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AGRICULTURAL JOURNAL,

AND

TRANSACTIONS

OF THE

Lower Canada Agricultural Society.

VOL. 2.

MONTREAL, DECEMBER, 1849.

NO. 12.

We perceive by our late exchange papers that the Board of Education are about establishing Agricultural Schools and Model Farms, in every county in Ireland, and the reports of those already in existence are most encouraging, to carry out fully this plan for the amelioration of agriculture in that country. It is stated that where competent persons have been appointed as masters, the scholars have received a sufficient education, together with instruction in the art and practice of agriculture. The farms are in general small, much too small, we would suppose, for this country. The ordinary sized farms would, perhaps, answer here, but we should prefer them to be larger, where lands can be had so cheap, and they would always be increasing in value. It is time that some action should be taken in this matter in Canada. The plan is universally (we might say) approved of. We have written and published a great deal in this Journal on the subject, but that is all that has yet been done towards the establishment of what could not fail to prove beneficial to our country. Much is said about the want of funds for the purpose. We have from our first arrival in this country heard of the great value of the Jesuits' estates, that should have been appropriated to general education. Are not these estates yet forthcoming, and might not a portion of them be applied to the establishment of Agricultural Schools and Model Farms? We cannot understand why there should appear such a disinclination to have the rural population receive an education that would be connected with the business they were to be em-

ployed in for life. In a former number of this Journal we stated that the whole bent of the education of farmers' sons is in a contrary direction to the profession of their fathers, and that proposed for themselves to follow. It is not so with other professions. They have some school training to fit them for the practice of the future business they are to be employed in. A farmer's son, on the contrary, during the period he attends school, may have never seen even a book that had any reference to agriculture—and he may leave school as ignorant of all that relates to the business of his life, as if he had never been at school—in fact he comes home fit for any business rather than a farmer. It is time to put an end to such absurd teaching for farmers' sons, and we are firmly persuaded they should not attend any school where suitable agricultural books are not provided for their reading, whether the master knows anything of agriculture or not. To be obliged to do this would not unfit them for other business. There is a pressing necessity that youths should be instructed in such a way as may be the most useful to them in after life. We would think it an absurdity were we to have our children instructed only in the language and figures of the Chinese, although they might never see China or any of its inhabitants. We conceive it equally absurd to have the whole tendency of the education of the farmers' children directed to fit them for other occupations rather than their own. There are numerous publications on the subject of agriculture, that might be very properly introduced in schools, and would af-

ford as good reading for youth as any that is now supplied to them, and in our humble judgment, much better. We imported several small works from England, suitable for our schools, and they are now in the library of the Lower Canada Agricultural Society—but they are little better than waste paper if nothing further is to be done with them. Very great caution is necessary that the education of common schools should be the most suitable and useful that could be given to the children of an agricultural population. We do not say that it is better to give no education than not to have it such as we propose—because an education of some sort is better than none. What we say refers only to the education of farmers' children, and for them we would have agricultural books, and those referring to rural economy, for their reading from the time they are able to read. We have an agricultural spelling book, an agricultural chemistry for young farmers, a calendar for young farmers, catechisms of agriculture, chemistry and geology, Agricultural Reader and many other works, that we shall give the title of in a future number. We recommend this subject to the attention of all who are interested for the rural population.

After the above article was in type, we received a communication referring to the subject, in the French language, and immediately had it translated for this number. We are rejoiced to find that our opinion in reference to the education of the rural population is so well supported by our Correspondent "Ruricola." What he states, however, respecting the School Commissioners, and how some of them appropriate the Agricultural Journal that is addressed to them for the use of the Schools, is very discreditable to the parties who act in this way. Such Commissioners cannot be very much interested in the useful education of the youth who are pupils at the Schools. As we already observed, the reading of the Agricultural Journal, or any other work on agriculture, might be as safely and usefully read by the

scholars, as any other books they can have—provided they are able to read, and understand what they read. We do not expect that by this reading they would be instructed in the art and practice of agriculture, but it might have the effect of preventing them from despising the business of their fathers, and attaching themselves to it. Any education provided for the rural population of Canada that will not have this tendency, will, we conceive, be hurtful rather than beneficial. This opinion, we have no doubt, will be disputed, but we submit it, nevertheless, in the hope that the system of education that would be the most useful for farmer's children, will, if possible, be provided for them. The masters may not be able to explain in the best manner agricultural books until they are themselves properly instructed, but in any case reading them cannot be injurious to the scholars. Judicious selections might be made, and printed expressly for the use of country schools. Give our youth fair opportunity of knowing something of the business that they are to be employed in all their lives.

Why should we not have Normal Schools established, or at least one of them, where school-masters might be suitably educated to enable them to instruct the youth at country schools in the theory of agriculture, and the practice when possible. The expense of these establishments may be objected to, but certainly not by any true friend of the country. There are colleges already established, to which Normal Schools might be attached by providing for their support. If we are anxious for the education of youth, in order to enable them to perform their duties to themselves, and to the community in a better manner, why should we not give them that sort of instruction that will be suitable to the station they are intended to occupy in that community. We would not think of instructing a boy to make shoes who we intended should become a tailor. Let our youth have reading that will attract their attention to Agriculture.

CORRESPONDENCE.

To the Editor of the AGRICULTURAL JOURNAL.

SIR,—I was sorry to perceive by the last number of your excellent Journal that the Directors of the Lower Canada Agricultural Society have an idea of discontinuing its publication, alleging as the cause—the want of adequate support. If this information was to come from any other source, I could not persuade myself to credit it. I imagined it was better supported than any publications in Eastern Canada. I arrived at this conclusion because as a farmer I know the value of your Journal and I also know that nine tenths of the population of Eastern Canada are occupiers of land. They may not all be sufficiently educated to appreciate the useful information the Journal contains, but there are a sufficient number of them who can read and understand that, were they to subscribe, would support the Journal, and pay you as Editor. I cannot understand the cause that farmers to a man should not be subscribers to the Agricultural Journal. I should be sorry to suppose it was poverty that prevented them paying the small amount of five shillings annually, and convinced as I am that the Journal would be useful to the most competent practical farmer in the country. I cannot account for their declining to subscribe to it—I would be sorry to charge my brother farmers, as other parties do, with a disinclination to any improvement in their business, but that they would prefer following the system of their fathers, to introducing any improvement in the old system, however manifestly it might be for their advantage. This would be a grave charge to bring against a class that must have a great influence upon the prosperity not only of themselves, but upon all classes of the community. I am disposed to think better of them, and that it may be from their ignorance of the existence of the Journal, that they do not subscribe for it. May I ask you, Mr. Editor, if all the County Agricultural Societies subscribe for any or many copies; they would be the proper medium to circulate the Journal amongst the farmers, and they could not employ a part of their funds to a better purpose. I know from my own experience that if farmers were ac-

quainted with the useful information I have found in your Journal they would not be so indifferent to their own interest as to let a day pass before they would subscribe for it. Whatever charge may be urged against farmers, the charge of their disregarding their own interest, when they know what it is, will not apply to many of them that I am acquainted with. Prejudice and strong feeling of self esteem might have great influence, but I cannot see why either should operate in withholding them from subscribing to your Journal, and if those feelings have had any effect hitherto, I hope they will have none from this forth.

The letters of the Roman Catholic Lord Bishop of Montreal, and of the Rev. Mr. Cazeau of Quebec, published in the last number of the Journal, must have afforded you much satisfaction, both as they expressed their anxious desire for the improvement of agriculture and their approval and acknowledgment of your well known efforts in that cause. This acknowledgment from such a quarter must be very gratifying to you. The country, however, owes you something more than this, for your labours for its welfare. I am one of those who think that a country, no more than an individual, has no right to benefit by services, rendered voluntarily or not, without full compensation; for them and if you are not rewarded in some shape other for your services, which I know are admitted in all quarters, a great injustice will be done; and it will be the more inexcusable, inasmuch as you have devoted yourself to benefit the country at large, free from self interest or party bias.

A PRACTICAL FARMER.

TO THE EDITOR OF THE AGRICULTURAL JOURNAL.

SIR,—The true friends of the country admire with sincerity the extended circulation of your interesting publication, the *Agricultural Journal*; which, though printed with care, and replete with appropriate selections, has not up to this time been appreciated as highly as it merits; because in certain localities political affairs, rivalries and other causes, have interfered to prevent it.

Notwithstanding the zeal of the promoters of the art, and the Editors of this useful Journal, I must take the liberty of citing to amateurs and others who are interested, some of the causes,

secondary perhaps, that have prevented the Journal from being read, and consequently of meriting the sympathies of Canadians, in many of the Parishes.—Certain PostMasters appropriate the Journals which are addressed to persons temporarily absent, as well as those which are sent to persons, who, according to them, take little interest in them. They satisfy themselves with this reasoning, and appropriate to themselves the Journals which do not belong to them, and which, if refused by the parties to whom they are addressed, should be returned to the Editor's office.

Another circumstance which prevents the dissemination of the Journal in some localities, which is so liberally offered to the agricultural class, is as follows: It is thought expedient to address, *gratis*, copies of the Journal to the School Commissioners in each Parish. In acknowledgement of this favor, and to meet the views of those interested in the publication, as well as to create a taste for the science in those who attend the schools, the Commissioners should read the Journal with care, cause it to be read by their neighbours, as well as circulate it in the schools. In this way parents and their children would become initiated and instructed; and it is the duty of those who are capable of doing so, to point out to them its very great importance; while they may shew them by familiar examples, how much their success as farmers will depend upon the acquisition of such knowledge as the Journal contains.

The course pursued, however, is very different from the above. In certain quarters, to which Journals are sent, addressed to the Commissioners of Schools, they are received by the Secretary, and by him *thrown aside*. Assuredly men who act in so negligent a manner, merit not only the animadversions of those interested in the publication, but the censure of the country at large.

In other parishes the parcel containing copies of the Journal has the misfortune to fall into the hands of one of the Commissioners, who appropriates them to himself, forgetting that they were addressed to the "Commissioners of Schools", and were not intended for his exclusive use, but for the use of his Colleagues as

well, and to be by them handed over to their successors in office.

Are they not greatly culpable, who, with a guilty indifference, or an interested view, deprive their Colleagues of the pleasure of reading an interesting publication, and families from receiving instruction, which is so liberally offered to them, from an independent source?

The interest which is shown every where on behalf of the Journal, and which has up to this time sustained it, will probably put an end to the employment of unfaithful public functionaries, whose conduct indicates an unscrupulous want of zeal, in the performance of their duties towards the public.

RURICOLA.

To the Editor of the AGRICULTURAL JOURNAL.

SIR,—I am a practical farmer, who is desirous of improving himself and others, and have for some time been a regular subscriber to your valuable Journal, from which I have derived much information and benefit, both in the theory and practice of Agriculture, and it gave me no little uneasiness, when I read in one of your last numbers, that you would likely be constrained soon to discontinue its publication, for the want of support! This shews in too glaring a light to require comment, the apathy of the farmers of Canada East, and especially of the "Agricultural Societies," who should set the example to individuals by each of them subscribing for, from 50 to 100 copies, for distribution as prizes at their respective annual exhibitions, for the dissemination of that knowledge which is so necessary to practical farmers, and the encouragement and advancement of agriculture generally; but especially in the Lower Province, where the system, if system it can be called, is vicious beyond degree, not only among our "French brethren," but among most of those who are called—"Old Countrymen."

The Legislature should, in justice to the "Farming Interest" of Canada, grant a handsome annual aid to the *Agricultural Journal*; this would be a far more judicious and beneficial an appropriation of a portion of the "Public Moneys," for the encouragement of Agriculture, than the grant accorded to most of our Societies, when the manner the moneys are generally dis-

tributed, is taken into consideration. When I compare the patronage and support which our "Political Journals," most of which have, for some time past, run mad, receive, to the slight and indifference shown towards your "Agricultural Journal," my forebodings for Canada are dark, confused and unpropitious.

By the "Agricultural Society for the County of Quebec," "Agricultural Shows," are got up like a dream in the night, suddenly created by the distorted imagination, and confused brain, of the "Number Ones," few of whom, if any, are practical Farmers, but who, very wisely, love "Self," above all things, as it is their duty, no doubt; for a man is no man, who will not take care of himself. From their foreknowledge, as they are at the "Helm," though they steer very wide, they are under close reef, before the threatening "Hurricane" bursts. They have their "Fat Cattle," &c., &c., ready for exhibition; and, having taken due precaution, they suffer no damage from the sudden and violent puff, which sinks and swamps "Agriculture!" They, as a matter of course, in the material shadow of their servants, obtain the chief prizes, as a right, as they generally subscribe "One Pound!"

I don't aim at "Individuals," but at those "Mal-practices," and "Vicious Systems," which destroy the very vitals of "Agricultural Societies," and prostitute and defeat the intention of the Legislature, in the expenditure of the public money. If any individuals itch to become conspicuously notorious, I shall be able hereafter, to gratify them to their hearts' content, by entering into the particulars of fact, for some years past, to the present time. How has the expenditure of the moneys been accounted for, up to this time, by the Presidents, Treasurers, and Secretaries?

Experience has taught me, and I am firmly of opinion and feel convinced, that without "Model Farms," established on a proper system in each County, and well regulated, the moneys granted by the Legislature for Agricultural purposes, are lavished and thrown away, and only tend, as now and hitherto used and distributed, to materially injure and destroy, what they were intended to encourage, improve, cherish and foster.

By inserting the above in your forthcoming number, you will confer a favor on the friend of your Journal of Agriculture.

MATTHEW DAVIDSON.

County of Quebec, 24th November, 1849.

To the Editor of the AGRICULTURAL JOURNAL.

SIR,—Though I acquiesce in a good deal of what is advanced by Mr. W. H. Boulton in his letter to his Toronto constituents, that has been lately going the round of the newspapers, relative to the present depressed state of our Agricultural markets compared with the States, I conceive it can do no good making matters appear worse than they really are; and would therefore, beg leave to observe, through the medium of your columns, that I am warranted by personal experience and observation in regarding Mr. B's estimate of the cost of bringing the produce of an acre of wheat to market as overrated in almost every particular, and am persuaded that in the flattering picture he gives of the more favourable state of things on the American side, he forgets that the higher price of labour eats up a considerable portion of the apparent greater profits; and also that, after all, though the Canada farmer may have to pay 5d. a pound for his sugar, and his American friend only 3d., still as the duty does not amount to a penny on the lb., he ought not to have to pay for the same sugar more than 4d. a lb., on the Canadian soil; and that, at all events, should he prefer carrying his wheat across the Lines to taking the Canada 3s. 9d. and paying the 20 per cent duty, the amount there received ought not to be more than 4s. 9d. a bushel instead of the 5s. 2d., stated by Mr. B. From all which it may be inferred that some further explanation is wanting, and that the present extra high price of wheat is perhaps only accidental and temporary, instead of to be taken as a general standard; and that it may in all probability have arisen from improvident over-exportation having left the N. Y. markets without sufficient supplies for home consumption;—as was not many years ago the case in Ohio, where such was the rage for exporting pork that the farmers were actually obliged to buy from their Canadian neighbours at double the price they had obtained from the merchants for their own.

