to promote agricultural improvement where it is most required amongst the rural population. A large portion of this population must feel that they have no part or interest in those measures that are adopted for the improvement of agriculture. We conceive that the poorest and most unskillful farmer in the Province should be able to perceive that he was not forgotten or neglected, but that the rulers and legislators of his country were perfectly conscious of his condition, and wished to assist him to ameliorate it. Those who are well to do in the world can generally take care of themselves, but it is those who are not so, who require the fostering care and attention of Governments and Legislatures, and we fear they generally get least of it.

As a proof of the progress of agricultural improvement in Lower Canada, we may state that in the month of July we were present when the President of the County of Saguenay Agricultural Society, L. C., L. Dubois, Esq., paid Mr. George Shepherd, the seedsman of the Lower Canada Agricultural Society, forty-nine pounds, some shillings, currency, for clover, timothy, mangel-wurzel, carrot, and turnip seeds, for distribution in that country, last spring, and that nearly a similar amount was paid for the same purpose last year. This must produce a good effect in that remote county, when the advantage of cultivating these crops becomes manifest. Mr. Dubois at the same time paid for 24 copies of the Agricultural Journal, in English and French, for the present year. The county of Saguenay is a new country, and is entitled to every encouragement to improve her agriculture. We conceive under the circumstances, a county such as the Saguenay, should have as large a grant of public money as any old settled county, whatever their population or amount of subscription towards agriculture. New settlers have much to contend with, and very little money to spare, and when they would evidence such a disposition to improve-

ment, with, perhaps, scanty means, it is a pity not to encourage them by a regular grant, whatever may be their subscription. In that county we hope something may be done in the way of road making, as turnpikes or otherwise. In a new settlement, nothing is more necessary than convenient and good roads. Indeed, without these the progress of improvement must be very slow. The Government and Legislature cannot assist a new settlement more effectually than by giving them good roads, canals or rail roads. We are glad to see that it is proposed to establish regular steamboat communication between Quebec and the settlements down the St. Lawrence. It is time certainly that this want should be supplied.

The letter of "Observer" came too late for insertion in the August number, but we are glad to give it place in this, and shall be happy to hear from "Observer" at any time, he is pleased to address us on any subject connected with agriculture. It is by correspondents that the Journal will be made both useful and interesting, by bringing before our readers the views and opinions of others as well as our own. It is a remarkable circumstance, that practical farmers appear to be the least disposed to give the benefit of their experience for insertion in this Journal, for the instruction of those who may require it.

We feel great satisfaction in publishing the letter of the Hon. Wm. Shepherd, President of the County of Drummond Agricultural Society. This gentleman has responded to the Circular of the Lower Canada Agricultural Society, and expressed his willingness to co-operate with them in promoting agricultural improvement. We humbly conceive that the plan proposed of forming a Committee of Correspondence from some of the leading members of the County of Drummond Agricultural Society would be the best that could possibly be adopted, and we are convinced that the Directors of the Lower Canada Agricultural Society are anxious

that all County Agricultural Societies should elect their own members as Corresponding Committees. It must be manifest, that if the proposition of the Lower Canada Agricultural Society was responded to by all the Presidents of County Societies, in the same spirit as by the Hon. Mr. Sheppard, and a few other gentlemen whose letters have already been published, it would be an excellent means of promoting the object which all Agricultural Societies profess to have in view. If there is any sound objection to this plan, it would be desirable that it should be known, and the columns of this Journal shall be open to any communication on this subject. There is nothing like open and fair discussion on subjects of public and general interest, and we invite it

AGRICULTURAL SHOW, DISTRICT OF MONTREAL.

The General Exhibition for the said District will take place in the Village of Terrebonne, on Wednesday, the 6th day of October, at 10 A.M., when five premiums in each of the usual classes will be awarded. Separate classes for competition have been made for the French Canadians, in horned cattle, sheep, butter and cheese. All entries to be made between the hours of 4 P. M., on the day preceding the show, until 9 A. M. on the day of the Exhibition, after which hour the Secretary's Book will be closed. On the following day, at 9 A. M., a District Ploughing Match will take place with English ploughs, at the Village of Ste. Thérèse, on the Lands of John Morris, Esq. Separate classes have been formed for the French Canadians, British Canadians, and young men; a sum of £50 has been destined for premiums in these classes.

For details, reference is requested to the hand bills which have been sent to the President of each County Society.

EDOUARD MASSON, *President.*

CHARLES SMALLWOOD, M.D., *Secretary.*

St. Martin, Isle Jesus,

24th August, 1852.

MERINO SHEEP.—We give insertion with pleasure to the letter of Mr. Jewett, of Middleburg, State of Vermont, respecting this breed of sheep. In a former number of this Journal we expressed our doubts of the statements we had seen of the weight of unwashed wool produced by Merino Sheep in the United States, but from Mr. Jewett's letter it would appear we have been under a mistake. Mr. Jewett has invited us to go to the Vermont Agricultural Exhibition, to take place on the 1st of this month, and we shall in our next, give the result of this tour. When we see the sheep, we can form some correct estimate of their quality. Mr. Jewett sent us several samples of Merino wool of beautifully fine quality, which we shall keep at the Rooms of the Lower Canada Agricultural Society, for any party who may be desirous to see them. Merino Sheep that would yield such a large quantity of wool must be a most valuable stock for any country in which they could be kept successfully.

BRAXY IN SHEEP

The disease that is generally known by this name, and sometimes as redwater, is supposed to be produced by the use of dry, harsh, or frozen grass, taken into the stomach. This food does not readily digest, and induces an inflamed state of the stomach and bowels, which soon causes the death of the animal, if not relieved. The symptoms are a restlessness, lying down and getting up frequently, keeping the head down and back up, moving with pain, and separating from the flock. Bleeding and purging is the remedy. If blood should not come freely by opening the jugular vein, and the veins under the tail, the sheep should be put into a tub of warm water, or have a blanket soaked in warm water put round the body, and this will generally cause blood to come and be otherwise serviceable to the sick sheep. From two to two and half ounces of epsom salts is sufficient for a dose, or half an ounce of nitre might be substituted for a third of the epsom salts.

If no epsom salts is at hand, common salt will answer, a handful is sufficient. It may be dissolved and given from a teapot; meal and water might be given to the sheep after the salt operates. A gill of linseed oil, mixed with warm gruel, might be given, if the salt does not operate. The great point is to operate freely upon the bowels. A glisten of linseed oil and thin gruel will have a good effect. It is generally the sheep that are in the best condition that are liable to this disease, salt is a good preventative, and should be frequently given. Dry harsh grass, produces sickness frequently in neat cattle as well as in sheep, and we have no doubt it is often the cause of their death, in dry hot summers, and this is a circumstance that may not be generally known. There can be no doubt that animals are more liable to be affected on pastures where this dry harsh grass prevails, than upon those that are green or succulent. Hence it is very desirable that pastures in Canada should be selected from that part of the farm that is most likely to keep green throughout the summer. We happen to have some experience upon this subject, and estimate the difference between pastures that become dry and parched in summer, and those that are shaded and keep green; we have found the latter much the most healthful for cattle.

It is most desirable that we should encourage and foster home manufactures wherever established amongst us, and we are happy to know that we are having many of them. For agricultural implements that are chiefly in use, we may have them made here of the best description. Our attention was attracted lately to iron bedsteads, made by a blacksmith by the name of Grace, whose shop is at the west end of Great St. James street, Montreal. They are of plain construction, but strong, and very suitable for new settlers coming to this country, and in fact for any plain family who would not desire expensive furniture. They are sold at a moderate price, and would answer well for small rooms, or for children

and servants beds, as they would not afford shelter to, or breed troublesome visitors. Mr. Grace appears to have considerable demand for these bedsteads, as we seldom see any of them remaining on hand.

We beg to refer our readers to the notice we have copied from a paper published by "The Canadian Institute" of Upper Canada. The objects of the Canadian Institute are very laudable, and we regard with great satisfaction the organization of a Society "for the purpose of promoting the Physical Sciences, for encouraging and advancing the Industrial Arts and Manufactures, for effecting the formation of a Provincial Museum, and for the purpose of facilitating the acquirement and the dissemination of knowledge connected with the Surveying, Engineering, and Architectural Professions." These objects may not have any direct connection with Agriculture, but they must have a great influence on the general improvement of Canada, and that is sufficient recommendation. The Journal they propose to publish, will, we have no doubt, be highly interesting, and we wish the Canadian Institute and their Journal all possible success.

AGRICULTURAL REPORT FOR AUGUST.

The month was very favorable for harvesting crops at maturity, and for bringing crops to maturity. The weather was generally very hot, though, on a few occasions, the temperature was under 50°. The month partook of the general character of the season, and very little rain fell up to this date, the consequence is, that pastures are very much dried up, and there is scarcely any after grass upon the meadows. We learn from every quarter that hay is a very short crop, but it has been well got in without much waste, and this will compensate in some degree, for the deficiency of the crop. Early sown wheat has suffered by the fly, but that sown subsequently to the 24th or 25th of May, is comparatively safe from their ravages. There is still some risk to the late

sown from rust, should the weather prove unfavorable for the next fortnight, as there is much of it in a very green state. Barley is nearly all secured, and was a good crop. Peas are also excellent. Oats are good where they had any fair chance. Potatoes, at the beginning of the month and up to the 15th, never looked better, but since then, the vines are becoming withered in many places; though we have not heard many complaints of disease existing to any extent. We have not as yet seen a single field of potatoes, where the vines have turned suddenly black, as in former years, though we do not pretend to say that there are not any diseased potatoes. The dry weather is likely to check any disposition to disease, and if it continues for the next month, the potato crop may not be much injured. There are some varieties of potatoes much less liable to disease than others, and those are the varieties that should be cultivated. We have seen more blossoms upon the vines this year than for many years past, and this may be a favorable symptom. In the British Isles it has been remarked that since the potato disease commenced, the vines seldom produced either blossoms or seeds as formerly, but that in England, this year, they have again observed the blossom and seed formed upon the vines. The disease first appeared unaccountably, and we have never seen any satisfactory explanation of the cause. It may disappear as it came, without our being able to discover the cause. There has been many attempts to account for this disease, but there is as much uncertainty about the matter up to this moment, as there is about the influence of the Moon upon the changes of the weather upon our Globe, which we do not believe to be any whatever, notwithstanding all the high authority we have to the contrary: The season has not been the most favorable for carrots, mangel-würzel or turnips; though we have seen some good crops of each. We have already alluded to the partial failure of all these seeds last spring,

owing chiefly to the dry weather, but we believe, in numerous instances, to careless sowing the seed. It is very difficult to have this work done so as to answer in all seasons, and the seed is often blamed for failure, when it is owing to other causes. When small seeds are sown with a good machine there is not much danger of failure if managed by a careful man, but when sown by hand there is great difficulty to get people to cover the seed properly, or at a uniform depth, and if a dry season, this carelessness is sure to be fatal to the healthy growth of the seed. It is of the greatest consequence to agriculturists to have skillful and experienced hands to work for them. The work of a qualified man is double the value of a man ignorant and unexperienced.