I am also disposed to believe that the Provincial Commercial Statistics of the year will prove Mr. B. to be in error respecting the depression so sadly complained of at Montreal being so general throughout the Province; and that I rather suspect that it will on the contrary be found, in spite of all our grumbling, that trade has of late been greatly reviving, not only in Montreal, but in a greater degree in Quebec, and still more so at Toronto, Hamilton, and St. Catharines, and elsewhere in Upper Canada.

Contenting myself with these preliminary remarks, without entering into the political merits of the question, I beg leave to subjoin Mr. B's estimate confronted with my own, and to add, in explanation of the great difference between his and my items of ploughing and harrowing, that not many years ago a tenant of my own thought I was screwing him too tight in charging him only two dollars an acre for ploughing, sowing, and harrowing, some 20 acres which I handed over to him; and, with regard to the expense of carrying to market, that I would look upon any farmer as *demented*, who would start for market with a load of only 15 bushels, and that if he could not raise more than 15 bushels an acre, after the heavy expense noted by Mr. B., he would not deserve even five.

Mr. B's estimate of bringing to market the produce of an acre of wheat, rated at 15 bushels.

Rent of Land,.....	£0	10	0
Ploughing and harrowing, &c.,.....	1	6	8
Seed,.....	0	7	6
Harvesting, &c.,.....	0	10	0
Threshing and cleaning,.....	0	7	6
Bringing to market,.....	0	5	0

Total, £3 6 8

My estimate of the same.

Rent of Land, say.....	£0	10	0
Ploughing and harrowing,.....	0	15	0
Seed, (1½ bushel at 3s. 9d.).....	0	5	7½
Harvesting,.....	0	10	0
Threshing and cleaning,.....	0	7	6
Half the expense of bringing a load of at least 30 bushels to market,...	0	2	6

Total, £2 10 7½

Making a difference of not less than 16s. 1½d.

I am, Sir,

Your obedient servant,

AN UPPER CANADA FARMER,

AND STANCH BRITON.

We give insertion to a communication of our respected correspondent, An Upper Canadian Farmer but as we are not perfectly acquainted with the manner of cultivation generally adopted for wheat in Western Canada, we do not wish to interfere in the matter between Mr. Boulton and our correspondent. The expense of cultivation will of course depend upon the manner of executing that work, and the number of ploughings given to the land. On a well cultivated soil, of suitable quality for wheat, we might certainly expect a much larger produce than 15 bushels to the acre, particularly of fall sown wheat. In making estimates of expenses it would be very desirable to enter into every particular, or it is impossible to judge correctly of the estimate submitted. Wheat may be sown after one ploughing, or land may receive half a dozen ploughings for it. The expense of each cannot be the same, nor do we expect the produce would be the same after one ploughing as after five or six. Manures may be applied to land for wheat, but the expense of this application cannot be all charged to one crop, as it will benefit two or three succeeding crops. We seldom see reports of experiments, or estimates of expenses made in agriculture, without observing many essential omissions that would have a great influence upon the results in these cases. We observe by a letter in the British Colonist that the views of our correspondent are most fully supported against those of Mr. Boulton.

AGRICULTURAL REPORT FOR NOVEMBER.

The month of November now at its close has been the finest we have ever seen in Canada; there was not a day from the commencement to this date, that ploughing or any other work might not be executed. There cannot be any doubt that it was most favourable for the farmer, extending the working season considerably, and shortening the winter, the length of which generally, is so much complained of. The

weather has been so mild, and the fall so favourable for the growth of grass, that the cattle and sheep have had abundant food in the field, and hence there must be a great saving of fodder. Every way it can be considered, the fall, and in fact, the whole of the season, has been as favourable for the agriculturists as they could have desired it: and we believe farmers admit this, and are thankful for it, notwithstanding the general charge against them, that they are a dissatisfied and complaining class. The charge, however, we by no means admit to be correct, but on the contrary, we are persuaded, that no class are more sensible of, and more grateful for fine seasons, and more contented with seasons as they come, than the husbandman. If it were otherwise it would indeed be strange, as no other class have the same constant opportunities of seeing the work and receiving the bountiful gifts of the Creator, in all seasons. Farmers had ample time this fall to complete their ploughing and draining, and the soil has not been too wet or to dry up to this moment. It is of great consequence for the proper execution of ploughing and draining that the land should be in a fit state, neither too wet nor too dry, and we had it so this year. Many parties find fault with our climate, but we do not, and on the contrary, we consider the climate favourable for agriculture, if we could only introduce that system of husbandry that would be the best adapted to our situation and circumstances. There is one thing we may rest satisfied of, that whatever objection may be urged to our climate, those who find fault are not likely to improve it, or instruct us how we are to remedy any of these defects they imagine to be in our climate. It is very proper that farmers should be able to cultivate and manage their lands according to the climate of the country they reside in, but we would despair of the introduction of a good and improving system of husbandry if our farmers could be persuaded that their climate was unfavourable for successful agriculture. To find fault with the climate is a very convenient excuse for the ignorant or careless farmer. Doubtless there may be unfavourable seasons occasionally in Canada; but on an average the seasons are more steadily favourable here than in the British Isles. If any thing near the same amount of skill and capital were applied here to the cultivation of the soil that there is in Britain, we would hear no more of unfavourable climates, and inferior soil, because we could prove the contrary by pointing to our splendid crops, our good pastures, the excellent quality of our horses, neat cattle, sheep and swine, and the judicious construction of every implement necessary for us in agriculture. There may be cases where capital employed in agriculture has been lost, but if this were to prevent us from so employing it in future, it would be absurd to recommend improvements, as they cannot be made without capital. The waste of capital in some instances, should not deter us from employing it in agriculture judiciously. It may be easy to account for the waste of capital in most instances, but there is no necessity of following the example of those who have wasted it. Perhaps the capital wasted or lost in Canada in agriculture, is not the hundredth part of what has been lost in other business, and there is the further advantage, that the capital expended on land, although unprofitable to the party who expended it, is nevertheless advantageous to the country. There are other causes of want of success in farming where parties have not confined themselves to the business of agriculture. It is therefore unjust to attribute all the loss that has occurred in agriculture to the business of the farmer being an unprofitable one. We submit these observations, because we frequently hear remarks made in reference to agriculture that would be calculated to deter any man from being engaged in it, and that would lead one to suppose it was a business that was utterly useless to mankind. No wonder that from all these circumstances agriculture should be neglected and despised, and capital employed in any, and every speculation, rather than in the

improvement of the lands, the crops, and the cattle of the country. We may be thought an enthusiast on this subject, but we only wish we could inspire all true friends of Canadian prosperity with the same spirit of enthusiasm and we can promise them that it is the safest, and most useful spirit that can possibly inspire them, and there will be neither danger nor difficulty in carrying it out fully: to the great advantage of every interest in this country. We may now return to the more direct object of the Report. We are happy to hear from all quarters favourable reports of the produce and quality of the wheat crop, and we trust this result will greatly assist our farmers, and encourage them to exertion and improvement in their husbandry for the next year. Wheat should be our staple crop, and every effort should be made to cultivate judiciously for it, and obtain the best quality, and variety of seeds.

We suppose farmers will venture to sow early next spring, and from their having been able to plough and drain their land this fall, it may be the means of enabling them to sow at such an early period that the crop would escape the fly. Perhaps it would also be expedient to try again some of those varieties of wheat that we were accustomed to grow formerly in Canada. The price of wheat may not come up to the expectations or wishes of the farmer, but it is certainly better than for any other grain, and will always be so, as we do not altogether depend upon the Canadian market or consumption. Barley is of excellent quality this year, but the quantity grown has not been large, and the prices have been very low, but are now improving. Farmers will not find it profitable to grow this grain, except for feeding purposes, unless the price approximates in due proportion to wheat. Barley requires that the soil should be in the best state of preparation—better even than that for wheat. By experiments made with manure, for barley, it was found that sheep manure produces the largest crop, and that of the horse the next. This will account for the success of the Nor-

folk system of folding sheep on turnips, as the best preparation for the splendid crops of barley grown in that English county. By experiments with oats, cow manure was found to be greatly the best for that grain, and green manure ploughed into the soil was very successful with oats, when scarcely producing any effect with wheat and barley. This accounts for oats succeeding so well on land ploughed after grass, as it generally does. The price of oats is low, but we do not think it will fall to the low figure that was anticipated, as a market will be found for it in the United States, where we believe they cannot grow so good oats as we can, notwithstanding all their advantages, and there are other products we might excel in. Peas have been generally a good crop, and should always be cultivated extensively, as they succeed well here. We find by our exchange papers that our peas have the character of being good boilers, much better than those grown in England, and this should increase their value considerably for exportation. There are many things in our favour here, if we would only think so, and make the most of them. We endeavour, in our position as Editor of this Journal, to give all the information of a useful character we can collect to our subscribers, and to farmers, but if farmers will not take the Journal or read it, our labour for them is in vain. Indeed we should consider ourselves as unfit to act in the capacity of Editor, if we were not able in any one number of this Journal to give information of more than five shilling's value to any farmer who would read it, and we pretend to be competent to make a just estimate on the subject. Indian corn has succeeded admirably, and a large crop has been grown of this useful grain. The potatoe crop, so far as quantity or quality (and the latter was never better,) succeeded as well as could be desired, up to the time they were taken up, but we hear many complaints of them lately in some localities that they are very much affected by disease. In every instance, we believe, that where large quantities of manure have been applied to the crop, they

are found to be most affected by the rot. We have warned farmers to be cautious in applying manure, and we now do so again. A moderate produce of sound potatoes would be much more profitable than a larger one of unsound. We have tried charcoal, and we believe it is one of the best substances that can be employed to prevent disease in the tubers. It would not be an expensive application, as a small quantity put in the drills would be sufficient, but in no case would we apply fresh farm-yard manure at the period of planting. We will not say much of other root crops here, as they are not extensively cultivated, and we regret it. Carrots and parsnips in particular, might be grown here equal to any country, and they produce a large quantity of valuable nutritive matter. There is the further advantage with these roots, that they are easy to preserve in winter, and some of them may be left in the soil, if dry, until the spring, when they afford a very seasonable supply for stock. They can be as readily, and more certainly, raised than turnips, beets or mangel-wurtzel, and they can be better and more safely stored. We do not disapprove of raising these last mentioned crops by farmers who have good storage-room for them, but as a small space of land would require large storage-room for these crops, farmers who have not this storage, will do better to cultivate carrots and parsnips. It is necessary that root crops should be cultivated to keep the land in condition, when potatoes are not so much planted as heretofore, and when there is scarcely any summer fallow. The markets are abundantly supplied with butchers' meat, of good quality, at moderate prices. We cannot say to what extent beef and pork may be prepared this year for exportation, but we would hope that that quantity will be large. Prepared in a proper manner and of good quality, there would be little doubt it would be a safe article for exportation in spring; the quality and mode of preparation both should be good, is essential to success. We hope when we shall have

better pastures, and when we have managed our stock in the best manner, that we shall have a certain and profitable trade in beef for the old country; our pork is already equal to that of any country. We are not able to give any estimate of the quantity of butter and cheese of the Canadian manufacture which may have been purchased here for exportation this year; when we obtain the returns we shall give them. Notwithstanding all that has been said of the necessity of farmers packing their butter in suitable casks, and having the butter of one quality and colour in each cask, we see every day, that the butter is brought to market of mixed colour and quality, and in casks that are unfit for exportation, rendering it necessary to repack any that may be exported, and thereby greatly injuring the quality. For butter consumed in Montreal, it is not of so much consequence that it should be packed in open casks, but the country should certainly be able to supply much more butter than would be required for Montreal, and even for home consumption, butter will be preserved better in properly made casks than in any other. There is another great fault in packing, when it is allowed to have open spaces between the layers of butter. These openings always contain air and moisture, both of which will injure the quality of the article. Butter should be packed as close as possible, without leaving the smallest crack or opening, and then covered so as to exclude external air. By this plan all moisture will be pressed out of the butter, and no air will be allowed to remain in it. Cheese, we fear, has not been made of such good quality, and in such quantity, as would make it a considerable and valuable article of export, as it should be from this country. Hay and straw sell at low prices; we believe both would be much higher in price, only for the fine fall we have had.

Upon the whole we think the result of this year should be satisfactory to farmers as we believe it has been in proportion to their cultivation.—November 28, 1849

We have been favoured by our friend Mr. Nesbit with a copy of a work published in the year 1601, nearly 250 years since, and of which a few *fac simile* copies have been reprinted by Rd. Prosser, Esq., of King's Norton, near Birmingham, a gentleman who takes much interest in agricultural matters, and who displayed much discernment in bringing to light this work, from which it will be seen that some of the "wise saws and modern instances" in agriculture are of ancient date. At this season of the year, when attention is necessarily directed to wheat sowing, and the "thick and thin" question, the dibbling, drilling, and broad cast systems, depth of seed-bed, comparative merits of plough and spade husbandry, will occupy men's minds. Some notion of the schemes of the "agricultural improvers" of 1601, may be useful, and cannot fail to be interesting. This work is entitled "*The new and admirable Art of setting of Corne. With all the necessarie Tooles and other Circumstances belonging to the same.*"

The work is divided into several chapters, the first of which is headed "THE NEW FOUND ARTE OF SETTING OF CORNE." The author describes "How this inuention began" in the following terms:

"How this inuention began: Here I maie rather probablia coniecture then certainly determine howe this new conceit in setting of graine began. Happily some sillie wench hauing a few Cornes of wheate mixed with some other seed, and being carelesse of the work shee had in hand, might now and then in steed of a Raddish of Carret seed, let fall a wheate Corne into the ground, which after braunching it selfe into manie eares, and yeelding so great increase, gaue iust occasion of some farther triall. Peraduenture the great and rich fertilitie that doth vsually happen in the setting of beanes and pease, might stir vp some practising wit or other to make the like experience in wheate and barley."