It is this which makes labour so dear in Canada to the farmer who is desirous to farm upon a good system. There are many works cost double what they should do, and perhaps more. A man who understands the use of the hoe in weeding and thinning crops, will do three times the quantity of work of one who is not trained to its use. In England boys are trained to every farm work from a very early age, and when grown up, they are efficient in every work they have to do. If Model Farms were to be established, we should soon have trained labourers. There is another circumstance that acts injuriously on our agriculture, namely: the changable and wandering disposition of a large portion of the emigrants who arrive here. After spending a year or two with a farmer, and becoming acquainted with his work, &c., they are disposed to go further, and sell their improved modes of working to the highest bidder, and leave their former employer to get new hands to teach, who will when taught, leave him in the same way. There are exceptions to this rule, but they are not numerous. In the British Isles how different; Farm labourers and servants very frequently stop with their employers during their lives. If Agricultural Societies were to employ a part of their funds

as premiums for long and faithful service, we believe would be as judicious and profitable an appropriation as they could make; and it certainly would be a direct encouragement to agricultural improvement, in as much as a perfect system of agriculture cannot be carried on profitably, without well instructed and faithful labourers and servants. This plan would give labourers and servants an interest in good farming, and be a means of attaching them to their employers, and to a settled habitation in Canada. It is said that labourers obtain more encouragement in the neighbouring States than in Canada, but all things considered, we are inclined to doubt this,—Canada is a remarkably healthy country, and a labourer can supply himself here with every article he requires to purchase, at a much cheaper rate than in the United States. His years or his days labour therefore, is of higher value considerably, than the same amount would be in the United States. The value of money must be estimated by what it will purchase for us, and half a dollar might be worth more to a man in one place, than a dollar would be in another. We have just read in the Sherbrook Gazette, an account of a farmer who had left the County of Shefford five years back, for the far West, *Illinois*, who has lately returned with his wife and family to clear a new farm in the Eastern Townships of Canada. We have not any doubt, that many who go to the United States would come back here if they could do so. We do not make this statement with a view of depreciating the United States or her institutions, we only say that those who leave Canada or pass through it to settle in another country commit a great mistake, if they are agriculturists, or if their object be to settle on land. It is almost impossible to plough land at present it is so excessively dry, and this circumstance will, we fear, prevent the sowing of fall wheat in time. The produce of the dairy is considerably decreased in consequence of the drought. We learn from the Eastern Townships that there is a considerable demand there for the produce

of the dairy, and good prices, by parties for the supply of the markets of the United States. The Eastern Townships are admirably adapted to rearing and fattening cattle, and sheep, and for dairy purposes, and we are convinced it would be the most profitable system of farming for that country. There is not much doubt that we can furnish the neighbouring States with horses neat cattle, sheep, butter, cheese, fowls and eggs, on better terms than they can obtain them elsewhere; and we should be prepared to supply this excellent market, that propably will be always extending. If the next month should continue as favourable as the one now past for maturing and harvesting the crops that are yet out, we shall not have any cause of dissatisfaction with the results of this year's produce, some crops, there always will be, not so good as others from many causes; but in most cases it will be in consequence of defective cultivation or mismanagement. Wheat has suffered this year in some instances from the fly, but it is in consequence of sowing at a period that brings it into ear first when the fly comes annually to visit us, and this is known now to every farmer or every farmer should know it. We have varieties of wheat that comes to maturity in three months from the time of sowing, and though these wheats may be inferior in quality to some finer varieties that could be grown in Canada, yet we should be satisfied with them, and be thankful for such an advantage under the circumstance. The markets are very well supplied with butchers meat, dairy produce, &c., and the prices are fair both for seller and purchaser. It is impossible to form any correct idea of what the prices are likely to be, until the general results of the harvests in Europe as well as in Canada are known. The crops in the United States we believe are generally an average, but we have no doubt that there will be a market and fair price in that country for any oats or barley we may have to dispose of. Ploughing cannot be executed now, but when the land is in a fit state for that operation there should

not be a day lost, as it is of great consequence to have ploughing commenced early and finished in time. It is a favourable season for draining on wet land, or for deeping water courses, where they may require it, and the opportunity should not be lost. A dry season succeeds better in Canada than a wet one, provided it is not too dry, which very rarely happens, not more than twice during our residence in the country 34 years. In this, as in all other seasons, the crops will be generally in proportion to the good condition of the soil, and the skill and attention of the agriculturist. The potatoe disease may be an exception, but even in this, precautions may be adopted that will have some influence in checking the disease.

In preparing Agricultural Reports, we do not confine ourselves to a description of the crops or their probable produce, but rather wish to submit what we conceive to be either advantageous or injurious to agriculture, in order that we may endeavour to remedy any defects in our system, and be satisfied with the advantages we possess.

August 31st, 1852.

NOTICE.—The Monthly and Quarterly Meeting of the Directors of the Lower Canada Agricultural Society will take place on the second Wednesday of September, being the 8th instant, at their Rooms in this City, at 11 o'clock A. M.

By order
WM. EVANS

Sect. and Trea. L. C. A. S.
September 1st, 1852.

DRUMMONDVILLE, 23th July, 1852.

DEAR SIR,—Your circular dated May, came duly to hand, respecting the formation of a Committee of Correspondence to be in communication with the Provincial Agricultural Society. After consulting some of our leading members of our County Society; we are of opinion that such a Committee would be best formed within the Society itself. I will, therefore, at its first meeting bring the subject under their notice, and I have no doubt that means will be adopted to meet the wishes of your Society. In the mean-

time, I have to inform you that our Society imported last Spring some 12 bushels of Baltic Spring Wheat from Liverpool, which has been distributed among the members in quantities of $\frac{1}{2}$ bushel each, with instructions to give it a fare trial, and to report the result of its cultivation and produce to the Society in the Autumn. When these returns are made by the grower, a Report thereof shall be drawn up and sent to you. Some information may be expected to arise from this trial of a fresh Wheat from Europe.

I am, my dear Sir,

Yours truly

WILLIAM SHEPPARD.

P. A. S. Drummond.

To William Evans, Esq.,

Sec. L. C. A. Society,

Montreal.

MR. EDITOR,—For the encouragement of agriculture it is well to know the happy results of our proceedings, and to read of the good acts of those who make themselves useful; and ought we not to make known the obstacles that impede our progress, and this is what I wish to write to you about. For several years I have cultivated the turnip not so much for profit, as for the good preparation of the soil. Being about to cultivate as usual some turnips this year, I was unable to go to town and employed another person to bring me the seed from our seedsman Mr. Sheppard, and after preparing and manuring the land in the best manner favorably, it was in vain, for the seeds did not vegetate, and I then found it was not purchased from Mr. Shapperd, but from some other person. Now I beg to enquire of you what should be done, when parties sell seed that is not good, and cause such disappointment and loss to agriculturists?

AN AGRICULTURIST.

Terrebonne, August 13th, 1852.

The above is a translation of a letter addressed to us by a gentleman, whom we have the pleasure to know. Unquestionably the party who sold the Turnip seed could be made liable for the whole loss sustained under the circumstances stated.

SHEEP WASHING, IMPORTED SHEEP.

DEAR SIR,—In former times, it was very practicable to wash the wool upon the sheep's back. At that epoch, all submitted the wool to the care of their wives and daughters, to be wrought into rolls by hand card, or more subsequently, this part was performed by machinery. Then the farmer made his own cloth.

But now we sell most of our clip of wool to the manufacturers, where it does not render it necessary,

is it of any practical use to undergo annually the unpleasant task of rolling our sheep about in the water to wash the coats upon their backs, subjecting them to the exposure and risk of life, and also the Spring in many cases. And lasting injuries are frequently contracted by the men who are thus exposed to the cold elements in the sheep washing.

I have not thus cleansed my wool for the last three seasons. The manufacturers deduct one fourth to make it equal to washed fleece wool. I think that *the habit* will not be handed down more than twenty years longer in the States.

Last season and this, I imported from France 583 sheep, of the pure breed. The cost of those sheep is so great, that we do not care about the risk of life to carry out *a habit* of which there is no use, (for the manufacturer has to give it another cleaning.) We might as well lose a fine yoke of oxen as one of these sheep, therefore expose them to dangers as little as possible.

The heavy fleeces of which you make mention on page 244, of unwashed wool, may have been produced from the French Merinos; for they actually yield more than double the number of pounds of clean wool that our other American Merinos do. I will enclose to you samples taken from the fleeces of unwashed wool, of ewes and rams, that yield from 15 to 26 pounds, as clean as the fleeces were shown from the French Merinos.

This class of Merinos are not only superior to all others for their great productions of fine Merino wool, but they are valuable as a mutton sheep. Others of this breed can be made to dress over 50 pounds to the quarter. The live weight of many of them at four years old is over 300 pounds. They gain fat more readily and with less feed than any other variety of sheep. This is owing to their quiet disposition, as they do not roam about the fields like other sheep. One flock of 88 ewes have been summed in a lot of seven acres of very ordinary feed. Great standing upon one side enclosed by a fence of wire rails, many places not over two feet in height, which they have never attempted to leap. This breed of sheep must revolutionize the wool growing business in our country. And I hope the time will soon come when we shall have all the advantages of a reciprocity of trade with the Canadas, that our country and our Government requires.

SOLOMON W. JEWETT.

Middleburg, Vermont, August 12, 1852.

To the Editor of the Agricultural Journal.

DEAR SIR,—As your Journal is ever ready to accept a few lines given to you from one who wishes to be in general every success, I here offer you a few remarks on the Agricultural Shows, as I have

remarked a great many opinions and suggestions have been made at different times through your Journal as to the best means of adopting plans to carry through Agricultural Shows. As I have been a competitor myself on several occasions, I have seen the dissatisfaction that has been at every meeting; but as it is utterly impossible for the class of farmers, and more especially the French farmer, to compete with our independent gentlemen farmers, I here offer a few remarks, which I think would be of the utmost benefits to the farming community at large, and it would after a few years give our French farmers a better chance of coming forward. Should the exhibitions still be held in the different parishes, my plan is of improving the system of cultivation as well as the stock; and would be for every Agricultural Society, instead of putting up the grants of money given by Government, as well as what is collected by subscribers, towards an exhibition to have these sums expended in every Parish for the purchase of one or a couple of thorough bred Canadian stallions, or say one of each breed, as well as a couple of well bred bulls, a few Leicester rams, Berkshire and Norfolkshire boars, and to be kept for the use of farmers in every parish, and at stated places, and the surplus, should there be any, to purchase a quantity of clover and timothy seed, to be distributed to the farmers gratis, in equal proportion, to sow with their grain, so as to enable their cattle to get a living the ensuing season. The general system of the farming, amongst them, is alternate cropping, to sow one half of the land one year and graze the other, which is all the manure these fields get to prepare it for the coming season's crop, with the exception I may say of their Indian corn and potatoe patch. Also to have a farmer's club in each parish, where the farmers ought to meet once a month, or oftener, and discuss amongst themselves the best means of improvement, and those that have been trying any experiments to lay their success before the club; and the said club to have a room, and to be subscribers to the Journal, and endeavour to have a small library, and to hold correspondence and give their proceedings through your most valuable Journal; also, to use their utmost endeavours to show the community in general what an advantage it would be for every farmer to have one of your Journals, to glean the best means of improving their farms both in value and crops, by which plan a great deal of good, I am persuaded, would soon be felt by such a club, for any man of reflection and honest care. For progress in the arts and employment of useful industry, there are a few things more trying to his patience, I say, than to hear men and sometimes even gentlemen, who have some pretensions to education, and who, therefore, ought to know better, denouncing book knowledge as of