"I haue beene credibly enformed that this manner of pricing in of Corne, hath by the publike impression of an ancient writer (whose name I cannot yet obtaine) euen in plaine and naked termes been long since discovered and manifested to the view of each reader."

The second chapter explains "*The reason why Corne doth shoote vp into so many eares rather by setting then sowing,*" as follows:

"Such winter Corne then as is vsually sowne before or about Alhallowntide, in my poor reason, must of necessitie lose a great part of his generatiue vertue, and radicall humiditie, both by the extreme nipping of the colde Northren and Easterly windes, and the bitter frosts and hayle, together with the great abundance of the colde raynie showers, which in the Winter season do so plentifully attach and fall vpon the Graine, lying then eyther naked and bare to

all weather or verio slenderly clothed with a poore and thinne garment, not able sufficientlie to defend the inwarde and secrete fire of nature from such outward and piercing enemies; yea, though it haue taken roote, and gotten some head before this boysterous weather doe happen, yet by reason that the roote is shallowe, and hath taken so slender holde in the grounde, eyther the inwarde Balsamum is washed awaie with moaysture, or nipped with extreme colde, that it cannot possibly send forth so manie syring stalkes and eares as naturallie it would; besides, the earth being full of clods, and not sufficientlie broken into a fine moule with the Plough, the Corne cannot so easilie and plentifully by this attractiue nature drave for his own nourishment such store of that vegetatiue selt from the earth, as it desireth; the vertue and strenth whereof is more at large handled in my Booke of husbandrie, printed Anno 1594, and in that learned discourse of M. Bernard Palissie, in his Booke intituled, *Des eaux & Fontaines*. But on the other side, when as the cornes of wheate shall lie so deepe within their true and naturall bed, euen their own mother's belly, the earth being made so hollow and open with the spade, whereby they may also draw sufficient nourishment at their pleasure, then are all these outward and iniurious stormes of haile and raine, so sufficientlie defended by this armour of proffe, as that the Corne hauing his true and naturall putrifaction (being not performed without the helpe of a kindly heate) doth afterwards in his due season bring forth that infinite multiplication, whereof we haue so manie and rich exeriments of late, farre beyond all the hopes and harvests of all our pedecessors."

The third chapter points out "*The manner of digginge and layings of the arable grounds in this new practice.*"

"When and how to digge, weed, or trench your grounds with the spade, is a matter so triuiall and well knowne already to euery countrie *Corodon*, as that I hold it not a fit subject for a Scholer's penne, and therefore here I must ferre you to those beaten pathes, wherein euery simple Gardener hath walked a long time: oncie the depth of digging, and true laying of the grounde, seemes to be materiall in this our new kind of husbandry. Some in this late practise, by their experience commend the breaking up of the grounde a foote and a halfe deepe, and some two foote, and some but one foote; but in my opinion since that, three, or foure, or five inches at the most is a sufficient depth for the Corne to lie in, I see no reason but that eight or twelue inches more, is a depth sufficient for the Corne to roote in. This being granted, then shall you have this further benefite ensuing, that of the next Breaking up and digging of your grounde, you shall turne uppe such moule, as hath not spent his strength in

the former crop, the fruit whereof you shall find in the next harvest."

In chapter four, "*The several instruments for making the holes for the graine, and covering them,*" are described. On the present occasion we must content ourselves with one short extract; but will give the remainder in an early number.

"It is an olde saying, that hands were made before knives: and I doubt not, but the same may as well be verified in tooles. For to my remembrance, the first man that ever attempted the setting of corne, made the first holes with his finger. But this course being afterwards found to be very long and tedious, an instrument was devised, having many teeth or pins, like a rake, with a staffe festened in the midst of the backside thereof, which being thrust into the ground, did at one instant make twelve or twentie holes more or less, according to the number of teeth or pinnes therein."

In the fifth chapter it is stated:—"At what depth and distance your corne must be set."

"I have benne enformed that the observation of three inches deepe and three inches distance hath brought forth 30 quarters of wheat upon one acre of ground, and upon another 24 quarters: happily the ground or the seede corne might make the difference. Some speake of five inches deep and five in distance, with exceeding great increase; the true finding out of which proportions may easily be obtained by severall trials made at severall depths and distances together, at one time, and in one selfe same peece of ground. Only here I must remember you of that which was spoken of before, in the title of digging, chap. 3, that concerning the depth, you must have an especial care, that your seed may lie within the rich crust of the earth, and that his bed wherein he lyeth, may also be of the same goodnesse, or else the plough will discredit the spade."

One portion of chapter 6 is devoted to the consideration, "*whether it be good to fill the holce with common earth, and to prepare the seed before it be set.*" The practice of putting pigeons' dung, sheep's dung, &c., into the holes, is ad-versed to, as practised by some. Here we have the foundation of the drow drill.

The latter part of the chapter is partly occupied with a translation from the "last and learned book of *Magia naturalis,*" by "that glorious Neapolitain, *Iohan Baptistia Porta,*" from which we take the following extract:—

"That now at length, according to mine owne desire, I may shut vp this booke of plantes with a most famous and renowned conclusion, I will here declare how all kind of corne and pulse, together with the vines themselues shall recompence all our labours with great increase. A matter without all question of singular profite, to receive more then an hundred bushels for one. But least I bee mistaken in this great proportion, I would not have any man to thinke,

that I doe heere set downe anie exact number of bushels, from which nature can it no time varie: for if the yeare, the heavens, and the ground itselfe, together with the fatal influence of the starres, doe all conspire together, the number of our bushels will fall short but that they will by five degrees exceede the accustomed yeeld. But if all these concurre and afford their severall favours, then may we well expect 150 bushels of one. But this proud promise of ours may happily seeme a paradox vnto some, vnto whom, if they werre of any sound and sharpe iudgement, it should rather seeme a greater paradoxe, why halfe a bushell should not rather gine 200 bushels againe, when as we doe often see, that one corne being set and well rooted, doth stemme vp into divers salkes, yea sometimes to the number of fiftene, more or lesse, each core also containing threescore Cornes within it. I do here omit to speak of Byzantium, that fruitfull ground of Africa, whereof *Plinie* maketh mention, where out of one corne soure hundred stalkes did braunch: and the Governour of that place did also send to *Nero* 240 stemmes arising from one graine."

In this chapter the steeping of seed in "fat and fructifying liquors," such as saltpetre, liquid manure, &c., &c., is spoken of. The following trite remark is made upon the proper length of time for steeping seed:—

"And as for the time of imbibition, it is a rule in naturall Philosophie, that euerything hath his stomacke, which doth neuer drawing and attracting vnto itselfe such matter as is apt for it, vntill it be glutted; and then, as being ouercharged, it lotheth and sheweth out euen that which otherwise it most desireth: as it doth manifestly appeare in the stomake of man, wherein by ouergorging it selfe a *Nausea* doth presently ensue."

Several fertilizers are enumerated in this chapter, as sea-weed, woollen rags, dregs of beer and aie, soot, ashes of saltpetre works, horn shavings, soap ashes, a solution of salt and water, malt-dust, oat-husks, fearn, ashes from foundaries, sal ammoniac, and carrion. This chapter concludes as follows:—

"Here I cannot omit a strange secret deliuered by a Gentleman of good worth vnto mee, euen before this worke was fullie perfected, which I haue reserued for the conclusion of this Title. He assured mee of a Gentleman, at this present dwelling in Cornewall, who being very industrious, and searching into the workes of Nature, would needes attempt the sowing of Wheate in his Arable groundes, beeing of such kind, nature, and quality, as was meereley repugnant and unfit for that Grain, as the experience of the greatest part of the Countrie round about him did manifestly declare. And this he performed onely by infusing his Seed Corne foure and twenty houres in a strong liquor, that had descended from his muckheape into a re-

ceptacle of bricke (a tank): but he neuer infused his Corne (as I am informed) till the liquor had benne of two yeares date, and he alwaies dried his corne before he sowed it: *quaere* if in lesse time and without drying, the same effects will not follow."

The seventh chapter directs "*How to make choice of your seed corne.*"

"Such corne as is rubbed betweene ones hands out of the middle of the eare, the vpper and neather partthere of being first diuided. I hold (with *Bap, Porta*) to be the most fruitful seed of all the rest, and that the hand, though it be a more laboursome worke, doth performe this better than the flail, which maketh no diuision of the grain, & yet bruiseth a great part thereof by the violence of the stroke. But if your threshed wheat content you, then is it best eyther to pick each Corne by itself, and so to diuide the good from the bad (which is a fit worke for Children, and may the rather bee endured, for that so small a proportion of Seede will serue to set an acre, viz. 12 pintes thereof, if each graine be at five inches distance, as some haue observed) or else to powre your corne into a Tubbe of water, stirring it vppe and downe, whereby the best and heauiest Cornes sink to the bottoome, and the lightest graine will fleete and flote in the toppe, which may easily bee seuered."

The eighth chapter states "*the difference of yeeld betweene the plough and the spade, with some new addition to the Plough,*" as follows:—

"He that reapeth foure quarters of Wheat out of one Acre by his Plough, dooth holde himselfe well contented, as with a rich Crophe, which is eight at the least for one. I know the greatest number do scarcely attaine seuen for one, and many but six for one: but if he haue ten or twelue for one, then hee acknowledgeth himselfe to haue receyued an extraordinary fauour and blessing from the Heauens; yet (because both happily, and by credible report it is come to my handes:) I will here set downe one rare experiment perfourmed this last yeare with the Plough, wherein no doubt the Actor did stryue even in the strength of his wit and spirit to make the best imitation which he could of the Spade. The ground hauing a Naturall declining or descent by his owne situation, was first crosse ploughed with a very deepe cutting Plough, and then ploughed ouer the thirde time with a shallow Plough, that made very close and narrow furrowes; then was the Seede sowne by a skilfull Sower, and then harrowed ouer; and by this newe practise the owner obtayned 15 quarters (I dare not say 20) vpon each Acre which he sowed. I do not cite this strange & admirable experiment, eyther to ouerthrow the whole frame of my former worke, by vndermining the foundation thereof, or to hinder the labours of so many thousands of poore and distressed people, which by digging and setting are

like to be profitably employed in this land by meanes of the Spade (whose Estates with all Christian commiserating I doe pitie, and am willing to relieue); but professing all the good I can, and by all the meanes that I maie, to aduance the common good of the whole Realme, and knowing that if this newe practise of uigging by good successes thereof do happen to become generall in and ouer the whold Land, notwithstanding the Realme bee populous, & surcharged with infinite numbers of poore Men, Wwomen, and Children, and mayned Souldiers, that yet there will scarcelie be founde workmen enough for the tenth acre of land: I say, for the better increase of all such grounds where the Plough must of necessitie be vsed, I was bolde to insert this inuention, to supplie the defect of Labourers, which otherwise of necessitie woulde ensue. And yet if I maie beleuee those infinite reports, which are nowe with open trumpet sounded into each man's eare, in commendation of the spade, there will be no comparison between the Plough & it, though all men would ioine all their wits together for the better furtherance thereof; out of many of which reports I wil only remember these few.

"A Iustice of Peace & Quorum of my acquaintance, dwelling in Essex, and desirous to make a trial of that wonderfull experience, so commended at the Court of Requests barre by a Counsellor, who had scene the same the Sommer before, would needs set a parcell of grounde with his owne handes, as soone as hee came from Michaelmasse terme last to his house: in April the same began to shew very greene and full of blade, and in haruest time each Corne brought foorth at the least 27 eares, some 30, and some 32, with forty graines in each eare, whose proportion is at the least a thousande for one. For the truth of which report, I dare gage my credit, I know the gentelman to be so temperat and well aduised of his speech.

"I do heare of another gentleman dwelling in Surrey, who hath in reaped 16 bushels out of one pint of wheat which he set, and that some cornes brought forth 40. and some 48. eares hauing 66. 68. and 72. cornes in each eare. I could name the gent. dwelling, and place of the trial, but this which I speak I dare warrant to bee true, having good ground of credit for the same.

"In Northamptonshire there grew barley this last summer, amongst the which there was founde some rootes hauing 120. eares vpon one root, with 30. graines at the least in each eare.

"I haue also heard by sundry reports of 20. 30. and 32. quarters of Wheate vpon an acre, and of 15. quarters of barley vpon an acre; yea there haue beene some which haue reported, that they haue had 15 quarters of wheat vpon one acre by this manner of setting, the ground being spent and out of hart by often plowing before.

“ And if I should report all the severall trials that have beene made by severall persons, as well of the Nobility as others, withing these two last years, I should both weary my selfe with recording, and you with reading such infinit numbers of practises as I coulede produce, *sed ex his reliqua.*”

We do not thus extensively direct attention to this “ agricultural improver” of 1601 in order to “ snub” him, but for the purpose of noting the fact that “ thin sowing,” “ dibbling,” “ deep ploughing,” and “ spade husbandry” were long since practised not by a few individuals; but, to very many persons of all classes.

PRODUCE OF GUERNSEY COWS.

I BEG to draw attention of an account of the produce in one year of five Guernsey cows, inserted in the last annual report of the proceedings of the Royal Agricultural Society of Guernsey. It is as follows:—

Butter, 1340 lbs., sold, on an average,	
at 1s. 3½d. per lb.....	£86 10 10
Milk sold.....	4 3 3
One fat bull calf	2 8 10
Four heifer calves valued 15s. each ..	3 0 0
Churned milk, valued 1d. per gallon ..	11 3 0

£107 5 11

In drawing your notice to this handsome produce, I feel a deeper interest than mere local gratification; it is the returns of this branch of industry alone now that enables us to pay the high rate at which land had risen here, chiefly in consequence of the potato culture. No less than £18,000 worth have been exported in one year from our small island. The knowledge of the value of our cattle as milk cows in England is the more necessary to us, as repeated attempts to pass poor Britany cows as Channel Island cows have, since the opening of the ports, taken place; a caution to the English purchaser to that effect was published in another paper some time since, advising to exact a certificate of breed with each cow. It is nevertheless to be feared that sufficient care has not been taken in this respect, and that many frauds have been committed; and it is in consequence that I beg you to insert, and your respected contemporaries, particularly of the south of England, to reproduce this article, not alone in the interest of the Guernsey breeders, but also in that of the English purchasers, who know the richness imparted to the milk by the introduction of our cows, of the purity of the breed of which we are very jealous; indeed, we are advised to that effect by our English friends. “ Bounded by the sea,” they say, “ in a small locality like yours, be particular about the breed, and if we want crossings we can make them at will.” Such is their opinion, and it is most important to us in that branch of our exports. As to the accuracy of the report

as above, not only is it given by one of the first gentlemen of the Island, Mr. Thomas Priaulx, but it is but beyond all cavil by the fact that his farm, consisting of 40 Guernsey vergées, equal to 16 English acres, or 10 acres Irish, is worked on the metayer system, by an intelligent Englishman, who must give him of course correct returns of the produce, the sale of all which fetches about £110 a year on an average of years, half, as above, the produce of five cows, who were tethered according to the custom of the island, and in every respect well kept. To show that this is not a solitary instance, I beg to add a report of the produce of one cow, belonging to Sir William Collings, of this island, which from the 14th of July, 1843, to the same date in 1845, in two years, gave 804 lbs., English weight, of very rich and handsome butter.—*N. Le Beir, Hon. Sec., F.A. S.G.*

WHY SALINE MANURES ARE REQUIRED BY THE SOIL.

The use of saline substances as manures of comparatively recent introduction. In many districts, however, they are indispensable, if we wish to maintain the present condition, or to restore the ancient fertility of the land. This will appear from the following considerations.

1. These saline substances exist in all plants, and must therefore abound, to a certain extent, in all soils in which plants can be made to grow.

2. The rains gradually wash out—especially from arable soils, and in inland districts—a portion of the saline matter they contain. If the surface soil is to be retained in its present condition, this natural waste must, by some means or other, be supplied.

3. The crops we carry off the land remove a portion of this saline matter from the soil, and thus gradually impoverish it, if the saline substances be not again brought back.

4. And though we return to the soil, in the form of farm-yard manure, all the strew of our corn crops and the dung of our cattle, the land still loses all that we carry to market, and all that escapes from our farm-yards and dung-heaps in the form of liquid manure. Even where tanks for liquid manure are erected, the farmer can never return to the land all the saline substances contained naturally even in his straw. The rains that fall, were there no other cause of waste, would wash away some portion of what he would desire to carry back into his field.

The necessary waste of saline matter, arising from some source or another. When, for a long period of time, the land has maintained its fertility without receiving any artificial supply, it must contain within itself naturally a very large proportion of these substances,—must derive, from springs a continued assession of such matter, or from waters that flow down from a higher level, and bring with them the washings of the

upper soils—it must obtain from abundant manure a sufficiency to supply the wants of the plants that grow upon it.

The practical man will readily acknowledge that, when a sufficiency of saline matter is not conveyed to his land from these or similar sources, he must necessarily supply it by art. He will understand, also, that the saline manures he adds to the soil operate by yielding to the plant what it could not otherwise so readily obtain—and that a saline substance which has been found to benefit his neighbour's land may possibly do no good to his own, because his own may already contain a sufficient supply of that substance.—*Johnston's Agricultural Chemistry.*

MODE OF DETERMINING THE LOCAL VALUE OF SALINE MANURES.

In order, therefore, to determine whether his land will readily be benefited by the application of those saline substances, from which in other districts, or upon other soils, much benefits has been derived, the intelligent farmer will commence a series of preliminary trials or small experiments.

That many of the saline substances described in the preceding Sections may be profitably applied to most soils by the practical farmer, can no longer be doubted. At the same time no prudent man will at once expend any large sum upon them, until, either he himself, or some of his immediate neighbours who cultivate a similar soil, have previously proved their efficacy on a smaller scale. It is no doubt the duty of every practical farmer—a duty he owes not only to his country but to himself—to be alive to the benefits which are to be derived from every improved method of culture that may be introduced; but it is no less his duty to avoid every reasonable risk of pecuniary loss which might be injurious to himself.

Suppose, therefore, I were to enter upon a farm which I was desirous of rendering as productive as possible, by the application of every new method of culture that might prove to be suited to the kind of soil I possessed, I would begin by trying the effect of each manure or method upon a single acre, and I would extend my trials or alter my methods according to the success I met with.

Among saline manures, for example, I would try nitrate of soda, or carbonate of soda, or wood ashes, or sulphate of soda, or silicate of soda, or gypsum, or sulphated urine, or guano, or the ammoniacal salts, or a mixture of two or more of these substances, on a single acre or half acre of my various crops,—*never expending in this way, during any one year, more than I could easily afford to lose if my trials should fail*,—and I would not begin to use any of these substances largely till I was satisfied that there was a reasonable prospect of remuneration. And having once begun

upon this assurance, I would cease applying them for a while as soon as the crops no longer gave me a fair return of outlay—the probability then being, that the soil for the present had obtained enough of the peculiar substance I had been employing, and stood more in need of some other.

Thus if, as happened to a friend of mine, a dressing of salt produced 35 bushels from the first wheat crop, and yet when applied to the next crop of the same grain on the same field produced only 20 bushels, I should conclude that, for the present, my land was sufficiently salted, and that I had better apply something else. I would therefore begin my experiments anew upon my salted land. I would try some of the other substances above named, employing always the same caution and economy as before, and carefully keeping an account of my procedure, and of my profit and loss from each experiment.

Such facts also, as that in the State of New York, after a long-continued use of gypsum, the employment of leached or exhausted wood ashes was found to be more beneficial—would incline me to make many trials of this variation or rotation of manures.

I should thus have always several experimental patches upon my farm—and I should not only avoid the risk of serious disappointment and pecuniary loss, but I should enliven my ordinary farm routine by the interests I should necessarily feel in watching the results of my different experiments—I should gradually acquire habits of reflection, and of careful observation also, which would be of the greatest possible service to me in all my future operations.

OF THE CIRCUMSTANCES WHICH ARE NECESSARY TO INSURE THE SUCCESS OF SALINE MANURES.

The application of saline substances to the soil is not always attended with sensible benefit to the crop. The same substance which, in one district, or in one season, has produced an increased return, may fail in another district or in a different season. The circumstances which which are necessary to insure success in the application of saline manures are chiefly the following:—

1st. They must contain one or more substances which are necessary to the growth of the plant, and in a condition or state of combination in which the plant can take them up.

2nd. The soil must be more or less deficient in these substances.

3rd. The weather and soil must be moist enough to admit of their being readily dissolved, and conveyed to the roots.

4th. They must not be applied in too large a quantity, or allowed to come in contact with the young shoots in too concentrated a form.

The water that reaches the roots or young leaves must never be too strongly impregnated with the salt, or if the weather be dry, the plant will be blighted or burned up.

5th. The soil must be sufficiently light to permit the salt easily to penetrate to the roots, and yet not so open as to allow it to be readily washed away by the rains. In reference to this point the nature of the subsoil is of much importance. A retentive subsoil will prevent the total escape of that which readily passes through a sandy or gravelly soil, while an open subsoil again may retain little or nothing of what has once made its way through the surface.

6th. I may add, lastly, that it is in poor or worn out soils that all such applications may be expected to produce the most marked and characteristic effects.

PRACTICAL INSTRUCTION—CULTIVATION OF FLAX, STEEPING, &c.

The following letter from the intelligent instructor in the Ballina Union, Mr. John Hughes, will be read with interest, as conveying much useful information upon the cultivation of flax, saving the seed, and subsequent steeping—a process to which public attention is much directed at the present. It is only by local and individual exertions, such as these, that we can hope for improvement and substantial relief, and the more publicity such laudable efforts get the better:—

Ballina Union, Co. Mayo, Oct. 12.

"SIR,—Having called a few days ago to see the flax establishment which has been erected by, or with the assistance of Colonel Knox Gore, in this neighbourhood, I thought it might be worth while to give you a brief description of it, remarking, by the way, that it is situated about an English mile from this town.

"Two preparatory houses have been already erected, and the scutching mill is in process of completion. After the flax had been drawn in by those from whom it has been purchased, at from £5 to £7 per Irish acre, it is brought into the first house, and deprived of the seed by beetling; the seed is then brought out, and ridded by women, after which it is again brought into the same house, and passed through the fanning machine, which renders it pretty clean, and it is then put into small flax barrels, until it may receive a further cleaning. In the meantime, the flax or fibre is steeped in vats of elliptical shape for sixty hours, after which it is taken out and dried. The steeping-house contains twelve vats on each side. After the flax has been put in, and covered with crib lids bound by bars, which slip in and out from iron clasps, it is filled up with cold water, issuing from a perpendicular tube, with curved mouth, which flows out of a metal pipe, running along the ground between the vats and the

wall on each side. The water is forced into those pipes by a pump, whose trough is higher than the tops of the vats. This pump stands at the corner of the house on the outside. After a sufficient quantity of water has been pumped in, the steam from the boiler at the lower end of the house is communicated to it by an iron pipe, running parallel spirally through the vat, and having a slight escapement at the bottom. By these means the water is raised to 90 degrees of Fahrenheit, at which temperature it is kept until the flax be taken out, sixty hours after being put in. The machinery for the scutching-mill, which is ninety feet long, has arrived, and will be got ready as soon as possible. Drying sheds are also about to be erected. Indeed, there is a great deal of ability, energy and zeal displayed in the performance of the requisite and customary operations. Nothing can tend more than such an establishment to improve the country, and inspire the people with fresh vigour.

"JOHN HUGHES,
"Practical Instructor.

"Edward Bullen, Esq. Sec., &c."

THE HYACINTH.—All the instructions hitherto given on the subject of cultivating hyacinths have been favourable to rich and light soil; but to produce bulbs as fine as the Dutch ones, we would make the soil altogether eighteen inches deep. At first we would see that the bed is well drained, so that no water can ever stagnate; but this should be done with everything else, as well as hyacinths. We would then make a compost of two-thirds sand and one-third decomposed cow-dung, that is cow-dung rotted to mould, and fill up the whole eighteen inches with it. Let all the young offsets be carefully planted three inches with it. Let all the young offsets be carefully planted three inches deep, and three or four inches apart, with their names carefully labelled, so that there may be no mistake about sorts while they are young. As soon as they throw by their spike of flowers, pick of all but the top two or three pipes, or even the top one. When the leaves have died down, or nearly so, take up the bulbs, which will be found much enlarged, and twist off the foliage; but lay each sort together in the ground again, and in a fortnight or three weeks you may pull off the roots, and lay them in an hothouse, where they have a good air but no sun. In a fortnight or three weeks more you may clean off the loose skins, and lay them by until you want to plant them, taking care that neither sun or damp reaches them. Make up another bed in the same way for them the next year, and use the former bed for anything else; for by giving another good dressing of cow-dung or leaf-mould, you will adapt it for many things; and in the mean time, the hyacinths will get on much more rapidly in a new bed. These bulbs will imbibe a

fatal disease if they grow two years running on the same spot or in the same soil. Even in Holland, where they have the soil natural, instead of artificial, they do not grow again under three or four seasons in the soil they have been once grown in. If a change of crops be necessary for many crops, to keep them from degenerating, it is absolutely called for with bulbs to prevent total failure. Small offsets become good roots in three seasons; and for strength of bloom, the three-year-old bulbs are by far the best, although they are not the largest. In Holland, as in this country, the hyacinth grows to its full size, and when it has bloomed its best, it goes into offsets, and these are nursed as we have directed until they become fine full roots like their parents, and are sent over here for sale.—*Horticultural Magazine.*

Agricultural Journal

AND
TRANSACTIONS
OF THE
LOWER CANADA AGRICULTURAL SOCIETY.

MONTREAL, DECEMBER, 1849.

There are many plans proposed lately for the amelioration of the present state of Canada, but we conceive, the only true mode of improving the general condition of the country is overlooked and altogether neglected by those parties who appear so anxious for the Country's welfare. The agriculture of Canada, is admitted on all hands, and by all parties, to be the only permanent basis upon which the general prosperity of the country can be built, and we have an opportunity of knowing how very little support is afforded to any measures adopted for the improvement of agriculture, by most of those parties, who advocate other measures that are much more uncertain in their results, than an improved agriculture would be. The Lower Canada Agricultural Society were organized with the sole object of promoting the general improvement of agriculture, and thereby advancing the general prosperity of the rural population of Canada. This Society and their objects were so far approved of as to obtain an Act of Incorporation

by the unanimous vote of the Provincial Legislature. But notwithstanding this seal of decided approval by the Government and Legislature, the Society, we regret to say, have not obtained the support they were entitled to from all friends of Canadian prosperity. It is from the Roman Catholic Bishops and Clergy, who meddle not in other matters, that the Society have received the most cordial support and encouragement to persevere in their laudable efforts to promote the amelioration of agriculture. This is satisfactorily proved by the letters of the Archbishop and Bishop who also are life members of the Society, and by very many letters from the Cure's of the Parishes, a number of whom are members, and paying subscribers for the Agricultural Journal. These are unequivocal proofs that they not only wish, but take an active part in promoting the true prosperity of their country. They are satisfied that in adopting this course, there are no dangerous consequences to be apprehended to result from it, but the welfare, peace and happiness of the people. As Editor of this Journal we meddle not with party politics, or doubtful questions. Our sole desire is to promote the object for which the Journal is published, and to give no excuse to any parties for withholding their support, who really wish to see this object accomplished. The Journal is open to any able pen that will contribute to improve it and add to its usefulness. It must be admitted by all who will give any thought to the subject, that the Journal is necessary to maintain a connection between the Society and the rural population of Lower Canada, or otherwise how could the Society forward their views of amelioration, or propose any improved system to the farmers. It is not by annual Cattle Shows and exhibitions of other articles however well got up, that the general improvement of Canadian agriculture will be effected, but by a general circulation of a *well conducted* Agricultural Journal, Model Farms, and an agricultural education. In addition to all these, agriculture must be estimated as it is entitled, the first,