fording no guide in practical husbandry. Now to all such, and especially to practical men who succeed, well in their business, and who have always something useful to impart as the results of their own personal experience, does it not suffice to say, I am obliged to you for what you have told me, your integrity assures me that it is true, and your success convinces me that yours is the right rotation, and yours is the proper process, since I see that while you gather heavy crops your land is steadily improving; but now my friend, let me ask you one question further, what you have imparted to me is only calculated to benefit me personally unless communicated again by me to others, with me its benefits will rest;—now suppose instead of the slow and unsocial process of waiting to be interrogated and in making it known to one by one as accident may present opportunities, you allow me to have recourse to the magical power of your most valuable Journal which, will spread the knowledge of your profitable experience, gained by much thought and labour, far and wide through the land; that thousands may enjoy the advantages, which otherwise I only shall receive from your kind and useful communication, will not that be more beneficial to society; and is it not a benevolent and Christian duty not to put our lights under a bushel, but come forward and give our plans and success in any improvement or experiments we have made through the columns of the Agriculture Journals. Yet, Mr Editor, the moment is not far distant in Canada, when the farmers at large will open their eyes to improvement, and make your Journal, I trust, a welcome companion to all their fire sides, and help to pass away a lonely hour in our long winter evenings. Trusting, Mr. Editor, your Journal may find a small space in one of its corners, should it meet your approbation, for these few lines.

I remain,

Yours very respectfully,

CHARLES HUGHES.

Nicolet,
19th Aug., 1852.

To the Editor of the Agricultural Journal.

SIR,—I observe with pleasure in your August, number, an article on the importation to Canada of Black Sea Wheat, which I hope will not be lost sight of by our County Agricultural Societies. There are but few farmers who do not readily admit the importance of selecting the very best varieties of seeds which he intends to plant or sow; still there are but very few who give it the necessary attention it merits, but this opportunity of procuring the above article from a gentleman who is about to proceed to a part of the Black Sea for its selection, is a chance which seldom offers to our farmers. From the experience I have had in the cultivation of Black Sea

Wheat, I consider it a most valuable variety for Lower Canada, but by reason of its having for such a length of time constantly been sown upon the same soil it is hereby ultimately reduced to a very inferior sample, which in my opinion loudly calls out for a change of seed. It is a well known fact to all agriculturists that by change of seed from one soil to another is of the utmost importance.

I therefore sincerely hope that our worthy President of the County of Quebec Agricultural Society, (George O. Stuart, will loose no time in calling a meeting of the Committee of Management to determine what quantity of the above mentioned valuable article may be required for the County of Quebec.

I remain,

Dear sir,

Your obedient servant,

MATTHEW DAVIDSON.

St. Foy Road, County of }
Quebec, 18th Aug., 1852. }

To the Editor of the Agricultural Journal.

SIR,—A short trip in the country convinced me that, with the exception of the hay crop, the harvest will be abundant and remunerative. We shall all be gratified for such a blessing as a plentiful harvest and regard it as a boon expressly from the hand of a bountiful Creator. But while in expectation of such a plentiful harvest, it seems strange to me that farmers in general have such poor accommodation to receive the precious fruits. This want of proper accommodation may proceed and does very often proceed from want of means, but all our farmers have not the excuse. But if the want of sufficient buildings for the reception and *proper preservation* of the grain is remarkable, the want of proper conveniences for cattle is still more noticeable. And this branch of the farmers' cares is very important. That cattle be healthy must have commodious and well ventilated stalls, must be admitted—and yet, how few of our farmers have adopted any of the many recent improvements in this respect. Many of them would enter but little outlay, and their only expense would be the cost of a little energy. In farming, as in other things we are often too content to plod on in the old beaten road of our forefathers, forgetting all the time that the world is continually moving forward, with the exception of ourselves.

Should you afford me the opportunity, Mr. Editor, I might at another time recur to this subject, and enter into more minute particulars. In the mean time,

I beg to remain,

Yours truly,

OBSERVER.

Montreal, 29th July, 1852.

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The institution is in its 68th year, and has far outgrown its original intention. From being a local association of very humble pretensions, it has become a national organization of the most influential character, and though now distanced by its younger competitor, the Royal Agricultural Society of England, and closely followed by the Royal Agricultural Improvement Society of Ireland, its meetings are still looked forward to with interest, and its premiums enlist the competition of agriculturists from every part of the empire.

The show for this year was looked forward to with some anxiety. So much having been said of late about the depressed state of agriculture, fears were entertained in some quarters that the exhibition would prove a failure; but instead of this, the entries, both of implements and stock, have been larger than on any former occasion, and the proceedings thus far have been of the most encouraging description.

The ground appropriated for the showyard is a spacious common on the south side of the city, surrounded by parallel rows of fine old elms, and flanked on the east by the embankment of the river. Here about 10 acres of the greensward are enclosed, and the space is appropriated in a manner which affords ample accommodation for the various departments of the exhibition. A large portion of the yard is occupied with upwards of 300 implements of husbandry—a part is given to the produce of the dairy, and the remainder is disposed in open stalls, well filled with every variety of cattle; but the show of roots and seeds, which forms an important part of the Royal Exhibition of Agriculture in England, do not appear to be considered worthy of much attention on this side of the Tweed.