most useful, and honourable of professions, that would not be discredit to Her Majesty the Queen, or to the highest in rank of her subjects, to practice. Other professions may fancy what they please of their own importance, but we can tell them whatever they may fancy, there is not one of them, not even the profession of a statesman, that is above that of the farmer, who understands his business, and practices it to the best of his ability. We have constantly regretted to witness, that if there is a meeting called for any party question or discussion, "all the world are assembled," and quite excited and interested, in a matter, perhaps, that is not of any importance whatever to the country generally, but if an agricultural meeting is called, it is quite another affair, and it would appear because there is no question of its vast importance to the country, that no one feels the slightest interest in the matter, and would go anywhere, rather than take any part in what was not to promote party views. We are happy to acknowledge there are honorable exceptions to this general rule, and that we have a few disposed to give all their support to agricultural improvement. We cannot, however, but express our deep regret that people's minds should be diverted from what is the real interest of Canada—to improve her agriculture, and augment the amount and value of her annual productions. Let her people do this, and customers will be raised up for the purchase of their produce, either in Canada or elsewhere. The United States, we have no doubt, notwithstanding their high duties, will offer us a good market for much of our produce. To meet their duties, we must raise larger crops, that will more than doubly repay the amount of duty, over what our small crops will sell for at present. When we raise a large produce here, it will offer the very best encouragement to the establishment of domestic manufactories, that will prove profitable customers for this produce. We estimate very highly the natural capabilities of this country. All we require is to improve them

judiciously, and to the utmost of our power. This power is vested in ourselves, and if we do not exercise it to the best advantage, it is unjust in us to attribute our want of prosperity to any other cause than our own neglect, that is in our own power to remedy. All this country can ever have to expend is what she creates, and in proportion as this is augmented, will our means to expend be enlarged. If we would expect to improve the production of a fruit tree, that begins to fail in its fruit from neglect, we must "dress it, dig about it, and dung it," to restore it to vigorous bearing. We never can restore it by the *expression* of our regret, without action in the matter. It would be rather a strange plan to adopt under such circumstances, were we to apply to England to take off all the duty upon apples, because our trees yielded less fruit than usual, from our own neglect to cultivate and prune them properly. We supported the principle of *protection* to the last moment there was any hope of its being continued to this Colony. We know that we must now seek to make up for lost protection, by increased production. We never can improve the depressed state of Canada by all we can talk about it, unless we take measures to improve what is to support our trade and commerce, the products of agriculture. An extensive and profitable trade cannot be maintained in a country that does not raise a large and valuable produce. It is only the *surplus* produce of this country that can be applied to the support of trade and commerce, and this must always control the extent and profit of trade and commerce in Canada. Merchants and tradespeople cannot sell if farmers cannot purchase. No doubt the more charges agricultural products are subject to, whether in the shape of duties or for transport, &c., from the time it leaves the hands of the farmer until it comes into those of the consumer, the less the farmer will obtain for this produce. But where these difficulties cannot be avoided, the farmer must endeavour to make up these drawbacks, by

the increased quantity and excellence of his produce, and to teach and induce him to do this, is the most useful employment that any man in this community can take upon him—no matter how high his rank or station in that community. We much regret for the sake of our dear country that talented men waste their abilities on subjects that are not of a thousand part the importance to the people of Canada that the improvement of her agriculture would be, while they would not deign to give a moment's consideration to the latter, or contribute five shillings annually to forward its necessary improvement. It is lamentable to think that while the first interest of Canada is comparatively neglected, men are constantly deploring the depressed state of the country, and proposing every imaginable scheme for amelioration, but the certain and easy one of improving their agriculture and augmenting its productions. By the proper instruction of farmers in a better system of husbandry, and the instruction of labourers in the better execution of farm work, the amount of our annual productions might be doubled, while the expenses would not be much increased from the more expert and better execution of every work of the farm. We do not wish to be understood as saying that agriculture is the only business that deserves any attention here. We only say that it is the principal business of the people of Canada, and that upon which all other business depends for its prosperity. We might as reasonably expect the healthy and active exercise of the limbs of the human body while the head and trunk were in a state of decay, as to suppose there is any chance of general prosperity here, while agriculture is in an unimproved state, and yielding only a scanty produce. It is well cultivated fields, abundant crops and good cattle, that will revive the trade of our cities and towns, and produce the profitable occupation of deserted houses and stores, and we are certain by no other means under Heaven can this be accomplished. One acre of a well-cultivated field is of more value

to the owner and to the country, than the finest house in Montreal unoccupied, and fortunately it requires no argument to prove this. We admire improvements in town, and wish heartily that these improvements would go on constantly and profitably; but we are much more anxious to see the improvements required in the agriculture of the country going on constantly and prosperously, and we are free to admit that we would admire a well cultivated farm or country, bearing abundant crops, and having good cattle, sheep, and other animals, infinitely more than the finest city, or the most beautiful house that was ever constructed. We have arrived at the conclusion that a well cultivated country will be sure to produce a fine and prosperous city; but that it is impossible for us to have a fine and prosperous city surrounded by an ill-cultivated and neglected country, and that this is particularly the case in Canada. We wish we could persuade men to extend their views beyond what they conceive to be their own direct and personal interest, and the interest of parties with whom they may be connected. What we recommend is no party or personal affair, but one that is of general interest to the human family. How much more beautiful would this country appear if every field was carefully cultivated, no weeds suffered to mature, the pasture fine, the cattle and sheep of good quality, and sufficient shade and shelter provided for them. Would not the attainment of these benefits to our country be worthy the devoted exertions of the most talented and best educated men?—Yes, undoubtedly, and by accomplishing this good they would confer a more certain and permanent benefit upon the people, than by any other way they ever can employ themselves. We are sorry that we cannot hold out any great reward in a pecuniary point of view, to the man or the men who would be induced to act as we propose, but they will certainly not be without the reward of feeling the satisfaction of having done good for their country, and if they possess a competency this should satisfy them. They

will have the further satisfaction to feel that they incur no risk of involving the rural population in any projects that might be injurious or dangerous to them.

We hope all who are disposed to support this Journal, and desire its continued publication, will pay up their subscriptions without delay, and that many new subscribers will be added to the present list. Some parties may wish to read without subscribing for it, but others do not subscribe because they do not desire to read. The Journal has now been published for two years, and we hope that now the volume for each year would be worth five shillings to any farmer who would purchase and read it. It is not because a portion of them is our own production that we estimate them as of some value, but that the copied matter they contain is of great value to a farmer who would be disposed to profit by useful information. It is a great drawback to farmers, that they should be so averse to give a fair trial to any suggestions proposed to them in a printed form. We admit they should be cautious how they do introduce any doubtful or expensive experiments, as the low price of produce will not warrant any large expenditure. But improvements that may be obvious to any man acquainted with the cultivation of land, should not be rejected because they are suggested or recommended to us in a book or periodical. The press is a most powerful aid to all other business and professions, and why should it not be so to the agriculturist? The farmer should "read, mark, learn and inwardly digest" all that may be proposed to him on the subject of agricultural improvement, but we do not say he should adopt any of the suggestions, but those which his own plain good sense would consider reasonable.

That there are many articles that might be advantageously manufactured in Canada there can be no doubt whatever, particularly those that could be made from our own raw produc-

tions and that would be required for our own use. First on the list, would be agricultural implements of every description, made in the very best manner and of the best material, and unless this was the case, we would prefer never to have one of them made in Canada. We have some implements of the very best description made here, but we are sorry to say, we have some others of the very worst of their kind, and not worth having, when others would be worth paying a fair price for. We have wood and iron in abundance here, if we only work them up in a proper manner. We have wool, and we may have flax, and both of these might be manufactured to supply most of our own wants. We would much prefer linen to cotton material for many uses where the latter is now employed, and we would have the advantage of furnishing the raw material from our own lands. If any encouragement would be necessary for our manufactures, the Canadian people have it in their power to offer it. The alteration in the Navigation Laws, should have a very favourable influence upon this country. There is a wide field in this fine province for all true friends to its prosperity to employ themselves, without agitating doubtful or dangerous questions. Instead of improving certain advantages that are in our power, we appear anxious to find excuse for our not improving them. We are not aware of any obstacle to the improvement of our condition that is not in the power of the Canadian people to remedy, under their present circumstances. The depression in this province is attributed to causes that have, we conceive, very little to do with it, and remedies are proposed that will have as little influence in improving this state of things. There is no confidence to be placed in any measures that may be proposed for the amelioration of Canada, while the only source of her prosperity is passed over and neglected as of no consequence. It may be thought that we are not justified in making this assertion, but we would observe that we have opportunities that few

other persons possess of knowing what has been done for the improvement of agriculture in Canada, and who are the parties who have taken any interest in the matter. We maintain a proposition that is not disputed by any one—that agriculture is, and must be, the basis of prosperity to this country. Let those who can, come forward, and now is the time, to show what has been done, to provide for the improving and prosperous condition of this—the first, and principal interest in Canada.

In reply to the communication of "A Practical Farmer," we are sorry to say that there are not many of the County Agricultural Societies which take the Journal, not perhaps more than half a dozen out of the whole. This has astonished us, as the Societies profess to have the same object in view that the Lower Canada Agricultural Society have in publishing their Journal—namely, the improvement of Canadian agriculture. If the Journal was calculated to retard this improvement we should not wonder if the County Societies would oppose its circulation. Those parties who subscribe to it, however, will be best able to judge what is the character of the Journal for usefulness or otherwise. We did hope that the Agricultural Societies would be the most certain supporters of the Journal, by subscribing for a large number for distribution—but we have been disappointed, though we are not convinced that the County Societies have forwarded the improvement of agriculture by declining to subscribe for the Agricultural Journal. Every farmer cannot be a competitor at their Shows, and to those who are precluded from that by their not being in circumstances to compete, a set of the Journal might be given. Money that is granted for improvement should be open for all, and applied where improvement was most required. If the Legislature was to grant a small sum annually, towards the support of the Journal, and have a number of copies circulated gratis in every parish, we cannot see that three or four hundred pounds

would be injurious to a revenue of more than half a million, and we are satisfied that the small amount that would be required for the Journal, would be as beneficially applied for the country, as any like amount that may be appropriated. Education and practical instruction in the art of agriculture is what we require in Canada to secure its prosperity. As to any reward to an individual in this country who may attempt voluntarily to forward the general improvement of agriculture, as we did for a number of years previous to the organization of this Society, we can tell our correspondent, there is not much chance for it, whatever may be the amount of time and money that may be sacrificed in furtherance of that object. This, we believe, is not the country to acknowledge voluntary services in the way of payment for them, however honest and disinterested may be the motives in rendering them.

We fear it will be useless to recommend Canadian farmers a plan adopted in the British Isles for the improvement of grass lands without growing other crops, when sowing clover with other grass seed. They manure the grass land intended to be improved, in the autumn, and then plough it lightly. When the soil becomes rotten, it is again ploughed deeply across the former furrows, before the winter sets in if possible. In the spring, as soon as the land is fit to work, it is again ploughed, and the soil made as clean as possible from all roots of weeds and grasses, that the farmer does not wish to grow upon the land. It is then sowed with such grass seed as the farmer wishes the land should grow, without any other crop—but one pound of rape seed is sowed with the grass seed per acre, which acts as a shade to the young grass when it grows up, and in the autumn it is eaten down with sheep. This is found to be an excellent plan for the improvement of grass land, and it comes at once into good pasture or meadow. We do not approve of the system generally adopted here by old country farmers, of ploughing up meadows

or lay—first taking a crop of grain, then manuring with a green crop—and the third year laying down the land with a grain crop and grass seeds. Our own plan was, to raise a green crop with manure on the land, when ploughed after grass, and the next year seed down again with wheat or barley for grass—hence, taking only one crop of roots, and one crop of grain, manuring once, until seeding down again with grass. Where two crops of grain and one of roots, are taken for one manuring, the land cannot be much improved, except perhaps cleaning the soil. It is most essential in good husbandry, when seeding down with grass, that the land should be clean and in good condition. When this is the case, it will produce a large quantity of nutritive grass, and be ready to be taken up for other crops at any time it may be required. The general plan in this country is—to sow grass seeds only for meadows on good, fertile soil—they never think of laying down land in good condition for pasture. No wonder we should not have much pasture that is good and suitable for fattening cattle. We blame the climate and soil for our not having pastures like those in the old countries, while it is our own mismanagement that is alone in fault. There does not exist a doubt, that we might have most excellent pastures here, were we to manage them properly. If our soil and climate was unsuitable for the production of grass in perfection, how is it that we have as fine meadows as can be seen in any country on earth? The cause is quite easily accounted for—that for meadows, the land is laid down in a fertile state—while for pastures they are left in a state of nature, or a worse state, when they are perfectly exhausted by cropping.

We have seen a statement lately in one of our exchange papers, made by a farmer in Britain of the expense of keeping different classes of cattle, which he ascertained by keeping an exact account of the expenditure of each. He says his fattening cattle cost him from 1s. 3d. to 1s. 4d. per head, per day: the milch caters

9d. per head; and young and dry cattle, about 6d. per head: charging every thing they consumed at the market price, deducting the expenses of sending to market. At the time he made this estimate he was charging 10s. a ton for turnips; 20s. a ton for straw; and 60s. a ton for hay. Any grain given was charged at market price, and 3d. per bushel for grinding. The expense of attendance was charged—but not the interest of capital. He also keeps an exact account against each beast, according to the number of the stall, and when he can dispose of it at a profit of 10s. over his cost and expenditure, exclusive of the manure, he se the animal, not considering that long feeding pays. He says that the sooner the animal can be fattened the better for profit, and we perfectly coincide in this opinion. Four months is generally the period it requires to fatten an animal put up in fair condition," with a loose hide, healthy, and tolerably fresh." Box feeding is the plan adopted. This information is not without interest for the Canadian farmer—although the mode of feeding may not be the same here as in Britain. We conceive that in stall feeding it would be very desirable to ascertain what each animal consumes, particularly if different breeds of cattle are fattening. In fact, it is only by exact experiment that the relative value of different breeds of cattle can be ascertained satisfactorily, and we believe, few experiments that can be relied upon, have ever yet been made in Canada to ascertain the value of various breeds of animals. Every man who has thought proper to patronize a particular breed of animals, can scarcely be persuaded that they are not the best that can be found. If they are of large size, they will tell you they consume no more, if so much food, than the smallest size. If they are fat, they will tell you they become so on straw, when different breeds could not be kept in equal condition on hay. We know that some breeds of animals are much superior to others, and will be more profitable upon the same feeding. But to determine which breeds are the most profitable, we must ascertain their

expenditure and produce exactly, before we condemn or reject one, and prefer and applaud another. It does not require, however, any experiments to enable us to judge of the expediency of rejecting some breeds that are decidedly bad. Amongst the latter we certainly do not class the Canadian breeds of horses or neat cattle, the horses we consider the best in the country, and the neat cattle we believe to be susceptible of being improved into the most useful stock a farmer could possess. We have the authority of Professor Johnston for saying, the largest quantity of butter from a given weight of the same food, and the richest milk, are yielded by the smaller races of cows. The small Alderney, West Highland, and Kerry cows, give a richer milk even than the small Ayrshire. But the Shetlander is said to surpass them all. These breeds are all hardy and will pick up a subsistence from pastures on which other breeds would starve. This opinion from such a source, confirms fully our own experience on this subject, that a well selected stock of Canadian breed of cows would be as profitable as any that could be kept for the dairy in this country. By careful selection and attention to the breeding and feeding, the cows might be brought to a very good size. We do not object to the use of a Bull of a different breed, but the animal chosen should not be over-large. By degrees, careful breeding, and good keeping will be sure to increase the size to the most profitable standard, and this we know to be the best mode to be adopted in our endeavour to improve our native stock. If we attempt to enlarge the size too rapidly, the animals produced will not be of the best shape or quality, either for use or profit.