The exhibition of implements on Wednesday presented no feature of marked interest. It consisted chiefly of well-known and often described machines, mostly of English invention—the Scotch clinging with characteristic tenacity to their own plough and harrow, and depending more on manual labour than the agencies of either wind or steam. There was no steam plough exhibited, although one had been expected, and disappointment was expressed that Hussey's reaping machine which gained the first prize at the great show in England, was not on the ground. Five other reaping machines, however, were exhibited, one of which, invented by Mr. Patrick Bell, of Forfarshire, some twelve years ago, and presenting features precisely similar to the American machines, attracted much attention. To-morrow these machines are to be tried on a neighboring farm, and a very spirited contest is likely to take place.

The great interest of the exhibition was centred in the proceedings of the day. At an early hour there was a large influx of strangers, and by noon the trains poured into the "fair city" thousands of visitors from all parts of Scotland. The weather being highly propitious, the show ground presented a fine sight, it being calculated that there could not be fewer than from 10,000 to 15,000 persons in and around it soon after the doors of the yard were thrown open. The charge for admission was 2s. 6d. from 10 to 12 o'clock, and 1s. from 12 to 4. In 1836, when the society held its last show here, £250 was taken at the doors at these prices, but to-day no less than £780 was received for visitors' tickets, notwithstanding the

members of the society and exhibitors of stock and implements were this year admitted free. It is estimated that 7,000 persons were within the showyard, among whom were many of the leading nobility and gentry of Scotland. Notwithstanding the large number of visitors, so perfect were the arrangements that not the slightest confusion occurred, nor did a single accident happen during the day.

The entries of stock comprised 313 cattle, 135 horses, 662 sheep, and 50 swine. The polled breeds were the most numerous. In this department the counties of Angus, Aberdeen, and Galloway presented a remarkable display of fine animals. The first prize for the best bull was gained by Mr. Watson, of Kellor, and the first for the best cow by Mr. M'Combie, of Tillyfour, Aberdeen. The shorthorns showed well, Mr. Chriss, of Hawkhill, Alnwick, carrying off the first prize for the best bull of any age; the prize for the best bull calved after the 1st of January, 1850 being awarded to Mr. A. Cruickshanks, of Sittytar, near Aberdeen. A gold medal was given to Mr. M'Combie for the best pair of oxen calved after the 1st of January. These oxen were looked upon with much interest, as showing how prime animals can now be raised in three years so as to command the first prices in the London market; and it was remarked, in reference to this stock, that from Aberdeenshire alone last year 30,000 head of such cattle were exported, yielding a return of above £500,000. To enable the cattle breeders of the county to raise this quantity of stock, it was stated that 10,000 tons of guano were last year put upon the land, and that the crops of grass and turnips raised had been far beyond anything that used to be got from the best of home manure some ten years since. Ayrshire produced some fine specimens of dairy stock, and the West Highlands had also a moiety worthy of notice. The Marquis of Breadalbane showed some remarkable animals of the pure native black, and the Lord Justice-General, who is a Highland proprietor, carried off the first prize for the best Highland bull. But the small tenantry in the Highlands made no appearance. There were five premiums offered for the best stock of "tenants paying rents not exceeding £100 per annum," but there were no entries—a fact which indicates very clearly the present reduced state of the small Highland farmer. The entries of "horses for agricultural purposes" were not numerous, but the prize animals were considered to be an improvement on those previously shown.

The most remarkable features in the appearance of all the cattle exhibited were their fine symmetry and comfortable condition. Formerly the great desideratum was fat; now the chief concern of the breeder seems to be to have no more fat than is required by the laws of nature; and in this respect the Scotch appear to have gone a-head of the English breeders. In the show to-day there were very few unwieldy animals, and one of the judges, in pronouncing upon the merits, in remarking upon this characteristic, said it might be taken as a proof that they had now given up ornament for use.

The department of sheep was well supported. The Leicester tup came out strong, and Northumberland carried off the chief prizes. The Cheviots were in abundance, and the Highland breeds were well represented. In swine there was but a poor show, the Scotch having evidently no great favor for pork. Two of the prizes in this department went to Cumberland.

STRAWBERRIES GRAFTED ON ROSES.—A short time ago there were exhibited in Paris, in a florist's shop on the Boulevard des Italiens, several rose-trees, upon which were grafted a few strawberry plants. This curiosity attracted much attention from the passers-by. The process by which it was effected as follows:—In autumn a few dog-roses of good sorts, on their own roots, are selected and planted in pots; at the same time a well-rooted strawberry is placed with each rose, planted just beneath the stem of the rose. In spring, when the runners push out, two or three of them are tied up to the stem rose. It is well known that the runners of the strawberries soon make their own roots, and in due time these roots are cut away, making the cuts as for a scion, and then they are grafted on the rose stem, "without cutting or rearing the runners from the parent plant in the ground." They should be preserved very carefully, to lead the sap upwards to the scions, and, treated in this way, the strawberries will vegetate upon the rose-tree for some time.

MANURING FRUIT TREES.—[To the Editor.]—Sir,—The Dutch, who are admirable gardeners, had in the Great Exhibition, an instrument called "Earth borer," for manuring fruit trees without digging the ground. A circle of holes is bored round the tree, at 2 feet distance from the tree, and a foot from each other. Taking the tree at a foot diameter at the surface of the soil, the circle will be 5 feet diameter and 15 feet circumference: and if the holes are 3 inches diameter and a foot apart = 15 inches, there will be about 12 holes; more or less according to the diameter of the tree. They are 18 inches deep (where there is enough depth of soil), and slanting towards the centre; and are filled with liquid manure; diluted more or less in dry weather, and stronger as the weather is wetter. For the time of application, Dr. Lindly tells us (*Gardener's Chronicle*, Feb. 21, 1852), "For fruit, the proper time for using liquid manure is when the fruit is beginning to swell, and has acquired, by means of its own green surface, a power of suction capable of opposing that of the leaves. At that time, liquid manure may be applied freely; and continued, from time to time, as long as the fruit is growing. But at the first sign of ripening, or even earlier, it should be wholly withheld." "If liquid manure is applied to a plant when the flowers are growing, the vigour which it communicates to them must also be communicated to the leaves; but when leaves are growing unusually fast, there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit: and if that happens, the latter falls off." "And we all know that when ripening has once begun, even water spoils the quality of fruit, although it augments the size; as is sufficiently shown by the strawberries prepared for the London market by daily irrigation; great additional size is obtained, but it is at the expense of flavour, and any injury which mere water may produce will certainly not to be diminished by water holding ammoni-

cal and saline substances in solution." I am not aware that this information has yet made its way into our orchards, finding no allusion to it in any of our books on orchard management, nor at our agricultural meetings. The time is just coming for putting it to the test, and it remains with the fruit growers to see what profit they can make of it. They need, in these times, all they can get, and this method has the recommendation of requiring little outlay, if any.—J. PRIDEAUX.

PROFITS OF PATENTS.—Perhaps the largest amount of profit obtained under any one patent is that derived from the famous American "Woodworth" planing machine. During the 24 years the patent has been in existence one of the partners has received £426,350, another nearly the same amount, and a third a very large sum. The first named is now in receipt of 1 dollar per 1000 feet, planed in 100 mills, each of which turns out 100,000 feet per day.—*Mining Journal*.

A BIRD TWENTY FEET HIGH.—Not many years ago a sailor presented at the British Museum a huge marrowbone, which he desired to sell, and which he had brought from New Zealand. The officers of that institution not usually dealing in that class of marine stores, referred him to the College of surgeons, where they said he would find a gentleman Professor Owen—who had a remarkable predilection for old bones. Accordingly, the sailor took his treasure to the professor; who, finding it unlike any bone even he had any knowledge of, sent the man away rejoicing with a full pocket—rejoicing himself in the acquisition of a new subject for scientific inquiry. Although he bone had manifestly contained marrow, and was therefore unlike the bones of birds in general, Mr. Owen concluded, from certain structural evidences, that this bone had belonged to a bird and a bird of a species hitherto unknown. Those who have ever experienced the flutter which the clue to any discovery of a scientific character occasions will at once understand the excitement which was felt by the little world of naturalists to whom the professor displayed his new bone. It was immediately figured and lithographed, and copies, with certain instructions for finding other such bones, were sent out to New Zealand, to be distributed wherever Europeans had trod among the ferns of that colony. Years passed. By-and-by a very big box arrived in Lincoln's-inn-fields, London, containing congeners of the sailor's marrow-bone; some of them upwards of a yard long. Profess or Owen set to work, and built up from these bones, not one but five (ultimately 11) distinct species of an extinct animal hitherto utterly unknown to natural history. It must have been unable to fly (hence the marrow, instead of air in the bones) and must have had uncommon pedestrian powers (hence the necessity for marrow). The structure of the beak and

neck indicates that its power of wrenching and grubbing up roots must have been tremendous. Its food was fern-roots, which, in New Zealand, are so farinaceous that the natives make bread of them to this day. It has been named the *dinornis*, because it is the most stupendous of birds (*deimos*, fearfully great, *ornis*, bird). The disappearance of the *dinornis* is easily accounted for. When the progenitors of the present native tribes first landed from the South Seas, the *dinornis* must have been their only animal food; for in New Zealand no quadrupeds are indigenous. As it took no longer than a century for the Dutch to extirpate the dodo from the Mauritius, a couple of centuries would have quite sufficed to kill and cook the *dinornis* off the face of New Zealand. When these birds had been all eaten up, the Maoris took to killing and cooking one another. The next great zoological excitement to be looked for is a real, live *dinornis*. If one of these gigantic birds be ever found and brought to the Regent's Park, the hippopotamus may accept the Chiltern Hundreds and retire from the representation of the Nile, disgusted at the lead that will be taken by the hon. member from New Zealand.—*Dickens's Household Words.*

AGE OF ANIMALS.—A bear rarely exceeds 20 years of age; a wolf 20; a fox 14 or 16; lions are long lived, Pompey lived to the age of 70. The average age of cats is 15 years; a squirrel and hare 7 or 8 years; rabbits 7. Elephants have been known to live to the great age of 400 years. Wheu Alexander the Great had couquered one Porus, King of India, he took a great elephant which had fought valiantly for the king, named him Ajax, and dedicated him to the sun, and then let him go with this inscription;—"Alexander, the son of Jupiter, has dedicated Ajax to the sun." This elephant was found with this inscription 350 years after. Pigs have been known to live to the age of 30 years; the rhinoceros to 20. A horse has been known to live to the age of 62, but averages 25 to 30. Camels sometimes live to the age of 100. Stags are long lived. Sheep seldom exceed the age of 10. Cows live about 15 years. Cuvier considers it probable that whales sometimes live 1000 years. The dolphin and porpoise attain the age of 30. An eagle died at Vienna at the age of 104 years. Ravens frequently reach the age of 100. Swans have been known to live 300. Mr. Mallerton has the skeleton of a swan that attained the age of 200. Pelicans are long lived. A tortoise has been known to live to the age of 107

THE GREENWOOD.