We have received a letter from Mr. Davidson of the county of Quebec, to which we give insertion in this number. We are not acquainted with the gentleman, and if he had not given his name, we should have had some hesitation in publishing a part of the letter, but as what

he states refers to the distribution of public money granted for promoting the improvement of agriculture—and according to our own interpretation where it is most required to be improved, we believe we are justified in giving the letter insertion. The statements made by Mr. Davidson are well deserving of inquiry and examination. We cannot believe that a gentleman who can write so well, would make any statement which he could not support. We have been long of opinion that the county agricultural societies might do better for the advancement of agricultural improvement than they generally do, because by their present system all the money goes to the most wealthy and best circumstanced farmers, in the county, while those who most require to improve their system of husbandry have nothing done for them in the way of instruction or encouragement. We conceive it to be the duty of every county society which receives grants of public money to apply this money in the most judicious manner in their power for the instruction and encouragement of farmers who do not perfectly understand the benefit of adopting a good system of husbandry, or what sort of system that would be. We stated in our last number, that granting three premiums in each parish for the best cultivated and managed farms would be the means of encouraging "Model farms" in every parish. Also giving premiums in each parish for the best dairies—and for the best general stock of cattle kept by a farmer. If this plan was adopted, the public money would be circulated in every parish in a county, and would not all go, perhaps, to one parish, as it may at present. We do not propose that these premiums should be paid whether there was merit or not. Rules should be established, and if parties would not be entitled to premiums, in conformity to these "Rules", the premiums should be withheld. If Agricultural Societies should be organized, and prizes distributed from their own subscriptions, they should certainly distribute them by what Rules they may think proper, as societies do in the British Isles; but when public

aids are granted, it is quite a different affair, and these moneys should be applied so as to effect the utmost benefit to the community.

The Lower Canada Agricultural Society have been anxious that Agents should be appointed for the Agricultural Journal in all the parishes of Lower Canada, to manage the Journal, obtain subscribers, and collect the subscriptions. A resident agent, they considered, would be able to give more efficient aid, than communications by letters, or by any non-resident party. There are now about sixty agents so appointed, besides the Society's general agent at Quebec, Mr. Brousseau. The Directors of the Society expect that the agents will do all that is in their power to collect the subscriptions due, and forward the amount to the Secretary of the Society. They also expect that new subscribers will be obtained, if it is desired that the Journal should be continued. Mr. Thos. Wood is collecting for the Journal in Montreal.

We have been told by Mr. Robert Boa, of St. Laurent, that he raised this year a crop of carrots which produced from one square perch, over 700 lbs. weight of carrots with the tops on, and over 500 lbs. weight without the tops. This, allowing 100 perches or rods to the arpent, would make 22½ tons of roots to the arpent, or about 33 tons with the tops. Mr. Boa said some of the carrots weighed 6 lbs. each, and measured two feet in length. The soil they were grown upon was certainly of the best quality, having folded his cattle and sheep upon it for some years past. It proves at all events what may be done by manure and proper cultivation—33 tons weight is a large quantity for one arpent to produce in a single crop, and estimating the roots alone at twenty shillings a ton, it would pay better than any other crop we know. The tops are also valuable for starch if made use of while green, and if not applied to this purpose, they would, by ploughing them into the same soil, make good manure for the next crop. We have

frequently recommended the cultivation of carrots, as an excellent crop for the farmer to raise for his horses, cattle or sheep. They are not an expensive crop to cultivate, and will pay well for the expenditure.

DRAINING.—We have been told of the effect of thorough draining with tiles, by a gentleman who has drained several acres in the neighbourhood of Montreal.—He says that the improvement produced is much greater than he could have imagined possible. We know what the benefit of draining is—and we also know the great injury it is to the farmer who cannot drain his land. There is no profitable crop to be expected on lands that are not drained. The expense in many cases may be more than the farmer can incur, but if so he had better not cultivate the land. We have ascertained this fact by experience, and by heavy loss, where we were prevented from draining; and this may be one cause that we now advocate so decidedly the necessity of draining. The expense of tile draining here, may be an objection, but it is only in the cost of the tiles alone, that the expense can be much over what it is in the British Isles, and were we to have the lately improved tile machines, and persons accustomed to work them, we might be able to have tiles here nearly as cheap as in England, particularly if they could be connected with water mill power. We have seen a statement lately where a tile machine was attached to a mill, worked by a water power, in Scotland, and the tiles were said not to cost more than from four to five shillings the thousand. If this information be correct, we do not see why we should not be able to adopt the same mode of making tiles, and at very near the same expense. We have also seen a statement in the Transactions of the Highland Society of Scotland, that tiles of 1½ inch bore were moulded and shelved for 2s. the 1000. It is further stated in the same article, that one man and three boys with one of Ainslie's patent machines, turned out 5000 tiles 1½ inch per day.

We do not know what the cost of burning would be—in Scotland it could not be much. If tiles could be moulded and shelved here for 2s. or 2s. 6d. the 1000, of 1½ inch pipes, or 5000 tiles of that size made in a day by one man and three boys, we imagine the price of tiles might be greatly reduced below what is paid at present. Agricultural improvement will not make rapid progress here, until every article required to be employed in improvement, is to be had at a price proportioned to that of the produce of our lands, and this we have not yet seen in Canada. The price of a bushel of wheat will go much farther in the purchase of agricultural implements, or draining tiles in England, than in Canada, and this, combined with a less produce, must have a great influence on the improvement of our agriculture. If we should establish manufactures here, they will have to sell these manufactures at a rate proportioned to that of wheat. They cannot expect to flourish, nor would we wish they should, at the expense of the agriculturist. We know that some of our manufacturers here, do not pay any thing like a price for the raw produce, proportioned to what they charge for the manufactured article, and if we were deprived of a foreign market for our wheat, farming would be a poor business in Canada. It is from this cause, that we have constantly recommended farmers to endeavour to produce what would be always in demand for exportation, such as wheat, beef, pork, butter, cheese, flax, hemp, the seed of the two latter, and perhaps peas and beans. If these articles are produced, the prices here will be ruled, in a great measure, by the prices in Britain, and not altogether by our Canadian manufacturers. All these matters require serious consideration, and farmers will have to value what they purchase by the value of their bushel of wheat, or other produce they have to sell. We may have wandered from the subject of tile draining, but we conceive, the observations we have submitted in our wandering, have a good deal to do with draining, and with the farmer's interest. We know that

disproportion in the price between what the farmer buys and what he has to sell, will never encourage him to much improvement, if he is the party who always obtains the low price. We wish success to every branch of industry; but not to any one, even the farmers, at the expense or to the injury of another.

In some of the public gardens, in the neighbourhood of Edinburgh, Scotland, they use fresh tanners' bark to a great extent. It is spread between the rows of strawberries in spring, which is found to be the cheapest mode of keeping the fruit clean, as well as admitting of gathering the fruit at all seasons: it also has the property of keeping down weeds, and of retaining the moisture in dry weather, from which no plant suffers sooner than the strawberry. The same principle is adopted between the rows of gooseberries, and even the whole surface of the flower borders is covered in like manner at the beginning of winter. This practice is also much in use in Yorkshire nurseries, both as a covering for the foot-paths, and for spreading over seedling and weak crops, to protect them from being thrown out by the frost. Tanners' bark is said to be much used for these purposes on the Continent. In a summer house, in one of the public gardens, from which a view of the whole grounds is commanded, the proprietor has introduced in the window, four panes of different coloured glass, red, yellow, green, and blue, and which he not inappropriately calls the house of the four seasons, as when looking through the red, in a bleak wintry day, the whole garden has the appearance of summer; through the yellow, in spring, you have autumn; the green, in autumn, gives spring; and the blue, in a bright summer day, gives all the appearance of hoar frost of winter to such an extent as almost to make you think you feel cold. This optical illusion, as it may be called, might perhaps be introduced into such houses generally with good effect, and if found to answer in Canada, it would be very desirable to do so, and in other houses

as well as summer houses. We have often regretted, that there does not appear to be sufficient public spirit in Montreal, for the establishment of a public garden. This circumstance is not certainly very creditable to the good taste of the citizens. A public garden, got up as it ought to be, would be very useful, as well as a most agreeable resort for the inhabitants of the city. There is a vast difference in the pleasure to be derived from walking in a beautiful well cultivated garden, abounding in trees, fruits, and flowers, and that of parading the finest street in Montreal. This at least, is our opinion of the matter.

Professor Johnston mentions a sort of churn, that has been introduced into England from France, that is much approved of. He describes it as made of tin, of a barrel shape, and is placed in a trough of water, which is heated to the temperature the milk or cream ought to be brought to. In this churn the butter was extracted from cream at the temperature of:

56° F. in 60 minutes,	} Butter was harder but no better than the following.
58° F. in 10 to 20 minutes,	
60° F. in 5 to 7 minutes,	

} Butter excellent.
} Soft at first, but of good colour and quality.

We have placed the churn in hot water in winter, in preference to putting hot water into the cream, and found it to answer well. Heating the tin, or vessels in which the new milk is strained and left for cream, is a plan we have constantly adopted in winter, and covering each pan of milk, when strained, by turning another pan over it, will have a good effect, provided it is done before the milk cools. We believe a tin churn, such as mentioned by Professor Johnston, would answer extremely well in this country. There would be no difficulty in making them of strong tin, on the same plan as barrel churns made of wood. The trough in which they would work might be filled with hot water in winter, and with cold in summer.

We are glad to be able to give further and satisfactory information relative to the root-Extractor. It is very highly recommended by the Rev. Mr. Provencier, of Tring, whose testimony may be relied upon, as he has one in operation. The following is an extract from his letter:—

Tring, November 19, 1849.

P. S.—Perhaps you will be glad to learn that as early as last spring, I have had an Extirpator or Stump Extractor made for myself, and that my undertaking has been crowned with the most complete success. That Extirpator, with some trifling differences, is on the plan of a part of which the description has been given in the newspapers. It is simply an *idented wheel* (of iron) with its pinion, and a single moving pulley. In this machine, the ratio of the acting power is to the resisting one as 70 is to 1; so that two men each working at the handles with a power of 200 lbs., would raise a body weighing 28,000 lbs.; and were the number of men were doubled they could raise 56,000 lbs., I have seen black birch stumps raised, when the ground was still frozen around them, and drawing with them masses of earth 15 feet in circumference and more than 4½ feet deep, and weighing surely more than 56,000 lbs.; and it is to be remarked that those stumps were between 2½ to 3 feet diameter. Were they adopted more generally these machines would be of the greatest utility on new lands, particularly on those where hard wood had been predominant, which are ready for tillage as soon they are cleared; the proceeding is as yet nearly quite new. it will not be long before its advantage will be fully appreciated.

L. PROVENCIER.

THE EXTIRPATOR.

N. ST. ONGE, PATENTEE.

The undersigned, having lately invented an Extirpator or Extractor of Stumps, which alone seems to him to offer more advantages than all the other machines of the same kind known to have been in use till now, he hastens to present it to his countrymen as a means of clearing new lands the most expeditious and economical.

The power of this machine is so great that by its means a single man can move with ease a weight of 8,000, 10,000, 15,000 pounds, and even more. This will be easily conceived when it is known that with that mechanism the power or strength of one man may equilibrate or equiperponderate that of from 70 to 100 men; so that with the aid of that machine a man will be able to draw towards himself from seventy to a hundred men stretching in a contrary direction, on the chain of the machine.

Notwithstanding the prodigious power of that

machine, it is neither very heavy nor inconveniently voluminously large; its weight does not exceed 200 lbs.; all the wooden pieces of which it is formed would not make more than one and a half plank, and all its iron-works could be enclosed in a box twenty inches long by six wide.

That machine may be put in operation with one or two men, by means of a small beam or lever, whose dimensions are nearly those of the swing or brake of a common blacksmith's bellows. It has been tried lately at Montreal very successfully, before persons of high station, and it has been much admired by a number of inquiring and knowing individuals. Its price is twenty dollars only, while other machines cost from 10 to 15 pounds currency.

As the subscriber has obtained from the Provincial Government the privilege of making exclusively the above machine, it is to him alone, or to Dr. Lassiseraye, of St. Léon, who has been by him authorized to that effect, that one may apply to have it made. Many persons having already applied for it, people will do well to send their order early, if they wish to get one of those machines for next spring.

N. ST. ONGE.

Produce out of a Pumpkin seed out of M. P. Burns' Garden at Three Rivers Fall, 1849.

1	Pumpkin,	224
1	"	176
1	"	129
1	"	126
1	"	117
1	"	92
1	"	84
1	"	68
1	"	64
1	"	62
1	"	55
1	"	58
1	"	53
1	"	43
1	"	9
1	"	8

1371 lbs.

Weight of the 16 Pumpkins out of one seed. One of the Pumpkins was 24 inches high, 6 feet 10 inches in circumference.

The seeds of the above Pumpkins are to be had at Mr. George Shepherd's seed store Montreal. P. Burns.

THE RAREST OF ENDOWMENTS.—To be exquisitely alive to gentle impressions and yet to be able to preserve, when the prosecution of a design requires it, an immovable breast amidst the most imperious causes of subduing emotion, is perhaps not an impossible constitution of mind, but it must be the rarest endowment of humanity.—*John Foster.*

THE USE AND VALUE OF NIGHT SOIL.