A blessing on the good greenwood,
 In the glory of its prime,
 When the leaves dance bright in the golden light
 Of the pleasant summer time;
 When the blackbird trills from the topmost bough
 His loudest, clearest strain,

And with murmuring hum, the wild bees come
 To the honeyed limes again.
 A blessing on the good greenwood,
 In the beauty of its spring,
 When the brown buds swell in each sheltered dell,
 And the larch is blossoming;
 When the sage old rocks from the mighty elms
 Converse in mystic phrase,
 And the violet breathes, from its purple wreaths,
 Sweet sighs o'er the moss grown ways.
 A blessing on the good greenwood
 In the pride of its decay,
 When of ruby and gold are its robes unrolled,
 In glory passing away.
 How sweet is the calm, the hushed repose
 Of the glowing autumn eves;
 While the robin's hymn mid the woodlands dim
 Is heard through the fading leaves!

A blessing on the good greenwood
 When the winter's voice is heard;
 When the storm clouds rise, and the white snow lies
 In the nest of the singing bird.
 Where the linnet dwelt and the dove rejoiced,
 And flowers and leaves had been,
 Doth the stern cold norte for his home deck forth
 A palace of silver sheen.
 A blessing on the good greenwood
 In each changing year and day,
 For its paths are sweet to the weary feet
 And the lonely heart alway,
 Yet hath it a welcome blithe and glad
 For the young, the gay, the free,
 As their tryst they keep, when the wild flow'rs sleep
 All under the greenwood tree.

April 28th. ELLEN C.

"WHERE ARE THEY NOW?"

BY ELIZA COOK.

The sun rays came with floods of golden gladness
 When Childhood dwelt upon our laughing
 lips;
 But time has dimmed the dancing beams with
 sadness
 And manhood murmurs through the grey
 eclipse,
 "Where are they now?"
 What scented leaves and glowing buds were
 flinging
 Their fairy odours round our early day!
 But manhood looks while bloom and branch
 are springing,
 And sighs amid the brightest on its way,
 "Where are they now?"
 What starry hopes illumed our dreaming spirits
 When life and love were beautiful and new!
 But Age, with all the wisdom it inherits,
 Breathes o'er the molten gems of morning
 dew,
 "Where are they now?"
 Oh, pensive words! how many a blissful treasure
 Ye serve to point to as a long-lost thing!
 How many a heart that pours Life's richest
 measure
 Must learn thy plaintive notes, and faintlysing,
 "Where are they now?"

PROVINCIAL MUTUAL AND GENERAL INSURANCE COMPANY.

OFFICE,—CHURCH STREET, TORONTO.

INSURES in its MUTUAL BRANCH, Farm Property and Detached Buildings,—all extra hazardous Risks being excluded.

The PROPRIETARY BRANCH includes Fire Insurance generally, as well as Inland and Ocean Marine Insurance and Life Insurance.

WILLIAM EVANS, Jun., 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.

AGRICULTURAL WAREHOUSE.

THE Subscriber has constantly on hand, Samples of various kinds of AGRICULTURAL IMPLEMENTS, among which will be found, Ploughs, Cultivators, Seed Sowers, Straw Cutters, Corn Shellers, Subsoil Ploughs, Vegetable Cutters, Thermometer Churns, Horse Rakes, &c. &c. Expected by the opening of the Navigation, a large assortment of *Cast Steel Spades and Shovels, Cast Steel Hay and Manure Forks, Hoes, &c., &c.*

Agent for Sale of St. Onge's *Patent Stump Extractor.*

P. S.—Any kind of Farming Implements furnished to order, on the most reasonable terms.

GEORGE HAGAR,
103, St. Paul Street

Montreal, 1st April, 1851.

IMPORTANT TO FARMERS.

THE Subscriber offers for sale the following seeds:—

- 7,000 lbs. Dutch Red Clover,
- 1,000 do. French “ “
- 3,000 do. Dutch White “
- 500 do. Shiromy's Purple Top Swedish Turnips,
- 500 do. East Lothian “ “ “
- 200 do. Laing's Improved “ “ “

The above varieties of Turnips warranted from Rape

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

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

—ALSO,—

His usual supply of English and French Garden Seeds.

GEORGE SHEPHERD.

Nursery and Seedsman to the Agricultural Society for Lower Canada.

1st Mach, 1852.

LOWER CANADA AGRICULTURAL SOCIETY,

Office and Library at No. 25 Notre Dame Street, Montreal,

Over the seed-store of Mr. George Shepherd, the seed-man of this Society,

THE Secretary and Treasurer of the Society is in attendance daily, from ten to one o'clock.

The Library has already some of the best works on Agriculture. Also, the Transactions of the Highland and Royal Irish Agricultural Societies, the London Farmer's Magazine, the Transactions of the New York State Agricultural Society, and many other British and American Agricultural Periodicals which are regularly received. The Agricultural Journal and Transactions of the Lower Canada Agricultural Society, both in English and French are to be had at the office from the commencement in 1848, up to the present.

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

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

WM. EVANS,

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

1st January, 1852.

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

MATTHEW MOODY,

MANUFACTURER OF

THRESHING 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 THRESHING MACHINES, with Horse power. He was awarded the highest Prize at the Terrebonne County Exhibition after competition with many others. They have threshed 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.

Threshing Mills constantly on hand. Two second hand Mills, in warranted order, cheap for cash.

Threshing Mills repaired, and finishing work done.

Agency in Montreal, at Ladd's Foundry, Griffintown; in St. Andrews, L. C., at Mr. Henry Kempley's.

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