That man gets his bones from the rocks and his muscles from the atmosphere is beyond all doubt. The iron in his blood and the lime in his teeth were originally in the soil. But these could not be in his body unless they had previously formed part of his food. And yet we can neither live on air nor on stones. We cannot grow fat upon lime, and iron is positively indigestible in our stomachs. It is by means of the vegetable creation alone that we are enabled to convert the mineral into flesh and blood. The only apparent use of herbs and plants is to change the inorganic earth, air, and water into organic substances fitted for the nutrition of animals. The little lichen, which by means of the oxalic acid that it secretes, decomposes the rocks to which it clings, and fits their lime for "assimilation" with higher organisms, is, as it were, but the primitive bone-maker of the world. By what subtle transmutation inorganic nature is changed into organic, and dead inert matter quickened with life, is far beyond us even to conjecture. Suffice it that an express apparatus is required for the process—a special mechanism to convert the "crust of the earth," as it is called, into food for man and beasts.

Now, in nature everything moves in circle—perpetually changing, and yet ever returning to the point whence it started. Our bodies are continually decomposing and recombining—in fact, the very process of breathing is but one of decomposition. As animals live on vegetables, even so is the refuse of the animal the vegetable's food. The carbonic acid which comes from our lungs, and which is poison for us to inhale, is not only the vital air of plants, but positively their nutriment. With the same wondrous economy that marks all Creation, it has been ordained that what is unfitted for the support of the superior organism is of all substances the best adapted to give strength and vigour to the inferior. That which we excrete as pollution to our system, they secrete as nourishment to their. Plants are not only Nature's scavengers, but Nature's purifiers. They remove the filth from the earth, as well as disinfect the atmosphere, and fit it to be breathed by a higher order of beings. Without the vegetable creation the animal could neither have been nor be. Plants not only fitted the earth originally for the residence of man and the brute, but to this day they continue to render it habitable to us. For this end their nature has been made the very antithesis of ours. The process by which we live is the process by which they are destroyed. That which supports respiration in us produces putrefaction in them. What our lungs throw off, their lungs absorb—what our bodies reject, their roots imbibe.

Hence, in order that the balance of waste and supply should be maintained—that the principal

of universal compensation should be kept up, and that what is rejected by us should go to the sustenance of plants—nature has given us several intuitive motives to remove our refuse from us. She has not only constituted that which we digest the most loathsome of all things to our senses and imagination, but she has rendered its effluvia highly pernicious to our health—sulphuretted hydrogen being at once the most deleterious and the most offensive of all gases. Consequently, as in other cases where the great law of self-preservation needs to be enforced by special sanctions, nature has made it not only advantageous to us to remove our night-soil to the fields, but positively detrimental to our health, and disgusting to our senses, to keep it in the neighbourhood of our houses.

In every well-regulated State, therefore, an effective and rapid means for carrying off the ordure of the people to a locality where it may be fruitful instead of destructive, becomes a most important consideration. Both the health and the wealth of the nation depend upon it. If to make two blades of wheat grow where one grew before is to confer a benefit upon the world, surely to remove that which will enable us at once to do this, and to purify the very air which we breathe, as well as the water which we drink, must be a still greater boon to society. It is, in fact, to give the community not only a double amount of food, but a double amount of health to enjoy it. We are now beginning to understand this. Up to the present time we have only thought of removing our refuse—the idea of using it never entered our minds. It was not until science taught us the dependence of one order of creation upon another, that we began to see that what appeared worse than worthless to us was nature's capital—*wealth set aside for future production*. In our eagerness to get rid of the pollution, we had literally not looked beyond our noses: hence our only care was to carry off the nuisance from the immediate vicinity of our own residences. It was no matter to us what became of it so long as it did not taint the atmosphere around us. This the very instincts of our nature had made objectionable to us; so we laid down just as many drains and sewers as would carry our night soil to the nearest stream—and thus, instead of poisoning the air that we breathed, we poisoned the water that we drank. Then, as the town extended—for cities, like mosaic work, are put together piecemeal—street being dovetailed to street, as county to county in our children's geographical puzzles—each new row of houses tailed on its drains to those of its neighbours, without any inquiry being made as to whether they were on the same level or not. The consequence of this is, that the sewers in many parts of our metropolis are subject to an ebb and flood like their central stream—so that the pollution which they remove at low-water, they regularly bring back

at high-water, to the very doors of the houses whence they carried it.

But, thanks to organic chemistry, we are beginning to wake up. Science has taught us that an improved and comprehensive system of drainage is a question that concerns not only our health, but—what is a far more important consideration with us—our breeches pockets. What we in our ignorance had mistaken for refuse of the vilest kind, we have now learned to regard as being, with reference to its fertilizing virtues, “a precious ore, running in rich veins beneath the surface of our streets”—whereas, if allowed to reek and seethe in cesspools, within scent of our very hearths, or to pollute the water that we use to quench our thirst and cook our food, it becomes, like all wealth badly applied, converted into poison—as Romeo says, of gold, to the Apothecary—

“Doing more murders in the loathsome world
Than those poor compounds that thou mayst not sell.”

According to the average of the returns from 1841 to 1846, we are paying two millions every year for guano, bone dust, and other foreign fertilizers of our soil. In 1845, we employed no fewer than 683 ships to bring home 220,000 tons of animal manure from Ichaboe alone; and yet we are every day emptying into the Thames 115,000 tons of a substance which has been proved to be possessed of even greater fertilising powers. With 200 tons of the sewerage that we are wont to regard as refuse, applied to the irrigation of one acre of meadow land, seven crops, we are told, have been produced in the year—each of them worth six to seven pounds; so that, considering the produce to have been doubled by these means, we have an increase of upwards of £20 per annum effected by the application of that refuse to the surface of our fields. This return is at the rate of £10 for every 100 tons of sewerage; and, since the total amount of refuse discharged into the Thames from the sewers of the metropolis is, in round numbers, forty millions of tons per annum, it follows that, according to such an estimate, we are positively wasting four millions of money every year—or, rather, *it costs us that amount to poison the water about us*. Or, granting that the fertilizing power of the metropolitan refuse is—as it is said to be—as great for arable as for pasture lands, then, for every 200 tons of manure that we now cast away, we might have an increase of at least twenty bushels of corn per acre. Consequently the entire forty million tons of sewerage, if applied to fatten the land instead of to poison the water, would, at such a rate of increase, produce to the extent of four million bushels of wheat per annum. Calculating then that each of these bushels would yield sixteen quatern loaves, it would follow that we sling into the Thames no less than two hundred and forty-six million pounds of bread every year; or, still

worse, by pouring into the river that which, if spread upon our fields, would enable thousands to live, we convert the elements of life and health into the germs of disease and death—changing into slow but certain poison that which, in the subtle transmutation of organic nature, would become acres of life-sustaining grain.

PNEUMONIA,

OR INFLAMMATION OF THE LUNGS, ALIAS CONSUMPTION,

Is a fearful scourge when once it appears in a yard of bullocks. It not only destroys all hopes of profit from feeding, but makes sad inroads into "principal;" and will, if not remedied, deter many from "winter grazing." One thing is pretty evident, that medicine is of little use. Examination after death shews the lungs to be the organs chiefly affected. They are gorged with black blood, and generally have abscesses filled with pus. In our country villages, bleeding is the rock on which the practitioner rests his hopes of safety; on this the farmer depends; this is their sheet anchor right or wrong. The worst of it is, so few are cured by it, even when aided by medicine.

Seeing then how little can be done towards curing the disease, is it not more necessary to try any and every means to prevent it?

Many a farmer will ask, "how are we to prevent a disorder that we do not know the cause of?" I answer, partly, by attending more to the wants of the cattle in the summer.

They are well housed and fed in winter. Every possible care is taken then. They are at that season fed, watered, and watched regularly; and why? because you see that they then require all the pains you bestow "to make them go-a-head." That sweets and hay, corn, linseed and oil-cake, without great attention, regularity and efficient shelter will not suffice. But why bestow so much care in the winter, and little or none in the summer? *Art* is to do everything for them in the winter months, when they are consuming expensive food; but in the spring and summer, be the winds ever so easterly, dry, and piercing; the sun hot and trying; the rains heavy and frequent; the grass rank, long and sour; the dews copious and chilling; the fogs as thick and impenetrable as if imported from London; they are then turned out to graze, and intrusted to dame nature's care night and day. A young friend of mine lost eighteen or twenty fine bullocks last year, between Michaelmas and Christmas. The disease was said to be pneumonia. Bled and physiced they all were, but die they would. The loss was great, and enough to make a man try to find a preventive for another season.

Unhappily, he has already had three fatal cases. I went with him to see the animals. There they were in "the marches." Upwards of seventy fine, fresh looking, three-year-old steers. The feed

was long enough, but terribly full of the rag-wort and marsh marygold.

I looked for water, and lo! "what a falling off was there." The ditches were almost dry; the little liquid left was full of life and mud, and all unfit to drink. Again, there was no shelter, for "the marshes" grow few sheds, and not many more bushes or trees. I recommended a good watering to be made, the bottom well covered with clay or marl, and a supply of wholesome liquid made sure. I suggested a shed or two to be erected, the rag-wort to be mown twice during the summer just before flowering, and the land to be well salted, horse-raking off the rubbish.

To my mind, it is no marvel that "disease of the lungs," or consumption, should prevail in many of the yards of our winter graziers. The seeds of the distemper being so ably sown during the spring and summer, when the cattle are driven from fair to fair to find a purchaser. They are often heated by over driving, to make up for delays on the road, in order to be in time. On an exposed market site they stand for hours without food or water. Faint with travel, fevered with thirst, goaded by drivers, and half maddened by their dogs, they are, happily for the original owners, bought, driven home late, and turned into a pasture where, perchance there is a flush of feed, and a scarcity of water fit to drink. If they want to slake their thirst, the first filthy town pit they came to is just the thing. The more highly colored the better; there is then some strength in it, for drovers generally have but little faith in clean water: thus they get a taste for dirty drink, and thus disease is drunk up in their daily draught, and destruction made sure.

I was visiting a farming friend during the hot weather of last spring, when a report came from the yard that three or four of the winter fed bullocks were ill. They were frothing at the mouth and restless. The eyes indicated great irritability of the stomach, which was confirmed by loss of appetite, hanging of the ears, &c. A farrier was sent for; "*drinks*," of course, were given, (there seems to be no cure of anything without them,) and other measures taken, but the distemper attacked all in the yard.

I asked the general habits of feeding, and was shewn their place for watering. This was a pit dug out of the edge of the farm yard, and for its supply of liquid depended on the voluntary contributions of the clouds, the drainage of the yard, &c. This, that was of itself an "unwholesome fixture," was the place of refreshing for the cattle. A few hurdles and stakes, by way of trial, were put down, the stock kept away, and driven to clean water, "the drinks" were discontinued, and the animals recovered. David's question to his brother Elijah, "Is there not a cause?" will come to my mind when I hear of "stock doing badly," of lamentable losses in stables of good horses, bullock sheds, and sheep-folds. In seven cases out of ten, *there is "a cause,"* and one that may

be remedied. A "spirit of enquiry," a searching out the apparently hidden mysteries of farm stock management must be fostered. There is far too much laid to "luck." The very term is offensive to a well regulated mind. Good-luck with cropping, and stock feeding, is the fruit of patience; attention to small things, as well as great, and the exercise of a right judgment; whilst bad luck is but the return for ignorance, bigotry, and idleness.

Watering places for cattle in the field should be well cleaned out twice a year, the bottom made good with chalk or stones, and a supply of clean fluid secured at any cost. In a pint of liquid taken from a pond, always used for stock, I found seventeen different kinds of aquatic insects, and the most terrific looking larva. Any of them in a glass of even clean water, offered to a farmer to drink, would have perfected his indred hydrophobia.

But these small deer are daily swallowed by farm-yard stock, in a fluid having all the color of porter, and the effluvia and virtues of "liquid manure." Ought such things to be? Answer it, you gentlemen interested in Cattle Insurance Companies, and all you enterprising agriculturists who have embarked large sums of money in farming stock.

Clean out your pits of pestilence; remove the unwholesome fluid from their reach; give the animals, winter and summer, good water; and their more certain well-doing will reward you. If your men persist in using it, remove the hinds, and replace them with a set not quite so bigoted to dirty ways. Better change all your men than lose one beast worth twenty pounds, and risk the lives of others. A more rigid attention to these daily matters relating to stock will prevent "a winter of discontent" setting in, and freezing the energies of farmers. They have already a thousand and one evils to fight against to try their tempers and pockets, and to keep "the good time coming" away; let them see that none of the "trials" proceed from want of forethought, and that the last straws that break the back, if laid on, be not placed there by themselves.—*West Norfolk.*

MR BUCKINGHAM'S MODEL TOWN.—Mr. Buckingham has published his prospectus of a "model town," to carry out which would require, he says, four millions, which he proposes should be raised in 200,000 shares of £20 each. The town to contain every improvement, in its position, plan, drainage, ventilation, architecture, supply of water, light, and every other elegance and convenience which the improved state of art and science will admit of being conferred on it, within the means of the available capital to be raised for that purpose. Its size to be about a mile square, and the number of its inhabitants not to exceed 10,000. An extent of territory or farm-land

around the town of about 10,000 acres, to be purchased or rented on the longest attainable lease, for the purpose of introducing every description of agriculture, pasture, and horticulture, for which its soil may be adapted, to be worked under the most improved methods at present known. "A suitable variety of manufactures and handicraft trades, to include chiefly those which are least injurious to health, and to give the predominance to the useful over the merely ornamental, to be established nearest the outer edge of the town." "The introduction into the town, or any part of its estate, of any intoxicating liquids or substances, such as spirits, wine, beer, liquors, opium, or any other materials by which intoxication can be produced, to be strictly prohibited, on pain of seizure and destruction wherever found, and the expulsion from the association of the parties proved guilty of introducing them, with the forfeiture of all their rights. The like prohibition, and under the like penalties, of the entry or use of all weapons of war, including sabres, spears, bayonets, guns, pistols, and other fire arms, as leading first to fatal accidents, and next to vindictive uses; of gunpowder or other explosive compounds, as being equally unnecessary in a peaceable community: and of tobacco in every shape, as injurious to health, offensive to delicacy and good taste, and involving a waste of time and money which could be so much more usefully and agreeably employed. The sanctity of the marriage vow to be admitted as equally binding in religion as in morals, and female purity to be protected by the arm of all; in conformity with which, persons of either sex (and not of one only, as in existing communities) to be held equally guilty if detected in illicit intercourse, whether in single or married life; so that seducers and seduced, betrayers and betrayed, shall be equally expelled the association, with loss of all their privileges, on proof of their guilt being legally established. Individuals and families to pay to the company a rental, to be regulated by a moderate interest on the actual cost of the premises occupied by them, as the association will provide the buildings; but the furnishing of the apartments or houses thus occupied to be at the expense and according to the taste of each occupant. There will be a paper currency, but no tick, in the model town. No credit to be allowed on any purchases, and no accounts to be opened with any parties, to avoid the evil which facility of credit creates, in inducing thoughtless and imprudent persons to anticipate their resources and spend money before they have earned it; and as all materials of manufacture and trade would be purchased by the company's authorized commissioners, and as the rents would be reserved from each monthly payment, no more ready money would be required by any one than just sufficient to pay for their current purchase of food and clothing.—*Liverpool Chronicle.*

Let breeders of stock avoid purchasing animals with narrow contracted chests, such as have been too finely bred, or such as have any constitutional tendency to disease. Let rearers and holders of stock endeavour to keep their animals always growing, and never to let them fall back in condition. If confined to courts, or stall tied, let the animals be fed regularly and often. Let their food be of a nutritious character, but avoid giving large quantities of such as is highly stimulant. All sudden changes in the feeding and management of cattle ought to be avoided. The transition from ordinary or indifferent fare to the eating of large quantities of highly nutritious food, ought to be slow and gradual. The change from the close confinement of a byre to living in the open fields in a much lower temperature, and exposed to every sort of weather, ought to be made less violent, by gradually preparing the animals for their new mode of life. Let particular attention be paid to the thorough drainage of all houses where cattle are confined, and remove daily all dung and wet litter. Let all dunghills, composts, filth, and decomposing animal and vegetable matter, be removed to a considerable distance, for the olfactory nerves of cattle, and especially of cows, are particularly sensitive. Where cattle are confined in byres, or courts entirely closed in, the keeping of pigs should, if possible, be avoided. Let the animals have plenty of room, for it is evident that nothing can have a more baneful effect upon the constitution than the confinement of many living beings in a close and heated atmosphere. Yet how often do we see numbers of animals crowded and shut up in hovels, where a man can scarcely stand upright, and where the poor creatures remain for weeks and months condemned to respire a vitiated atmosphere. Let courts, and such like open places, be comfortable and sheltered, especially from the north and east. Prevent exposure to humidity, to violent and sudden changes of temperature, and to everything which tends to reduce the vital energies. It is well known that a certain amount of warmth is necessary for the promotion of the growth of an animal, and also for the secretion of milk; and it is a knowledge of this, practically pushed to excess, which in a great measure causes neglect of, and even opposition to, a proper system of ventilation. A sufficient amount of fresh air is, however, as indispensable to the well-being of living creatures as warmth, and it is fortunate that the two are not incompatible. The ventilation of cow-houses is, in too many instances, a mere apology for what it ought to be. In many cases, the safe introduction of fresh air, without exposing the animals to cross currents, is rendered almost impossible by reason of the bad constructions of the houses, and the extreme lowness of the roofs. In order, however, that the byres may be such as to insure, at the same time, sufficient warmth of a *healthy sort*, and also an ample supply of pure air, the walls must be high,

and the roof, open to the top, and without roofs, Ventilating boards, which may be regulated at pleasure, should be inserted both above and below the eaves. Windows ought to be so constructed as to admit sufficient light, and thus prevent darkness favouring the accumulation of filth, and of serving as an excuse for the want of cleanliness.

ANCIENT PRICE OF AGRICULTURAL LABOUR.—

In the year 1352, the 25th of Edward III., wages paid to haymakers were but 1d. per day; a mower of meadows 3d. a day, or 5d. an acre; reapers of corn, in the first week in August, 2d.; in the second, 4d. per day; and so on until the end of the month, without meat, drink, or other allowance, finding their own tools. For thrashing a quarter of wheat, 2½d.; a quarter of beans, peas, barley, or oats, 1½d. By the 13th of Richard II., in the year 1389, the wages of a bailiff of husbandry was 13s. 4d. a year, and his clothing once during that period at most; a carter, 10s.; shepherd, 10s.; oxherd, 6s. 8d.; a day labourer, 6s.; a driver of ploughs 7s. In 1444, the 23rd of Henry IV., the wages of a bailiff of husbandry were 23s. 4d. per annum, and clothing to the price of 5s., with meat and drink. In time of harvest a mower had 4d. a day, and without meat and drink, 6d.; a reaper or carter, 3d. a day—without meat or drink 5d.; a woman labourer, and other labourers, 2d. a day—without meat or drink, 4½d. a day. By the 11th of Henry VII., 1696, there was a like rate of wages, only with a little advance.

MANGOLD WURZEL.—I have just put in 2½ acres of mangold wurzel in rather a novel way, which I think so good and economical, that it might perhaps suit you to publish it: 6 cwt. of Peruvian guano being sown broadcast, the field was ridged up in the usual way; then having made a mixture of cwt. of superphosphates, 7 wheelbarrows full of coal-ashes, 7 ditto of old mortar from a stone wall lately pulled down I set to work to dibble in the seed with the following hands:—2 men to dibble, 2 women to drop the seed, 2 women to drop the mixture, of which I allowed a teaspoonful to five holes, and one man to cover all with a garden rake. This would not have been necessary, but a good deal of rain having fallen, the ground was too wet to roll. The dibles I used were of a blunt form, about the size of a small flour-pot at bottom. The 2½ acres were thus sown and manured in one day, using 5½ lbs of seed, at the following expence:—

3 men, at 1s. 6d.	4s. 6d.
4 women at 6d.	2 0
1 gallon of beer, at 1s. 4d.	1 4

Total..... 7 10

I intend to put in my Swedes the same way.—*W. C., Mawger, Cornwall.*

CORN RICKS SECURED FROM RATS AND MICE.—The following has been recommended as a cheap and effectual expedient to prevent rats and mice from getting into corn ricks:—The rick should be built nearly perpendicular, and cut around about two feet high from the ground, slanting from the top towards the bottom about eighteen inches. The part that is cut is plastered over with mortar made of clay, or any other substance that will stick to the ends of the straw, leaving a rim at the top of about two inches. The whole is then white-washed. This plan is adopted by many farmers in Norfolk, and those who practice it never have their corn injured by rats or mice.

NOTICE.

THE DIRECTORS OF THE AGRICULTURAL SOCIETY OF LOWER CANADA, are requested to meet at the **ROOMS OF THE SOCIETY,** in this City, on **SATURDAY,** the 15th December, at **ELEVEN o'clock, A. M.**

By order,
WILLIAM EVANS,
Secretary.

November 30, 1849.

FLOWERS AND FLOWERING SHRUBS.

FOR SALE AT ROSEBANK NURSERY, near Amherstburgh, Flowers and Flowering Shrubs, consisting of the largest collection of choice named Tulips, on this Continent, at very reduced rates. A very fine collection of Double and Single named Hyacinths, of all colours and shades. A large assortment of choice new Dahlias, Roses, comprising many of the finest varieties of Hardy June, Moss Bourbon, Perpetual, Hybrid, Noisette, Bouxsalt, Bengal, and Tea Roses, &c., &c., at very low prices. Pansies—Tree and Herbaceous, as well as nearly all the choicest flowering shrubs, and Perennial Flowers, Bulbous and Herbaceous, can be supplied. Flower seeds, of the best kind, for sale. Orders by mail, or left at the *Witness Office,* Montreal, will be carefully attended to, and forwarded with despatch.

JAMES DOUGALL.

November 30, 1849.

ROSEBANK NUSERIERS.

NEAR AMHERSTBURGH, CANADA WEST,

THE PROPRIETOR has for Sale, a most extensive assortment of **FRUIT TREES,** comprising all the desirable and leading varieties, and including all the kinds recommended as first-rate at the Pomological Conventions at Buffalo and New York, last Fall,

Apples a 1s. 3d. each, or \$15 to \$20 per 100;
and by the 1000 at very reduced rates.

Pears on Quince and free
Stocks,..... a 2s 6d. ea., or \$40 per 100
Peaches, an unrivalled
assortment,..... a 1s 3d ea., or \$20 do
Plums, 74 varieties,..... a 2s 6d ea., or \$40 do
Cherries,..... a 2s 6d ea., or \$40 do
Nectarines,..... a 1s 10¹/₂d each.

Apricots on Plum and Apricot

Stocks,..... 2s 6d each.
Quinces,..... 1s 3d to 1s 10¹/₂d each.
Foreign Grapes,..... 2s 6d ea., 22s 6d per doz
Native do, 1s 10¹/₂d ea., 15s do
Gooseberries,..... 1s each, 10s do
Currants and Raspberries, Strawberries, Almonds, Chestnuts, Filberts, Mulberries, &c., of all the best kinds, and at very reduced rates.

Specimen Trees of every variety cultivated have been planted out, which are mostly in a bearing state, and from which the scions have been cut, offering a guarantee for the accuracy of the kinds, which few nurseries possess; in evidence of which the Proprietor received the first premium for Foreign Fruits at the New York State Fair at Buffalo, as also nearly all the first premiums at the Detroit Horticultural Society's Exhibition, during the season.

Persons unacquainted with fruits would be better supplied, both as regards size of trees and quality of fruits, by leaving the selection of varieties to the Subscriber, merely mentioning the number of Summer, Autumn, and Winter varieties required, and any other instructions they may think requisite as to size of fruit, &c.

The Trees will be carefully packed, so as to carry any distance with perfect safety, a small extra charge made for packing. Orders should be sent by 1st March, so as to ensure a good selection being got, and also that they may be forwarded by the first conveyance.

The Propeller **EARL CATHCART** plies regularly between Amherstburgh and Montreal, touching at the intermediate ports.

Trees, when taken up early, can be safely planted any time in April or May.

Orders may be left at the *Witness Office,* Montreal.

JAMES DOUGALL, Proprietor.
Rosebank Nurseries, near Amherstburgh,
20th November, 1849.

AUCTION SALE OF FRUIT TREES, &c.

THE undersigned is authorised by the Proprietor of **ROSEBANK NURSERY** to state, that, as early after the opening of the navigation in spring as possible, there will be a Sale by Auction, in this City, (similar to that which took place this fall) of Apple Trees, a fine assortment of suitable named sorts.

Pear do do do do	do do do do
Plum do do do do	do do do do
Cherry do do do do	do do do do

TOGETHER WITH

Raspberry Bushes, Strawberry Plants of fine named sorts, Roses, and various Ornamental Trees and Shrubs.

The healthy condition of these Trees and Plants, and the accuracy of their names, may be depended upon, and the sale will take place in good time for subsequent spring planting, which is the safest, at any rate, in all northern climates.

JOHN DOUGALL,
Montreal Witness Office,
Agent for Rosebank Nursery.
Montreal, November 30, 1849.

FARMING IMPLEMENTS.

WE, the undersigned, certify that we have carefully inspected a variety of Farming Implements manufactured by Mr. A. Fleck of St. Peter Street, and we feel great pleasure in recording our unqualified opinion that they are very much superior to any article of the kind which we have seen manufactured in the country, and equal to any imported.

And we would particularly recommend to the notice of Agriculturists throughout the Province his Subsoil Grubber, which he has improved upon from one which took a premium of £10 from the Highland Society of Scotland. This implement seems well adapted to improve and facilitate the labours of the Farmer, and we cannot doubt that it will soon be extensively used in improved cultivation. His Scotch and Drill Ploughs are also very superior, and well worthy of the inspection of every one desirous of possessing a valuable article.

M. J. HAYS, Cote St. Antoine,
President M. C. Agricultural Society.
P. P. LACHAPELLE, Sault au Recollet.
WM. EVANS, Sec. L. C. Ag. Society.
JAMES SOMERVILLE, Lac Beauport.
EDWARD QUINN, Long Point.
T. E. CAMPBELL, Major, Civil Secretary.
HUGH BRODIE, Cote St. Pierre.
P. F. MASSON, Vaudreuil.
JAMES ALLAN, Pointe aux Trembles.
GEORGE CROSS, Durham.

TO THE AGRICULTURISTS OF CANADA.

SCOTCH PLOUGHS, &c.

ALLEXANDER FLECK, BLACKSMITH, St. Peter Street, has on hand and offers for Sale, SCOTCH PLOUGHS, made from WILKIE & GRAY'S Pattern, of a superior quality and workmanship, warranted equal to any imported.

—ALSO,—

DRILL PLOUGHS, SCUFFLERS & DRILL HARROWS, of the most approved and latest patterns, and CHEESE PRESSES of the Ayrshire pattern.

N. B.—Agricultural Implements of every description made to order.

March 1, 1849.

REAPING MACHINES.

THE Subscriber has on hand three REAPING MACHINES of the latest and most improved construction, capable of cutting twenty-two acres per day. Being manufactured by himself, he is prepared to warrant both material and workmanship of the best order. PRICE—MODERATE.

MATTHEW MOODY, Manufacturer.

Terrebonne, July, 1848.

NEW SEED STORE.

THE Subscriber begs to acquaint his Friends and Customers that he has, under the patronage of the Lower Canada Agricultural Society,

OPENED HIS SEED STORE,

At No. 25, Notre Dame Street, Opposite the City Hall,

Where he will keep an extensive assortment of AGRICULTURAL and GARDEN SEEDS and PLANTS of the best quality, which he will dispose of on as favourable terms as any person in the Trade. From his obtaining a large portion of his Seeds from Lawson & Sons, of Edinburgh, who are Seedsmen to the Highland and Agricultural Society of Scotland, he expects to be able to give general satisfaction to his Patrons and Customers. He has also made arrangements for the exhibition of samples of Grain, &c., for Members of the Society, on much the same principle as the Corn Exchanges in the British Isles. He has a large variety of Cabbage Plants, raised from French seed, which he will dispose of to Members of the Society, at one fourth less than to other customers.

GEORGE SHEPHERD.

P. S.—An excellent assortment of Fruit Trees, particularly Apples, which he will dispose of at one-fourth less than the usual prices. Also, a large quantity of fresh foreign Clover Seed.

Montreal, April 1849.

Agents for the Agricultural Journal.

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Dr. Conoquy.....St. Cesuire.
Dr. De la Bruère.....St. Hyacinthe.
Mr. Cadeaux.....St. Simon.
Mr. T. Dwyer.....St. Pauls, Abbotsford.
Mr. Gendreau, J.P.....St. Pie.
Mr. Blanchet.....La Presentation.
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All communications connected with this Journal, to be addressed, post paid, to the Secretary of the Society—WILLIAM EVANS, Montreal.

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